METHOD OF CONVERTING HEAVY MOTOR VEHICLE LOADS INTO EQUIVALENT DESIGN LOADS ON THE BASIS OF MAXIMUM SHEARS

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FOREWORD

The explanation of a simple, yet accurate method of converting any of the commonly used heavy motor vehicle types and loadings into equivalent design loads based on some maximum stress effect such as moment, shear, floor beam reaction, and the necessary numerical data are contained in this and a previous publication (Bulletin No. 127 "Method of Converting Heavy Motor Vehicle Loads into Equivalent Design Loads on the Basis of Maximum Bending Moments" by Henson K. Stephenson and Kriss Cloninger, Jr.).

The earlier publication dealt with applying the method on the basis of maximum bending moments. The material contained in this publication is for applying it on the basis of maximum shears.

The method and its supporting data can be useful not only to bridge designers, but also to maintenance engineers in the rating of old bridges, and to highway departments in the issuing of special permits and the routing of truck traffic.

It is hoped that practicing engineers and others will avail themselves of this further knowledge.

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SUMMARY

The maximum stresses produced by heavy motor vehicle types and loadings, on simple span bridges of various lengths, provide the means for comparing the stress producing characteristics of any given vehicle with those of another. They also provide a common unit of measure by which any given vehicle can be converted into some convenient or arbitrary equivalent loading, such as an equivalent H truck loading, an equivalent H-S truck loading, or an equivalent concentrated load.

The rating of heavy vehicle loads in terms of equivalent H truck loadings or any other convenient standardized loads can be accomplished by evaluating some maximum stress effect (moment, shear, or floor beam reaction) on a simple span of given length, and then finding the gross weight required on the standard vehicle (or other standard loading) on the given span to produce the same effect.

Tables and charts are provided for the rating of most any type of heavy vehicle, ordinarily encountered in highway traffic, in terms of standardized equivalent loads. For convenience, the tables are prepared for first converting all vehicles into equivalent H truck loadings which can then be converted into any of the other equivalent loadings given in Table 10.1 and Fig. 10.1 as may be desired.

The frequency distributions of equivalent H truck loadings and equivalent concentrated loads as given in Parts III and IV respectively should prove to be of something more than passing interest. These distributions are sufficiently regular to yield practical answers to many questions concerning stress repetitions of various intensities.

Part I

EQUIVALENT LOADS AND THEIR USE FOR MEASURING HEAVY MOTOR VEHICLE OPERATION

1. INTRODUCTION

The method presented herein for converting heavy motor vehicle loads into equivalent loads is fundamentally the same as that developed and presented previously in Bulletin No. 127. The method is the same in the sense that, in both of these bulletins, the equivalent loads are based upon, or measured in terms of, the maximum stresses produced by various heavy vehicle types and loadings on simple spans.² The only difference between the two is that the equivalent loads discussed herein are based on maximum shears whereas those discussed in Bulletin No. 127 are based on maximum bending moments. Moreover, the main objectives of this bulletin are essentially the same as those of its predecessor. Briefly stated they are:

- 1. To develop a rapid, yet simple and accurate mathematical procedure for the rating of heavy motor vehicle types and loadings, such as those ordinarily encountered in present-day highway traffic, in terms of equivalent H truck loadings, equivalent H-S truck loadings, equivalent concentrated loads, or loading equivalents based on any other arbitrary standardized loading that might prove to be either convenient or desirable.
- To indicate how these equivalent loads may be used as an approach to the problem of permissible loads on bridges and other highway structures.
- 3. To show how the frequency distributions of equivalent loads provide a rational means for measuring the varying levels of intensity of heavy motor vehicle operation which may obtain on a particular route, or within a given geographical area, corresponding with present or anticipated traffic conditions.

For some years past, the frequency distributions of heavy axle loads and gross loads have been used extensively for numerous purposes associated with the planning and building of highway facilities. Among other things, these frequency distributions have been used as an index for measuring the various levels of intensity of heavy vehicle operation. Both the actual and relative frequencies of heavy axle loads and gross vehicle weights furnish the type of information needed for analyzing and solving many important problems, particularly those associated with highway transport. The numbers and relative frequencies of various intensities of heavy axle loads also find an important use in the design of roadway subgrades and pavements. This is because the anticipated numbers of the various intensities of these heavy axle loads, in large measure, determine the subgrade and pavement designs in any particular case. It is generally agreed that roadway subgrades and pavements can be protected against undue overstress, pumping, fatigue failure, or other premature injury, simply by limiting the load that may be carried on a single axle, or on tandem axles which are less than about 4 feet apart.

Since the design of roadway subgrades and pavements is so largely determined by the anticipated frequencies of various intensities of heavy axle

¹Henson K. Stephenson and Kries Cloninger, Jr., "Method of Converting Heavy Motor Vehicle Loads into Equivalent Design Loads on the Basis of Maximum Bending Moments," Texas Engineering Experiment Station, Bulletin No. 127, October, 1952.

²For a more complete discussion of equivalent loads, their development and uses, see Bulletin No. 127, referred to above.

loads, the problem of determining permissible loads for them is a fairly simple one in that the establishment of such maximum allowable loads is mainly concerned with the loads carried by single and tandem axles, irrespective of the gross vehicle weights. In other words, it is the fatigue and other effects of repeated stresses which result from the varying magnitudes of heavy axle loads, rather than gross loads, that largely determine the useful life of roadway subgrades and pavements.

Unfortunately though, the frequency distributions of heavy axle loads and gross loads, by themselves, do not furnish the bridge engineer with the information needed for determining the stress producing effects of these loads on bridges and other highway structures. The reason for this is that the critical stresses produced in bridges by heavy vehicle loads are influenced by no less than six variables, whereas the live load stresses in subgrades and pavements are influenced mainly by the magnitude of single or tandem axle loads. In order to calculate the critical stresses in simple span bridges, for example, each of the following six variables must be taken into account:

- 1. Span length of bridge.
- 2. Gross weight on vehicle.
- 3. Wheel base length of vehicle.
- 4. Number of axles.
- 5. Spacing of axles.
- 6. Distribution of gross weight among the axles.

From this list of variables it will be seen readily that no simple relationship can be established between the gross loads or the individual axle loads of a given vehicle and the maximum stresses produced by it on bridges and other highway structures. For any one particular vehicle, however, it would not be difficult to calculate the maximum stresses produced by its passage over a span of given length. But such a procedure, by conventional methods, would be too tedious and time consuming to be of practical value for the rating of large numbers of vehicles, particularly since the entire process would have to be repeated for each vehicle and for each span length considered.

To be of practical use, therefore, a simplified method is needed whereby the ratings of heavy vehicle types and loadings might be calculated quickly and accurately without resort to the time consuming procedures incident to presently available conventional methods. In order to accomplish these objectives, it is first necessary to find an appropriate and satisfactory method for converting a given heavy vehicle loading into an equivalent design load, or simply into an equivalent load. This can be done rather easily by comparing the stresses (moment, shear, or floor beam reaction) produced by a given heavy vehicle on a given span with those produced by a particular standard design loading on the same span. More specifically, this would consist of calculating some stress effect, such as moment or shear, produced by a given vehicle on, say, a 30-foot simple span bridge and then finding the gross weight required on, say, a standard H truck to produce the same effect.

For example, if the given vehicle caused a maximum shear on the 30-foot simple span of 27.2 kips (one kip \equiv 1000 pounds), it would produce the same maximum shear as an H 15 truck. Measured in terms of maximum shear, therefore, the given vehicle would be rated as an equivalent H 15 truck loading on a 30-foot simple span bridge. Similarly, the given vehicle could be rated in terms of an equivalent H-S truck loading, equivalent concentrated load, or any other standardized equivalent load as may be desired. However, since the maximum shear produced by any given standardized vehicle or loading on a given span bears a constant relationship to the maximum shear produced by any other standardized loading on the same span, any given vehicle that has been converted into either an equivalent H truck loading, an

equivalent H-S truck loading, or an equivalent concentrated load, on a given span, can easily be rated in terms of either of the other two equivalent loadings simply by using the conversion coefficients as explained in Article 10.

In general, though, it is believed that the simplest procedure will result from first converting the given vehicle or vehicles into equivalent H truck loadings for each span length under consideration. Once the H-equivalencies of a given vehicle or vehicles on certain spans have been determined, it would then be but a simple matter to convert them into any other equivalent loading or loadings that might prove to be necessary or desirable as the case may be. On this basis, therefore, tables presented in Part II provide the means for converting heavy vehicle loads into equivalent H truck loads (or H-equivalencies) which, in turn, may be converted into any of the equivalent loadings discussed in connection with Table 10.1 and Fig. 10.1.

Perhaps the simplest way to illustrate the conversion of one type of loading equivalent into another would be to apply the procedure to a particular situation. For example, suppose the vehicle under consideration produces a maximum shear of 37.76 kips (one kip = 1000 lbs.) on a 50-foot span and it is desired to know the numerical rating of this vehicle on a 50-foot span, measured in terms of: (1) an equivalent H truck loading, or EHT; (2) an equivalent H-S truck loading, or EHST; (3) an equivalent H design loading, or EHD; (4) an equivalent H-S design loading, or EHSD; (5) an equivalent concentrated load, or ECL.

The answers to these questions would be determined somewhat as follows:

- (1) Since a standard H truck weighing 1.00 kip produces a maximum shear of .944 kips on a 50-foot span, it would require an H truck having a gross weight of 37.76/.944 = 40.00 kips to produce the same shear as the given vehicle. Therefore, the given vehicle would be rated as an equivalent H 20 truck on a 50-foot span.
- (2) From Table 10.1 or Fig. 10.1 for a 50-foot span it will be found that the coefficient 1.16 will convert an EHT into an EHST. Therefore, the equivalent H 20 truck converts into (1.16 \times 20 = 23.2) an equivalent HS 23.2 (ton) truck which produces the same maximum shear on the 50-foot span as the given vehicle or an H 20 truck.
- (3) From Table 10.1 or Fig. 10.1 for a 50-foot span, it will be found that the coefficient .900 will convert an EHT into an EHD. The given equivalent H 20 truck, therefore, converts into (.90 \times 20 = 18.00) an equivalent H 18 design loading. This means that an H 18 design loading (lane loading) would produce the same maximum shear as the given vehicle or an H 20 truck on a 50-foot span.
- (4) Similarly, from Table 10.1 or Fig. 10.1, it will be found that the coefficient 1.16 will convert an EHT into an EHSD. Therefore, the equivalent H 20 truck converts into (1.16 \times 20 = 23.2) an equivalent HS 23.2 design loading. This means that an H 20 truck produces the same maximum shear as a standard H-S design loading of 23.2 ton designation, on a 50-foot span. But since the H-S truck is the design loading for this span, the H 20 truck would produce the same maximum shear as a standard H-S truck, weighing 23.2 tons, on a 50-foot span.
- (5) Also from Table 10.1 or Fig. 10.1, it will be found that the coefficient .94 will convert an EHT into an ECL. Therefore, the given equivalent H 20 truck converts into (.94 \times 20 = 18.8) an 18.8 ton equivalent concentrated load. This means that an equivalent H 20 truck will produce the same maximum shear as an equivalent concentrated load, weighing 18.8 tons, on a 50-foot span.

The use of equivalent loads as an approach to the problem of permissible loads, and the use of equivalent loads for measuring heavy motor vehicle operation, will be discussed later in more detail.

2. PERMISSIBLE VEHICLE WEIGHTS ON ROADWAYS AND BRIDGES

The vehicles that are of particular interest in connection with these studies are the various types of heavy-axle trucks and other vehicle combinations whose axle-loads, axle-group loads, or gross weights are considered sufficiently heavy to influence the design of bridges and other highway structures. For these purposes, therefore, heavy vehicles are defined as those with one or more axles weighing 18,000 pounds or more; or, based on gross weight, all single-unit trucks weighing 26,000 pounds or more, and all other combinations weighing 34,000 pounds or more. These were the gross weights used in the 1942 loadometer survey as the dividing line between light freight vehicles and heavy freight vehicles by the Planning Survey Divisions of the several State Highway Departments and also by the Bureau of Public Roads.

The American Association of State Highway Officials, after many years of study, formulated a "Policy Concerning Maximum Dimensions, Weights and Speeds of Motor Vehicles to be Operated over the Highways of the United States" which was adopted April 1, 1946. The standards recommended by this Policy are as follows:

(1) WIDTH—No vehicle, unladen or with load, shall have a total outside width in excess of 96 inches.

(Note: It is recognized that certain conditions inherent in the design of vehicles suggest the desirability of 102 inches as a standard of maximum width. The existence of numerous bridges and a large mileage of highways too narrow for the safe accommodation of vehicles of such width precludes the present adoption of the higher standard of width. The State Highway Departments and Public Roads Administration are urged to give consideration to the desirability of eventual provision for the accommodation of vehicles 102 inches in width in planning the reconstruction of Federal-aid and State highways.)

(2) HEIGHT—No vehicle, unladen or with load, shall exceed a height of 12 feet, 6 inches.

(3) LENGTH-

- (a) No single truck, unladen or with load, shall have an overall length, inclusive of front and rear bumpers, in excess of 35 feet.
- (b) No single bus, unladen or with load, shall have an overall length, inclusive of front and rear bumpers, in excess of 40 feet, provided that a bus in excess of 35 feet in overall length shall not have less than 3 axles.
- (c) No combination of truck-tractor and semi-trailer, unladen or with load, shall have an overall length, inclusive of front and rear bumpers, in excess of 50 feet.
- (d) No other combination of vehicles shall consist of more than two units, and no such combination of vehicles, unladen or with load, shall have an overall length, inclusive of front and rear bumpers, in excess of 60 feet.

(4) SPEED-

- (a) Minimum speed. No motor vehicle shall be unnecessarily driven at such slow speed as to impede or block the normal and reasonable movement of traffic. Exception to this requirement shall be recognized when reduced speed is necessary for safe operation or when a vehicle or combination of vehicles is necessarily or in compliance with law or police direction proceeding at reduced speed.
- (b) Maximum speed. No truck shall be operated at a speed greater than 45 miles per hour. Passenger vehicles may be operated at such speeds as shall be consistent at all times with safety and the proper use of the roads.
- (c) Vehicles equipped with solid rubber or cushion tires shall be operated at a speed not in excess of 10 miles per hour.

(5) PERMISSIBLE LOADS—

- (a) No axle shall carry a load in excess of 18,000 pounds. (Note: An axle load shall be defined as the total load transmitted to the road by all wheels whose centers may be included between two parallel traverse vertical planes 40 inches apart, extending across the full width of the vehicle.)
- (b) No group of axles shall carry a load in pounds in excess of the value given in the following table corresponding to the distance in feet between the extreme axles of the group, measured longitudinally to the nearest foot. The loads shown in Table 2.1 are based on the equation W=1025 (L +24) $-3L^2$.

Table 2.1
PERMISSIBLE LOADS AS RECOMMENDED BY AASHO POLICY ADOPTED APRIL 1, 1946

Distance L in fect between the extremes of any group of axles	Maximum load W in pounds carried on any group of axles	Distance L in feet between the extremes of any group of axles	Maximum load W in pounds carried on any group of axles	Distance L in feet between the extremes of any group of axles	Maximum load W in pounds carried on any group of axles
4 5	32,000	22	45,700	40	60,800
5	32,000	23	46,590	41	61,580
6	32,000	24	47,470	42	62,360
7 8 9	32,000	25	48,350	43	63,130
8	32,610	26	49,220	44 45	63,890
9	33,580	27	50,090	45	64,650
10	34,550	28	50,950	46	65,400
11	35,510	29	51,800	47	66,150
12	36,470	30	52,650	48	66,890
13	37,420	31	53,490	49	67,620
14	38,360	32	54,330	50	68,350
15	39,300	33	55,160	51	69,070
16	40,230	34	55,980	52	69,790
17	41,160	35	56,800	53	70,500
18	42,080	36	57,610	54	71,200
19	42,990	37	58,420	55	71,900
20	43,900	38	59,220	56	72,590
21	44,800	39	60,010	56 57	73,280

- (c) The maximum axle and axle-group loads recommended in paragraphs (a) and (b) above are subject to reasonable reduction in the discretion of the appropriate highway authorities during periods when road subgrades have been weakened by water saturation or other cause.
- (d) The operation of vehicles or combinations of vehicles having dimensions or weights in excess of the maximum limits herein recommended shall be permitted only if authorized by special certificate issued by an appropriate State authority.

The extent to which the above axle load limitations are adhered to is indicated by the fact that in 1949 the axle load limit of 18,000 pounds was fixed by law in 34 states. In the remaining states and the District of Columbia the legal axle load limit varied from 19,000 to 22,400 pounds.

From a study of Section 5 (b) of the above AASHO policy, including the permissible axle-group loads given by Table 2.1, it will be seen that the maximum permissible load on any individual axle is recommended not to exceed 18,000 pounds and on tandem or dual axles, about 4 feet apart, the permissible gross load is limited to 32,000 pounds. As previously pointed out, these loads were established because it is generally agreed that roadway foundations and pavements can be protected against undue overstress, fatigue failure, or other premature injury simply by limiting the load that may be carried on a single axle or tandem axles about 4 feet apart. For roadway subgrades and pavement, therefore, the problem of permissible loads is

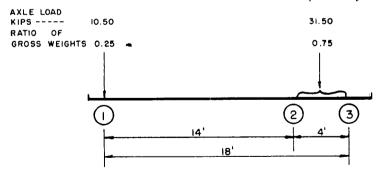
mainly concerned with the loads carried by single and tandem axles, irrespective of the total gross load carried by the entire vehicle.

But, as mentioned in the preceding article, the problem of determining permissible vehicle weights for bridges is not as simple as it is for roadway foundations and pavements. The reason for this is because the critical stresses produced in bridges by heavy vehicle loads are influenced by several other factors beside the permissible loads that may be carried by single and tandem axles. These variables not only include the number and spacing of axles, and the distribution of gross weight among the several axles and groups of axles, but they also include the span length of the bridge. From this, it will be readily seen that the problem of determining permissible axle-group loads and gross vehicle weights, which will not produce stresses in excess of those permitted by design specifications, is one that could not be classified as simple even though the solution for any one particular situation would not be very difficult.

It might be well to point out that the axle-group loads, and gross vehicle weights as given in Table 2.1, which are in accordance with present AASHO policy, were established at a level such that they will neither produce stresses in excess of those presently used for the design of new bridges nor unduly encroach upon the safety of existing bridges. These permissible loads were also established at a level such that they would not produce excessive overstresses which would be expected to result in premature injury or unduly shorten the useful life of new or existing structures as a result of fatigue. Although the permissible loads given in Table 2.1 provide a practical guide for heavy motor vehicle operation, they give no information concerning the actual stresses that would be produced in a bridge of given length by any particular vehicle type or loading.

In addition to providing a rational procedure for the rating of a given heavy vehicle in terms of its stress producing effects on a simple span bridge of any particular length, the method presented herein for converting heavy vehicle loads into equivalent loads also furnishes an approach to the problem of determining permissible vehicle weights on bridges of various lengths and design designations. The essentials of this approach to the problem of permissible vehicle weights can be explained best perhaps by discussing them in connection with the rating of a particular vehicle on a bridge of given length and design designation.

For example, suppose that the Type 3 truck, as shown in Fig. 2.1, is under consideration and it is desired to know the H-equivalency rating of



TYPE 3 TRUCK NUMBER 18

NOTE: SEE INDEX TABLE 6.2; MAXIMUM SHEARS

PRODUCED BY THIS TRUCK ARE GIVEN IN TABLE 7.2 AND 8.2

Figure 2.1

this vehicle and also whether or not it should be permitted to pass over a particular two-lane simple span bridge, 30 feet in length, designed for an H 15 loading in accordance with the 1949 AASHO Standard Specifications.

By making the detailed calculations or by consulting Table 7.2, it will be found that this vehicle (Type 3 truck Number 18) will produce a maximum shear of $42.0 \times .80 = 33.6$ kips on a 30-foot span. Now, to rate this truck in terms of an equivalent H truck loading, it is only necessary to find the weight of a standard H truck that will produce the same maximum shear on a 30-foot span. By referring to the AASHO shear table for the H truck, or the Type 2 truck Number 18 as shown in Table 6.1 (which is the standard H truck), it will be found that the maximum shear produced on a 30-foot span by an H truck is equal to 0.907 or 90.7 percent of the gross vehicle weight. Therefore, the given vehicle will produce the same maximum shear on a 30-foot span as an H truck weighing 33.6/.907 = 37.0 kips or 18.5 tons. Measured in terms of maximum shear, therefore, the given vehicle would be rated as an equivalent H 37.0 (kip) truck loading or an equivalent H 18.5 (ton) truck loading on a 30-foot span.

It will be found, by referring to the permissible axle group loads in Table 2.1, that the truck shown in Fig. 2.1 does not exceed the axle-group loads indicated and, therefore, would be permitted to pass over the 30-foot bridge of H 15 design under consideration. The given vehicle, however, will produce 18.5/15.0 = 1.23 times or 23 percent more live load shear than an H 15 truck, which was the design vehicle in this case. This immediately raises the question: How does one arrive at the conclusion that it would be permissible for equivalent H 18.5 trucks to pass over a 30-foot bridge of H 15 loading design? The explanation of this seemingly paradoxical situation lies in the fact that all bridges, designed according to AASHO standards, are constructed in such a way as to include a reserve load carrying capacity as a safety precaution against unintentional or illegal overloads and also to provide for legal but infrequent heavy loads such as those indicated in Table 2.1, or those carried under special permit.

It would contribute toward a better understanding of overloads and their stress producing effects on bridges, perhaps, if it were pointed out that an increase of, say, 30 percent in the live load and impact shears (or moments) on a given bridge does not result in so large an increase, on a percentage basis, in the total shear. This is because the dead load shear, which in most cases is a considerable part of the total shear, for a given span always remains the same and, therefore, a given percent increase in only the live load and impact shears would not result in so great a percentage increase in the total shear. Although this line of reasoning provides a qualitative answer to the question, it is not sufficiently specific for one to determine the amount of overstress that may be involved in a particular situation. The qualitative answer is satisfactory as far as it goes, but it does not indicate the degree in which the reserve load carrying capacity of a given bridge is called upon to function during the passage of any particular heavy vehicle load. Once the H-equivalency of a given vehicle on a particular span has been determined, however, its numerical rating will usually provide a satisfactory answer for most practical cases. But, even so, the numerical rating is not sufficiently specific for accurately determining the magnitude of overstress involved in any particular situation.

Since the dead load of a bridge varies with both the span and type of construction, it is not possible to relate the H-equivalency of a given vehicle with a specific amount of overstress that would be exact for a given span and all types of construction. However, if the amount of overstress for a given span and H-equivalency is determined on the basis of the lightest possible type of construction, the answer would represent the maximum possible magnitude of overstress that could result from any particular H-equivalency on the given span.

For example, suppose it is desired to know the amount of shearing overstress produced by the Type 3 truck, shown in Fig. 2.1, on the above mentioned 30-foot bridge of H-15 loading design. If it is now assumed that this bridge is of a light construction type, consisting of a minimum concrete deck supported by simple span steel stringers, the dead load shear (also moment) would account for about 34 percent of the total design shear.

In this case, the AASHO shear table shows, for a 30-foot span, that the H-15 truck loading would control and produce a maximum live load shear of 27.2 kips per lane, to which a 30 percent allowance must be added for impact. The total shear for which the bridge must be designed, therefore, would be as follows:

Total Design Shear in Kips, for H-15 Loadin Live load shear Impact shear $= .30 \times 27.2 =$ Dead load shear $= .34 (27.2 + 8.2) =$	g on 30-Foot Span $V_{ m LL} = 27.2 \ V_{ m I} = 8.2 \ V_{ m DL} = 12.0$
Total design shear	$ m V_{Tot.} = 47.4$
Total Shear, in Kips, Produced by 21 Ton Type	e 3 Truck No. 18
Live load shear Impact shear $= .30 \times 33.6$ Dead load shear $= .34 (27.2 + 8.2) =$	$egin{array}{ll} V_{ ext{\tiny LL}} = 33.6 \ V_{ ext{\tiny I}} = 10.1 \ V_{ ext{\tiny DL}} = 12.0 \end{array}$
Total shear	$V_{\text{\tiny Tot.}} = 55.7$
Live Load Stress Ratio $=\frac{33.6}{27.2}=1.24$ Design Stress Ratio $=\frac{55.7}{47.4}=1.17$	

On the basis of these data it will be seen that the given vehicle, as shown in Fig. 2.1 will produce shearing stresses in the above described 30-foot simple span which are 1.17 times or 17 percent in excess of the basic design shearing stresses. And since these figures are based on light weight construction, it could be concluded that the given vehicle would not cause an overstress in excess of 17 percent on any 30-foot simple span bridge which had been designed in accordance with the 1949 AASHO Specifications. Even though it is not within the province of this report to recommend any particular percent of overstress that should not be exceeded, it would be safe to say that a 17 percent overstress caused by an infrequent heavy vehicle load would not be considered as an undue encroachment on the reserve load carrying capacity of a bridge whose reserve capacity compared favorably with that required by present day design specifications.

One of the more important points brought out by this example, however, is that even though the given vehicle has an H-equivalency of 24 percent in excess of the H 15 design truck, it would cause no more than a 17 percent overstress on a 30-foot simple span bridge of H 15 loading design. In some measure, this will explain why the present AASHO policy has established the level of permissible axle-group loads in Table 2.1 at a point where the maximum live load and impact shears (and moments) resulting from them will not be more than about 43 percent in excess of those caused by an H 15 design loading. In other words, the permissible axle-group loads in Table 2.1 establish the maximum level of heavy motor vehicle operation at a point where the maximum live load and impact shears (and moments) produced by them on any span will not exceed those required approximately for an H 21.5 loading design.³

³For a more complete discussion of this subject, see "Determination of Permissible Vehicle Weight on Bridges of H Loading Design" by Henson K. Stephenson, AASHO Proceedings, Washington, D. C., 1949, pp. 144-185.

Although the preceding discussion of permissible vehicle weights on roadways and bridges is in no sense complete, it will serve to indicate the nature of some of the more important problems associated with the sizes, weights, and frequencies of heavy vehicle types and loadings, and how they are related to highway and bridge provision. It will also serve to outline the method presented herein for the rating of heavy vehicles in terms of equivalent loads as an approach to the problem of correlating heavy motor vehicle operation with highway and bridge provision. The development and use of the tables and charts for converting heavy vehicles into equivalent loads will be discussed in more detail in Article 4 and Article 10.

3. EQUIVALENT LOADS PROVIDE MEANS FOR RATING HEAVY MOTOR VEHICLE TYPES AND LOADINGS

The rapid increases in both the numbers and weights of heavy axle loads and gross loads during the past decade have served to emphasize the need of appropriate methods for measuring and analyzing heavy motor vehicle operation at its varying levels of intensity and for correlating the effects of such operation with the design, construction, and useful life of present and future highway facilities. In recognition of these needs and as a partial contribution toward their fulfillment, this bulletin presents the development of a simple, yet accurate mathematical procedure for the rating of the stress producing effects of heavy vehicle loadings in terms of some convenient or arbitrarily standardized equivalent loads, and undertakes to show how the frequency distributions of these loading equivalents provide a rational means for measuring the level or levels of heavy motor vehicle operation corresponding to given traffic conditions such as those reported by a local, state, or national loadometer survey.

The method described in the preceding articles for converting heavy vehicle loads into equivalent loads is the principal subject for this bulletin. The method is basically the same as that developed and presented previously in Bulletin No. 127, where it was given for the first time. It gives answers which are mathematically correct for the 10,424 cases covered by the tables presented in Part II, and gives answers which compare favorably with slide rule accuracy for those cases where values are obtained by interpolation. The details concerning the basis upon which the method is developed together with the tables and charts that have been prepared to facilitate its use are discussed and more fully explained in the articles of Part II which follow immediately.

Part II

METHOD FOR RATING HEAVY VEHICLE LOADS IN TERMS OF EQUIVALENT LOADS

4. BASIS FOR CONVERTING HEAVY VEHICLE LOADS INTO EQUIVALENT LOADS

The method discussed herein for converting heavy vehicle loads into equivalent loads is based on the fact that any particular vehicle produces but one maximum shear (or one maximum moment) on a simple span bridge of given length. Therefore, any convenient procedure for finding the maximum shear produced by a particular vehicle or loading on a given span will provide a simple, yet effective means for measuring the stress producing effects of this vehicle in terms which may be compared directly with the stress producing effects of some standard design loading on the same span. Thus, after the maximum shear produced by a particular vehicle on a given span has been determined, it can then be compared with that produced by, say, one of the AASHO standard design trucks, or that produced by a single concentrated load, thereby converting the given vehicle into an equivalent H truck loading, equivalent H-S truck loading, or an equivalent concentrated load as may be desired.

The tables and charts presented herein provide the means for quickly determining the maximum shears produced on various spans by any of the more common heavy vehicle types or loadings ordinarily encountered in present-day highway traffic. This method provides answers which are exact for the 1303 trucks and combinations upon which the tables in the present bulletin are based; and closely approximate answers for any other vehicle for which values are obtained by interpolation. These tables and charts are concerned with the maximum shears (per lane) produced by 14 of the more common heavy vehicle types (see Fig. 6.1) on simple span bridges up to 100 feet in length. These include the 2- and 3-axle single-unit trucks; 6 types of truck-tractor semitrailer combinations with from 3 to 6 axles each; 4 types of truck-tractor semitrailer combinations with 5 and 8 axles, respectively.

Since the variables which must be taken into account in the calculation of critical stresses for simple span bridges may have an infinite number of values, it is obvious that the maximum shear produced by any particular vehicle on a given span would represent but one of an infinite number of possible values. It would not be practical, therefore, to undertake to determine the maximum shears (or moments) that would result from all possible combinations of these variables. However, these difficulties may be overcome by grouping certain of the variables in such a way as to cover all the practical cases likely to be encountered and then separate these groups into cells that are close enough together to give accurate results, either directly or by interpolation, and yet far enough apart to keep the total number of cells as small as possible, consistent with the degree of accuracy desired.

As a result of this approach, the 14 heavy vehicle types mentioned above and shown in Fig. 6.1 were selected for special study. A breakdown of each vehicle type was then made by varying wheel base length, spacing of axles, and the axle load ratios—that is, the ratio or percentage of gross vehicle weight carried by each of the several axles—in such a way as to cover all types and variations of practical trucks and combinations encountered in ordinary highway traffic. Gross vehicle weight is thus eliminated as a variable by the use of the axle load ratios or percentages of gross vehicle weight carried on the several axles in lieu of the actual weight. This permits

the use of unit weight vehicles or vehicles weighing one kip each. This simplification is possible because the maximum shear (or moment) produced by a particular vehicle on a given span is directly proportional to its gross weight. Therefore, the maximum shear produced by a particular vehicle on a given span may be obtained merely by multiplying the maximum shear in kips for a vehicle of unit weight by the gross weight of the same vehicle in kips.

The breakdown for the Type 2 truck (2-axle single-unit truck), for example, is covered by the 36 variations of wheel base length and loading distribution shown in Index Table 6.1. This table shows 6 different lengths of wheel base, varying in 2-foot increments from 10 to 20 feet, and for each wheel base there are 6 different percentage distributions of gross weight between the two axles, making a total of 36 variations or cells. Thus, if the wheel base length and the percentages of gross weight on each axle were known for any practical 2-axle truck it could be classified by fitting it into one of the 36 cells or by interpolation between the two cells nearest to it. To use a simple illustration, suppose it was desired to classify a Type 2 truck reported by a loadometer survey as follows: wheel base length of 18 feet; gross vehicle weight of 24,000 pounds with 7,200 and 16,800 pounds on front and rear axles, respectively. Since this truck carries 30 percent or .30 of the gross load on the front axle and 70 percent or .70 on the rear, it would be classified by Table 6.1 as a Type 2 truck, Number 28, hereafter designated as a 2-28. To further illustrate, suppose it is desired to classify a Type 2 truck reported by a loadometer survey having a wheel base length of 17 feet and a gross vehicle weight of 24,000 pounds with 6,480 and 17,520 pounds on the front and rear axles, respectively. In this case the truck carries 27 percent or .27 of the gross load on the front axle and 73 percent or .73 on the rear axle. Referring again to Table 6.1 it is found that .25-.75 loading distribution to the front and rear axles respectively, more nearly approximates the given vehicle than any other, so that for a 17-foot wheel base the given truck would be classified as a 2-23 or a 2-29. The final choice would be a 2-23. This results from the fact that the shorter wheel base will give a somewhat greater shear than the given truck and, therefore, would be on the side of safety, whereas a 2-29 with a longer wheel base would give a somewhat lesser shear than the given truck.

A breakdown similar to this was made for each of the 14 heavy vehicle types as shown in the identification Index Tables 6.1-6.14. The breakdown for the Type 3 truck, given in Table 6.2, has 42 cells; the Type 2-S1 truck has 126 cells, and so on, and all 14 vehicle types account for a total of 1303 cells from which to choose when undertaking to identify and classify any particular vehicle of known wheel base length, number and spacing of axles and loading distribution.

Span lengths of 10, 20, 30, 40, 50, 60, 80 and 100 feet were then decided upon and the maximum shears produced by each of the 1303 vehicles on each length of span was calculated. Thus the general problem of determining the maximum shears produced by heavy vehicle types and loadings on simple span bridges is reduced by this procedure to consideration of 10,424 cells for each of which the maximum shears have been determined. These 10,424 shears are included in Tables 7.1-7.14. In addition to giving the maximum shear for each of the 10,424 cases, these tables also give the axle-group which produces the maximum shear, the axle number under which the maximum shear occurs, and the end of the span at which this critical axle is placed for obtaining the maximum shear. Tables 7.1-7.14 — one for each of the 14 vehicle types considered — provide the fundamental information for determining the shear producing effects of heavy vehicle types and loadings on spans of various lengths, which in turn provides the means for rating them in terms of equivalent H truck loadings, equivalent H-S truck loadings, equivalent concentrated loads, or other equivalent loading as may be desired. These tables will be discussed more fully in the following articles.

For the time being, however, the above discussion is believed to be sufficient to outline the procedure employed herein for measuring the shear producing effects of heavy vehicles and converting them into equivalent loadings.

5. TABLES AND CHARTS FOR CONVERTING HEAVY VEHICLES INTO EQUIVALENT LOADS

5.1 Description of Tables and Charts for Converting Heavy Vehicle Loads into Equivalent Loads

The tables and charts in Part II provide the means for quickly and accurately determining the maximum shears produced by 14 of the more common heavy vehicle types on simple span bridges up to 100 feet in length. The main function of these tables is that of converting heavy vehicle types and loadings into equivalent H truck loadings based on the maximum shears produced by them on simple spans of various lengths. Once the H-equivalency of a particular vehicle on a given span has been determined, however, it is then but a simple matter to convert it into any other type of equivalent loading as may be desired simply by use of the conversion coefficients given by Table 10.1 and Fig. 10.1. A drawing of each of the 14 heavy vehicle types is shown in Fig. 6.1 and a breakdown of each type into cells or variants is given by the identification Index Tables 6.1-6.14, as follows:

Vehicle Type	No. of Cells	Table Number	Vehicle Type	No. of Cells	Table Number
2	36	6.1	3-S3	105	6.8
3	42	6.2	2-2	144	6.9
2-S1	126	6.3	2-3	90	6.10
2-S2	108	6.4	3-2	90	6.11
2-S3	90	6.5	33	90	6.12
3-S1	90	6.6	2-S1-2	96	6.13
3-S2	112	6.7	3-S2-3	84	6.14

Total Number of Cells = 1303

It will be noted that each of the 1303 trucks listed in these tables is of unit weight and may be thought of as weighing one kip (1000 pounds) each. In fact, all of the tables and charts in Part II are based on vehicles of unit weight or vehicles weighing one kip each. This elimination of gross vehicle weight as a variable is made possible by the fact that the maximum shear produced by a given vehicle on a simple span bridge is directly proportional to its gross weight. In other words, once the maximum shear caused by a particular vehicle of unit weight on a given span is known, the actual shear produced by it on that span is obtained simply by multiplying the unit weight by the gross weight of the vehicle under consideration.

After a given vehicle has been classified as to vehicle type and truck number in Tables 6.1-6.14, its stress producing characteristics and effects may then be determined from one or more of the remaining tables of Part II. Before undertaking to discuss the use of these tables and charts, however, a list of their titles is included here for convenient reference and also because they are somewhat explanatory. They are as follows:

- Tables 7.1 7.14; Controlling Conditions for Maximum Shear on Simple Span Bridges.
- Tables 8.1 8.14; Summary of Maximum Shears Produced by Vehicles of Unit Weight on Simple Span Bridges.
- Tables 9.1 9.14; Equivalent H Truck Loadings for Vehicles of Unit Weight on Simple Span Bridges

Table 10.1 and Figure 10.1; Conversion Coefficients for Equivalent Loadings on Simple Spans of Various Lengths.

Note: Equivalent H truck loadings, equivalent H-S truck loadings, and equivalent concentrated loads may be converted from any one of these to either of the other by using the proper conversion coefficient as given by Table 10.1 or Figure 10.1.

5.2 Use of Tables and Charts for Converting Heavy Vehicles into Equivalent Loads

The simplest way to explain the use of the tables and charts described above perhaps would be to investigate several typical situations that could easily arise in connection with some particular heavy vehicle loading. Suppose, for example, that the vehicle in question is a 3-axle truck-tractor semitrailer combination (Type 2-S1 truck) having a gross weight of 45,000 pounds with 9,000 pounds on the front axle and 18,000 pounds on each of the other two, and with axle spacing front to rear of 8 feet and 16 feet, respectively, making an over-all wheel base length of 24 feet. The first step toward answering questions concerning this vehicle would be to identify it in accordance with the Index Tables 6.1-6.14. Thus, in Table 6.3, a Type 2-S1 truck having the same axle spacings as this vehicle, with 20 percent of its gross weight on the front axle and 40 percent on each of the other two will be found among the 126 variations for this vehicle type. In the fourth column from the left of Table 6.3, it will be seen that Truck Nos. 8 through 14 are for a vehicle with a 24-foot wheel base and axle spacings front to rear of 8 feet and 16 feet, respectively. In the next three columns to the right (columns 5, 6, and 7) it will be seen that Truck No. 13 is the one that fits the vehicle described above. So this vehicle would be classified as a Type 2-S1 truck-No. 13. In Table 6.3 it will be noted that there are 126 cells which represent a wide range of variations of wheel base lengths, axle spacings, and distributions of load among the axles, and that these are arranged in such a way as to approximate almost any practical Type 2-S1 truck that might be encountered in actual highway traffic.

Now, suppose it is desired to know the maximum shear produced by the Type 2-S1-13 (Type 2-S1 truck — No. 13) on several different span lengths; say on 20-, 50-, and 80-foot simple span bridges. This information will be found for Type 2-S1-13 in Table 7.3. For the 20-foot span it shows that a truck like this one will produce a maximum shear of .520 kips for each thousand pounds of gross vehicle weight. It also shows that this maximum shear would occur when axles 1 and 2 are on the span and axle 2 is placed at the right reaction. For the 50- and 80-foot spans, similarly, it will be seen that the maximum shear occurs where all three axles are on the span and axle 3 is placed at the right reaction; the maximum shears being .776 and .860 kips, respectively. In most cases, however, it is only the maximum shear caused by a vehicle on a given span that would be of interest. For this reason, as well as that of making the study of this information more convenient, the maximum shears for all the vehicle types and loadings shown in Tables 7.1-7.14 are summarized in Tables 8 1-8.14, respectively. For example, the maximum shears for the Type 2-S1-13, as given in Table 7.3, are summarized in Table 8.3.

It might be added that Tables 7.1-7.14 and Tables 8.1-8.14 are sufficiently extensive to cover practically any vehicle type, number of axles, wheel base length, and loading distribution among the axles ordinarily encountered in present-day highway traffic. From these tables the maximum shear caused by any of these vehicles on spans up to 100 feet in length may be rapidly and accurately determined. In many cases, it is only desired to know the maximum shear caused by a particular heavy vehicle on a given span. In other cases, however, just knowing the maximum shear caused by a vehicle on a given span would not be too informative. But if this maximum shear were measured in terms of the load required on a standard H truck to produce the same shear on the same span it could be readily interpreted in terms of an equivalent H truck loading, which would be very informative. This operation of converting a given truck into an equivalent H truck loading is accomplished simply by dividing the maximum shear produced by the given truck on a given span by the maximum shear produced by the standard H truck on the same span. For example, suppose it is desired to know the equivalent H truck loading on the 100-foot span for a Type 2-S1 truck weighing 30,000 pounds with 6,000 pounds on the front axle and 12,000 pounds on each of the other two, and an axle spacing front to rear of 8 feet and 12 feet resulting in an over-all wheel base of 20 feet. Without any other information it would be necessary to calculate the maximum shear produced by the given vehicle on the 100-foot span, which in this case is found to be 27.36 kips and the shear produced by the standard H truck weighing 30 kips on the 100-foot span is found to be 29.16 kips. The equivalent H truck loading for the given truck when determined as outlined above would be EHTL = 27.36 \div 29.16 = .938 which means that the standard H truck would only have to be loaded with .938 \times 30 kips = 28.14 kips to produce as much shear as the given truck. In other words, the given truck would be rated as an H 14.07 truck with respect to its stress producing characteristics based on shear. A summary of the equivalent H truck loadings for all the heavy vehicle types, loadings, and span lengths are given in Tabies 9.1-9.14, and a brief explanation of their use follows immediately.

As an example in the use of Tables 9.1-9.14, suppose it is desired to know the equivalent load rating for a gross vehicle weight of 45,000 pounds on the Type 2-S1-13 (Type 2-S1 truck — No. 13) on the 30-, 50-, and 80-foot spans. The equivalent H truck loadings for this vehicle based on a gross load of one kip are to be found in Table 9.3 and for the spans in question they are as follows:

Equiva'ent H Truck Loadings in Kips for a Type 2S1 Truck-No. 13 Weighing 45,000 Pounds

Gross Vehicle	Span Length-Feet				
Weight—Kips	30	50	80		
1.00	.692	.822	.891		
45.00	31.1	37.0	40.1		

This means that the Type 2-S1-13 weighing one kip would produce as much shear on a 30-foot span as a standard H truck weighing 0.692 times as much as the given vehicle, or 692 pounds. In other words, it would produce 69.2 percent as much shear as a standard H truck of the same weight. Or, better perhaps, it would produce the same shear on a 30-foot span as a standard H truck weighing 60.6 percent as much. The given Type 2-S1-13, therefore, would produce as much shear on a 30-foot span as a standard H truck weighing $45,000 \times 0.692 = 31.1$ kips = 15.6 tons; and for this span it would be rated as an equivalent H 15.6 truck loading. On the 50- and 80-foot spans, similarly, it would be rated as an equivalent H 18.5 truck loading and an equivalent H 20.1 truck loading, respectively.

In addition to the rating of heavy vehicle types and loadings on various spans in terms of equivalent H truck loadings, as was done in the preceding examples, there is another type of typical problem that often arises in connection with the load carrying capacity of certain bridges of given length and design designation. This is the problem of determining the maximum gross weight that should be permitted on any particular vehicle such that it might safely pass over a simple span bridge of given length and design rating. There are a number of variations to this problem of permissible vehicle weight, of course, but a few illustrative examples is all that is believed to be necessary to show how the tables may be used.

Example 5.1 Use of Tables 7.1-7.14 for Rating Heavy Vehicles

Given: A simple span bridge 50 feet long has a load carrying capacity such that it should not be subjected to a greater shear than that caused by an H 20 truck. Suppose it is desired to know the maximum gross load that may be carried over this bridge by a Type 3-S2 truck with axle spacing, front to rear, of 12 feet, 4 feet, 12 feet, and 4 feet, respectively, making an over-all wheel base length of 32 feet, if it is assumed that the gross weight is so distributed that each of the 5 axles will be equally loaded.

By consulting the identification Index Table 6.7, it will be seen that this vehicle would be classified as a Type 3-S2-48 (Type 3-S2 truck-No. 48). The problem here is to find the gross weight that might be carried by this vehicle such that it would not produce more shear on the 50-foot span than an H 20 truck. By consulting Table 7.1 it will be found that a standard H truck (Type 2 truck-No. 18) weighing one kip produce: a shear of .944 kips on a 50-foot span, therefore, an H 20 truck would produce a total shear of $40 \times .944 = 37.76$ kips on the 50-foot span. In Table 7.7 it will be found that one kip on the given Type 3-S2-48 moving from right to left produces a shear of .712 kips on this span when all five axless are on the span and axle No. 5 is placed at the right reaction. This shows that a gross weight of 37.76/.712 = 53.03 kips on this vehicle produces the same shear as an H 20 truck. In other words, the permissible gross weight for the Type 3-S2-48 under consideration would be 53.03 kips, and thus loaded, this vehicle would be rated as an equivalent H 20 truck loading.

Example 5.2 Use of Tables 8.1-8.14 for Rating Heavy Vehicles

Given: A simple span bridge 50 feet long, the same as for Example 5.1, has a load carrying capacity such that it should not be subjected to a greater shear than that caused by an H 20 truck. Suppose it is desired to know the maximum gross load that may be carried over this bridge by the Type 3-S2-48, described in Example 5.1, such that it would be rated as an equivalent H 20 truck loading.

From Table 8.7 it will be seen that a one kip load on a Type 3-S2-48 will produce a shear of 0.712 kips on a 50-foot span, and it has been shown in Example 5.1, above, that a standard H 20 truck will produce a shear of 37.76 kips on the same span. Therefore, a gross weight of 37.76/.712 = 53.03 kips on the given vehicle would result in its being rated as an equivalent H 20 truck loading.

Example 5.3 Use of Tables 9.1-9.14 for Rating Heavy Vehicles

Suppose it is desired to know the gross load for a Type 3-S2-48 (Type 3-S2 truck — No. 48) as described in Example 5.1, that would cause it to be rated as an equivalent H 20 truck loading on a 50-foot span.

Tables 9.1-9.14 show the equivalent H truck loadings which result from various heavy vehicle types and loadings of unit weight on spans up to 100 feet in length. In Table 9.7 it will be found that a gross vehicle weight of one kip for Type 3-S2-48 on a 50-foot span produces the same shear as 0.754 kips on a standard H truck. Therefore, a gross load of 40.0/.754 = 53.03 kips on this vehicle will produce the same shear as an H 20 truck, and for this load the above Type 3-S2-48 would be rated as an equivalent H 20 truck loading on a 50-foot span.

6. IDENTIFICATION INDEX OF HEAVY VEHICLE TYPES AND LOADINGS

The tables and charts given in Articles 6-10 (Part II) are concerned with evaluating the equivalent design loads which correspond with the maximum shears produced by one or another of the numerous possible loading and dimensional variations in 14 of the more commonly used heavy vehicle types on simple span bridges up to 100 feet in length. Each of these 14 vehicle types, together with the standardized notation used for their identification, is shown in Fig. 6.1.

The numerals used in this notation, which is shown opposite and to the left of each diagram, indicate the number of axles in each of the one or more units within a given vehicle assembly. When a semitrailer is included within a vehicle, it is identified by the letter S, followed by the numeral which indicates its number of axles. The Type 2 truck and the Type 3 truck, for

example, are single-unit trucks with 2 and 3 axles each, respectively. Double-unit vehicles may be one of the truck-tractor semitrailer combinations or one of the truck-trailer combinations; the three-unit vehicles may be one of the truck-tractor semitrailer trailer combinations. The Type 3-S2 truck, for example, consists of a 3-axle truck-tractor with a 2-axle semitrailer; and the Type 3-S2-3 truck is made up of a 3-axle truck-trailer with a 2-axle semitrailer followed by a 3-axle trailer.

A breakdown of each of the 14 vehicle types into cells or variants is given by Tables 6.1-6.14. A further discussion of these identification tables and how they are used is given in Articles 4 and 5. The vehicle type and the number of cells corresponding to each of the Tables 6.1-6.14 are as follows:

Table Number	Vehicle Types	No. of Cells	Table Number	Vehicle Types	No. of Cells
6.1	2	36	6.8	3-S3	105
6.2	3	42	6.9	2-2	144
6.3	2-S1	126	6.10	2-3	90
6.4	2-S2	108	6.11	3-2	90
6.5	$^{2}-S3$	90	6.12	3-3	90
6.6	3-S1	90	6.13	2-S1-2	96
6.7	3-S2	112	6.14	3-S2-3	84

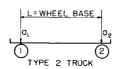
IDENTIFICATION OF FREIGHT VEHICLE TYPES

TYPE	TYPICAL VEHICLE	TYPE	TYPICAL VEHICLE
2	A B WHEEL BASE	3 –\$3	A B C D E F WHEEL BASE
3	A B C	2-2	A B C D WHEEL BASE
2-51	A B C WHEEL BASE	2-3	A B C D E WHEEL BASE
2-52	A B C D WHEEL BASE	3-2	A B C D E WHEEL BASE
2-53	A B C D E WHEEL BASE	3-3	A B C D E F WHEEL BASE
3-SI	A B C D WHEEL BASE	2-51-2	A B C D E WHEEL BASE
3-S2	A B C D E WHEEL BASE	3-\$2-3	A B C D E F G H WHEEL BASE

Figure 6.1

TABLE 6.1 INDEX TO THE TYPE 2 TRUCKS WEIGHING ONE KIP EACH

Truck numbers 1 to 36 represent 36 combinations of various wheel base lengths and axle loadings.

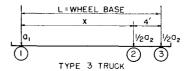


Truck Number		Load on A Ki	xles	Truck Number	Wheel Base	Loading on Axles Kips	
£ Ż	≱ä	a ₁	a ₂	Ε̈́Z	≱ä	aı	82
1	10	.45	.55	19	16	.45	.55
2	10	.40	.60	20	16	.40	.60
3	10	.35	.65	21	16	.35	.65
4	10	.30	.70	22	16	.30	.70
5	10	.25	.75	23	16	.25	.75
6	10	.20	.80	24	16	.20	.80
7	12	.45	.55	25	18	.45	.55
8	12	.40	.60	26	18	.40	.60
9	12	.35	.65	27	18	.35	.65
10	12	.30	.70	28	18	.30	.70
11	12	.25	.75	29	18	.25	.75
12	12	.20	.80	30	18	.20	.80
13	14	.45	.55	31	20	.45	.55
14	14	.40	.60	32	20	.40	.60
15	14	.35	.65	33	20	.35	.65
16	14	.30	.70	34	20	.30	.70
17	14	.25	.75	35	20	.25	.75
18	14	.20	.80	36	20	.20	.80

INDEX TO THE TYPE 3 TRUCKS WEIGHING ONE KIP EACH

Truck numbers 1 to 42 represent 42 combinations of various wheel base lengths, axle spacings, and axle loadings.

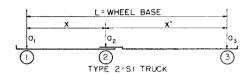
TABLE 6.2



Truck Number	Wh. Base and Axle Spacing		on A	ding Axles ips	Truck Number	Wh. and Space	Axle	on A	ding Xxles ips
Ε̈́Σ	X	L	a ₁	a 2	É É	X	L	a ₁	2 1.2
1	10	14	.40	.60	22	16	20	.40	.60
2	10	14	.35	.65	23	16	20	.35	.65
3	10	14	.30	.70	24	16	20	.30	.70
4	10	14	.25	.75	25	16	20	.25	.75
5	10	14	.20	.80	26	16	20	.20	.80
6	10	14	.15	.85	27	16	20	.15	.85
7	10	14	.10	.90	28	16	20	.10	.90
8	12	16	.40	.60	29	18	22	.40	.60
9	12	16	.35	.65	30	18	22	.35	.65
10	12	16	.30	.70	31	18	22	.30	.70
11	12	16	.25	.75	32	18	22	.25	.75
12	12	16	.20	.80	33	18	22	.20	.80
13	12	16	.15	.85	34	18	22	.15	.85
14	12	16	.10	90	35	18	22	.10	.90
15	14	18	.40	.60	36	20	24	.40	.60
16	14	18	.35	.65	37	20	24	.35	.65
17	14	18	.30	.70	38	20	24	.30	.70
18	14	18	.25	.75	39	20	24	.25	.75
19	14	18	.20	.80	40	20	24	.20	.80
20	14	18	.15	.85	41	20	24	.15	.85
21	14	18	.10	.90	42	20	24	.10	.90

TABLE 6.3

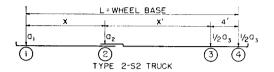
INDEX TO THE TYPE 2-S1 TRUCKS WEIGHING ONE KIP EACH



Truck Number		eel l		I	oad (Axle:		Truck Number		eel I			oad O Axles	n	Truck Number		eel E		L	oad (Axle	
an E		cing			Kips		um u		cing		_	Kips		um		cing			Kips	
HZ	X	X'	L	a ₁	82	а3	ΕZ	X	X'	L	a ₁	a ₂	a ₃	EZ.	X	Χ'	_L	a ₁	a 2	a3
1	8	12	20	.10	.30	.60	43	12	12	24	.10	.30	.60	85	16	8	24	.10	.30	.66
2	8	12	20	.10	.40	.50	44	12	12	24	.10	.40	.50	86	16	8	24	.10	.40	.50
3	8	12	20	.10	.45	.45	45	12	12	24	.10	.45	.45	87	16	8	24	.10	.45	.45
4	8	12	20	.10	.50	.40	46	12	12	24	.10	.50	.40	88	16	8	24	.10	.50	.40
5	8	12	20	.20	.30	.50	47	12	12	24	.20	.30	.50	89	16	8	24	.20	.30	.50
6	8	12	20	.20	.40	.40	48	12	12	24	.20	.40	.40	90	16	8	24	.20	.40	.40
7	8	12	20	.20	.50	.30	49	12	12	24	.20	.50	.30	91	16	8	24	.20	.50	.30
8	8	16	24	.10	.30	.60	50	12	16	28	.10	.30	.60	9.	16	12	2 8	.10	.30	.60
9	8	16	24	.10	.40	.50	51	12	16	28	.10	.40	.50	91	16	12	28	.10	.40	.50
10	8	16	24	.10	.45	.45	52	12	16	28	.10	.45	.45	94	16	12	28	.10	.45	.45
11	8	16	24	.10	.50	.40	53	12	16	28	.10	.50	.40	95	16	12	28	.10	.50	.40
12	8	16	24	.20	.30	.50	54	12	16	28	.20	.30	.50	96	16	12	28	.20	.30	.50
13	8	16	24	.20	.40	.40	55	12	16	28	.20	.40	.40	97	16	12	28	.20	.40	.40
14	8	16	24	.20	.50	.30	56	12	16	28	.20	.50	.30	98	16	12	28	.20	.50	.30
15	8	20	28	.10	.30	.60	57	12	20	32	.10	.30	.60	99	16	16	32	.10	.30	.60
16	8	20	28	.10	.40	.50	58	12	20	32	.10	.40	.50	100	16	16	32	.10	.40	.50
17	8	20	28	.10	.45	.45	59	12	20	32	.10	.45	.45	101	16	16	32	.10	.45	.45
18	8	20	28	.10	.50	.40	60	12	20	32	.10	.50	.40	102	16	16	32	.10	.50	.40
19	8	20	28	.20	.30	.50	61	12	20	32	.20	.30	.50	103	16	16	32	.20	.30	.50
20	8	20	28	.20	.40	.40	62	12	20	32	.20	.40	.40	104	16	16	32	.20	.40	.40
21	8	20	28	.20	.50	.30	63	12	20	32	.20	.50	.30	105	16	16	32	.20	.50	.30
22	8	24	32	.10	.30	.60	64	12	24	36	.10	.30	.60	106	16	20	36	.10	.30	.60
23	8	24 24	32	.10	.40	.50	65	12	24	36	.10	.40	.50	107	16	20	36	.10	.40	.50
24 25	8	24	32 32	.10	.45	.45	66	12 12	$\frac{24}{24}$	36 36	.10	.45 $.50$.45	$\frac{108}{109}$	16 16	20	36	.10	.45	.45
	8	24	32	.10	.50 .30	.40	67 68	12	24	36	.10	.30	.40 .50			20 20	36 36	.10	.50	.40
26 27	8	24	32	.20	.40	.50 .40	69	12	24	36	.20	.40	.40	$\frac{110}{111}$	16 16	20	36	.20	.30	.50
28	8	24	32	.20	.50	.30	70	12	24	36	.20	.50	.30	112	16	20	36	.20	.50	.40 .30
29	8	28	36	.10	.30	.60	71	12	28	40	.10	.30	.60	113	16	24	40	.10	.30	.60
30	8	28	36	.10	.40	.50	72	12	28	40	.10	.40	.50	114	16	24	40	.10	.40	.50
31	8	28	36	.10	.45	.45	73	12	28	40	.10	.45	.45	115	16	24	40	.10	.45	.45
32	8	28	36	.10	.50	.40	74	12	28	40	.10	.50	.40	116	16	24	40	.10	.50	.40
33	8	28	36	.20	.30	.50	75	12	28	40	.20	.30	.50	117	16	24	40	.20	.30	.50
34	8	28	36	.20	.40	.40	76	12	28	40	.20	.40	.40	118	16	24	40	.20	.40	.40
35	8	28	36	.20	.50	.30	77	12	28	40	.20	.50	.30	119	16	24	40	.20	.50	.30
36	12	40 8	20	.10	.30	.60	78	12	32	44	.10	.30	.60	120	16	28	44	.10	.30	.60
37	12	8	20	.10	.40	.50	79	12	32	44	.10	.40	.50	121	16	28	44	.10	.40	.50
38	12	8	20	.10	.45	.45	80	12	32	44	.10	.45	.45	122	16	28	44	.10	.45	.45
39	12	8	20	.10	.50	.40	81	12	32	44	.10	.50	.40	123	16	28	44	.10	.50	.40
40	12	8	20	.20	.30	.50	82	12	32	44	.20	.30	.50	124	16	28	44	.20	.30	.50
41	12	8	20	.20	.40	.40	83	12	32	44	.20	.40	.40	125	16	28	44	.20	.40	.40
42	12	8	20	.20	.50	.30	84	12	32	44	.20	.50	.30	126	16	28	44	.20	.50	.30
44	14		40	.20	.50	.00	O's	14	02	7.1	.20	.50	.00	140	10	40	***	.417	.00	.00

TABLE 6.4

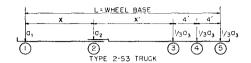
INDEX TO THE TYPE 2-S2 TRUCKS WEIGHING ONE KIP EACH



Truck Number	an	eel E	cle		oad (Axle Kips	s	Truck Number	an	el B	le Ft.		oad C Axles Kips	3	Truck Number	an Spa	eel B	tle Ft.		oad (Axle Kips	s :
	-			a ₁	a 2	аз			X'	L	aı	a ₂	аз_		X	_X'	L	a ₁	a ₂	a ₃
1	8	8	20	.10	.30	.60	37	12	8	24	.10	.30	.60	73	16	8	28	.10	.30	.60
2	8	8	20 20	.10	.40	.50 .40	38 39	12 12	8	24 24	.10 .10	.40	.50	74	16	8	28	.10	.40	.50
5	8	8	20	.20	.40	.40	41	12	8	24	.20	.50 .30	.40 .50	75 76	16 16	8	28	.10	.50	.40
4	8	8	20	.20	.30	.50	40	12	8	24	.20	.40	.40	77	16	8	28 28	.20	.30	.50 .40
6	8	8	20	.20	.50	.30	42	12	8	24	.20	.50	.30	78	16	8	28	.20	.40 .50	.30
7	8	12	24	.10	.30	.60	43	12	12	28	.10	.30	.60	79	16	12	32	.10	.30	.60
8	8	12	24	.10	.40	.50	44	12	12	28	.10	.40	.50	80	16	12	32	.10	.40	.50
9	8	12	24	.10	.50	.40	45	12	12	28	.10	.50	.40	81	16	12	32	.10	.50	.40
10	8	12	24	.20	.30	.50	46	12	12	28	.20	.30	.50	82	16	12	32	.20	.30	.50
11	8	12	24	.20	.40	.40	47	12	12	28	.20	.40	.40	83	16	12	32	.20	.40	.40
12	8	12	24	.20	.50	.30	48	12	12	28	.20	.50	.30	84	16	12	32	.20	.50	.30
13	8	16	28	.10	.30	.60	49	12	16	32	.10	.30	.60	85	16	16	36	.10	.30	.60
14	8	16	28	.10	.40	.50	50	12	16	32	.10	.40	.50	86	16	16	36	.10	.40	.50
15	8	16	28	.10	.50	.40	51	12	16	32	.10	.50	.40	87	16	16	36	.10	.50	.40
16	8	16	28	.20	.30	.50	52	12	16	32	.20	.30	.50	88	16	16	36	.20	.30	.50
17	8	16	28	.20	.40	.40	53	12	16	32	.20	.40	.40	89	16	16	36	.20	.40	.40
18	8	16	28	.20	.50	.30	54	12	16	32	.20	.50	.30	90	16	16	36	.20	.50	.30
19	8	20	32	.10	.30	.60	55	12	20	36	.10	.30	.60	91	16	20	40	.10	.30	.60
20	8	20	32	.10	.40	.50	56	12	20	36	.10	.40	.50	92	16	20	40	.10	.40	.50
21	8	20	32	.10	.50	.40	57	12	20	36	.10	.50	.40	93	16	20	40	.10	.50	.40
22	8	20	32	.20	.30	.50	58	12	20	36	.20	.30	.50	94	16	20	40	.20	.30	.50
23	8	20	32	.20	.40	.40	59	12	20	36	.20	.40	.40	95	16	20	40	.20	.40	.40
24	8	20	32	.20	.50	.30	60	12	20	36	.20	.50	.30	96	16	20	40	.20	.50	.30
25	8	24	36	.10	.30	.60	61	12	24	40	.10	.30	.60	97	16	24	44	.10	.30	.60
26	8	24	36	.10	.40	.50	62	12	24	40	.10	.40	.50	98	16	24	44	.10	.40	.50
27	8	24	36	.10	.50	.40	63	12	24	40	.10	.50	.40	99	16	24	44	.10	.50	.40
28	8	24	36	.20	.30	.50	64	12	24	40	.20	.30	.50	100	16	24	44	.20	.30	.50
29 30	8 8	24 24	36	.20	.40	.40	65	12	24	40	.20	.40	.40	101	16	24	44	.20	.40	.40
		28	36	.10	.50 .30	.30	66	12	24	40	.20	.50	.30	102	16	24	44	.20	.50	.30
31 32	8	28 28	40 40	.10	.40	.60 .50	67 68	12 12	28 28	44 44	.10	.30	.60	103	16	28	48	.10	.30	.60
33	8	28		.10	.50		69	12			.10	.40	.50	104	16	28	48	.10	.40	.50
33 34	8	28 28	40 40	.10	.30	.40 .50	69 70	12	28 28	44 44	.10	.50 .30	.40	105	16	28	48	.10	.50	.40
34 35	8	28 28	40	.20	.40	.40	70	12	28	44	.20		.50	106	16	28	48	.20	.30	.50
36	8	28 28	40	.20	.50	.30	71	12	28	44	.20	.40 .50	.40	107	16 16	28 28	48 48	.20	.40	.40
30	0	28	40	.20	.80	.00		12	40	44	.20	.50	.ა∪	108	16	25	48	.20	.50	.30

TABLE 6.5

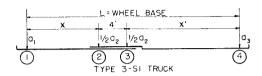
INDEX TO THE TYPE 2-S3 TRUCKS WEIGHING ONE KIP EACH



Truck Number	Whe an Spa	d Ar	cle	L	Load On Axles Kips a ₁ a ₂ a		Truck Number	Whe and Space	l Ax	le		ad Or Axles Kips	n	Truck Number	Spa	d Ax	le		oad O Axles Kips	
£Ζ	X	X'	L	a ₁	a 2	a 3	ÉŹ	X	X'	L	aı	a 2	a 3	ÉŹ	X	X'	L	81	a ₂	83
1	8	8	24	.10	.225	.675	31	12	8	28	.10	.225	.675	61	16	8	32	.10	.225	.675
2	8	8	24	.10	.30	.60	32	12	8	28	.10	.30	.60	62	16	8	32	.10	.30	.60
3	8	8	24	.10	.40	.50	33	12	8	28	.10	.40	.50	63	16	8	32	.10	.40	.50
4	8	8	24	.20	.20	.60	34	12	8	28	.20	.20	.60	64	16	8	32	.20	.20	.60
5	8	8	24	.20	.30	.50	35	12	8	28	.20	.30	.50	65	16	8	32	.20	.30	.50
6	8	8	24	.20	.40	.40	36	12	8	28	.20	.40	.40	66	16	8	32	.20	.40	.40
7	8	12	28	.10	.225	.675	37	12	12	32	.10	.225	.675	67	16	12	36	.10	.225	.675
8	8	12	28	.10	.30	.60	38	12	12	32	.10	.30	.60	68	16	12	36	.10	.30	.60
9	8	12	28	.10	.40	.50	39	12	12	32	.10	.40	.50	69	16	12	36	.10	.40	.50
10	8	12	28	.20	.20	.60	40	12	12	32	.20	.20	.60	70	16	12	36	.20	.20	.60
11	8	12	28	.20	.30	.50	41	12	12	32	.20	.30	.50	71	16	12	36	.20	.30	,50
12	8	12	28	.20	.40	.40	42	12	12	32	.20	.40	.40	72	16	12	36	.20	.40	.40
13	8	16	32	.10	.225	.675	43	12	16	36	.10	.225	.675	73	16	16	40	.10	.225	.675
14	8	16	32	.10	.30	.60	44	12	16	36	.10	.30	.60	74	16	16	40	.10	.30	.60
15	8	16	32	.10	.40	.50	45	12	16	36	.10	.40	.50	75	16	16	40	.10	.40	.50
16	8	16	32	.20	.20	.60	46	12	16	36	.20	.20	.60	76	16	16	40	.20	.20	.60
17	8	16	32	.20	.30	.50	47	12	16	36	.20	.30	.50	77	16	16	40	.20	.30	.50
18	8	16	32	.20	.40	.40	48	12	16	36	.20	.40	.40	78	16	16	40	.20	.40	.40
19	8	20	36	.10	.225	.675	49	12	20	40	.10	.225	.675	79	16	20	44	.10	.225	.675
20	8	20	36	.10	.30	.60	50	12	20	40	.10	.30	.60	80	16	20	44	.10	.30	.60
21	8	20	36	.10	.40	.50	51	12	20	40	.10	.40	.50	81	16	20	44	.10	.40	.50
22	8	20	36	.20	.20	.60	52	12	20	40	.20	.20	.60	82	16	20	44	.20	.20	.60
23	8	20	36	.20	.30	.50	53	12	20	40	.20	.30	.50	83	16	20	44	.20	.30	.50
24	8	20	36	.20	.40	.40	54	12	20	40	.20	.40	.40	84	16	20	44	.20	.40	.40
25	8	24	40	.10	.225	.675	55	12	24	44	.10	.225	.675	85	16	24	48	.10	.225	.675
26	8	24	40	.10	.30	.60	56	12	24	44	.10	.30	.60	86	16	24	48	.10	.30	.60
27	8	24	40	.10	.40	.50	57	12	24	44	.10	.40	.50	87	16	24	48	.10	.40	.50
28	8	24	40	.20	.20	.60	58	12	24	44	.20	.20	.60	88	16	24	48	.20	.20	.60
29	8	24	40	.20	.30	.50	59	12	24	44	.20	.30	.50	89	16	24	48	.20	.30	.50
30	8	24	40	.20	.40	.40	60	12	24	44	.20	.40	.40	90	16	24	48	.20	.40	.40

TABLE 6.6

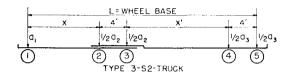
INDEX TO THE TYPE 3-S1 TRUCKS WEIGHING ONE KIP EACH



Truck Number	an	eel I	xle	L	oad 0 Axles Kips		Truck Number	an	el B d Ax cing	le	Ι.	oad O Axles Kips	n	Truck Number	an	el B d Az cing	cle		oad O Axles Kips	
ĔŹ	X	X'	L	a ₁	a ₂	a ₃	řź	X	X'	L	a ₁	a 2	аз	ÉŹ	X	X'	L	aı	a 2	аз
1	8	12	24	.10	.40	.50	31	12	12	28	.10	.40	.50	61	16	12	32	.10	.40	.50
2	8	12	24	.10	.50	.40	32	12	12	28	.10	.50	.40	62	16	12	32	.10	.50	.40
3	8	12	24	.10	.60	.30	33	12	12	28	.10	.60	.30	63	16	12	32	.10	.60	.30
4	8	12	24	.20	.40	.40	34	12	12	28	.20	.40	.40	64	16	12	32	.20	.40	.40
5	8	12	24	.20	.50	.30	35	12	12	28	.20	.50	.30	65	16	12	32	.20	.50	.30
6	8	12	24	.20	.534	.266	36	12	12	28	.20	.534	.266	66	16	12	32	.20	.534	.266
7	8	16	28	.10	.40	.50	37	12	16	32	.10	.40	.50	67	16	16	36	.10	.40	.50
8	8	16	28	.10	.50	.40	38	12	16	32	.10	.50	.40	68	16	16	36	.10	.50	.40
9	8	16	28	.10	.60	.30	39	12	16	32	.10	.60	.30	69	16	16	36	.10	.60	.30
10	8	16	28	20	.40	.40	40	12	16	32	.20	.40	.40	70	16	16	36	.20	.40	.40
11	8	16	28	.20	.50	.30	41	12	16	32	.20	.50	.30	71	16	16	36	.20	.50	.30
12	8	16	28	.20	.534	.266	42	12	16	32	.20	.534		72	16	16	36	.20	.534	
13	8	20	32	.10	.40	.50	43	12	20	36	.10	.40	.50	73	16	20	40	.10	.40	.50
14	8	20	32	.10	.50	.40	44	12	20	36	.10	.50	.40	74	16	20	40	.10	.50	.40
15	8	20	32	.10	.60	.30	45	12	20	36	.10	.60	.30	75	16	20	40	.10	.60	.30
16	8	20	32	.20	.40	.40	46	12	20	36	.20	.40	.40	76	16	20	40	.20	.40	.40
17	8	20	32	.20	.50	.30	47	12 12	20 20	36 36	.20	.50	.30	77 78	16	20 20	40 40	.20	.50 .534	.30 .266
18 19	8	20 24	32 36	.20	.534	.266	48 49	12	24	40	.20	.534 .40	.266	78 79	16 16	24	44	.10	.534	.50
20	8	24	36	.10	.40	.40	50	12	24	40	.10	.50	.40	80	16	24	44	.10	.50	.40
21	8	24	36	.10	.60	.30	51	12	24	40	.10	.60	.30	81	16	24	44	.10	.60	.30
22	8	24	36	.20	.40	.40	52	12	24	40	.20	.40	.40	82	16	24	44	.20	.40	.40
23	8	24	36	.20	.50	.30	53	12	24	40	.20	.50	.30	83	16	24	44	.20	.50	.30
24	8	24	36	.20	.534		54	12	24	40	.20	.534		84	16	24	44	.20	.534	
25	8	28	40	.10	.40	.50	55	12	28	44	.10	.40	.50	85	16	28	48	.10	.40	.50
26	8	28	40	.10	.50	.40	56	12	28	44	.10	.50	.40	86	16	28	48	.10	.50	.40
27	8	28	40	.10	.60	.30	57	12	28	44	.10	.60	.30	87	16	28	48	.10	.60	.30
28	8	28	40	.20	.40	.40	58	12	28	44	.20	.40	.40	88	16	28	48	.20	.40	.40
29	8	28	40	.20	.50	.30	59	12	28	44	.20	.50	.30	89	16	28	48	.20	.50	.30
30	8	28	40	.20	.534		60	12	28	44	.20	.534		90	16	28	48	.20	.534	
	-																			

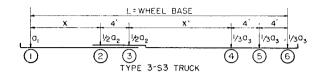
TABLE 6.7

INDEX TO THE TYPE 3-S2 TRUCKS WEIGHING ONE KIP EACH



Truck Number	Wheel Base and Axle Spacing Ft.			I	oad (es	Truck Number	ar	eel I	xle	I.	oad (Axle	s	Truck Number	an	el B	cle		oad (
Yun	Sp			aı	Kips a ₂		T'ruc Yun	Spa	cing X'	Ft.	aı	Kips a2	a 3	P.F.	Spa X	cing X'	Ft.	aı	Kips a ₂	a ₃
1	8	12	28	.10	.30	.60	43	12	12	32	.10	.30	.60	85	16	16	40	.10	.30	.60
2	8	12	28	.10	.40	.50	44	12	12	32	.10	.40	.50	86	16	16	40	.10	.40	,50
3	8	12	28	.10	.45	.45	45	12	12	32	.10	.45	.45	87	16	16	40	.10	.45	.45
4	8	12	28	.10	.50	.40	46	12	12	32	.10	.50	.40	88	16	16	40	.10	.50	.40
5	8	12	28	.20	.30	.50	47	12	12	32	.20	.30	.50	89	16	16	40	.20	.30	.50
6	8	12	28	.20	.40	.40	48	12	12	32	.20	.40	.40	90	16	16	40	.20	.40	.40
7	8	12	28	.20	.50	.30	49	12	12	32	.20	.50	.30	91	16	16	40	.20	.50	.30
8	8	16	32	.10	.30	.60	50	12	16	36	.10	.30	.60	92	16	20	44	.10	.30	.60
9	8	16	32	.10	.40	.50	51	12	16	36	.10	.40	.50	93	16	20	44	.10	.40	.50
10	8	16	32	.10	.45	.45	52	12	16	36	.10	.45	.45	94	16	20	44	.10	.45	.45
11 12	8	16	32	.10	.50	.40	53	12 12	16	36	.10	.50	.40 .50	95 96	16 16	20 20	44 44	.10	.50 .30	.40 .50
13	8	16 16	32 32	.20	.30 .40	.50 .40	54 55	12	16 16	36 36	.20	.30 .40	.40	96 97	16	20	44	.20	.40	.40
14	8	16	32	.20	.50	.30	56	12	16	36	.20	.50	.30	98	16	20	44	.20	.50	,30
15	8	20	36	.10	.30	.60	57	12	20	40	.10	.30	.60	99	16	24	48	.10	.30	.60
16	8	20	36	.10	.40	.50	58	12	20	40	.10	.40	.50	100	16	24	48	.10	.40	,50
17	8	20	36	.10	.45	.45	59	12	20	40	.10	.45	.45	101	16	24	48	.10	.45	.45
18	8	20	36	.10	.50	.40	60	12	20	40	.10	.50	.40	102	16	24	48	.10	.50	.40
19	8	20	36	.20	.30	.50	61	12	20	40	.20	.30	.50	103	16	24	48	.20	.30	.50
20	8	20	36	.20	.40	.40	62	12	20	40	.20	.40	.40	104	16	24	48	.20	.40	.40
21	8	20	36	.20	.50	.30	63	12	20	40	.20	.50	.30	105	16	24	48	.20	.50	.30
22	8	24	40	.10	.30	.60	64	12	24	44	.10	.30	.60	106	16	28	52	.10	.30	.60
$\frac{23}{24}$	8	24 24	40 40	.10	.40	.50 .45	65 66	12 12	24 24	44 44	.10	.40 $.45$.50 .45	107 108	16 16	28 28	52 52	.10 .10	.40 .45	.50 .45
25	8	24	40	.10	.45 .50	.40	67	12	24	44	.10	.50	.40	109	16	28	52	.10	.50	.40
26	8	24	40	.20	.30	.50	68	12	24	44	.20	.30	.50	110	16	28	52	.20	.30	.50
27	8	24	40	.20	.40	.40	69	12	24	44	.20	.40	.40	111	16	28	52	.20	.40	.40
28	8	24	40	.20	.50	.30	70	12	24	44	.20	.50	.30	112	16	28	52	.20	.50	.30
29	8	28	44	.10	.30	.60	71	12	28	48	.10	.30	.60							
30	8	28	44	.10	.40	.50	72	12	28	48	.10	.40	.50							
31	8	28	44	.10	.45	.45	73	12	28	48	.10	.45	.45							
32	8	28	44	.10	.50	.40	74	12	28	48	.10	.50	.40							
33	8	28	44	.20	.30	.50	75	12	28	48	.20	.30	.50							
34	8	28	44	.20	.40	.40	76	12	28	48	.20	.40	.40							
35	8 12	28	44	.20	.50	.30	77	12	28	48	.20	.50	.30							
$\frac{36}{37}$	12	8	28 28	.10	.30	.60 .50	78 70	16	12 12	36	.10	.30	.60 .50							
38	12	8	28 28	.10	.40 .45	.50	79 80	16 16	12	36 36	.10	.40	.45							
39	12	8	28	.10	.50	.40	81	16	12	36	.10	.50	.40							
40	12	8	28	.20	.30	.50	82	16	12	36	.20	.30	.50							
41	12	8	28	.20	.40	.40	83	16	12	36	.20	.40	.40							
42	12	8	28	.20	.50	.30	84	16	12	36	.20	.50	.30							

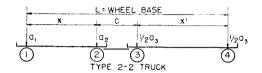
 $\begin{tabular}{lllll} TABLE~6.8\\ \hline \begin{tabular}{lllll} INDEX~TO~THE~TYPE~3-S3~TRUCKS~WEIGHING~ONE~KIP~EACH\\ \hline \end{tabular}$



Truck Number		eel E		L	oad (Truck Number		el B			ad O		Truck Numbe r		eel B		L	oad C	
ur.		cing		ĺ	Kips		uc.		cing			Kips		um um		cing			Kips	
ĔŹ	X	X'	L	aı	a 2	a 3	ĔŹ	X	X'	L	a ₁	a 2	a 3	Εź	X	X'	L	a1	a 2	a 3
1	8	12	32	.10	.30	.60	36	12	12	36	.10	.30	.60	71	16	12	40	.10	.30	.60
2	8	12	32	.10	.36	.54	37	12	12	36	.10	.36	.54	72	16	12	40	.10	.36	.54
3	8	12	32	.10	.40	.50	38	12	12	36	.10	.40	.50	73	16	12	40	.10	.40	.50
4	8	12	32	.10	.50	.40	39	12	12	36	.10	.50	.40	74	16	12	40	.10	.50	.40
5	8	12	32	.20	.30	.50	40	12	12	36	.20	.30	.50	75	16	12	40	.20	.30	.50
6	8	12	32	.20	.40	.40	41	12	12	36	.20	.40	.40	76	16	12	40	.20	.40	.40
7	8	12	32	.20	.50	.30	42	12	12	36	.20	.50	.30	77	16	12	40	.20	.50	.30
8	8	16	36	.10	.30	.60	43	12	16	40	.10	.30	.60	78	16	16	44	.10	.30	.60
9	8	16	36	.10	.36	.54	44	12	16	40	.10	.36	.54	79	16	16	44	.10	.36	.54
10	8	16	36	.10	.40	.50	45	12	16	40	.10	.40	.50	80	16	16	44	.10	.40	.50
11	8	16	36	.10	.50	.40	46	12	16	40	.10	.50	.40	81	16	16	44	.10	.50	.40
12	8	16	36	.20	.30	.50	47	12	16	40	.20	.30	.50	82	16	16	44	.20	.30	.50
13	8	16	36	.20	.40	.40	48	12	16	40	.20	.40	.40	83	16	16	44	.20	.40	.40
14	8	16	36	.20	.50	.30	49	12	16	40	.20	.50	.30	84	16	16	44	.20	.50	.30
15	8	20	40	.10	.30	.60	50	12	20	44	.10	.30	.60	85	16	20	48	.10	.30	.60
16	8	20	40	.10	.36	.54	51	12	20	44	.10	.36	.54	86	16	20	48	.19	.36	.54
17	8	20	40	.10	.40	.50	52	12	20	44	.10	.40	.50	87	16	20	48	.10	.40	.50
18	8	20	40	.10	.50	.40	53	12	20	44	.10	.50	.40	88	16	20	48	.10	.50	.40
19	8	20	40	.20	.30	.50	54	12	20	44	.20	.30	.50	89	16	20	48	.20	.30	.50
20	8	20	40	.20	.40	.40	55	12	20	44	.20	.40	.40	90	16	20	48	.20	.40	.40
21	8	20	40	.20	.50	.30	56	12	20	44	.20	.50	.30	91	16	20	48	.20	.50	.30
22	8	24	44	.10	.30	.60	57	12	24	48	.10	.30	.60	92	16	24	52	.10	.30	.60
23	8	24	44	.10	.36	.54	58	12	24	48	.10	.36	.54	93	16	24	52	.10	.36	.54
24	8	24	44	.10	.40	.50	59	12	24	48	.10	.40	.50	94	16	24	52	.10	.40	.50
25	8	24	44	.10	.50	.40	60	12	24	48	.10	.50	.40	95	16	24	52	.10	.50	.40
26	8	24	44	.20	.30	.50	61	12	24	48	.20	.30	.50	96	16	24	52	.20	.30	.50
27	8	24	44	.20	.40	.40	62	12	24	48	.20	.40	.40	97	16	24	52	.20	.40	.40
28	8	24	44	.20	.50	.30	63	12	24	48	.20	.50	.30	98	16	24	52	.20	.50	.30
29	8	28	48	.10	.30	.60	64	12	28	52	.10	.30	.60	99	16	28	56	.10	.30	.60
30	8	28	48	.10	.36	.54	65	12	28	52	.10	.36	.54	100	16	28	56	.10	.36	.54
31	8	28	48	.10	.40	.50	66	12	28	52	.10	.40	.50	101	16	28	56	.10	.40	.50
32	8	28	48	.10	.50	.40	67	12	28	52	.10	.50	.40	102	16	28	56	.10	.50	.40
33	8	28	48	.20	.30	.50	68	12	28	52	.20	.30	.50	103	16	28	56	.20	.30	.50
34	8	28	48	.20	.40	.40	69	12	28	52	.20	.40	.40	104	16	28	56	.20	.40	.40
35	8	28	48	.20	.50	.30	70	12	28	52	.20	.50	.30	105	16	28	56	.20	.50	.30
		40	***	.20	.00	.50			40		.40	.00	.00	100	10	20	00	.20	.00	

TABLE 6.9

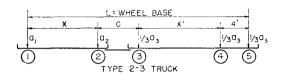
INDEX TO THE TYPE 2-2 TRUCKS WEIGHING ONE KIP EACH



ruck umber	Wheel Base Load (and Axle Axle Spacing Ft. Kips						s	Truck Number	1	hee and	Axle	e e		oad (Axle	s	Truck Number		hee and	Axl	e	L	oad (s
Truck Numbe								L L	_	paci				Kip		L D.H		paci				Kip	
HZ	X	X'	С	L	a 1	a 2	a ₃	HZ	X	X'	<u>C</u>	L	a ₁	a ₂	a3	HZ	X	X'	С	L	a ₁	82	as
1	12	8	8	28	.10	.20	.70	49	16	8	8	32	.10	.20	.70	97	20	8	8	36	.10	.20	.70
2	12	8	8	28	.10	.30	.60	50	16	8	8	82	.10	.30	.60	98	20	8	8	36	.10	.30	.60
3	12	8	8	28	.10	.40	.50	51	16	8	8	32	.10	.40	.50	99	20	8	8	36	.10	.40	.50
4 5	$\frac{12}{12}$	8	8 8	28 28	.20	.20	.60 .50	52 53	16 16	- 8 - 8	8	32 32	.20	.20	.60 .50	100 101	20 20	8 8	8	36 36	.20	.20	.60 .50
6	12	8	8	28	.20	.40	.40	54	16	8	8	32	.20	.40	.40	102	20	8	8	36	.20	.40	.40
7	12	12	8	32	.10	.20	.70	55	16	12	8	36	.10	.20	.70	103	20	12	8	40	.10	.20	.70
8	12	12	8	32	.10	.30	.60	56	16	12	8	36	.10	.30	.60	104	20	12	8	40	.10	.30	.60
9	12	12	8	32	.10	.40	.50	57	16	12	8	36	.10	.40	.50	105	20	12	8	40	.10	.40	.50
10	12	12	8	32	.20	.20	.60	58	16	12	8	36	.20	.20	.60	106	20	12	8	40	.20	.20	.60
11	$\frac{12}{12}$	12	8	32 32	.20	.30	.50	59	16	12	8	36	.20	.30	.50	107	20	12	8	40	.20	.30	.50
12 13	12	$\frac{12}{16}$	- 8	36	.20 .10	.40	.40 .70	60 61	16 16	$\frac{12}{16}$	8	36 40	.20	.40 .20	.40 .70	108 109	20 20	12 16	8	40 44	.20	.40	.40 .70
14	12	16	8	36	.10	.30	.60	62	16	16	- 8	40	.10	.30	.60	110	20	16	8	44	.10	.30	.60
15	12	16	- 8	36	.10	.40	.50	63	16	16	- 8	40	.10	.40	.50	111	20	16	8	44	.10	.40	.50
16	12	16	8	36	.20	.20	.60	64	16	16	8	40	.20	.20	.60	112	20	16	8	44	.20	.20	.60
17	12	16	8	36	.20	.30	.50	65	16	16	8	40	.20	.30	.50	113	20	16	8	44	.20	.30	.50
18	12	16	8	36	.20	.40	.40	66	16	16	8	40	.20	.40	.40	114	20	16	8	44	.20	.40	.40
$\frac{19}{20}$	$\frac{12}{12}$	20 20	8	40 40	.10	.20 .30	.70 .60	67 68	16 16	20 20	8	44 44	.10 .10	.20	.70 .60	115 116	20 20	20 20	8	48 48	.10	.20	.70 .60
21	12	20	8	40	.10	.40	.50	69	16	20	8	44	.10	.40	.50	117	20	20	8	48	.10	.40	.50
22	12	20	8	40	.20	.20	.60	70	16	20	8	44	.20	.20	.60	118	20	20	8	48	.20	.20	.60
23	12	20	8	40	.20	.30	.50	71	16	20	8	$\hat{4}\hat{4}$.20	.30	.50	119	20	20	8	48	.20	.30	.50
24	12	20	8	40	.20	.40	.40	72	16	20	8	44	.20	.40	.40	120	20	20	8	48	.20	.40	.40
25	12	- 8	12	32	.10	.20	.70	73	16	8	12	36	.10	.20	.70	121	20	8	12	40	.10	.20	.70
$\frac{26}{27}$	$\frac{12}{12}$	8	12	$\frac{32}{32}$.10	.30	.60	74	16	8	12	36	.10	.30	.60	122	20	8	$\frac{12}{12}$	40	.10	.30	.60
28	12	8	$\frac{12}{12}$	32	.10	.40	.50 .60	75 76	16 16	8	$\frac{12}{12}$	36 36	.10	.40 .20	.50 .60	$\frac{123}{124}$	20 20	8	12	40 40	.10	.40	.50 .60
29	12	8	12	32	.20	.30	.50	77	16	8	12	36	.20	.30	.50	125	20	8	12	40	.20	.30	.50
30	12	8	$\overline{12}$	32	.20	.40	.40	78	16	8	$\overline{12}$	36	.20	.40	.40	126	20	8	12	40	.20	.40	.40
31	12	12	12	36	.10	.20	.70	79	16	12	12	40	.10	.20	.70	127	20	12	12	44	.10	.20	.70
32	12	12	12	36	.10	.30	.60	80	16	12	12	40	.10	.30	.60	128	20	12	12	44	.10	.30	.60
33 34	$\frac{12}{12}$	$\frac{12}{12}$	$\frac{12}{12}$	36 36	.10	.40	.50 .60	81 82	16 16	12 12	12 12	40	.10	.40	.50	129	20	12	12	44	.10	.40	.50
35	12	12	12	36	.20	.30	.50	83	16	12	12	40 40	.20	.20	.60 .50	$\frac{130}{131}$	20 20	$\frac{12}{12}$	12 12	44 44	.20	.20	.60 .50
36	12	12	12	36	.20	.40	.40	84	16	12	12	40	.20	.40	.40	132	20	12	12	44	.20	.40	.40
37	12	16	12	40	.10	.20	.70	85	16	16	12	44	.10	.20	.70	133	20	16	12	48	.10	.20	.70
38	12	16	12	40	.10	.30	.60	86	16	16	12	44	.10	.30	.60	134	20	16	12	48	.10	.30	.60
39	12	16	12	40	.10	.40	.50	87	16	16	12	44	.10	.40	.50	135	20	16	12	48	.10	.40	.50
40	12	16	12	40	.20	.20	.60	88	16	16	12	44	.20	.20	.60	136	20	16	12	48	.20	.20	.60
41 42	$\frac{12}{12}$	$\frac{16}{16}$	$\frac{12}{12}$	40 40	.20 .20	.30	.50	89 90	16 16	16 16	$\frac{12}{12}$	44	.20	.30	.50 .40	$\frac{137}{138}$	20 20	16 16	12 12	48 48	.20 .20	.30 .40	.50 .40
42	12	20	12	44	.10	.20	.70	91	16	20	12	48	.10	.20	.70	139	20	20	12	52	.10	.20	.70
44	12	20	12	44	.10	.30	.60	92	16	20	12	48	.10	.30	.60	140	20	20	12	52	.10	.30	.60
45	12	20	12	44	.10	.40	.50	93	16	20	12	48	.10	.40	.50	141	20	20	12	52	.10	.40	.50
46	12	20	12	44	.20	.20	.60	94	16	20	12	48	.20	.20	.60	142	20	20	12	52	.20	.20	.60
47	12	20	12	44	.20	.30	.50	95	16	20	12	48	.20	.30	.50	143	20	20	12	52	.20	.30	.50
48	12	20	12	44	.20	.40	.40	96	16	20	12	48	.20	.40	.40	144	20	20	12	52	.20	.40	.40
														-	_								

TABLE 6.10

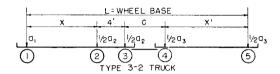
INDEX TO THE TYPE 2-3 TRUCKS WEIGHING ONE KIP EACH



Truck Number	ž	hee ind aci	Axle	9	٠	Axles your Axles az az EX			ε	heel ind .	Axle	2	1	ad C Axles Kips		Truck Number	a	heel and l	Axle			oad (Axle Kips	8
<u>EZ</u>	X	X'	С	L	a ₁	a ₂	as	Ez	X	X'	C	L	aı	a ₂	а3	ĔŹ	X	X'	C	L	a ₁	a ₂	a ₃
1	12	8	8	32	.10	.20	.70	31	16	8	8	36	.10	.20	.70	61	20	8	8	40	.10	.20	.70
2	12	8	8	32	.10	.30	.60	32	16	8	8	36	.10	.30	.60	62	20	8	8	40	.10	.30	.60
3	12	8	8	32	.10	.40	.50	33	16	8	8	36	.10	.40	.50	63	20	8	8	40	.10	.40	.50
4	12	8	8	32	.20	.20	.60	34	16	8	8	36	.20	.20	.60	64	20	8	8	40	.20	.20	.60
5	12	8	8	32	.20	.30	.50	35	16	8	8	36	.20	.30	.50	65	20	8	8	40	.20	.30	.50
6	12	12	8	36	.10	.20	.70	36	16	12	8	40	.10	.20	.70	66	20	12	8	44	.10	.20	.70
7	12	12	8	36	.10	.30	.60	37	16	12	8	40	.10	.30	.60	67	20	12	8	44	.10	.30	.60
8	12	12	8	36	.10	.40	.50	38	16	12	8	40	.10	.40	.50	68	20	12	8	44	.10	.40	.50
9	12	12	8	36	.20	.20	.60	39	16	12	8	40	.20	.20	.60	69	20	12	8	44	.20	.20	.60
10	12	12	8	36	.20	.30	.50	40	16	12	8	40	.20	.30	.50	70	20	12	8	44	.20	.30	.50
11	12	16	8	40	.10	.20	.70	41	16	16	8	44	.10	.20	.70	71	20	16	8	48	.10	.20	.70
12	12	16	8	40	.10	.30	.60	42	16	16	8	44	.10	.30	.60	72	20	16	8	48	.10	.80	.60
13	12	16	8	40	.10	.40	.50	43	16	16	8	44	.10	.40	.50	73	20	16	8	48	.10	.40	.50
14	12	16	8	40	.20	.20	.60	44	16	16	8	44	.20	.20	.60	74	20	16	8	48	.20	.20	.60
15	12	16	8	40	.20	.30	.50	45	16	16	8	44	.20	.30	.50	75	20	16	8	48	.20	.30	.50
16	12	8	12	36	.10	.20	.70	46	16	8	12	40	.10	.20	.70	76	20	8	12	44	.10	.20	.70
17	12	8	12	36	.10	.30	.60	47	16	8	12	40	.10	.30	.60	77	20	8	12	44	.10	.30	.60
18	12	8	12	36	.10	.40	.50	48	16	8	12	40	.10	.40	.50	78	20	8	12	44	.10	.40	.50
19	12	8	12	36	.20	.20	.60	49	16	8	12	40	.20	.20	.60	79	20	8	12	44	.20	.20	.60
20	12	8	12	36	.20	.30	.50	50	16	8	12	40	.20	.30	.50	80	20	8	12	44	.20	.30	.50
21	12	12	12	40	.10	.20	.70	51	16	12	12	44	.10	.20	.70	81	20	12	12	48	.10	.20	.70
22	12	12	12	40	.10	.30	.60	52	16	12	12	44	.10	.30	.60	82	20	12	12	48	.10	.30	.60
23	12	12	12	40	.10	.40	.50	53	16	12	12	44	.10	.40	.50	8 3	20	12	12	48	.10	.40	.50
24	12	12	12	40	.20	.20	.60	54	16	12	12	44	.20	.20	.60	84	20	12	12	48	.20	.20	.60
25	12	12	12	40	.20	.30	.50	55	16	12	12	44	.20	.30	.50	85	20	12	12	48	.20	.30	.50
26	12	16	12	44	.10	.20	.70	56	16	16	12	48	.10	.20	.70	86	20	16	12	52	.10	.20	.70
27	12	16	12	44	.10	.30	.60	57	16	16	12	48	.10	.30	.60	87	20	16	12	52	.10	.30	.60
28	12	16	12	44	.10	.40	.50	58	16	16	12	48	.10	.40	.50	88	20	16	12	52	.10	.40	.50
29	12	16	12	44	.20	.20	.60	59	16	16	12	48	.20	.20	.60	89	20	16	12	52	.20	.20	.60
30	12	16	12	44	.20	.30	.50	60	16	16	12	48	.20	.30	.50	90	20	16	12	52	.20	.30	.50

TABLE 6.11

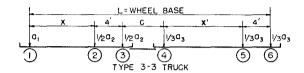
INDEX TO THE TYPE 3-2 TRUCKS WEIGHING ONE KIP EACH



Truck Number	Si	Wheel Base and Axle Spacing Ft. X X' C L		t.	1	ad C Axles Kips a ₂	3	Truck Number	a	heel ind z acir	Axle	2	I	ad C Axles Kips a ₂		Truck Number	8	heel and A acir	Axle	,		oad (Axle Kips a ₂	S
1	12	12	8	36	.10	.40	.50	31	16	12		40	.10	.40	.50	61	20	12	8	44	.10	.40	.50
2	12	12	8	36	.10	.50	.40	32	16	12	8	40	.10	.50	.40	62	20	12	8	44	.10	.50	.40
3	12	12	8	36	.10	.60	.30	33	16	12	8	40	.10	.60	.30	63	20	12	8	44	.10	.60	.30
4	12	12	8	36	.20	.40	.40	34	16	12	8	40	.20	.40	.40	64	20	12	8	44	.20	.40	.40
5	12	12	8	36	.20	.50	.30	35	16	12	8	40	.20	.50	.30	65	20	12	8	44	.20	.50	.30
6	12	16	8	40	.10	.40	.50	36	16	16	8	44	.10	.40	.50	66	20	16	8	48	.10	.40	.50
7	12	16	8	40	.10	.50	.40	37	16	16	8	44	.10	.50	.40	67	20	16	8	48	.10	.50	.40
8	12	16	8	40	.10	.60	.30	38	16	16	8	44	.10	.60	.30	68	20	16	8	48	.10	.60	.30
9	12	16	8	40	.20	.40	.40	39	16	16	8	44	.20	.40	.40	69	20	16	8	48	.20	.40	.40
10	12	16	8	40	.20	.50	.30	40	16	16	8	44	.20	.50	.30	70	20	16	8	48	.20	.50	.30
11	12	20	8	44	.10	.40	.50	41	16	20	8	48	.10	.40	.50	71	20	20	8	52	.10	.40	.50
12	12	20	8	44	.10	.50	.40	42	16	20	8	48	.10	.50	.40	72	20	20	8	52	.10	.50	.40
13	12	20	8	44	.10	.60	.30	43	16	20	8	48	.10	.60	.30	73	20	20	8	52	.10	.60	.30
14	12	20	8	44	.20	.40	.40	44	16	20	8	48	.20	.40	.40	74	20	20	8	52 52	.20	.40	.40
15	12 12	20	8 12	44	.20	.50	.30	45 46	16 16	20 12	8 12	48 44	.20	.50	.30	75 76	20 20	20 12	8 12	52 48	.10	.50	.30
16 17	12	12 12	12	40	.10	.40	.50	47	16	12	12	44	.10	.50	.40	77	20	12	12	48	.10	.50	.40
18	12	12	12	40	.10	.60	.30	48	16	12	12	44	.10	.60	.30	78	20	12	12	48	.10	.60	.30
19	12	12	12	40	.20	.40	.40	49	16	12	12	44	.20	.40	.40	79	20	12	12	48	.20	.40	.40
20	12	12	12	40	.20	.50	.30	50	16	12	12	44	.20	.50	.30	80	20	12	12	48	.20	.50	.30
21	12	16	12	44	.10	.40	.50	51	16	16	12	48	.10	.40	.50	81	20	16	12	52	.10	.40	.50
22	12	16	12	44	.10	.50	.40	52	16	16	12	48	.10	.50	.40	82	20	16	12	52	.10	.50	.40
23	12	16	12	44	.10	.60	.30	53	16	16	12	48	.10	.60	.30	83	20	16	12	52	.10	.60	.30
24	12	16	12	44	.20	.40	.40	54	16	16	12	48	.20	.40	.40	84	20	16	12	52	.20	.40	.40
25	12	16	12	44	.20	.50	.30	55	16	16	12	48	.20	.50	.30	85	20	16	12	52	.20	.50	.30
26	12	20	12	48	.10	.40	.50	56	16	20	12	52	.10	.40	.50	86	20	20	12	56	.10	.40	.50
27	12	20	12	48	.10	.50	.40	57	16	20	12	52	.10	.50	.40	87	20	20	12	56	.10	.50	.40
28	12	20	12	48	.10	.60	.30	58	16	20	12	52	.10	.60	.30	88	20	20	12	56	.10	.60	.30
29	12	20	12	48	.20	.40	.40	59	16	20	12	52	.20	.40	.40	89	20	20	12	56	.20	.40	.40
30	12	20	12	4 8	.20	.50	.30	60	16	20	12	52	.20	.50	.30	90	20	20	12	56	.20	.50	.30

TABLE 6.12

INDEX TO THE TYPE 3-3 TRUCKS WEIGHING ONE KIP EACH

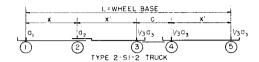


Truck Number	W Si	and	l Ba Axle	e		oad (Axle Kips)n s	Truck Number	ŧ	ind.	l Baa Axle			oad (Axle Kips	s	ruck		hee and paci	Axl	e	L	oad Axle Kip	2S
FZ	X	X'	C	L	a ₁	a ₂	8.3	EZ	X	X,	C	L	a 1	a ₂	83	Ęz		X'	C	L	a ₁	a:	a ₃
1	12	8	12	40	.10	.30	.60	31	16	8	12	44	.10	.30	.60	61	20	8	12	48	.10	.30	.60
2	12	8	12	40	.10	.40	.50	32	16	8	12	44	.10	.40	.50	62	20	8	12	48	.10	.40	.50
3	12	8	12	40	.10	.50	.40	33	16	8	12	44	.10	.50	.40	63	20	8	12	48	.10	.50	.40
4	12	8	12	40	.20	.30	.50	34	16	8	12	44	.20	.30	.50	64	20	8	12	48	.20	.30	.50
5	12	8	12	40	.20	.40	.40	35	16	8	12	44	.20	.40	.40	65	20	8	12	48	.20	.40	.40
6	12	12	12	44	.10	.30	.60	36	16	12	12	48	.10	.30	.60	66	20	12	12	52	.10	.30	.60
7	12	12	12	44	.10	.40	.50	37	16	12	12	48	.10	.40	.50	67	20	12	12	52	.10	.40	.50
8	12	12	12	44	.10	.50	.40	38	16	12	12	48	.10	.50	.40	68	20	12	12	52	.10	.50	.40
9	12	12	12	44	.20	.30	.50	39	16	12	12	48	.20	.30	.50	69	20	12	12	52	.20	.30	.50
10	12	12	12	44	.20	.40	.40	40	16	12	12	48	.20	.40	.40	70	20	12	12	52	.20	.40	.40
11	12	16	12	48	.10	.30	.60	41	16	16	12	52	.10	.30	.60	71	20	16	12	56	.10	.30	.60
12	12	16	12	48	.10	.40	.50	42	16	16	12	52	.10	.40	.50	72	20	16	12	56	.10	.40	.50
13	12	16	12	48	.10	.50	.40	43	16	16	12	52	.10	.50	.40	73	20	16	12	56	.10	.50	.40
14	12	16	12	48	.20	.30	.50	44	16	16	12	52	.20	.30	.50	74	20	16	12	56	.20	.30	.50
15	12	16	12	48	.20	.40	.40	45	16	16	12	52	.20	.40	.40	75	20	16	12	56	.20	.40	.40
16	12	8	16	44	.10	.30	.60	46	16	8	16	48	.10	.30	.60	76	20	8	16	52 52	.10	.30	.60
17	12	8	16	44	.10	.40	.50	47	16	8	16	48	.10	.40	.50	77	20	8	16	52 52	.10	.40	.50
18	12	8	16	44	.10	.50	.40	48 49	16 16	8	16 16	48 48	.10	.50	.40 .50	78 79	20 20	8	16 16	52	.10	.30	.40 .50
19 20	12 12	8	16 16	44	.20	.30	.40	50	16	8	16	48	.20	.40	.40	80	20	8	16	52	.20	.40	.40
21	12	12	16	48	.10	.30	.60	51	16	12	16	52	.10	.30	.60	81	20	12	16	56	.10	.30	.60
22	12	12	16	48	.10	.40	.50	52	16	12	16	52	.10	.40	.50	82	20	12	16	56	.10	.40	.50
23	12	12	16	48	.10	.50	.40	53	16	12	16	52	.10	.50	.40	83	20	12	16	56	.10	.50	.40
24	12	12	16	48	.20	.30	.50	54	16	12	16	52	.20	.30	.50	84	20	12	16	56	.20	.30	.50
25	12	12	16	48	.20	.40	.40	55	16	12	16	52	.20	.40	.40	85	20	12	16	56	.20	.40	.40
26	12	16	16	52	.10	.30	.60	56	16	16	16	56	.10	.30	.60	86	20	16	16	60	.10	.30	.60
27	12	16	16	52	.10	.40	.50	57	16	16	16	56	.10	.40	.50	87	20	16	16	60	.10	.40	.50
28	12	16	16	52	.10	,50	.40	58	16	16	16	56	.10	.50	,40	88	20	16	16	60	.10	.50	.40
29	12	16	16	52	.20	.30	.50	59	16	16	16	56	.20	.30	.50	89	20	16	16	60	.20	.30	.50
30	12	16	16	52	.20	.40	.40	60	16	16	16	56	.20	.40	.40	90	20	16	16	60	.20	.40	.40

TABLE 6.13

INDEX TO THE TYPE 2-S1-2 TRUCKS WEIGHING ONE KIP EACH

Truck numbers 1 to 96 represent 96 combinations of various wheel base lengths, axle spacings, and axle loadings.

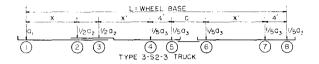


Truck Number	2	heel and acii	Axle			oad (Axle Kips	3	Truck Number	8	ind .	Bas Axle	:		oad C Axles Kips		Truck Number	1	heel and .	Axle	ž		oad (Axle Kips	s
ĔŹ	X	X'	C	L	a ₁	a 2	aı	ÉŹ	X	X'	С	L	a ₁	a 2	a ₃	Éź	X	Χ'	С	L	81	a 2	a ₃
1	8	10	8	36	.10	.20	.70	33	12	10	8	40	.10	.20	.70	65	16	16	8	56	.10	.20	.70
2	8	10	8	36	.10	.30	.60	34	12	10	8	40	.10	.30	.60	66	16	16	8	56	.10	.30	.60
3	8	10	8	36	.20	.20	.60	35	12	10	8	40	.20	.20	.60	67	16	16	8	56	.20	.20	.60
4	8	10	8	36	.20	.30	.50	36	12	10	8	40	.20	.30	.50	68	16	16	8	56	.20	.30	.50
5	8	12	8	40	.10	.20	.70	37	12	12	8	44	.10	.20	.70	69	16	18	8	60	.10	.20	.70
6	8	12	8	40	.10	.30	.60	38	12	12	8	44	.10	.30	.60	70	16	18	8	60	.10	.30	.60
7	8	12	8	40	.20	.20	.60	39	12	12	8	44	.20	.20	.60	71	16	18	8	60	.20	.20	.60
8	8	12	8	40	.20	.30	.50	40	12	12	8	44	.20	.30	.50	72	16	18	8	60	.20	.30	.50
9	8	14	8	44	.10	.20	.70	41	12	14	8	48	.10	.20	.70	73	16	20	8	64	.10	.20	.70
10	8	14	8	44	.10	.30	.60	42	12	14	8	48	.10	.30	.60	74	16	20	8	64	.10	.30	.60
11	8	14	8	44	.20	.20	.60	43	12	14	8	48	.20	.20	.60	75	16	20	8	64	.20	.20	.60
12	8	14	8	44	.20	.30	.50	44	12	14	8	48	.20	.30	.50	76	16	20	8	64	.20	.30	.50
13	8	16	8	48	.10	.20	.70	45	12	16	8	52	.10	.20	.70	77	16	22	8	68	.10	.20	.70
14	8	16	8	48	.10	.30	.60	46	12	16	8	52	.10	.30	.60	78	16	22	8	68	.10	.30	.60
15	8	16	8	48	.20	.20	.60	47	12	16	8	52	.20	.20	.60	79	16	22	8	68	.20	.20	.60
16	8	16	8	48	.20	.30	.50	48	12	16	8	52	.20	.30	.50	80	16	22	8	68	.20	.30	.50
17	8	18	8	52	.10	.20	.70	49	12	18	8	56	.10	.20	.70	81	16	24	8	72	.10	.20	.70
18	8	18	8	52	.10	.30	.60	50	12	18	8	56	.10	.30	.60	82	16	24	8	72	.10	.30	.60
19	8	18	8	52	.20	.20	.60	51	12	18	8	56	.20	.20	.60	83	16	24	8	72	.20	.20	.60
20	8	18	8	52	.20	.30	.50	52	12	18	8	56	.20	.30	.50	84	16	24	8	72	.20	.30	.50
21	8	20	8	56	.10	.20	.70	53	12	20	8	60	.10	.20	.70	85	16	26	8	76	.10	.20	.70
22	8	20	8	56	.10	.30	.60	54	12	20	8	60	.10	.30	.60	86	16	26	8	76	.10	.30	.60
23	8	20	8	56	.20	.20	.60	55	12	20	8	60	.20	.20	.60	87 88	16 16	26 26	8	76 76	.20	.20	.60 .50
24	8	20	8	56	.20	.30	.50	56	12	20	8	60 64		.20	.70		16	28	8	80			
25	8	22	8	60	.10	.20	.70	57	12	22	8		.10	.30	.60	89 90	16	28	8	80	.10	.20	.70
26	8	22	8	60	.10	.30	.60	58	12	22	8	64	.10					28			.10	.30	.60
27	8	22	8	60	.20	.20	.60	59	12	22 22	8	64	.20	.20	.60	91 92	16	28	8	80	.20	.20	.60
28	8	22	8	60	.20	.30	.50	60	12		8	64 68			.50	92	16 16	30	8	80 84		.30	.50
29	8	24	8	64	.10	.20	.70 .50	61 62	12 12	24 24	8 8	68	.10	.20	.70 .50	93	16	30	8	84	.10	.20	.70 .50
30	8	24	8	64	.10	.30				24	_	68	.10	.30	.60	94 95		30	8	-	.20	.20	
31	8	24	8	64	.20	.20	.60	63	12		8		•		-		16		_	84			.60
32	8	24	8	64	.20	.30	.50	64	12	24	8	68	.20	.30	.50	96	16	30	8	84	.20	.30	.50

TABLE 6.14

INDEX TO THE TYPE 3-S2-3 TRUCKS WEIGHING ONE KIP EACH

Truck numbers 1 to 84 represent 84 combinations of various wheel base lengths, axle spacings, and axle loadings.



Truck Number	Sr	heel nd acii	Axleng F	t.	1	ad C Axles Kips	3	ruck	a Sp	heel nd <i>l</i> acir	Axle	t.	A	ad O Axles Kips		Truck Number	Sr	heel nd acii	Axle ng F	t.		oad (Axle Kips	8
HZ	X	X'	C	L	a ₁	a ₂	a ₃	EZ	X	X'	_ <u>C</u> _	L	aı	a ₂	a ₃	(AZ	X	X'	<u>C</u>	L	a ₁	a ₂	as
1	8	8	8	44	.05	.20	.75	29	12	8	8	48	.05	.20	.75	57	16	12	8	60	.05	.20	.75
2	8	8	8	44	.05	.30	.65	30	12	8	8	48	.05	.30	.65	58	16	12	8	60	.05	.30	.65
3	8	8	8	44	.10	.20	.70	31	12	8	8	48	.10	.20	.70	59	16	12	8	60	.10	.20	.70
4	8	8	8	44	.10	.30	.60	32	12	8	8	48	.10	.30	.60	60	16	12	8	60	.10	.30	.60
5	8	10	8	48	.05	.20	.75	33	12	10	8	52	.05	.20	.75	61	16	14	8	64	.05	.20	.75
6	8	10	8	48	.05	.30	,65	34	12	10	8	52	.05	.30	.65	62	16	14	8	64	.05	.30	.65
7	8	10	8	48	.10	.20	.70	35	12	10	8	52	.10	.20	.70	63	16	14	8	64	.10	.20	.70
8	8	10	8	48	.10	.30	.60	36	12	10	8	52	.10	.30	.60	64	16	14	8	64	.10	.30	.60
9	8	12	8	52	.05	.20	.75	37	12	12	8	56	.05	.20	.75	65	16	16	8	68	.05	.20	.75
10	8	12	8	52	.05	.30	.65	38	12	12	8	56	.05	.30	.65	66	16	16	8	68	.05	.30	.65
11	8	12	8	52	.10	.20	.70	39	12	12	8	56	.10	.20	.70	67	16	16	8	68	.10	.20	.70
12	8	12	8	52	.10	.30	.60	40	12	12	8	56	.10	.30	.60	68	16	16	8	68	.10	.30	.60
13	8	14	8	56	.05	.20	.75	41	12	14	8	60	.05	.20	.75	69	16	18	8	72	.05	.20	.75
14	8	14	8	56	.05	.30	.65	42	12	14	8	60	.05	.30	.65	70	16	18	8	72	.05	.30	.65
15	8	14	8	56	.10	.20	.70	43	12	14	8	60	.10	.20	.70	71	16	18	8	72	.10	.20	.70
16	8	14	8	56	.10	.30	.60	44	12	14	8	60	.10	.30	.60	72	16	18	8	72	.10	.30	.60
17	8	16	8	60	.05	.20	.75	45	12	16	8	64	.05	.20	.75	73	16	20	8	76	.05	.20	.75
18	8	16	8	60	.05	.30	.65	46	12	16	8	64	.05	.30	.65	74	16	20	8	76	.05	.30	.65
19	8	16	8	60	.10	.20	.70	47	12	16	8	64	.10	.20	.70	75	16	20	8	76	.10	.20	.70
20	8	16	8	60	.10	.30	.60	48	12	16	8	64	.10	.30	.60	76	16	20	8	76	.10	.30	.60
21	8	18	8	64	.05	.20	.75	49	12	18	8	68	.05	.20	.75	77	16	22	8	80	.05	.20	.75
22	8	18	8	64	.05	.30	.65	50	12	18	8	68	.05	.30	.65	78	16	22	8	80	.05	.30	.65
23	8	18	8	64	.10	.20	.70	51	12	18	8	68	.10	.20	.70	79	16	22	8	80	.10	.20	.70
24	8	18	8	64	.10	.30	.60	52	12	18	8	68	.10	.30	.60	80	16	22	8	80	.10	.30	.60
25	8	20	8	68	.05	.20	.75	53	12	20	8	72	.05	.20	.75	81	16	24	8	84	.05	.20	.75
26	8	20	8	68	.05	.30	.65	54	12	20	8	72	.05	.30	.65	82	16	24	8	84	.05	.30	.65
27	8	20	8	68	.10	.20	.70	55	12	20	8	72	.10	.20	.70	83	16	24	8	84	.10	.20	.70
28	8	20	8	68	.10	.30	.60	56	12	20	8	72	.10	.30	.60	84	16	24	8	84	.10	.30	.60

7. CONTROLLING CONDITIONS FOR MAXIMUM SHEARS ON SIMPLE SPAN BRIDGES

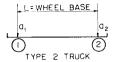
Tables 7.1-7.14 give the maximum shears produced by the 1303 variations of the 14 heavy vehicle types shown in the identification index Tables 6.1-6.14 on simple spans of 10, 20, 30, 40, 50, 60, 80, and 100 feet in length. The maximum shears produced by each of the 1303 heavy vehicle types and loadings on 8 different span lengths makes a total of 10,424 maximum shears recorded in the 14 Tables 7.1-7.14. The table number corresponding to each of the 14 heavy vehicle types is as follows:

Table No.	Vehicle Type	Table No.	Vehicle Type
7.1	2	7.8	3-S3
7.2	3	7.9	2-2
7.3	2-S1	7.10	$^{2-3}$
7.4	2-S2	7.11	$\bar{3} - 2$
7.5	2-S3	7.12	3-3
7.6	3-S1	7.13	2-S1-2
7.7	3-S2	7.14	3-S2-3

In addition to given the maximum shear for each of the 10,424 cases of vehicle type, loading, and span length, these tables also indicate in each case: (1) the axle-group which produces the maximum shear; (2) the axle number under which the maximum shear occurs; and (3) the end of span at which the critical axle is placed to coincide with the position for maximum shear.

A further description of these tables and how they are used is given in Articles 4 and 5.

TABLE 7.1 CONTROLLING CONDITIONS AND MAXIMUM SHEARS IN SIMPLE SPANS PRODUCED BY THE TYPE 2 TRUCKS WEIGHING ONE KIP EACH



Thirty-six variations in the Type 2 truck are given in this table. Each truck number, from 1 to 36, represents a different combination of wheel base length, and ratios of gross vehicle weight on each axle.

Truc	ck No	٥.	1	2	3	4	5	6	7	8	9	10
Wh.	Base	e L	10	10	10	10	10	10	12	12	12	12
Load		a ₁ a ₂	.45 .55	.40 .60	.35 .65	.30 .70	.25 .75	.20 .80	.45 .55	.40 .60	.35 .65	.30 .70
	10	G N E V	2 2 L .550	2 L .600	2 2 L .650	2 2 L .700	2 2 L .750	2 2 L .800	2 2 L .550	2 2 L .600	2 2 L .650	2 2 L .700
	20	G N E V	1-2 2 R .775	1–2 2 R .800	1-2 2 R .825	1-2 2 R .850	1-2 2 R .875	1-2 2 R .900	1-2 2 R .730	1-2 2 R .760	1–2 2 R .790	1-2 2 R .820
	30	G N E V	1-2 2 R .850	1-2 2 R .867	1-2 2 R .883	1-2 2 R .900	1-2 2 R .917	1-2 2 R .933	1-2 2 R .820	1-2 2 R .840	1-2 2 R .860	1-2 2 R .880
Span-Feet	40	G N E V	1-2 2 R .888	1-2 2 R .900	1-2 2 R .913	1-2 2 R .925	1-2 2 R .938	1-2 2 R .950	1-2 2 R .865	1-2 2 R .880	1-2 2 R .895	1-2 2 R .910
Span	50	G N E V	1-2 2 R .910	1-2 2 R .920	1-2 2 R .930	1-2 2 R .940	1-2 2 R .950	1-2 2 R .960	1-2 2 R .892	1-2 2 R .904	12 2 R .916	1-2 2 R .928
	60	G N E V	1-2 2 R .925	1-2 2 R .933	1-2 2 R .942	1-2 2 R .950	1-2 2 R .958	1-2 2 R .967	1-2 2 R .910	1-2 2 R .920	1-2 2 R .930	1-2 2 R .940
	80	G N E V	1-2 2 R .944	1-2 2 R .950	1-2 2 R .956	1-2 2 R .963	1-2 2 R .969	1-2 2 R .975	1-2 2 R .933	1-2 2 R .940	1-2 2 R .948	1-2 2 R .955
	100	G N E V	1-2 2 R .955	1-2 2 R .960	1-2 2 R .965	1-2 2 R .970	1-2 2 R .975	1-2 2 R .980	$^{1-2}_{\begin{subarray}{c} 2 \\ R \\ .946 \end{subarray}$	1-2 2 R .952	1-2 2 R .958	1-2 2 R .964

All dimensions are in feet and shears are in kips.

a1, and a2-Represent the ratio of gross vehicle weight on axles.

G-Axle group causing maximum shear, thus 1-2 means axles 1 and 2.

N-Number of critical axle under which maximum shear occurs.

E-End of span at which critical axle is placed.

V-Maximum shear.

TABLE 7.1 (Continued)

	ck No		11	12	13	14	15	16	17	18	19	20
Wh	. Base	ı L	12	12	14	14	14	14	14	14	16	16
Loa Axl	d On es	a ₁ a ₂	.25 .75	.20 .80	.45 .55	.40 .60	.35 .65	.30 .70	.25 .75	.20 .80	.45 .55	.40 .60
	10	G N E V	2 2 L .750	2 2 L .800	2 2 L .550	2 2 L .600	2 2 L .650	2 2 L .700	2 2 L .750	2 2 L .800	2 2 L .550	2 2 L .600
	20	G N E V	1-2 2 R .850	1-2 2 R .880	1-2 2 R .685	1-2 2 R .720	1-2 2 R .755	1-2 2 R .790	1-2 2 R .825	1-2 2 R .860	1-2 2 R .640	1-2 2 R .680
	30	G N E V	1-2 2 R .900	1-2 2 R .920	1-2 2 R .790	1-2 2 R .813	1-2 2 R .837	1-2 2 R .860	1-2 2 R .883	1-2 2 R .907	1-2 2 R .760	1-2 2 R .787
Span-Feet	40	G N E V	1-2 2 R .925	$^{1-2}_{\begin{subarray}{c}2\\R\\.940\end{subarray}$	1–2 2 R .843	$^{1-2}_{\ \ R}_{.860}$	$^{1-2}_{\begin{subarray}{c} 2 \\ R \\ .878 \end{subarray}$	1–2 2 R .895	1–2 2 R .913	$^{1-2}_{\ \ R}_{.930}$	$^{1-2}_{\ \ R}_{.820}$	1-2 2 R .840
Span	50	G N E V	1-2 2 R .940	1-2 2 R .952	1-2 2 R .874	1-2 2 R .888	1-2 2 R .902	1-2 2 R .916	1-2 2 R .930	1-2 2 R .944	1-2 2 R .856	1-2 2 R .872
	60	G N E V	1-2 2 R .950	1-2 2 R .960	1-2 2 R .895	1-2 2 R .907	1-2 2 R .918	1-2 2 R .930	1-2 2 R .942	1-2 2 R .953	1-2 2 R .880	1-2 2 R .893
	80	G N E V	1-2 2 R .963	1-2 2 R .970	1–2 R .921	1-2 2 R .930	1-2 2 R .939	1-2 2 R .948	1–2 2 R .956	1-2 2 R .965	1-2 2 R .910	1-2 2 R .920
	100	G N E V	1-2 2 R .970	1-2 2 R .976	1-2 2 R .937	1–2 2 R .944	1-2 2 R .951	1–2 2 R .958	1-2 2 R .965	1-2 2 R .972	1-2 2 R .928	1–2 2 R .936

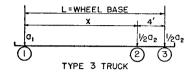
Tr	uck N	0.	21	22	23	24	25	26	27	28	29	30
W	h. Bas	e L	16	16	16	16	18	18	18	18	18	18
	ad On		.35	.30	.25	.20	.45	.40	.35	.30	.25	.20
Ax	les	\mathbf{a}_2	.65	.70	.75	.80	.55	.60	.65	.70	.75	.80
	l	G	2	2	2	2	2	2	2	2	2	2
	10	N E	2 L	$^2_{ m L}$	$_{\mathbf{L}}^{2}$	2 L	$^2_{ m L}$	$_{\mathrm{L}}^{2}$	2 L	2 1,	$^2_{ m L}$	$_{ m L}^2$
	10	Ÿ	.650	.700	.750	.800	.550	.600	.650	.700	.750	.800
		G	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2
		N	2	2	2	2	2	2	2	2	2	2
	20	$_{\mathbf{v}}^{\mathbf{E}}$	R	R	R	R	R	R	R	R	R	R
			.720	.760	.800	.840	.595	.640	.685	.730	.775	.820
		G N	$^{1-2}_{2}$	12	$^{1\!-\!2}_2$	$^{1-2}_{2}$	$^{1-2}_2$	$^{1-2}$	$^{1-2}_{\ 2}$	$^{1-2}_{2}$	$^{1-2}_{\ 2}$	1-2 2
	30	E	Ŕ	$^2_{ m R}$	Ř	Ř	Ŕ	$^2_{ m R}$	Ř	Ŕ	Ŕ	Ŕ
	00	Ÿ	.813	.840	.867	.893	.730	.760	.790	.820	.850	.880
		G	1-2	1-2	1-2	12	1-2	1-2	1-2	1-2	1-2	1-2
eet		N	2	2	2	2	2	2	2	2	2	2
E,	40	E	R .860	.880	R .900	R .920	$^{ m R}_{.798}$	$_{.820}^{ m R}$	$^{ m R}_{.843}$	$_{.865}^{ar{ extbf{R}}}$.888	R .910
Span-F		G	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2	1-2
ã		N	2	2	_2	_2	2	2	2	2	2	2
02	50	E	R	R	R	R	R	R	R	R	R	R
			.888	.904	.920	.936	.838	.856	.874	.892	.910	.928
		G N	1-2	1-2	$^{1-2}_2$	$^{1-2}_2$	$^{1-2}_2$	$^{1-2}_{2}$	1-2 2	$^{1-2}_{\ 2}$	$\overset{1-2}{{2}}$	1–2 2
	60	E	Ŕ	$^2_{ m R}$	Ř	Ŕ	Ŕ	Ŕ	Ŕ	Ŕ	Ŕ	Ŕ
	00	Ÿ	.907	.920	.933	.947	.865	.880	.895	.910	.925	.940
		G	1-2	12	1-2	1-2	1-2	1-2	1-2	1–2	1-2	1-2
		N	2	2	2	2	2	2	2	2	2	2
	80	\mathbf{E}	R	R	R	R	R	R	R	R	R	R
		V	.930	.940	.950	.960	.899	.910	.921	.933	.944	.955
		G	1-2	12	1-2	1-2	$^{1-2}_{2}$	$_{2}^{1-2}$	$_{2}^{1-2}$	1–2 2	$^{1-2}_{2}$	1-2
	100	N E	$^2_{ m R}$	$^2_{ m R}$	$^2_{ m R}$	$^2_{ m R}$	R	Ř	Ŕ	Ř	Ŕ	$^2_{ m R}$
	100	v	.944	.952	.960	.968	.919	.928	.937	.946	,955	.964

TABLE 7.1 (Continued)

Tr	uck N	ο.	31	32	33	34	35	36	
	h. Bas		20	20	20	20	20	20	
	ad On les	\mathbf{a}_1 \mathbf{a}_2	.45 .55	.40 .60	.35 .65	.30 .70	.25 .75	.20 .80	
	10	G N E V	2 2 L .550	2 2 L .600	2 2 L .650	2 2 L .700	2 2 L .750	2 2 L .800	
	20	G N E V	1-2 2 R .550	1-2 2 R .600	1-2 2 R .650	1–2 2 R .700	1-2 2 R .750	1-2 2 R .800	
	30	G N E V	1-2 2 R .700	1-2 2 R .733	1-2 2 R .767	1-2 2 R .800	1-2 2 R .833	1-2 2 R .867	
Span-Feet	40	G N E V	1-2 2 R .775	1-2 2 R .800	1-2 2 R .825	1-2 2 R .850	1-2 2 R .875	1-2 2 R .900	
Span	50	G N E V	1-2 2 R .820	1-2 2 R .840	1-2 2 R .860	1-2 2 R .880	1-2 2 R .900	1-2 2 R .920	
	60	G N E V	1-2 2 R .850	1-2 2 R .867	1-2 2 R .883	1-2 2 R .900	1-2 2 R .917	1-2 2 R .933	
	80	G N E V	1-2 2 R .888	1-2 2 R .900	12 2 R .913	1–2 2 R .925	1-2 2 R .938	1-2 2 R .950	
	100	G N E V	1-2 2 R .910	1-2 2 R .920	1-2 2 R .930	1–2 2 R .940	1-2 2 R .950	1-2 2 R .960	

TABLE 7.2

CONTROLLING CONDITIONS AND MAXIMUM SHEARS IN SIMPLE SPANS PRODUCED BY THE TYPE 3 TRUCKS WEIGHING ONE KIP EACH



Forty-two variations in the Type 3 truck are given in this table. Each truck number, from 1 to 42, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight on each axle.

Tri	ick No).	1	2	3	4	5	6	7	8	9	10
	. Base	e L	14	14	14	14	14	14	14	16	16	16
	cing	x	10	10	10	10	10	10	10	12	12	12
Loa Ax	ad On les	\mathbf{a}_1 \mathbf{a}_2	.40 .60	$.35 \\ .65$	$.30 \\ .70$.25 .75	.20 .80	.15 .85	.10 .90	.40 .60	.35 .65	.30 .70
	10	G N E V	2-3 2 L .480	2-3 2 L .520	2-3 2 L .560	2-3 2 L .600	2-3 2 L .640	2-3 2 L .680	2-3 2 L .720	2-3 2 L .480	2 3 2 L 520	2-3 2 L .560
	20	G N E V	1-3 3 R .660	1-3 3 R .690	13 3 R .720	1–3 3 R .750	1-3 3 R .780	$^{1-3}_{\ \ R}_{\ .810}$	1–3 3 R .840	1–3 3 R .620	$^{1-3}_{\ \ R}_{\ .655}$	1-3 3 R .690
	30	G N E V	1-3 3 R .773	1-3 3 R .793	1-3 3 R .813	1-3 3 R .833	1-3 3 R .853	1-3 3 R .873	1–3 3 R .893	1–3 3 R .747	1-3 3 R .770	1-3 3 R .793_
Feet	40	G N E V	$^{1-3}_{\ \ R}_{\ .830}$	1-3 3 R .845	$^{1-3}_{\ \ R}_{\ \ .860}$	1–3 3 R .875	1-3 3 R .890	1-3 3 R .905	1-3 3 R .920	$^{1-3}_{\ \ R}_{\ .810}$	1–3 3 R .828	1-3 3 R .845
Span-Feet	50	G N E V	13 3 R .864	1-3 3 R .876	1–3 3 R .888	1-3 3 R .900	1-3 3 R .912	1-3 3 R .924	1–3 3 R .936	1-3 3 R .848	1-3 3 R .862	1-3 3 R .876
	60	G N E V	1-3 3 R .887	1–3 3 R .897	1–3 3 R .907	1–3 3 R .917	1-3 3 R .927	1–3 3 R .937	1–3 3 R .947	1–3 3 R .873	1-3 3 R .885	1-3 3 R .897
	80	G N E V	1-3 3 R .915	1-3 3 R .923	1-3 3 R .930	1–3 3 R .938	1–3 3 R .945	1-3 3 R .953	1-3 3 R .960	1–3 3 R .905	1–3 3 R .914	1-3 3 R .923
	100	G N E V	1-3 3 R .932	$^{1-3}_{\begin{subarray}{c}3\\R\\.938\end{subarray}}$	1-3 3 R .944	1-3 3 R .950	1-3 3 R .956	1-3 3 R .962	1–3 3 R .968	1-3 3 R .924	1–3 3 R .931	1-3 3 R .938

All dimensions are in feet and shears are in kips.

a1, and a2-Represent the ratio of gross vehicle weight on axles.

G-Axle group causing maximum shear, thus 1-3 means 1, 2, and 3.

N-Number of critical axle under which maximum shear occurs.

E-End of span at which critical axle is placed.

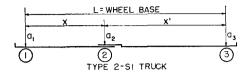
V-Maximum shear.

ruck N		11	12	13	14	15	16	17	18	19	20
Vh. Bas	e L	16	16	16	16	18	18	18	18	18	18
xle pacing	x	12	12	12	12	14	14	14	14	14	14
oad On		.25	.20	.15	.10	.40	.35	.30	.25	.20	.15
xles	82 C		.80	.85		.60	.65	.70	.75	.80	.85
1	G N	$^{2-3}_2$	$\overset{2-3}{{\scriptstyle 2}}$	$^{2 o3}_{2}$	$\overset{2-3}{{\scriptstyle 2}}$	$^{2-3}_2$	$^{2-3}_2$	$\substack{2-3\\2}$	$\substack{2-3\\2}$	$\substack{2-3\\2}$	$^{2-}_{2}$
10	E V	.600	$_{.640}^{\mathbf{L}}$	L, .680	$^{ m L}_{.720}$	L .480	$_{.520}^{\mathbf{L}}$	$_{.560}^{\mathbf{L}}$.600	L .640	.68
	Ġ-	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-
20	N E	$_{\rm R}^3$	$^3_{ m R}$	$^3_{ m R}$	$\mathbf{\hat{R}}^3$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{f R}$	$^3_{ m R}$	$^3_{ m R}$
	v	.725	.760	.795	.830	.580	.620	.660	.700	.740	.78
1	G N	1-3 3	$\frac{1-3}{3}$	1-3 3	$^{1-3}_{3}$	$_{3}^{1-3}$	13 3	$^{1-3}_{3}$	$_3^{1-3}$	$^{1-3}$	13
30	\mathbf{E}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	R	\mathbf{R}	\mathbf{R}	R
	G	.817 1-3	.840 1-3	$-\frac{.863}{1-3}$.887 1–3	.720 1-3	747 	$\frac{.773}{1-3}$.800 1-3	.827 1-3	.85
1	N	3	3	3	3	3	3	3	3	3	3
40	\mathbf{v}	$^{ m R}_{.863}$	$_{.880}^{\mathbf{R}}$	$^{ m R}_{.898}$	R .915	f R .790	$_{.810}^{ m R}$	$_{.830}^{\mathbf{R}}$	R .850	$_{.870}^{ m R}$.89
	G	1-3	1-3	1-3	1-3	1-3	1-3	13	1-3	1-3	1-
50	N E	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$
	_v	.890	.904	.918	.932	.832	.848	.864	.880	.896	.91
	G N	1–3 3	$^{1-3}_{3}$	13 3	1-3 3	$\overset{1-3}{3}$	1-3 3	$^{1-3}_{3}$	$^{1-3}_3$	$^{1-3}_{3}$	1-3
60	\mathbf{E}	\mathbf{R}	R	\mathbf{R}	R	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	R
	- V G	.908 1–3	$\frac{.920}{1-3}$	$\frac{.932}{1-3}$.943 1–3	.860 1-3	873 1–3	887 1-3	.900 1-3	.913 1-3	·92
00	N	3	3	3	3	3	3	3	3	3	3
80	\mathbf{v}	R .931	$_{.940}^{ m R}$	R .949	$^{ m R}_{.958}$	$_{.895}^{ m R}$	$_{.905}^{\mathbf{R}}$	R .915	R .925	$_{.935}^{ m R}$	R .94
	G	1-3	1-3	1-3	1-3	1-3	1-3	1_3	1-3	1-3	1-
100	N E	$^3_{ m R}$	$^3_{ m R}$	$^{3}_{ m R}$	$_{\rm R}^3$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	3
	v	.945	.952	.959	.966	.916	.924	.932	.940	.948	.95
ruck N	ο.	21	22	23	24	25	26	27	28	29	30
h. Bas		21 18	22	23 20	24 20	25 20	26	27 20	28 20	29 22	
h. Bas xle											22
h. Bas xle pacing oad On	X a ₁	18 14 .10	16 .40	20 16 .35	16 .30	20 16 .25	20 16 .20	20 16 .15	20 16 .10	18 .49	18 .35
h. Bas xle pacing oad On	X a ₁ a ₂	18 14 .10 .90	16 .40 .60	20 16 .35 .65	20 16 .30 .70	20 16 .25 .75	20 16 .20 .80	20 16 .15 .85	20 16 .10 .90	18 .49 .60	30 22 18 .35 .65
h. Bas xle pacing pad On xles	X A A1 A2 G	18 14 .10 .90 2-3 2	20 16 .40 .60 2-3 2	20 16 .35 .65 2-3 2	20 16 .30 .70 2–3 2	20 16 .25 .75 2–3 2	20 16 .20 .80 2-3 2	20 16 .15 .85 2–3 2	20 16 .10 .90 2-3 2	18 .49 .60 2-3 2	18 .35 .65 2- 2
h. Bas xle pacing pad On	X a ₁ a ₂ G	18 14 .10 .90 2–3	16 .40 .60 2-3	20 16 .35 .65 2–3	20 16 .30 .70 2–3	20 16 .25 .75 2–3	20 16 .20 .80 2-3	20 16 .15 .85 2–3	16 .10 .90 2-3	18 .49 .60 2-3	18 .35 .65
h. Bas xle pacing pad On xles	X a a ₁ a ₂ G N E V G	18 14 .10 .90 2-3 2 L .720 1-3	20 16 .40 .60 2-3 2 L .480 1-3	20 16 .35 .65 2-3 2 L .520 1-3	20 16 .30 .70 2–3 2 L .560 1–3	20 16 .25 .75 2–3 2 L .600 1–3	20 16 .20 .80 2-3 2 L .640 1-3	20 16 .15 .85 2-3 2 L .680 1-3	20 16 .10 .90 2-3 2 L .720 1-3	18 .49 .60 2-3 2 L .480 1-3	22 18 .35 .65 2- 2 1.52 1-
h. Bas xle pacing pad On xles	X A a1 A2 G N E V G N E V	18 14 .10 .90 2-3 2 L .720 1-3 3 R	20 16 .40 .60 2-3 2 L .480 1-3 3 R	20 16 .35 .65 2-3 2 L .520 1-3 3 R	20 16 .30 .70 2–3 2 L .560 1–3 3 R	20 16 .25 .75 2-3 2 L .600 1-3 3 R	20 16 .20 .80 2-3 2 L .640 1-3 3 R	20 16 .15 .85 2-3 2 L .680 1-3 3 R	20 16 .10 .90 2-3 2 L .720 1-3 3 R	22 .49 .60 2-3 2 L .480 1-3 3 R	22 18 .35 .65 2- 2 L .52 1- 3 R
vh. Bas xle pacing oad On xles	X a ₁ a ₂ G N E V G N E V	18 14 .10 .90 2-3 2 L .720 1-3 3 R .820	20 16 .40 .60 2-3 2 L .480 1-3 3 R	20 16 .35 .65 2 2 L .520 1–3 R .585	20 16 .30 .70 2-3 2 L .560 1-3 R .630	20 16 .25 .75 2-3 2 L .600 1-3 3 R	20 16 .20 .80 2-3 2 L .640 1-3 3 R	20 16 .15 .85 2-3 2 L .680 1-3 3 R	20 16 .10 .90 2-3 2 L .720 1-3 R .810	22 18 .40 .60 2-3 2 L .480 1-3 R .540	22 18 .35 .65 2- 2 L.52 1- 3 R.58
h. Bas xle pacing pad On xles	E L X A A1 A2 G N E V G N E V G N E V	18 14 .10 .90 2-3 2 L .720 1-3 3 R .820 1-3 3	20 16 .40 .60 2-3 2 L .480 1-3 3 R .540 1-3 3	20 16 .35 .65 2-3 2 L .520 1-3 3 R .585 1-3 3	20 16 .30 .70 2-3 2 L .560 1-3 8 .630 1-3 3	20 16 .25 .75 2-3 2 L .600 1-3 3 R .675 1-3	20 16 .20 .80 2-3 2 L .640 1-3 3 R .720 1-3	20 16 .15 .85 2-3 2 L .680 1-3 3 R .765 1-3 3	20 16 .10 .90 2-3 2 L .720 1-3 3 R .810 1-3 3	22 18 .49 .60 2-3 2 L .480 1-3 3 R .540 1-3 3	222 188 .355 .65 2- 2 L .522 13 R .588 13
h. Bas xle pacing pad On xles	E L X A a 1 A 2 G N E V G N E V G N E V	18 14 .10 .90 2-3 2 L .720 1-3 3 R .820 1-3 R	20 16 .40 .60 2-3 2 L .480 1-3 8 .540 1-3 8	20 16 .35 .65 2-3 2 L .520 1-3 3 R .585 1-3 3 R	20 16 .30 .70 2-3 2 L .560 1-3 3 R .630 1-3 R	20 16 .25 .75 2-3 2 L .600 1-3 3 R .675	20 16 .20 .80 2-3 2 L .640 1-3 3 R .720 1-3 3	20 16 .15 .85 2-3 2 L .680 1-3 3 R .765 1-3 3	20 16 .10 .90 2-3 2 L .720 1-3 3 R .810 1-3 3	22 18 .40 .60 2-3 2 L .480 1-3 3 R .540 1-3 3	222 188 .355 .65 2- 2 1.52 1- 3 R .58
Th. Bas xle pacing pad On xles	E L X A A1 A2 G N E V G N E V G N E V	18 14 .10 .90 2-3 2 L .720 1-3 3 R .820 1-3 880 1-3	20 16 .40 .60 2-3 2 L .480 1-3 8 R .540 1-3 8 R .693	20 16 .35 .65 2-3 2 L .520 1-3 3 R .585 1-3 3 R .723	20 16 .30 .70 2-8 2 L .560 1-3 8 R .630 1-3 8 R .753	20 16 .25 .75 2-3 2 L .600 1-3 3 R .675 1-3 3 R .783	20 16 .20 .80 2-3 2 L .640 1-3 3 R .720 1-3 3 R .813	20 16 .15 .85 2-3 2 L .680 1-3 8 R .765 1-3 3 R 8 .843 1-3	20 16 .10 .90 2-3 2 L .720 1-3 3 R .810 1-3 3 R .873	22 18 .40 .60 2-3 2 L .480 1-3 3 R .540 1-3 3 R .667	22 18 .35 .65 2- 2 1. .52 1- .38 R .58 1- .38 .70
h. Bas xle pacing pad On xles 10 20	G N E V G N E	18 14 .10 .90 2-3 2 L .720 1-3 3 R .820 1-3 3 R .880	20 16 .40 .60 2-3 2 L .48 .1-3 3 R .540 1-3 3 R .693	20 16 .35 .65 2-3 2 L .520 1-3 3 R .585 1-3 3 R .723	20 16 .30 .70 2-3 2 L .560 1-3 3 R .630 1-3 3 R .753	20 16 .25 .75 2-3 2 L .600 1-3 3 R .675 1-3 3 R .783 1-3 3	20 16 .20 .80 2-3 2 L .640 1-3 3 R .720 1-3 3 R .813 1-3	20 16 .15 .85 2-3 2 L .680 1-3 3 R .765 1-3 3 R .843 1-3	20 16 .10 .90 2-3 2 L .720 1-3 3 R .810 1-3 3 R .873	22 18 .40 .60 2-3 2 L .480 1-3 3 R .540 1-3 3 R .667 1-3	222 188 .355 .655 2- 2. 5.52- 1 3. R. .588 1 3. R. .700 1 3.
h. Bas xle pacing pad On xles	E L X A A1 A2 GN E V GN E V GN E V GN E V CON E V CON E V CON E V CON E V	18 14 .10 .90 2-3 2 L720 1-3 3 R820 1-3 8880 1-3 R891	20 16 .40 .60 2-3 L .480 1-3 3 R .540 1-3 3 R9 .693 1-3 8 .770	20 16 .35 .65 2-3 2 L.520 1-3 3 R585 1-3 R723 1-3 3 R723	20 16 .30 .70 2 .560 1 -3 3 R .630 1 -3 3 R .753 1 -3 3 R .815	20 16 .25 .75 .75 2 -3 2 L 600 1-3 3 R .675 1-3 3 R .783 1-3 3 R .88	20 16 .20 .80 2-3 L .640 1-3 3 R .720 1-3 3 R .813 1-3 3 R .866	20 16 .15 .85 .85 2 .2 L .680 1-3 3 R .765 1-3 3 R .843 .843 .843	20 16 .10 .90 2-3 2 L. 720 1-3 3 R810 1-3 3 R873 1-3 3 8 .905	22 18 .40 .60 2-3 2 L .480 1-3 3 R .540 1-3 3 R .667	222 188 .355 .655 2- 2 1- .522 1- .58 8 R700 1- 3 R700
h. Bas xle pacing pad On xles	E L X A1 A2 G N E V G N E V G N E V G N E V G G G G G G G G G G G G	18 14 .10 .90 2-3 2 L .720 1-3 3 R .820 1-3 3 R .880 1-3 3 R .910	20 16 .40 .60 2-3 2 L .480 1-3 3 R .540 1-3 3 R .693 1-3 3 R .770	20 16 .35 .65 2-3 2 L .520 1-3 3 R .585 1-3 3 R .723 1-3 3 R .793 1-3	20 16 .30 .70 2-3 2 L .560 1-3 3 R .630 1-3 3 R .753 1-3 8 R15 1-3	20 16 .25 .75 2-3 2 L .60 1-3 3 R .675 1-3 3 R .783 1-3 8 .838 1-3	20 16 .20 .80 2-3 2 L .640 1-3 3 R .720 1-3 3 R .813 1-3 R .860 1-3	20 16 .15 .85 2-3 2 L .680 1-3 3 R .765 1-3 3 R .843 1-3 883 1-3	20 16 .10 .90 2-3 2 L .720 1-3 3 R .810 1-3 3 R .873 1-3 8 .905	22 18 .40 .60 2-3 2 L .480 1-3 3 R .540 1-3 3 R .667 1-3 3 R	188 355 656 657 657 657 657 657 657 657 657 6
h. Bas xle pacing pad On xles	A A A A A A A A A A A A A A A A A A A	18 14 .10 .90 2-8 2 L .720 1-3 3 R .820 1-3 R .880 1-3 R .910 1-3 3 R	20 16 .40 .60 2-3 2 L .480 1-3 3 R .540 1-3 3 R .69 .770 1-3 3 R	20 16 .35 .65 2 .520 1-3 3 R .585 1-3 R .723 1-3 3 R .793 1-3 3 R	20 16 .30 .70 2 .560 1 -3 3 R .630 1 -3 3 R .753 1 -3 8 R15 1 -3 3 R	20 16 .25 .75 2-3 2 L .600 1-3 3 R .675 1-3 3 R .788 .788 1-3 3 R .838	20 16 .20 .80 2-3 2 L .640 1-3 3 R .720 1-3 3 R .81 1-3 3 R .860 1-3 3 R	20 16 .15 .85 .85 2-3 2 L.680 1-3 3 R.765 1-3 3 R.84 .843 1-3 3 R.883 1-3 3 R.883	20 16 .10 .90 2-3 2 L .720 1-3 3 R .810 1-3 3 R .905	22 18 .40 .60 2-3 2 L .480 1-3 3 R .540 1-3 3 R .667 1-3 3 R .750 1-3 3 R	222 18 35 36 56 56 56 56 56 56 56 56 56 56 56 56 56
h. Bas xle pacing pad On xles 10 20 30	A BALL AND	18 14 .10 .90 2-8 2 L .720 1-3 8 .820 1-3 3 R .880 1-3 3 R .918	20 16 .40 .60 2-3 2 L .480 1-3 3 R .540 1-3 3 R .693 1-3 3 R .770 1-3 3 R	20 16 .35 .65 .65 .2-3 2 L .520 1-3 8 R.585 1-3 3 R.723 1-3 3 R.71 3 R.79 .793 1-3 3 R.79 .793	20 16 .30 .70 2-3 2 L .560 1-3 3 R .630 1-3 3 R .753 1-3 3 R .815 1-3 3 R .815	20 16 .25 .75 .75 .2-3 .2 .600 1-3 .8 .675 1-3 .8 .783 1-3 .8 .8 .8 .83 .8 .8 .83 .8 .8 .83 .8 .8 .83 .8 .8 .83 .8 .8 .83	20 16 .20 .80 .82 .82 .640 1-3 .8 .720 1-3 .8 .813 1-3 .8 .813 1-3 .8 .86 .868	20 16 .15 .85 .85 2-3 2 L .680 1-3 3 R .765 1-3 3 R .843 1-3 3 R .883 1-3 8 .883	20 16 .10 .90 2-3 2 L .720 1-3 3 R .810 1-3 3 R .873 1-3 3 R .924	22 18 .40 .60 2-3 2 L .480 1-3 3 R .540 1-3 3 R .667 1-3 3 R .750 1-3 3 8 .80 .80 .80 .80 .80 .80 .80	222 188 355 35 35 35 35 35 35 35 35 35 35 35 35
h. Bas xle pacing pad On xles 10 20 30	e L X a1 a2 G N E V G N E V G N E V G N E V C G R E V C R E V C R	18 14 .10 .90 2-3 2 L.720 1-3 3 R.820 1-3 3 R.880 1-3 3 R.910 1-3 3 R.910 1-3 3 1 8 9110	20 16 .40 .60 2-8 2 L .480 1-8 3 R .540 1-3 3 R .770 1-3 8 .816 .816	20 16 .35 .65 2-3 L .520 1-3 3 R .585 1-3 R .723 1-3 3 R .793 1-3 3 R .834 1-3	20 16 .30 .70 2 .560 1 -3 3 R .630 1 -3 3 R .753 1 -3 3 R .753 1 -3 3 R .815 1 -3 3 R .852 1 -3 3	20 16 .25 .75 .75 2 2 L .600 1-3 3 R .675 1-3 3 R .838 1-3 3 R .838 1-3 8 .870 1-3 1 8 .870	20 16 .20 .80 2- L .640 1-3 3 R .720 1-3 3 R .813 1-3 3 R .860 1-3 8 .888 1-3	20 16 .15 .85 .85 2 -3 2 L .680 1-3 3 R .765 1-3 3 R .843 1-3 3 R .883 1-3 8 .906	20 16 .10 .90 2-3 2 L .720 1-3 3 R .810 1-3 3 R .905	22 18 .40 .60 2-3 2 L .480 1-3 3 R .540 1-3 3 R .750 1-3 3 R .750 1-3	222 188 355 565 570 11-3 3 8 8 7 777 11-3 8 8 2 8 2 11-
h. Bas xle pacing pad On xles 10 20 30	e L X a1 a2 G N E V G N E V G N E V G N E V C G R E V C R E V C R	18 14 .10 .90 2-3 2 L .720 1-3 3 R .820 1-3 3 R .910 1-3 3 R .928 1-3 3 R .928	20 16 .40 .60 2-3 2 L.480 1-3 3 R.540 1-3 3 R.9 .770 1-3 3 R.1-3 3 R.1-3 3 R.3 R.3 R.3 R.3 R.3 R.3 R.3 R.3 R.3	20 16 .35 .65 .65 2-3 2 L .520 1-3 3 R .585 1-3 3 R .793 1-3 3 R .793 1-3 3 R .834 1-3 3 R	20 16 .30 .70 2-3 2 L .560 1-3 3 R .630 1-3 3 R .753 1-3 3 R .815 1-3 3 R .852 1-3 3 R	20 16 .25 .75 .75 2-3 2 L .600 1-3 3 R .675 1-3 3 R .838 1-3 8 R .838 1-3 8 R .870 1-3 3 R	20 16 .20 .80 2-3 2 L .640 1-3 3 R .720 1-3 3 R .813 1-3 3 R .860 1-3 3 R .888 1-3 3 R	20 16 .15 .85 .85 2 .86 1-3 3 R .765 1-3 3 R .843 1-3 3 R .883 1-3 3 R .906 1-3 3 R	20 16 .10 .90 2-3 2 L .720 1-3 3 R .810 1-3 3 R .905 1-3 3 R .904 1-3 3 R	22 18 .40 .60 2-3 2 L .480 1-3 3 R .540 1-3 3 R .750 1-3 3 R .750 1-3 3 R .750 1-3 3 8 8 .750 1-3 8 8 8 .750 1-3 8 8 8 8 8 8 8 8 8 8 8 8 8	222 18 355.655.655.655.652.652.652.652.652.652.6
h. Bas xle pacing gad On xles 20 30 40 50	E L X A A1 A2 GN E V CON E V	18 14 .10 .90 2-8 2 L .720 1-3 8 .820 1-3 3 R .880 1-3 3 R .910 1-3 3 R .910 1-3 3 R .910 1-3 3 1 8 9 1-3 3 8 9 1-3 3 8 9 1-3 3 8 9 1-3 3 8 9 1-3 3 8 9 1-3 3 8 9 1-3 3 8 9 1-3 3 8 9 1-3 3 8	20 16 .40 .60 .60 2-8 2 L .480 1-8 3 R .540 1-3 3 R.693 1-3 3 R.770 1-8 .816 1-3 3 R.8 .8447	20 16 .35 .65 2-3 2 L .520 1-3 3 R .585 1-3 8 R.723 1-3 3 R .793 1-3 8 R .84 1-3 8 R .862	20 16 .30 .70 2-3 2 L .560 1-3 3 R .630 1-3 3 R .753 1-3 3 R .815 1-3 3 R .815 1-3 3 R .852 1-3 8 .877	20 16 .25 .75 .75 2 -3 2 L .600 1-3 3 R .675 1-3 3 R .783 1-3 3 R .838 1-3 R .870 1-3 R .892	20 16 .20 .80 .80 2-3 L .640 1-3 3 R .720 1-3 3 R .818 1-3 3 R .860 1-3 3 R .888 .8907	20 16 .15 .85 .85 2 .85 2 .1 .680 1-3 3 R .765 1-3 3 R .843 1-3 3 R .883 1-3 3 R .902	20 16 .10 .90 2-3 2 L720 1-3 3 R810 1-3 3 R905 1-3 3 R905 1-3 3 R905	22 18 .40 .60 2-3 2 L .480 1-3 3 R .540 1-3 3 R .750 1-3 3 R .750 1-3 3 8 .750 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1-3	222 188 285 29 19 18 18 18 18 18 18 18 18 18 18 18 18 18
h Bas xle oacing goad Or xles 10 20 30 40 60	E L X A1 A2 GN E V	18 14 .10 .90 2-8 2 L .720 1-3 8 .820 1-3 3 R .880 1-3 3 R .910 1-3 3 R .910 1-3 3 R .910 1-3 3 1 8 9 1-3 3 8 9 1-3 3 8 9 1-3 3 8 9 1-3 3 8 9 1-3 3 8 9 1-3 3 8 9 1-3 3 8 9 1-3 3 8 9 1-3 3 8	20 16 .40 .60 2-3 2 L .480 1-3 3 R .540 1-3 3 R .770 1-3 3 R .816 1-3 3 R .816 1-3 3 R .816	20 16 .35 .65 2-3 2 L .520 1-3 3 R .585 1-3 3 R .793 1-3 3 R .793 1-3 3 R .834 1-3 3 R .862 1-3 3	20 16 .30 .70 2-3 2 L .560 1-3 3 R .630 1-3 3 R .753 1-3 3 R .815 1-3 3 R .825 1-3 3 R .857 1-3 3 R .877	20 16 .25 .75 .75 2 .8 .600 1-3 3 R .675 1-3 3 R .838 1-3 8 R .838 1-3 8 R .870 1-3 8 R .892 1-3 3 8 R .892	20 16 .20 .80 2-3 2 L .6440 1-3 3 R .7200 1-3 3 R .813 1-3 3 R .860 1-3 3 R .8888 1-3 3 R .907 1-3 3	20 16 .15 .85 .85 2 .85 2 .680 1-3 3 R .765 1-3 3 R .843 1-3 3 R .906 1-3 3 R .902 1-3 3 3 R .902 1-3 3	20 16 .10 .90 2-3 2 L .720 1-3 3 R .810 1-3 3 R .905 1-3 3 R .905 1-3 3 R .924 1-3 3 R .937	22 18 .40 .60 2-3 2 L .480 1-3 3 R .540 1-3 3 R .750 1-3 3 R .750 1-3 3 8 .8667 1-3 8 .8667 1-3 1-3 8 .8667 1-3 8 8 .8667 1-3 8 8 8 8 8 8 8 8 8 8 8 8 8	222 188 355-656 2- 2- 1 522 1 3 3 RR 707 1 3 3 RR RR 2-707 1 3 3 RR 8-22 1 1 2 2 3 RR 8-2- 1 2 2 2 2 3 RR 1 2 2 3 RR 1 2 3 RR 1 3 RR 1 1- 1 1- 1 1 1 1 1 1
th. Bas xle pacing pad On xles 10 20 30 40 50	E L X A A1 A2 GN E V E V E V E V E V E V E V E	18 14 .10 .90 2-3 2 L .720 1-3 3 R .820 1-3 3 R .880 1-3 3 R .910 1-3 3 R .940	20 16 .40 .60 2-3 2 L .480 1-3 3 R .540 1-3 3 R .770 1-3 3 R .816 1-3 8 .816 1-3 8 .847	20 16 .35 .65 .65 .2-3 2 L .520 1-3 8 R.585 1-3 3 R.723 1-3 3 R.39 .793 1-3 8 .834 1-3 8 .834 1-3 8 .862 1-3	20 16 .30 .70 2 .70 2 .560 1 -3 3 R .630 1 -3 3 R .753 1 -3 3 R .815 1 -3 3 R .852 1 -3 3 R .857 1 -3	20 16 .25 .75 .75 2-3 2 L .600 1-3 3 R .675 1-3 3 R .788 .788 1-3 8 .870 1-3 8 .870 1-3 8 .892 1-3	20 16 .20 .80 2-3 2 L .640 1-3 3 R .720 1-3 3 R .813 8 .888 1-3 8 .907	20 16 .15 .85 .85 2-3 2 L .680 1-3 3 R .765 1-3 3 R .843 1-3 3 R .906 1-3 3 R .906 1-3 3 R	20 16 .10 .90 2-3 2 L .720 1-3 3 R .810 1-3 3 R .905 1-3 3 R .924 1-3 3 R .924 1-3 3 R .924 1-3 3 R .937	22 18 .40 .60 2-3 2 L .480 1-3 3 R .540 1-3 3 R .750 1-3 3 R .750 1-3 3 R .750 1-3 3 8 .750 1-3 3 8 .750 1-3 3 8 .750 1-3 3 8 .750 1-3 3 8 .750 1-3 3 8 .750 1-3 3 8 .750 1-3 3 8 .750 1-3 3 8 .750 1-3 .750 1-3 .750 1-3 .750 1-3 .750 1-3 .750	222 188 355-655 2- 2- 2- 1- 3 3- 3 3- 3 3- 3 3- 3 3- 3 3- 3 3-
h Bas xle oacing goad Or xles 10 20 30 40 60	E L X A1 A2 GN E V E V E V E V E V E V E V E	18 14 .10 .90 2-3 2 L .720 1-3 3 R .820 1-3 3 R .8910 1-3 3 R .910 1-3 3 R .928 1-3 3 R .940 1-3 3 R .945 1-3 3 R .945 1-3	20 16 .40 .60 .60 2-3 2 L .480 1-3 3 R .540 1-3 3 R .770 1-3 3 R .816 1-3 3 R .816 1-3 3 R .847 1-3 3 R .847	20 16 .35 .65 .65 2 .3 2 L .520 1 -3 3 R .585 1 -3 3 R .793 1 -3 3 R .834 1 -3 3 R .862 1 -3 8 .862 1 -3 8 .896	20 16 .30 .70 2-3 2 L .560 1-3 3 R .630 1-3 3 R .753 1-3 3 R .815 1-3 3 R .852 1-3 3 R .877 1-3 3 R .877	20 16 .25 .75 .75 2 2 L .600 1-3 3 R .675 1-3 3 R .838 1-3 3 R .870 1-3 3 R .892	20 16 .20 .80 .80 2-3 2 L .6440 1-3 3 R .720 1-3 3 R .813 1-3 3 R .860 1-3 3 R .8930 1-3 3 R .9907	20 16 .15 .85 .85 2 .85 2 .680 1-3 3 R .765 1-3 3 R .843 1-3 3 R .906 1-3 3 R .902 1-3 3 R .902 1-3 3 R .911 1-3	20 16 .10 .90 2-3 2 L .720 1-3 3 R .810 1-3 3 R .905 1-3 3 R .924 1-3 3 R .937 1-3 3 R .924 1-3 3 1 8 .937 1-3 3 1 8 .937 1-3 3 8 .937 1-3 3 8 .948 .953 1-3	22 18 .40 .60 2-3 2 L .480 1-3 3 R .540 1-3 3 R .750 1-3 3 R .800 1-3 3 R .833 1-3 3 R .833 1-3 1-3 3 R .875	222 188 .355.655.655.655.655.655.655.655.655.655
30 40 50 60	E L X A1 A2 GN EV FR EV	18 14 .10 .90 2-8 2 L .720 1-3 8 .820 1-3 3 R .880 1-3 3 R .910 1-3 3 R .918 928 1-3 3 R .928	20 16 .40 .60 .60 2-3 2 L .480 1-3 3 R .540 1-3 3 R .770 1-3 3 R .816 1-3 3 R .816 1-3 3 R .816	20 16 .35 .65 .65 .2-3 2 L .520 1-3 3 R .585 1-3 3 R .723 1-3 3 R .793 1-3 3 R .834 1-3 8 R .862 1-3 3 R	20 16 .30 .70 2-3 2 L .560 1-3 3 R .630 1-3 3 R .753 1-3 3 R .815 1-3 3 R .852 1-3 3 R .87 .87 1-3 3 R .908	20 16 .25 .75 .75 .2-3 .2 .600 1-3 .8 .675 1-3 .8 .783 1-3 .8 .870 1-3 .8 .870 .919	20 16 .20 .80 .80 2-3 2 L .640 1-3 3 R .720 1-3 3 R .813 1-3 3 R .860 1-3 3 R .8930	20 16 .15 .85 .85 2-3 2 L .680 1-3 3 R .765 1-3 3 R .843 1-3 3 R .906 1-3 3 R .992 1-3 3 R .992 1-3 3 R .992 1-3 8 .9941	20 16 .10 .90 .90 2-3 2 L .720 1-3 3 R .810 1-3 3 R .913 3 R .913 3 R .913 3 R .924 1-3 3 R .924 1-3 3 R .924 1-3 3 R .924	22 18 .40 .60 .60 2-3 2 L .480 1-3 8 .540 1-3 3 R .750 1-3 8 R .800 1-3 8 .83 1-3 8 .83 1-3 8 .83	222 188 355-65 2- 2- 1- 3 3 8 R 70 1- 3 3 R R 77 1- 3 3 R R 82 1- 3 3 R R 85 - 1- 3 8 R 85 - 85 - 1- 3 8 R 85 - 85 - 85 - 85 - 85 - 85 - 85 - 85

Wh. Bisso L. 22 22 22 22 22 24 24 2		ick No.	Continu	32	33	34	35	36	37	38	39	40
Spacing X	_		22	22	22	22	22	24	24	24	24	24
Axles			K 18	18	18	18	18	20	20	20	20	20
C	Lo	ad On a		.25	.20			.40				.20
10 E		G	2-3	2-3	2-3			2-3	2-3	2-3	2-3	2-3
V		10 E	7 2 1 L	2 L	2 1.	2 1.	2 L		2 L	2 T.	2 T.	2 1.
20		V	.560	.600	.640	.680	.720	.480	.520	.560	.600	.640
C	i	G N	$egin{array}{ccc} 2-3 \ 2 \end{array}$	$_{2}^{-3}$	$\frac{2-3}{2}$			9	2			2
C	- 1	20 E V	.630	. 675		$_{ m L}$	\mathbf{L}	L	L		L	\mathbf{L}
Solution		G	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3
C	ı	30 E	R	\mathbf{R}		$^3_{ m R}$	$^3_{ m R}$					
## A												
V	ی	N	3	$\frac{1-3}{3}$	3	3	3	3	3	3	3	3
V	Fee	40 E V	R. .800									R
V	an-	G	1-3			1-3			1-3	13	1-3	1-3
C	Sp	50 E	Ř	\mathbf{R}	\mathbf{R}	R	\mathbf{R}	R	\mathbf{R}	R	\mathbf{R}	R
Second												
V 867 883 900 917 933 820 838 857 875 893		N	3	3	3	3	3	3	3	3	3	3
C		V	.867	.883	.900			.820	.838			
C		G	1-3									
C		80 E	R	R	\mathbf{R}	\mathbf{R}	\mathbf{R}	R	\mathbf{R}	\mathbf{R}	R	\mathbf{R}
100 E		G	1-3									
Truck No. 41 42 Wh. Base L 24 24 Axle Spacing X 20 20 Load On a1 15 10 Axles a2 .85 .90 G 2-3 2-3 10 E L L V .680 .720 G 2-3 2-3 20 E L L V .765 .810 G 1-3 1-3 30 E R R V .823 .860 G 1-3 1-3 N 3 3 40 E R R V .868 .895 G 1-3 1-3 N 3 3 50 E R R V .868 .895 G 1-3 1-3 N 3 3 60 E R R V .894 .916 G 1-3 1-3 60 E R R V .993 .948 G 1-3 1-3 N 3 3 60 E R R V .993 .948 G 1-3 1-3 N 3 3 G 1-3 1-3 O 1 -3 1-3 O 2 -3 O 3		100 E	3 R	3	3	3		3	3	3	3	3
Wh. Base L 24 24 Axle Spacing X 20 20 Load On a1 .15 .10 Axles a2 .85 .90 B C 2-3 2-3 IO E L L V .680 .720 G 2-3 2-3 N 2 2 20 E L L V .765 .810 G 1-3 1-3 N 3 3 30 E R R V .823 .860 G 1-3 1-3 N 3 3 V .894 .916 G 1-3 1-3 N 3 3 G 1-3 1-3 N 3 3 G 1-3 1-3 N 3 3 G 1-3 1-3 N <td< td=""><td></td><td>v</td><td>.920</td><td></td><td></td><td></td><td></td><td>.892</td><td>.903</td><td></td><td>.925</td><td></td></td<>		v	.920					.892	.903		.925	
Axles Spacing X 20 20 Load On at 15 .10 Axles a2 .85 .90 Comparison of the comp				42	-							
Spacing X 20 20			24	24								
Axles	Spa	acing X	ζ 20	20								
G 2-3 2-3 2-3	Lo	ad On a										
10 E L L V .680 .720 G 2-3 2-3 20 E L L V .765 .810 G 1-3 1-3 3 3 0 E R R V .823 .860 G 1-3 1-3 N 3 3 V .823 .860 G 1-3 1-3 N 3 3 V .868 .895 G 1-3 1-3 N 3 3 V .894 .916 G 1-3 1-3 N 3 3 C E R R V .894 .916 G 1-3 1-3 N 3 3 C E R R V .934 .948 G 1-3 1-3 N 3 3 C E R R V .934 .948 G 1-3 1-3 N 3 3 C E R R V .934 .948 G 1-3 1-3 N 3 3 C E R R V .934 .948 G 1-3 1-3 N 3 3 C E R R V .934 .948			2-3	2-3								
V .680 .720 G 2-3 2-3 N 2 2 20 E L I V .765 .810 G 1-3 1-3 N 3 3 30 E R R V .823 .860 G 1-3 1-3 N 3 3 40 E R R V .868 .895 G 1-3 1-3 N 3 3 50 E R R V .894 .916 G 1-3 1-3 N 3 3 60 E R R V .912 .930 G 1-3 1-3 N 3 3 60 E R R V .912 .930 G 1-3 1-3 N 3 3 60 E R R V .912 .930 G 1-3 1-3 N 3 3 60 E R R V .934 .948 G 1-3 1-3 N 3 3 N 3 3 R V .934 .948	- 1	10 E	L	$^2_{ m L}$								
N 2 2 2 1				.720								
V .765 .810 G 1-3 1-3 N 3 3 E R R V .823 .860 G 1-3 1-3 N 3 3 E R R V .868 .895 G 1-3 1-3 N 3 3 V .894 .916 G 1-3 1-3 N 3 3 S 2 V .912 .930 G 1-3 1-3 N 3 3 S 3 S 4 S 5 S 7 S 8 S 8 S 9 S 9 S 9 S 9 S 9 S 9		N	$\begin{bmatrix} 2-3 \\ 2 \end{bmatrix}$	2-3								
N 3 3 3			.765	.810								
30 E R R		G		1-3								
G 1-3 1-3		30 E	R	\mathbf{R}								
\$\frac{1}{6}\$ \frac{1}{6}\$ 40 E R R R V .868 .895 \$\frac{1}{6}\$ \frac{1}{6}\$ 0 1-3 <td></td>												
V .994 .916 G 1-3 1-3 N 3 3 60 E R R R V .912 .930 G 1-3 1-3 N 3 8 8 R R R R R R R R R R R R R R R R R	늉	N	ſ 3	3								
V .994 .916 G 1-3 1-3 N 3 3 60 E R R R V .912 .930 G 1-3 1-3 N 3 8 8 R R R R R R R R R R R R R R R R R	Ę.	V	.868	.895								
V .994 .916 G 1-3 1-3 N 3 3 60 E R R R V .912 .930 G 1-3 1-3 N 3 8 8 R R R R R R R R R R R R R R R R R	an	G N	1-3									
G 1-3 1-3 N 3 3 E R R R R R R R R R R R R R R R R R R R		50 E	R	\mathbf{R}								
N 3 3 60 E R R V .912 .930 G 1-3 1-3 N 3 3 80 E R R V .934 .948 G 1-3 1-3 N 3 3 100 E R R	SI		,094									
V .912 .930 G 1-3 1-3 N 3 3 80 E R R V .934 .948 G 1-3 1-3 N 3 3 100 E R R	S		- ^	1-9								
N 3 3 80 E R R V .934 .948 G 1-3 1-3 N 3 3 100 E R R	S	G	1-3	3								
80 E R R V .934 .948 G 1-3 1-3 N 3 3 100 E R R	S	60 E V	1-3 3 R .912	3 R .930								
G 1-3 1-3 N 3 3 100 E R R	SI	60 E V	1-3 3 R .912	3 R .930 1-3 3								
$egin{array}{cccccccccccccccccccccccccccccccccccc$	SI	60 E V G N 80 E	1-3 3 R .912 1-3 3 R	3 R .930 1-3 3 R								
	is	60 E V G 80 E V G	1-3 R .912 1-3 3 R .934 1-3	3 R .930 1-3 3 R .948								
	S	60 E V G N 80 E V G N N	1-3 R .912 1-3 R .934 .934 1-3 3	3 R .930 1-3 3 R .948 1-3 3								

TABLE 7.3

CONTROLLING CONDITIONS AND MAXIMUM SHEARS IN SIMPLE SPANS
PRODUCED BY THE TYPE 2-S1 TRUCKS WEIGHING ONE KIP EACH



One hundred and twenty-six variations in the Type 2-S1 truck are given in this table. Each truck number, from 1 to 126, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight on each axle.

Tri	ick No	>,	1	2	3	4	5	6	7	8	9	10
Wh	ı. Base	e L	20	20	20	20	20	20	20	24	24	24
Ax		X	-8	- 8	8	8	8	- 8	. 8	- 8	8	8
	acing	X'	12	12	12	12	12	12	12	16	16	16
Lo		aı	$.10 \\ .30$.10	.10	.10 .50	.20	.20 .40	.20	.10 .30	.10	.10
Ax		a ₂	.60	.40 .50	.45 .45	.40	.30 .50	.40	.50 .30	.60	.40 .50	$\frac{.45}{.45}$
	105	G	3	3	1-2	12	3	1-2	1-2	- 3 -	3	1-2
		Ň	3	3	2	2	3	2	2	3	3	2
	10	\mathbf{E}	\mathbf{L}	L	\mathbf{R}	\mathbf{R}	Ĺ	R	R	Ĺ	\mathbf{L}	\mathbf{R}
		V	.600	.500	.470	.520	.500	.440	.540	.600	.500	.470
		G	1-3	1-3	1-3	2-3	1-3	1-3	$^{2-3}$	2-3	2-3	2-3
	20	$_{ m E}^{ m N}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^2_{ m L}$	$^3_{ m R}$	$^3_{ m R}$	2 L	3 R	$^3_{\mathbf{R}}$	\mathbf{R}^3
	20	Ÿ	.720	.660	.630	.660	.620	.560	.620	.660	.581	.540
		G	1-3	1-3	1-3	2-3	1-3	13	2-3	1-3	1-3	1-3
- 1		Ň	3	3	3	$\tilde{2}^{\circ}$		3	2	3	3	
	30	\mathbf{E}	\mathbf{R}	\mathbf{R}	\mathbf{R}	L	$^{3}_{\rm R}$	R	\mathbf{L}	\mathbf{R}	\mathbf{R}	$^3_{ m R}$
		V	.813	.773	.753	.740	.747	.707	.680	.760	.707	.680
		G	1-3	1-3	1-3	1-3	1-3	13	1-3	1-3	1-3	1-3
ايد	40	N E	$^3_{ m R}$	3 R	$^3_{ m R}$	$^3_{ m R}$	$^3_{f R}$	3 R	\mathbf{R}^3	3 R	3 R	3 R
Span-Feet	40	Ÿ	.860	.830	.815	.800	.810	.780	.750	.820	.780	.760
Ė		G	1-3	1-3	1 -3	1-3	1-3	1-3	1-3	13	1-3	1-3
Q.		N	3	3	3	3	3	3	3	3	3	3
0/2	50	E	R .888	$rac{\mathbf{R}}{.864}$	$_{.852}^{ m R}$	$^{ m R}_{.840}$	$\frac{\mathbf{R}}{.848}$	$_{.824}^{ m R}$	R .800	R .856	R .824	.808
		G	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3
		N	3	3	$\frac{1-3}{3}$	$\frac{1-3}{3}$	3	$\frac{1-3}{3}$	1~3 3	3	$\frac{1-3}{3}$	1-3 3
	60	Ë	Ř	Ř	Ř	Ř	Ř	Ř	Ř	Ř	Ř	$\overset{3}{\mathbf{R}}$
		v	.907	.887	.877	.867	.873	.853	.833	.880	.853	.840
		G	13	1-3	1-3	1-3	1-3	13	1-3	1-3	1-3	1-3
		N	3	3	$^3_{ m R}$	3	3	3	3	3	3	$^3_{ m R}$
	80	E V	R .930	$_{.915}^{ m R}$.908	R .900	.905	.890	R .875	R .910	R .890	.880
		Ġ	1-3	1-3	13	1-3	1-3	1-3	1-3	1-3	1-3	1-3
		N	3	3	3	3	3	3	3	3	3	3
	100	E	R	R	R	R	R	R	R	R	R	R
		V	.944	.932	,926	.920	.924	.912	.900	.928	.912	.904

All dimensions are in feet and shears are in kips.

a1, a2, and a3, represent the ratio of gross vehicle weight on axles.

G-Axle group causing maximum shear, thus 1-3 means axles 1, 2, and 3.

N-Number of critical axle under which maximum shear occurs.

E-End of span at which critical axle is placed.

V-Maximum shear.

TABLE	7 2	(Continued)	
IADLE	4.0	(Continued)	

			Continue									
	ick No		24	12 24	13 24	14 24	$\frac{15}{28}$	16 28	17 28	18 28	19 28	28
Ax		X X	8 16	8 16	8 16	8 16	8 20	8 20	8 20	8 20	8 20	8 20
Loa		$\mathbf{a_1}$.10	.20	,20	.20	.10	.10	.10	.10	.20	.20
On Ax	les	\mathbf{a}_{2}	.50 $.40$.30 .50	.40 .40	.50 .30	.30 .60	.40 .50	.45 .45	.50 .40	.30 .50	.40
		G N	1-2 2	3	$^{1-2}_2$	$\overset{1-2}{{_2}}$	3	3	1-2 2	1-2 2	3	1-2
	10	\mathbf{E}	\mathbf{R}	L	\mathbf{R}	$^{\mathrm{R}}$	\mathbf{L}	L	\mathbf{R}	\mathbf{R}	\mathbf{L}	\mathbf{R}
		V G	.520 2-3	$\frac{.500}{2-3}$.440 1-2	.540 1-2	2-3	2-3	$\frac{.470}{1-2}$.520 1-2	.500 2-3	
	00	N	$^{2}_{ m L}$	3	R R	R R	3	3	2 R	2 R	3	R R
	20	E V	.581	$^{ m R}_{.560}$.520	.620	$_{.600}^{ m R}$	$_{.500}^{ m R}$.510	.560	$^{ m R}_{.500}$.520
		G N	$^{2-3}_{2}$	$^{1-3}_3$	1–3 3	$_{2}^{1-2}$	1-3 3	1-3	1-3 3	2-3 2	13 3	$\frac{1-2}{2}$
	30	\mathbf{E}	\mathbf{L}	\mathbf{R}	\mathbf{R}	\mathbf{R}	R	\mathbf{R}	R	$_{ m L}$	\mathbf{R}	\mathbf{R}
		V G	.687	.680 1-3	$\frac{.627}{1-3}$.647 1-3	.707 1-3	640 13	$\frac{.607}{1-3}$	$\frac{.634}{2-3}$	$\frac{.613}{1-3}$.547 1-3
ید	40	N E	${f R}$	3 R	$\frac{3}{R}$	1	3 R	3 R	3	2 L	3 R	3 R
Fee	40	Ÿ	.740	.760	,720	$^{ m L}_{.720}$.780	.730	R .705	.700	.710	.660
Span-Feet		G N	$^{1-3}_3$	$^{1-3}_{3}$	$^{1-3}_3$	1–3 1	1-3 3	1–3 3	$^{1-3}_{3}$	$^{1-3}_{3}$	1-3 3	13 3
Si	50	\mathbf{E}	\mathbf{R}	\mathbf{R}	\mathbf{R}	${f L}$	R	\mathbf{R}	\mathbf{R}	R	\mathbf{R}	\mathbf{R}
		V G	.792 1–3	.808 1-3	$\frac{.776}{1-3}$.776 1-3	.824 1-3	$\frac{.784}{1-3}$.764 1-3	.744 13	.768 1-3	$\frac{.728}{1-3}$
	60	Ň E	$\frac{3}{R}$	3 R	3 R	1 L	3 R	3 R	3 R	3 R	3 R	3 R
	00	v	.827	.840	.813	.813	.853	.820	.803	.787	.807	.773
		G	$^{1-3}_3$	$^{1-3}_{3}$	1-3 3	1–3 1	1-3 3	1-3 3	$^{1-3}_{3}$	13 3	$^{1-3}_{3}$	$^{1-3}_{3}$
	80	N E	\mathbf{R}	\mathbf{R}	\mathbf{R}	L	\mathbf{R}	R	R	R	\mathbf{R}	\mathbf{R}
		V G	.870 1-3	.880 1-3	.860 1-3	.860 1-3	.890	.865 1–3	$\frac{.853}{1-3}$.840	.855 1-3	
	100	Ñ E	3 R	$^3_{ m R}$	3 R	L L	3 R	3 R	3 R	$^3_{ m R}$	3 R	${f R}$
	100	v	.896	.904	.888	.888	.912	.892	.882	.872	.884	.864
	ick N		21	22	23	24	25	26	27	28	29	30
W	ı. Bas	e L	28	32	32	32	32	32	32	32	36	36
$\frac{\mathbf{W}}{\mathbf{A}\mathbf{x}}$	ı. Bas				32 8 24		32 8 24					
Mi Ax Spa Los	n. Bas le acing ad	e L X X' a1	28 8 20 .20	32 8 24 .10	32 8 24 .10	32 8 24 .10	32 8 24 ,10	32 8 24 .20	32 8 24 .20	32 8 24 .20	36 8 28 .10	36 8 28 .10
Ax Spa	n. Bas le acing ad	e L X X' a ₁ a ₂ a ₃	28 8 20 .20 .50 .30	32 8 24 .10 .30 .60	8 24 .10 .40 .50	32 8 24 .10 .45 .45	32 8 24 .10 .50 .40	32 8 24 .20 .30 .50	32 8 24 .20 .40 .40	32 8 24 .20 .50 .30	36 8 28 .10 .30 .60	36 8 28 .10 .40 .50
Ax Spa Los On	n. Bas le acing ad	e L X X' a ₁ a ₂ a ₃ G	28 8 20 .20 .50 .30 1~2	32 8 24 .10 .30 .60	32 8 24 .10 .40 .50	32 8 24 .10 .45 .45	32 8 24 .10 .50 .40	32 8 24 .20 .30 .50	32 8 24 .20 .40 .40 1-2	32 8 24 .20 .50 .30	36 8 28 .10 .30 .60	36 8 28 .10 .40 .50
Ax Spa Los On	n. Bas le acing ad	e L X X' a ₁ a ₂ a ₃ G N E	28 8 20 .20 .50 .30 1-2 2 R	32 8 24 .10 .30 .60 3 3	32 8 24 .10 .40 .50 3 3	32 8 24 .10 .45 .45 .45 1–2 2 R	32 8 24 .10 .50 .40 1-2 2 R	32 8 24 .20 .30 .50	32 8 24 .20 .40 .40 1-2 2 R	32 8 24 .20 .50 .30 1–2 2 R	36 8 28 .10 .30 .60	36 8 28 .10 .40 .50
Ax Spa Los On	n. Bas le acing ad les	e L X X' a ₁ a ₂ a ₃ G	28 8 20 .20 .50 .30 1~2 2	32 8 24 .10 .30 .60 3 L .600	32 8 24 .10 .40 .50	32 8 24 .10 .45 .45	32 8 24 .10 .50 .40 1–2 2	32 8 24 .20 .30 .50 3 L .500	32 8 24 .20 .40 .40 1-2 2 R .440 1-2	32 8 24 .20 .50 .30	36 8 28 .10 .30 .60 3 L .600	36 8 28 .10 .40 .50 3 3 L
Ax Spa Los On	le acing ad les	e L X X, a ₁ a ₂ a ₃ G N E V	28 8 20 .20 .50 .30 1-2 2 R .540 1-2 2	32 8 24 .10 .30 .60 3 3 L .600	32 8 24 .10 .40 .50 3 3 L .500	32 8 24 .10 .45 .45 1-2 2 R .470 1-2 2	32 8 24 .10 .50 .40 1–2 2 R .520 1–2 2	32 8 24 .20 .30 .50 3 3 1 .500	32 8 24 .20 .40 .40 1-2 2 R .440 1-2	32 8 24 .20 .50 .30 1–2 2 R .540 1–2 2	36 8 28 .10 .30 .60 3 L .600	36 8 28 .10 .40 .50 3 3 L .500
Ax Spa Los On	n. Bas le acing ad les	e L X X' a1 a2 a3 G N E V G N E V	28 8 20 .50 .30 12 2 R .540 1-2 2 R	32 8 24 .10 .30 .60 3 3 L .600	32 8 24 .10 .40 .50 3 L .500 3 L	32 8 24 .10 .45 .45 1-2 2 R .470 1-2 2 R	32 8 24 .10 .50 .40 1–2 2 R .520 1–2 2 R	32 8 24 .20 .30 .50 3 1 .500	32 8 24 .20 .40 .40 1-2 2 R .440 1-2 2 R	8 24 .20 .50 .30 1-2 2 R .540 1-2 2 R	36 8 28 .10 .30 .60 3 L .600	36 8 28 .10 .40 .50 3 L .500
Ax Spa Los On	le acing ad les	e L X X x a1 a2 a3 G N E V G N E V G N E V G N E N	28 8 20 .50 .30 12 R .540 12 R .620	32 8 24 .10 .30 .60 3 1 .600	32 8 24 .10 .40 .50 3 L .500	32 8 24 .10 .45 .45 1-2 2 R .470 1-2 2 R	32 8 24 .10 .50 .40 1–2 R .520 1–2 R .560 2–3	32 8 24 .20 .30 .50 3 L .500	32 8 24 .20 .40 .40 1-2 R .440 1-2 R .520 1-2	32 8 24 .20 .50 .30 1–2 R .540 1–2 R .620 1–2	36 8 28 .10 .30 .60 3 L .600	36 8 28 .10 .40 .50 3 L .500 3 L
Ax Spa Los On	le acing ad les	e L X X, a ₁ a ₂ a ₃ G N E V G N E V	28 8 20 .50 .30 1-2 2 R .540 1-2 2 R .620 1-2	32 8 24 .10 .30 .60 3 1 .600 3 3 L .600 2-3 8	32 8 24 .10 .40 .50 3 L .500 3 L .500 2–3 3 R	32 8 24 .10 .45 .45 .470 1-2 2 R .470 1-2 2 R .510 2-3 2 L	32 8 24 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 2-3 2 L	32 8 24 .20 .30 .50 3 3 L .500 3 3 L .500 2–3 3 R	32 8 24 .20 .40 .40 1-2 2 R .440 1-2 2 R .520 1-2 2	82 8 24 .20 .50 .30 1–2 2 R .540 1–2 2 R .620 1–2 2 R	36 8 28 .10 .60 3 3 L .600 3 L .600 2–3 3 R	36 8 28 .10 .40 .50 3 L .500 3 L .500 2-3 3 R
Ax Spa Los On	a. Bas le acing ad les 10	e L X X a1 a2 a3 G N E V G N E V G N E V G O G O G O G O G O G O G O G O G O G	28 8 20 .50 .50 .30 1-2 2 R .620 1-2 2 R .620 1-2	32 8 24 .10 .30 .60 3 3 1 .600 2.3 3 R .600 1–3	32 8 24 .10 .40 .50 3 3 L .500 2-3 R .580 1-3	8 24 .10 .45 .45 .1-2 2 R .510 2-3 L .540 1-3	32 8 24 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 2-3 2 L.580	32 8 24 .20 .30 .50 3 3 1 .500 3 3 1 .500 2 3 8 .506 1-3	32 8 24 .20 .40 .40 .1-2 2 R .440 .1-2 2 R .520 .1-2 2 R .520 .1-2 1-2 R .547 .1-3	82 8 24 .20 .50 .30 .30 1-2 2 R .620 1-2 2 R .620 1-2 1-2 2 R	36 8 28 10 30 .60 3 3 L .600 2-3 3 R .620 1-3	36 8 28 .10 .40 .50 3 L .500 2-3 3 R .527 1-3
Wife Ax Spr. Low On Ax	a. Bas le acing ad les 10	e L X X a1 a2 a3 G N E V G N E V G N E V G O G O G O G O G O G O G O G O G O G	28 8 20 .20 .30 12 2 R .540 12 2 R .620 12 2 R .647 13 1	32 8 24 .10 .30 .60 3 3 L .600 2-3 3 R .660 1-3	82 8 24 .10 .40 .50 3 3 L .500 3 3 L .500 2-3 3 R .580 1-3	32 8 24 .10 .45 .45 .45 1-2 2 R .470 1-2 2 R .510 2-3 2 L .540 1-3 3	32 8 24 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 2-3 2 L .580 2-3 2	32 8 8 24 .20 .30 .50 3 1 .500 2–3 3 R .560 1–3 3	32 8 8 24 .20 .40 .40 .40 1-2 2 R .440 1-2 2 R .520 1-2 2 R .524	32 8 24 .20 .50 .30 1-2 2 R .540 1-2 2 R .620 1-2 2 R .647 1-3	36 8 8 .10 .30 .60 3 3 L .600 2-3 3 R .620	36 8 28 .10 .40 .50 3 L .500 3 3 L .500 2–3 3 R .527
Wife Ax Spr. Low On Ax	n. Bas le acing ad les 10 20	a1 a2 a3 GNEV GNEV GNEV GNEV GNEV CONE	28 8 20 .50 .50 .30 1-2 2 R .620 1-2 2 R .620 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2	32 8 24 .10 .30 .60 3 3 L .600 2.3 3 R .660 1-3 3 R .740	32 8 24 .10 .40 .50 3 3 L .500 2-3 R .580 1-3 3 R .680	8 24 .10 .45 .45 .1-2 2 R .510 2-3 2 L .540 .1-3 3 R .650	32 8 24 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 2-3 2 L .580	32 8 24 .30 .50 .500 3 3 1 .500 2 3 8 .500 1-3 3 R .560	32 8 24 .20 .40 .40 .40 1-2 2 R .520 1-2 2 R .520 1-2 8 .547 1-3 3 8 .600	82 8 24 .50 .50 .30 1-2 2 R .620 1-2 2 R .620 1-2 1-2 2 1-2 1-2 1-2 1-2 1-2	36 8 28 30 .60 3 3 L .600 2-3 3 R .620 1-3 3 R .700	36 8 28 .10 .40 .50 3 3 L .500 2-3 8 R.527 1-3 3 R.630
Wife Ax Spr. Low On Ax	acing ad les 10 20 30 40	e L X X A1 A2 A3 G N E V G R E V R E V G R E V R E V G R E V R E	28 8 20 .20 .50 .30 12 R .540 12 2 R .620 12 2 R .647 13 1 L	32 8 24 .10 .30 .60 3 3 L .600 2-3 3 R .660 1-3 3 R .740	32 8 24 .10 .40 .500 3 3 L .500 2-3 3 R R 1-3 3 R	32 8 24 .10 .45 .45 .470 1-2 2 R .510 2-3 2 L .540 1-3 3 R	82 8 24 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 2-3 2 L .660 2-3 2	32 8 24 .20 .30 .50 3 3 L .500 2-3 3 R R.560 1-3 3 R.660	32 8 24 .20 .40 .40 1-2 2 R .520 1-2 2 R .520 1-3 3 R	82 8 24 .20 .50 .30 .30 .1–2 2 R .620 1–2 2 R .647 1–3 1 L .660 1–3 1	36 8 28 30 .60 3 3 L .600 3 3 L .600 2-3 3 R 620	36 8 28 .10 .40 .500 3 3 L .500 2-3 3 R R .527
Ax Spa Los On	n. Bas le acing ad les 10 20	e L	28 8 20 .20 .50 .50 .30 12 2 R .540 12 2 R .620 12 2 R .647 13 1 L .690	32 8 24 -10 -30 -60 3 3 L -600 2-3 3 R -660 1-3 3 R 740	82 8 24 .10 .40 .50 .500 .3 L .5000 .3 L .5000 .2 -3 R .580 .1 -3 R .680 .1 -3 R .8 R .3 R .3 R .3 R .3 R .3 R .3 R .	82 8 24 .10 .45 .45 .45 1-2 2 R .470 1-2 2 R .510 2-3 2 L .540 1-3 3 R .650 1-3 3 R .31	82 8 24 .10 .50 .40 .1-2 2 R .520 1-2 2 R .560 2-3 2 L .580 2-3 2 L .660 2-3 2 L	32 8 24 .20 .30 .50 3 1 .500 2-3 3 R .560 1-3 3 R	32 8 24 .20 .40 .40 1-2 2 R .440 1-2 2 R .520 1-2 2 R .547 1-3 3 R .600 1-3 3 R	82 8 24 .20 .50 .50 .30 .30 .30 .30 .30 .30 .30 .30 .30 .3	36 8 28 .10 .30 .60 3 3 L .600 2-3 3 R .620 1-3 8 .700 1-3 3 R	36 8 28 .10 .40 .500 3 3 L .500 2-3 3 R .527 1-3 3 R .630 1-3 3 R
WHAX Spp. Low On Ax	acing ad les 10 20 30 40	e L	28 8 20 .20 .50 .30 12 2 R .540 12 2 R .620 12 2 R .647 13 1 L .690 13 12	32 8 24 .10 .30 .60 3 3 L .600 2-3 3 R .660 1-3 3 R .740 1-3 3 R .740	32 8 24 .10 .40 .50 3 3 L .500 2-3 3 R .580 1-3 3 R .680 1-3 3 R .744 1-3	32 8 24 .10 .45 .45 .470 1-2 2 R .510 2-3 2 L .540 1-3 3 R .650 1-3 8 .720 1-3	82 8 24 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 2-3 2 L .660 2-3 2	32 8 24 .20 .30 .50 .500 3 3 L .500 2 3 8 L .500 1-3 3 R .560 1-3 3 R .660 1-3 3 R .728	32 8 24 .20 .40 .40 1-2 2 R .520 1-2 2 R .547 1-3 3 R .600 1-3	82 8 24 .20 .50 .30 .30 .1–2 2 R .620 1–2 2 R .647 1–3 1 L .660 1–3 1	36 8 28 28 30 .600 3 3 L .6000 2-3 3 R .620 1-3 3 R .700 1-3	36 8 28 28 .10 .40 .50 3 3 L .500 2-3 3 R .527 1-3 3 R .630 1-3 .704
WHAX Spp. Low On Ax	n. Bas le acing ad les 10 20 30 40	e L	28 8 20 .20 .50 .50 .30 12 2 R .540 12 2 R .620 12 2 R .647 13 1 L .590 13	32 8 24 .10 .30 .60 3 3 L .600 23 3 R .660 13 R .792 13 3 R .792	82 8 24 .10 .40 .50 .500 .3 L .5000 .3 L .5000 .2 -3 R .580 .1 -3 R .680 .1 -3 R .744 .1 -3 3	32 8 24 .10 .45 .45 .45 .470 12 R .470 12 R .510 2-3 2 L .540 1-3 3 R .650 1-3 3 R .720 1-3 3	82 8 24 .10 .50 .40 .1-2 2 R .520 1-2 2 R .560 2-3 2 L .580 2-3 2 L .580 2-3 2 L .708 1-3 3	32 8 24 .20 .30 .50 3 1 .500 2-3 3 R .560 1-3 8 R .728 1-3 3 8 .728	32 8 24 .20 .40 .40 .40 .40 .40 .40 .40 .4	82 8 24 .20 .50 .50 .540 1-2 R .620 1-2 R .647 1-3 1 .660 1-3 1 .728 1-3 1	36 8 28 28 .10 .30 .60 .60 3 3 L .600 2-3 3 R .620 1-3 3 R .700 .760 1-3 3 3 3 8 .760 .760	36 8 28 .10 .40 .500 3 3 L .500 2-3 3 R .527 1-3 3 R .630 1-3 3 R .704
WHAX Spp. Low On Ax	acing ad les 10 20 30 40	e L X X a1 a2 a3 G N E V G N E V G N E V G N E V G N E V C N E V C N E V C N E V	28 8 20 .20 .30 .30 12 2 R .540 12 2 R .620 12 2 R .620 12 1 L .549 12	32 8 24 .10 .30 .60 3 3 L .600 2-3 3 R .660 1-3 3 R .740 1-3 3 R .792 1-3 3 8 .792 1-8 .792 1-8 .793 1-8 .794 1-8 .795 .795 .7	32 8 24 .10 .40 .50 3 3 L .500 2-3 3 R .580 1-3 3 R .680 1-3 3 R .787	32 8 24 .10 .45 .470 1-2 2 R .510 2-3 2 L .540 1-3 3 R .720 1-3 3 R	82 8 24	32 8 24 .20 .30 .50 3 3 1 .500 2-3 3 R .560 1-3 3 R .7128 3 R	32 8 24 .20 .40 .40 .40 .1-2 2 R .520 1-2 2 R .520 1-3 3 R .600 1-3 3 R .680 1-3 3 R	82 8 24 .20 .50 .30 .30 .1–2 2 R .620 1–2 2 R .647 1–3 1 L .660 1–3 1 L .778	36 8 28 28 30 .60 3 3 L .600 2-3 3 R .620 1-3 8 R.700 1-3 3 R .760 1-3 3 R	36 8 28 .10 .40 .50 3 3 L .500 2-3 3 R .527 1-3 8 R .704 1-3 8 R .753
WHAX Spp. Low On Ax	n. Bas le acing ad les 10 20 30 40	e L XX X a1 a2 a3 GNE V	28 8 20 .20 .50 .50 .540 12 2 R .620 12 2 R .620 12 12 2 R .647 13 1 L .752 13 1 L .752 13	32 8 24 .10 .30 .60 3 3 L .600 23 3 R .660 13 R .792 13 R .792 13 R .827 13	82 8 24 .10 .40 .500 3 3 L .5000 2 -3 3 R R .680 1-3 R R .680 1-3 R R .744	32 8 24 .10 .45 .45 .45 .470 12 2 R .470 2-3 2 L .540 13 3 R .650 13 3 R .720 13 3 R	82 8 24 .10 .50 .40 1-2 2 R .520 1-2 2 R 60 .2-3 2 L .580 2-3 2 L .660 2-3 2 L .708 1-3 3 R 747 1-3	32 8 24 .20 .30 .50 3 3 L .500 3 3 L .500 2–3 3 R .660 1–3 3 R .728 1–3 3 R	32 8 24 .20 .40 .40 1-2 2 R .440 1-2 2 R .527 1-3 3 R .680 1-3 3 R	82 8 24 .20 .50 .30 1-2 2 R .540 1-2 2 R .627 1-3 1 L .773 1-3 1 L .773 1-3 1	36 8 28 .10 .30 .60 .600 3 3 L .600 2-3 3 R .620 1-3 3 R .760 1-3 3 R	36 8 28 .10 .40 .500 3 3 L .500 2-3 3 R .527 1-3 3 R .704 1-3 3 R .704 1-3 3 1-3 3 1-3 3 1-3 1-3 1-3
WHAX Spp. Low On Ax	n. Bas le acing ad les 10 20 30 40	e L XX x a1 a2 a3 G NE V	28 8 20 .20 .30 .30 12 2 R .540 12 2 R .620 12 2 R .647 1-3 1 L .752 1-3 1 L .793 1-3 1 L	32 8 24 .10 .30 .60 3 3 L .600 2.3 3 R .660 1-3 3 R .740 1-3 3 R .792 1-3 3 R .792 1-3 3 8 .792 1-3 8 .792 1-3 8 .794 .795 .7	82 8 24 .10 .40 .50 .50 .3 .4 .500 .500 .2 .3 .8 .8 .580 .1 .3 .3 .8 .8 .744 .1 .3 .8 .744 .1 .3 .8 .8 .787 .1 .3 .8 .8 .8 .787 .1 .3 .8 .8 .8 .787 .1 .3 .8 .8 .8 .787 .1 .3 .8 .8 .8 .787 .1 .3 .8 .8 .8 .787 .1 .3 .8 .8 .8 .787 .1 .3 .8 .8 .8 .787 .1 .3 .8 .8 .8 .787 .1 .3 .8 .8 .8 .787 .1 .3 .8 .8 .8 .787 .1 .3 .8 .8 .8 .7 .787 .1 .3 .3 .8 .8 .8 .7 .787 .1 .3 .3 .8 .8 .8 .7 .787 .1 .3 .3 .8 .8 .8 .7 .787 .1 .3 .3 .8 .8 .8 .7 .787 .1 .3 .3 .8 .8 .8 .7 .787 .1 .3 .3 .8 .8 .8 .7 .787 .1 .3 .3 .8 .8 .8 .7 .787 .1 .3 .3 .8 .8 .8 .7 .787 .1 .3 .3 .8 .8 .7 .787 .1 .3 .3 .8 .8 .7 .787 .1 .3 .3 .8 .8 .7 .787 .1 .3 .3 .8 .8 .7 .787 .1 .3 .3 .8 .8 .7 .787 .1 .3 .3 .8 .8 .7 .787 .1 .3 .3 .8 .7 .787 .1 .3 .3 .8 .7 .787 .1 .3 .3 .8 .7 .787 .1 .3 .3 .8 .7 .787 .1 .3 .3 .8 .7 .787 .1 .3 .3 .8 .7 .787 .1 .3 .3 .8 .7 .787 .1 .3 .3 .8 .7 .787 .1 .3 .3 .8 .7 .7 .787 .1 .3 .3 .8 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7	32 8 24 .10 .45 .45 .45 .470 12 2 R .470 2-3 2 L .540 1-3 3 R .650 1-3 3 R .720 1-3 3 R .720 1-3 3 8 .720 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1-3	82 8 24 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 2-3 2 L .580 2-3 2 L .660 2-3 2 L .708 1-3 2 1-3 2 1-3 2 1-3 3 1-3 1-3 1-3 1-3 1-3 1-3	32 8 24 .20 .30 .50 3 1 .500 2-3 3 R .560 1-3 3 R .728 1-3 3 R .773 1-3 3 R	32 8 24 .20 .40 .40 .40 .40 .40 .40 .40 .4	82 8 24 .20 .50 .50 .540 1-2 2 R .620 1-2 2 R .647 1-3 1 L .728 1-3 1 L .773 1-3 1 L	36 8 28 .10 .30 .60 3 3 L .600 2-3 3 R .620 1-3 3 R .760 1-3 3 R .760 1-3 3 R	36 8 28 .10 .40 .50 3 3 L .500 2-3 3 R .527 1-3 3 R .704 1-3 3 R .704 1-3 3 R .705 1-3 3 R .705 1-3 3 8 .705 1-3 1-3 8 .705 1-3 8
WHAX Spp. Low On Ax	n. Bas le acing and les 10 20 30 40 50	e L XX a1 a2 a3 G NE V	28 8 20 .20 .50 .30 12 2 R .540 12 2 R .627 13 1 L .752 13 1 L .793 13 1 L .793 13 1 L .793 13	32 8 24 .10 .30 .60 3 3 L .600 2.3 3 R .660 1-3 3 R .740 1-3 3 R .740 1-3 3 R .740 1-3 3 R .740 1-3 3 8 .740 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1-3	32 8 24 .10 .40 .500 3 3 L .500 2-3 3 R .580 1-3 3 R .680 1-3 3 R .744 1-3 3 R .787	32 8 24 .10 .45 .45 .45 .470 12 2 R .510 2-3 2 L .540 1-3 3 R .650 1-3 3 R .767 1-3 8 .767	82 8 24 .10 .50 .40 1-2 2 R .520 1-2 2 R .580 2-3 2 L .580 2-3 2 L .660 2-3 2 L .708 1-3 8 R .747 1-3 8 .810 1-3	32 8 24 .20 .30 .50 3 3 L .500 3 3 L .500 2-3 3 R .660 1-3 3 R .773 1-3 3 R .773 1-3 3 R .773 1-3 8 .80 .773 1-3 8 .80 .80 .80 .80 .80 .80 .80	32 8 24 .20 .40 .40 .40 12 2 R .547 13 3 R .680 13 3 R .733 13 8 .80 13	82 8 24 .20 .50 .30 1-2 2 R .540 1-2 2 R .620 1-2 2 R .647 1-3 1 L .773 1-3 1 L .773 1-3 1 L .773 1-3 1 L .773 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1-	36 8 28 .10 .30 .60 .600 3 3 L .600 2-3 3 R .620 1-3 3 R .700 1-3 3 R .800 1-3 3 R .800 1-3 3 R .800 1-3 8 .8	36 8 28 10 .40 .500 3 3 L .500 2-3 3 R .527 1-3 3 R .630 1-3 3 R .753 1-3 3 8 .753
WHAX Spp. Low On Ax	n. Bas le acing ad les 10 20 30 40 50 60	e L XX a1 a2 GNE V	28 8 8 20 .20 .50 .50 .30 1-2 2 R .540 1-2 2 R .620 1-2 2 R .647 1-3 1 L .752 1-3 1 L .793 1-3 1 L .845 1-3 1	32 8 24 .10 .30 .60 3 3 L .600 2.3 3 R .660 1-3 3 R .740 1-3 3 R .792 1-3 3 R .792 1-3 3 R .792 1-3 3 8 .792 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1-3	82 8 24 .10 .40 .500 3 3 L .5000 3 3 L .500 2-3 3 R .580 1-3 3 R .744 1-3 3 R .787 1-3 3 8 .787	32 8 24 .10 .45 .45 .470 1-2 2 R .470 2-3 2 L .540 1-3 3 R .720 1-3 3 R .720 1-3 3 R .720 1-3 3 8 .720 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1-3	82 824 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 2-3 2 L .580 2-3 2 L .708 1-3 3 R .747 1-3 3 8 810 1-3 3	32 8 24 .20 .30 .50 3 1 .500 2-3 3 R .560 1-3 3 R .728 1-3 3 R .728 1-3 3 R .728 1-3 3 8 .728 1-3 3 8 .728 1-3 8 .728 .738 .7	32 8 24 .20 .40 .40 .40 .40 .40 .40 .40 .4	82 8 24 .20 .50 .50 .50 .7 2 R .540 1-2 R .620 1-2 R .647 1-3 1 L .728 1-3 1 L .738 1-3 1 L .830 1-3 1	36 8 28 .10 .30 .60 3 3 L .600 2-3 3 R .620 1-3 3 R .760 1-3 3 R .760 1-3 3 R .760 1-3 3 8 .760 1-3 8 .760 1-3 .760 1-3 .760 1-3 .760 1-3 .760 1-3 .760 1-3 .760 1-3 .760 1-3 .760 1-3 .760 1-3 .760 1-3 .760 .760 1-3 .760 1-3 .760 1-3 .760 1-3 .760 1-3 .760 1-3 .760 .76	36 8 28 .10 .40 .500 3 3 L .500 2-3 3 R .527 1-3 3 R .704 1-3 8 R .704 1-3 8 R .705 1-3 8 .705 1-3 1-3 8 .705 1-3 8 .705 1-3 8 .705 1-3 8 .705 1-3 8 .705 1-3 8 .705 1-3 8 .705 1-3 8 .705 1-3 8 .705 1-3 .705 1-3 .705 1-3 .705 1-3 .705 1-3 .705 1-3 .705 1-3 .705 1-3 .705 1-3 .705 1-3 .705 1-3 .705 1-3 .705
WHAX SPECIAL CONTROL OF THE PROPERTY OF THE PR	n. Bas le acing and les 10 20 30 40 50	e L XX a1 a2 a3 G NE V	28 8 20 .20 .50 .30 12 2 R .540 12 2 R .627 13 1 L .752 13 1 L .793 13 1 L .793 13 1 L .793 13	32 8 24 .10 .30 .60 3 3 L .600 2.3 3 R .660 1-3 3 R .740 1-3 3 R .740 1-3 3 R .740 1-3 3 R .740 1-3 3 8 .740 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1-3	32 8 24 .10 .40 .500 3 3 L .500 2-3 3 R .580 1-3 3 R .680 1-3 3 R .744 1-3 3 R .787	32 8 24 .10 .45 .45 .45 .470 12 2 R .510 2-3 2 L .540 1-3 3 R .650 1-3 3 R .767 1-3 8 .767	82 8 24 .10 .50 .40 1-2 2 R .520 1-2 2 R .580 2-3 2 L .580 2-3 2 L .660 2-3 2 L .708 1-3 8 R .747 1-3 8 .810 1-3	32 8 24 .20 .30 .50 3 3 L .500 3 3 L .500 2-3 3 R .660 1-3 3 R .773 1-3 3 R .773 1-3 3 R .773 1-3 8 .80 .773 1-3 8 .80 .80 .80 .80 .80 .80 .80	32 8 24 .20 .40 .40 .40 12 2 R .547 13 3 R .680 13 3 R .733 13 8 .80 13	82 8 24 .20 .50 .30 1-2 2 R .540 1-2 2 R .620 1-2 2 R .647 1-3 1 L .773 1-3 1 L .773 1-3 1 L .773 1-3 1 L .773 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1-	36 8 28 .10 .30 .60 .600 3 3 L .600 2-3 3 R .620 1-3 3 R .700 1-3 3 R .800 1-3 3 R .800 1-3 3 R .800 1-3 8 .8	36 8 28 28 .10 .40 .500 3 3 L .500 2-3 3 R .527 1-3 3 R .630 1-3 3 R .753 1-3 3 8 .753

ruck l		31	32	33	34	35	36	37	38	39	40
h. Ba		36	36	36	36	36	20	20	20	20	20
xle pacing	X X	$\frac{8}{28}$	8 28	8 28	8 28	$\frac{8}{28}$	12 8	12 8	12 8	12 8	12 8
oad	aı	.10	.10	.20	.20	.20	.10	.10	.10	.10	.20
n xles	a 2 a 3	.45 .45	.50 .40	.30 .50	.40 .40	.50 .30	.30 .60	.40 .50	$.45 \\ .45$.50 .40	.30 .50
1	G	12	1-2	3	12	1–2	2-3	23	2-3	2-3	2-
10	N E	\mathbf{R}^2	$^2_{ m R}$	$^3_{\mathbf{L}}$	$^2_{ m R}$	$^2_{ m R}$	$^3_{f R}$	$^3_{ m R}$	2 L	$_{ m L}^2$	R
10	v	.470	.520	.500	.440	.540	.660	.580	.540	.580	.56
	G N	12 2	1-2 2	3 3	$_{2}^{1-2}$	1~2	1-3 3	$^{1-3}_{3}$	$_{3}^{1-3}$	$\frac{2-3}{2}$	1-
20	\mathbf{E}	\mathbf{R}	R	${f L}$	\mathbf{R}	$^2_{ m R}$	\mathbf{R}	\mathbf{R}	\mathbf{R}	L	R
	- V G	.510 1-2	.560 1-2	$\frac{.500}{2-3}$	$\frac{.520}{1-2}$	$\frac{.620}{1-2}$	$\frac{.780}{1-3}$	$\frac{.740}{1-3}$.720 1-3	.740 1-3	68 1~
	N E	2	2	2-3 3	2	2	3	3	3	3	3
30	v E V	$rac{\mathbf{R}}{.524}$	R .573	$^{ m R}_{.520}$	$^{ m R}_{.547}$	$^{ m R}_{.647}$	$_{.853}^{\mathbf{R}}$	$_{.827}^{\mathbf{R}}$	$_{.813}^{ m R}$	$_{.800}^{\mathbf{R}}$.78
	Ğ	1-3	2-3	1-3	1-3	1-2	1-3	1-3	1-3	1-3	1-
	N	3	2	3	1	$^2_{ m R}$	3	3	3	3	3
40	V E	$^{ m R}_{.595}$	$_{.620}^{\mathbf{L}}$	R .610	$_{.560}^{ m L}$.660	$_{.890}^{ m R}$	$^{ m R}_{.870}$	$^{ m R}_{.860}$	$^{ m R}_{.850}$.84
40	G	1-3	2–3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-
50	NE	\mathbf{R}^3	$^2_{ m L}$	$^3_{ m R}$	$^{1}_{ m L}$	$^{1}_{\mathbf{L}}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	R
	V	.676	.676	.688	.648	.704	.912	.896	.888	.880	.87
	G	13 3	$\substack{2-3\\2}$	1-3 3	1-3	1-3	1-3 3	1-3	1-3	1-3	1-
60		R	L	$\overset{\mathtt{o}}{\mathbf{R}}$	$_{\mathbf{L}}^{1}$	$^1_{f L}$	\mathbf{R}	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	F
	<u>v</u>	.730	.714	.740	.707	.753	.927	.913	.907	.900	.8
	G N	1-3 3	$^{1-3}_{3}$	$^{1-3}$	$^{1-3}_{1}$	$^{\mathbf{1-3}}_{1}$	$^{1-3}_3$	$\overset{1-3}{3}$	$^{1-3}_3$	$^{1-3}_{3}$	1-
80	V	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{L}	\mathbf{L}	\mathbf{R}	\mathbf{R}	\mathbf{R}	R	F
	G	.798 1-3	.780 1-3	.805 13	.780 1-3	.815 1-3	.945 1-3	.935 1–3	.930 1-3	.925_ 1-3	.93
	N	3	3	3	1	1	3	3	3	3	;
100	V E	$^{ m R}_{.838}$	$^{ m R}_{.824}$	R .844	$^{ m L}_{.824}$	$_{.852}^{ m L}$	R .956	$^{ m R}_{.948}$	R .944	R .940	.98
ruck .	No.	41.	42	43	44	45	46	47	48	49	5(
Vh. Βε		20	20	24	24	24	24	24	24	24	28
xle	X.	12	12	12	12	12	12	12	12	12	12
pacin; oad	g X'	.20	.20	.10	.10	.10	.10	.20	.20	.20	.10
n	\mathbf{a}_2	.40	.50	.30	.40	.45	.50	.30	.40	.50	.30
xles	G a ₃	2-3	2-3	.60	.50	.45	2	3	.40	.30	.60
	N	2	2	3	3	3	2	3	3	$\frac{2}{2}$;
10	V E	$^{ m L}_{.480}$	$_{.560}^{ m L}$	$_{.600}$	$_{.500}^{ m L}$	L .450	$_{.500}^{ m L}$.500	$_{.400}^{L}$	$_{.500}^{ m L}$.60
	G	1-3	2-3	2-3	2-3	23	2-3	2-3	2-3	2-3	2
20	N	$^3_{ m R}$	$^2_{ m L}$	3	3	2	$^2_{ m L}$	3	2	$^2_{ m L}$	j
4	V E	.640	.680	$^{ m R}_{.720}$	$_{.660}^{ m R}$	$_{.630}^{ m L}$.660	$_{.620}^{ m R}$	$_{.560}^{ m L}$.620	.6
	G	13	1-3	1-3	13	1-3	23	1-3	1-3	23	1
30	N E	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$_{\mathbf{R}}^{3}$	$^2_{f L}$	${f R}$	$^3_{ m R}$	$\mathbf{\overset{2}{L}}$	Ī
I	V	.760	.733	.800	.760	.740	.740	.720	.680	.680	.7
	G	$^{1-3}_3$	$^{1-3}_3$	$^{1-3}_{3}$	$^{1-3}_3$	$_{3}^{1-3}$	1-3 3	1–3 3	1-3 3	1–3 3	1
40		\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	I
40	V	.820	.800	.850	.820	.805	.790	.790	.760	.730	.8
<u>i</u>	G N	13 3	$^{1-3}_{3}$	1-3 3	$^{1-3}_3$	$^{1-3}_3$	$^{1-3}_{3}$	1-3 3	$^{1-3}_3$	$^{1-3}_{3}$	1
5	V E	R	R	\mathbf{R}	R	R	R	R	\mathbf{R}	R	.8
.	- v G	.856 1-3	.840 1-3		.856 1–3	.844 1-3	.832	.832 1–3	.808 1–3	$\frac{.784}{1-3}$	1
1	N	3	3	3	3	3	3	3	3	3	
	0 E V	.88 0	$^{ m R}_{.867}$	R .900	R .880	$^{ m R}_{.870}$	$_{.860}^{ m R}$	$_{.860}^{ m R}$	$^{ m R}_{.840}$	$^{ m R}_{.820}$.8
6	G	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1
	· ·	3	3	3	3	$^3_{ m R}$	$^3_{ m R}$	${f R}$	3 R	3 R]
	N		Ď	D							
8	N	$\overset{f R}{ ext{R}}$.900	$^{ m R}_{.925}$	$^{ m R}_{.910}$.903	.895	.895	.880	.865	
	N O E	\mathbf{R}	\mathbf{R}								.9

TABL	E 7.	3 (Continue	ed)	E	QUIVALI	ENT LO	ADS				4
Truck	No.		51	52	53	54	55	56	57	58	59	60
Wh.Ba	ase L		28 12	$\frac{28}{12}$	28 12	28 12	$\frac{28}{12}$		32 12	32 12	$\frac{32}{12}$	32 12
Spacir		ζ,	16	16	16	16	16	16	20	20	20	20
Load On	a a		.10 .40	.10 .45	.10 .50	.20 .30	.20 .40	.20 .50	.10 .30	.10 .40	.10 .45	.10 .50
Axles	a	3	.50	.45	.40	.50	.40	.30	.60	.50	.45	.40
	G N	Γ	3 3	3 3	$\frac{2}{2}$	$\frac{3}{3}$	3 3	$\frac{2}{2}$	3 3	3	3 3	$\frac{2}{2}$
1	10 E V		$_{.500}$	$_{.450}^{ m L}$	$_{.500}^{ m L}$	$_{.500}^{ m L}$	$_{.400}^{ m L}$	$_{.500}^{ m L}$	L .600	$_{.500}$	L .450	$_{.500}$
-	G		2-3	2-3	2-3	2-3	2-3	1-2	2-3	2-3	1-2	1-2
2	0 E		3 R	2 L	$^2_{ m L}$	3 R	2 L	$^2_{ m R}$	$\frac{3}{R}$	$\frac{3}{\mathbf{R}}$	$\frac{2}{R}$	2 R
-	$-\frac{\mathbf{v}}{\mathbf{G}}$	-	.580 1- 3	.540 1-3	.581 2-3	.560 1-3	1-3	$\frac{.580}{2-3}$	2-3	$\frac{.500}{2-3}$	2-3	.540 2-3
9	N 10 E		3 R	3 R	2 L	3 R	3 R	2 L	3 R	3 R	2 L	2 L
	V		.693	.667	.687	.653	.600	.640	.700	.634	.600	.634
	G N		1- 3 3	$\frac{1}{3}$	$\frac{2-3}{2}$	$^{1-3}$	$^{1-3}_{3}$	$\frac{2-3}{2}$	$^{1-3}_{3}$	$^{1-3}_{3}$	$_{3}^{1-3}$	$^{2-3}_{2}$
4	0 E V		R .770	R .750	$_{.740}^{ar{ ext{L}}}$	R .740	R .700	$_{ m L}^{ m L}$	R .770	R .720	Ř .695	.700
Span-Feet	G		1. 3	1- 3	1 3	1-3	1-3	1-3	1-3	1-3	1-3	1-3
ads 5	0 E		$^3_{ m R}$	3 R	3 R	$^3_{ m R}$	3 R	$^{-3}_{ m R}$	3 R	$^3_{ m R}$	$^{3}_{ m R}$	$_{ m L}^2$
	V		.816	.800	.784	.792	.760	.728	.816	.776	.756	.740
	G N		$\frac{1}{3}$	$\frac{1-3}{3}$	${\overset{1-3}{3}}$	$_{3}^{1-3}$	$^{1-3}_{3}$	13 3	${\overset{1-3}{3}}$	1-3 3	$_{3}^{1-3}$	$^{1-3}_{3}$
6	0 E V		R .817	R .833	R .820	R .827	R .800	R .773	R .847	R .813	R .797	R .780
	G		1-3	1 3	1-3	1-3	1 3	1-3	1-3	1-3	1-3	1- 3
8	0 E		$^3_{ m R}$	$^3_{\mathbf{R}}$	$^3_{ m R}$	3	\mathbf{R}^3	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$
	v		.885	.875	.865	.870	.850	.830	.885	.860	.848	.835
	G N		$\frac{1-3}{3}$	$\frac{1}{3}$	13 3	1-3 3	1-3 3	$^{1-3}_3$	$^{1-3}_{3}$	1-3 3	$^{1-3}_{3}$	$\frac{1-3}{3}$
10	0 E V		R .908	$^{ m R}_{.900}$	R .892	R .896	.880	R .864	$^{ m R}_{.908}$.888	R .878	R .868
Fruck	No.	-	61	62	63	64	65	66	67	68	69	70
Wh. B			32	32	32	36	36	36	36	36	36	36
Axie Spicin	ig X		$\frac{12}{20}$	$\frac{12}{20}$	$\frac{12}{20}$	$\frac{12}{24}$	$\frac{12}{24}$	$\begin{array}{c} 12 \\ 24 \end{array}$	$\frac{12}{24}$	$\begin{array}{c} 12 \\ 24 \end{array}$	$\begin{array}{c} 12 \\ 24 \end{array}$	$\frac{12}{24}$
Load On	ล		.20 .30	.20 .40	.20 .50	.10	.19 .40	.10 .45	.10 .50	.20 .30	.20 .40	.20 .50
Axles	a:	3	.50	.40	.80	.60	.50	.45	.40	.50	.40	.30
	G N		3	3 3	$\frac{2}{2}$	3 3	3 3	3 3	2 2	$\frac{3}{3}$	3 3	$\frac{2}{2}$
1	10 E V		$_{.500}^{ m L}$	1. .400	$_{.500}$	L .600	$_{.500}^{ m L}$	$_{.450}^{ m L}$.500	L .500	$_{.400}^{ m L}$	$_{.500}$
	G		23	1 2	1 2	3	3	1-2	1-2	3	1-2	12
2	N 20 E		3 R	$^2_{ m R}$	$^2_{ m R}$	$^3_{ m L}$	3	$^2_{ m R}$	$^2_{ m R}$	$^3_{ m L}$	$^2_{ m R}$	$^2_{ m R}$
-	V G		$\frac{.500}{2 \cdot 3}$.480	.580 1-2	$\frac{.600}{2 \cdot 3}$.500	.490	.540	.500	.480	.580
	N		3	23 _2	2	3	2-3 3	$\substack{2-3\\2}$	$\begin{array}{c} 2-3 \\ 2 \end{array}$	$\frac{2-3}{3}$	$\overset{1-2}{\overset{2}{2}}$	$\frac{1-2}{2}$
3	0 E V		R .600	I. .534	$_{.620}^{ m R}$	R .660	$^{ m R}_{.580}$	$_{.540}^{\mathbf{L}}$	$_{.580}^{\mathbf{L}}$	R .560	R $.520$	R .620
	G		1 3	1-3	2-3	1-3	1 3	1-3	2-3	1-3	13	1-2
e 4	N 10 E		R	3 R	2 I.	R R	3 R	3 R	2 1,	$^3_{ m R}$	$^3_{ m R}$	$^2_{ m R}$
<u>-</u>	- V G		$\frac{.690}{1 \ 3}$	1 3	.650 13	.730 1-3	1 · 3	$\frac{.640}{1-3}$	2-3	.640 1-3	$\frac{.580}{1-3}$	$\frac{.640}{1-3}$
Span-	N 50 E		3 R	3	1	3	3	3	L L	3	3	1 L
	V		.752	.712	.688	R .784	$^{ m R}_{.736}$	R .712	.708	R .712	R .664	.664
	G N		1-3 3	1 3 3	1-3 1	1-3 3	13 3	1 -3	1-3	1-3	1-3	1-3
e	20 E	'	\mathbf{R}	\mathbf{R}	1.	R	\mathbf{R}	3 R	3 R	3 R	3 R	1 L
	$\frac{V}{G}$.793	.760 1 3	.740 1-3	.820 1-3	.780 13	.760 1-3	.740 13	.760 1-3	720 1-3	.720 1 3
	N	ſ	3	3	1	3	3	3	3	3	3	1
"	80 F V		R .845	.820	L 805	R .865	R .835	R .820	R .805	.820	R .790	$^{1.}_{.790}$
1	G		13	1 3	1-3	1-3	13	1-3	13	1 -3	1-3	1-3
			9	6)	1						4.6	_
10	N		3 R .876	3 R .856	1 L .844	3 R .892	3 R .868	3 R .856	3 R .844	3 R .856	8 R .832	1 L .832

42 METHOD OF CONVERTING HEAVY MOTOR VEHICLE LOADS

TABLE 7.3 (Continued)

			71		79	74	7-	70	77	70	70	νn
	. Base		40	72	73 40	40	75	76 40	<u>77</u>	78 44	79	80 -
Ax		X X'	12 28	12 28	12 28	12 28	12 28	12 28	12 28	12 32	12 32	12 32
Los		a1	.10	.10	.10	.10	.20	.20	.20	.10	.10	.10
On Ax	les	\mathbf{a}_2	.30 .60	.40 .50	$.45 \\ .45$.50 .40	.30 $.50$.40 $.40$.50 .30	.30 .60	$.40 \\ .50$	$.45 \\ .45$
		G	3	3	3	2	3	3	2	3	3	3
	10	N E	$^3_{ m L}$	$_{\mathbf{L}}^{3}$	$^3_{ m L}$	$^2_{ m L}$	3	$^3_{ m L}$	$^2_{ m L}$	$\frac{\Gamma}{3}$	3	$_{\mathbf{L}}^{3}$
- }		V G	3	$\frac{.500}{3}$		$\frac{.500}{1-2}$.500	$\frac{.400}{1-2}$.500 1-2	$\frac{.600}{3}$.500	$\frac{.450}{1-2}$
1		N	3	3	2 R	2	3	2	2 R	3	3	2 R
	20	$_{ m V}^{ m E}$.600	L .500	R .490	$rac{ extbf{R}}{.540}$	$_{.500}$	R .480	R .580	L .600	$_{.500}^{ m L}$	R .490
		G	2-3	2-3	1-2	1-2	$^{2-3}$	12	1 -2	3	3	1-2
	30	N E	$^3_{ m R}$	$_{\mathbf{R}}^{3}$	$^2_{ m R}$	$_{\rm R}^2$	$^3_{ m R}$	$^2_{ m R}$	$^2_{ m R}$	3	$_{\rm L}^3$	$^2_{ m R}$
		V G	.620 1-3	$\frac{.527}{1-3}$.510 1-3	2-3	.520	$\frac{.520}{1-2}$.620 1-2	$\frac{.600}{2-3}$	$-\frac{.500}{2-3}$	$\frac{.510}{2-3}$
ا يب		N	3	3	3	2 L	3	2	2	3	3	2 2 L
Fe	40	$_{ m V}^{ m E}$	$_{.690}^{ m R}$	$_{.620}^{ m R}$	$^{ m R}_{.585}$	$_{.620}^{ m L}$	$^{ m R}_{.590}$	R .540	R .640	R .661	R .581	$_{.540}^{ m L}$
Span-Feet		G	1-3	1-3	1-3	2-3	1-3	1-3	1-2	1 -3	1.3	1-3
Sp	50	N E	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^2_{ m L}$	$^3_{ m R}$	$^3_{f R}$	$^2_{ m R}$	$^3_{ m R}$	3 R	$^3_{ m R}$
		V G	.752 1-3	.696 1-3	.668 1-3	$\frac{.676}{2-3}$.672 1-3	$\frac{.616}{1-3}$	$\frac{.652}{1-3}$.720 1-3	$\frac{.656}{1-3}$	1-3
}		N	3	3	3	2	3	3	1	3	3	3
	60	\mathbf{v}	R .793	$^{ m R}_{.747}$	$^{ m R}_{.723}$	$^{ m L}_{.714}$	$^{ m R}_{.727}$	$^{ m R}_{.680}$	$_{.700}^{ m L}$	R .767	R .713	$^{ m R}_{.687}$
		G	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1 -3
	80	N E	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	3 R	$^3_{ m R}$	$^{1}_{ m L}$	$^{3}_{ m R}$	$^3_{ m R}$	$^3_{ m R}$
1		V G	.845 1-3	$-\frac{.810}{1-3}$	$\frac{.793}{1-3}$.775 1-3	$\frac{.795}{1-3}$		$\frac{.775}{1-3}$	$\frac{.825}{1-3}$.785 1~3	
i		N	3	3	3	3	3	3	1	3	3	3
	100	\mathbf{v}	$_{.876}^{\mathbf{R}}$	$^{ m R}_{.848}$	R .834	$^{ m R}_{.820}$	R .836	R .808	$^{ m L}_{.820}$	$^{ m R}_{.860}$	R .828	$_{.812}^{ m R}$
-												
Trv	ick Ne).	81	82	83	84	85	86	87	88	89	90
Wh	. Base	e L	44	44	44	44	24	24	24	24	24	24
$\frac{\mathbf{W}\mathbf{h}}{\mathbf{A}\mathbf{x}}$. Base											
What Ax Spa	. Base le .cing	2 L X X' a ₁	12 32 .10	12 32 .20	12 32 .20	12 32 .20	24 16 8 .10	24 16 8	24 16 8 .10	24 16 8 .10	24 16 8 .20	24 16 8 .20
Wh Ax Spa	i. Base le icing id	E L X X'	12 32	44 12 32	44 12 32 .20 .40 .40	44 12 32 .20 .50 .30	24 16 8	24 16 8	24 16 8	24 16 8	24 16 8	24 16 8
What Ax Spa Load On	i. Base le icing id	2 L X X' a ₁ a ₂ a ₃ G	44 12 32 .10 .50 .40	.20 .30 .50	44 12 32 .20 .40 .40	44 12 32 .20 .50 .30	24 16 8 .10 .30 .60	24 16 8 .10 .40 .50 2-3	24 16 8 .10 .45 .45	24 16 8 .10 .50 .40 2–3	24 16 8 .20 .30 .50 2-3	24 16 8 .20 .40 .40
What Ax Spa Load On	i. Base le icing id	X X' X' a ₁ a ₂ a ₃ G N E	44 12 32 .10 .50 .40 2 2 L	12 32 .20 .30 .50	44 12 32 .20 .40 .40	44 12 32 .20 .50 .30 2 2 L	24 16 8 .10 .30 .60 2 3 3 R	24 16 8 .10 .40 .50 2-3 3 R	24 16 8 .10 .45 .45 .2-3 2 L	24 16 8 .10 .50 .40 2–3 2	24 16 8 .20 .30 .50 2-3 3 R	24 16 8 .20 .40 .40 .2-3 2 L
What Ax Spa Load On	i. Base le acing id les	a ₁ a ₂ a ₃ G N E V	44 12 32 .10 .50 .40	44 12 32 .20 .30 .50	44 12 32 .20 .40 .40	44 12 32 .20 .50 .30	24 16 8 .10 .30 .60 2 -3 3 R .660	24 16 8 .10 .40 .50 2-3 3 R .580	24 16 8 .10 .45 .45 .45 2–3 2 L .540	24 16 8 .10 .50 .40 2–3 2 I. .580	24 16 8 .20 .30 .50 2-3 3 R .560	24 16 8 .20 .40 .40 .2 3 2 L .480
What Ax Spa Load On	i. Base le acing id les	a1 a2 a3 G N E V G N	44 12 32 .10 .50 .40 2 2 L .500 1-2 2	44 12 32 .20 .30 .50 3 L .500	32 .20 .40 .40 .3 3 I, .400	44 12 32 .20 .50 .30 2 1 .500 1-2	24 16 8 .10 .30 .60 2 -3 3 R .660 2-3 3	24 16 8 .10 .40 .50 2-3 3 R .580 2-3 3	24 16 8 .10 .45 .45 .45 2-3 2 L .540 2-3	24 16 8 .10 .50 .40 2–3 2 I. .580 2 3	24 16 8 .20 .30 .50 2-3 3 R .560 2-3 3	24 16 8 .20 .40 .40 2 3 2 L .480 2 3
What Ax Spa Load On	i. Base le acing id les	a1 a2 a3 G N E V	44 12 32 .10 .50 .40 2 2 L .500 1–2 2 R	44 12 32 .20 .30 .50 3 L .500 3 L .500	44 12 32 .20 .40 .40 3 3 L .400 1-2 R .480	44 12 32 .50 .50 .30 2 2 1 .500 1–2 2 R	24 16 8 .10 .30 .60 2 -3 3 R .660 2-3 3 R .780	24 16 8 .10 .40 .50 2-3 3 R .580 2-3 3 R .740	24 16 8 .10 .45 .45 .45 2-3 2 L .540 2-3 2 L	24 16 8 .10 .50 .40 2–3 2 I. .580 2 3 2 I. .740	24 16 8 .20 .30 .50 2-3 R .560 2-3 R .680	24 16 8 .20 .40 .40 .40 2 3 L .480 2 3 L .640
What Ax Spa Load On	i. Base le acing id les	E L X X/ a1 a2 a3 G N E V G N E V G	44 12 32 .10 .50 .40 2 2 L .500 1-2 2 R .540 1-2	44 12 32 .20 .30 .50 3 L .500 3 L .500 3	44 12 32 .20 .40 .40 3 1 .400 1–2 R .480 1–2 2	44 12 32 .20 .50 .30 2 2 L .500 1–2 ?	24 16 8 .10 .30 .60 2 -3 3 R .660 2-3 3 R .780	24 16 8 .10 .40 .50 2-3 3 R .580 2-3 3 R .740 1-3	24 16 8 .10 .45 .45 2-3 2 L .540 23 2 1, .720	24 16 8 .10 .50 .40 2-3 2 I. .580 2 3 2 I. .740 2-3	24 16 8 .20 .30 .50 2-3 3 R .560 2-3 3 R .680 1-3	24 16 8 .20 .40 .40 2 3 2 L .480 2 3 2 L .640 1-3
Whax Spa Loa On	i. Base le acing id les	a1 a2 a3 GNEV GNEV GNEE	44 12 32 10 .50 .40 2 L .500 1-2 2 R .540 1-2 2 R	32 .20 .30 .50 3 3 L .500 3 3 L .500 3 3 L	44 12 32 .20 .40 .3 3 L .400 1-2 2 R .480 1-2 2 R	44 12 32 .20 .50 .30 2 2 1 .500 1–2 2 R .580	24 16 8 .10 .30 .60 2 -3 3 R .660 2 -3 3 R .780	24 16 8 .10 .40 .50 2-3 3 R .580 2-3 3 R .740 1-3 3 R	24 16 8 .10 .45 .45 .45 2-3 2 L .540 2-3 2 L .720 1-3 3 R	24 16 8 .10 .50 .40 2-3 2 L .580 2 3 2 L .740 2-3 2 L	24 16 8 .20 .30 .50 2-3 3 R .560 2-3 3 R .680 1-3 3 R	24 16 8 20 40 40 2 3 2 L 480 2 3 2 L 640 1-3 3 R
Whax Spa Loa On	l. Basselle le	a1 a2 a3 GNEV GNEV GNEV	44 12 32 .10 .50 .40 2 L .500 1-2 2 R .540 1-2	32 .20 .30 .50 3 L .500 3 L .500	44 12 32 .20 .40 .40 3 1 .400 1–2 R .480 1–2 2	44 12 32 .50 .50 .30 2 L .500 1-2 2 R .580 1-2	24 16 8 .10 .30 .60 2 -3 3 R .660 2 -3 3 R .780	24 16 8 .10 .40 .50 2 -3 3 R .580 2 -3 3 R .740 1-3	24 16 8 .10 .45 .45 .45 2-3 L .540 2-3 L .720 1-3 3	24 16 8 .10 .50 .40 2-3 2 I. .580 2 2 I. .740 2-3 2 I. .740 2-3 2 I. .740	24 16 8 .20 .30 .50 2-3 3 R .560 2-3 3 R .680	24 16 8 .20 .40 .40 .40 2 3 2 L .480 2 3 2 L .640 1-3 3
Wt. Ax Space Loss On Ax	L. Baselle le	a1 a2 a3 GNEV GNEV GNEV GNEV	44 12 32 .10 .50 .40 .2 2 L .500 1-2 2 R .540 1-2 2 R .560 2-3 2	32 .20 .30 .50 .50 .500 .500 .500 .500 .500	44 12 32 .20 .40 .40 3 I. .400 1-2 2 R .480 1-2 2 R .520	44 12 32 .20 .50 .30 2 2 .500 1–2 2 R .620 1–2 2	24 16 8 .10 .30 .60 2 -3 3 R .660 2 -3 3 R .780 1 3 8 .840 1 3 3	24 16 8 .10 .40 .50 2-3 3 R .580 2-3 3 R .740 1-3 3 R .813	24 16 8 .10 .45 .45 .45 2 L .540 2-3 2 L .720 1 .3 3 R .800 1-3 3	24 16 8 .10 .50 .40 2-3 2 I. .740 2-3 2 I. .740 2-3 2 I. .793 1-3 3	24 16 8 .20 .30 .50 2-3 3 R .560 2-3 3 R .680 1-3 3 R .760	24 16 8 .20 .40 .40 .40 2 .3 2 L .480 2 .3 2 L .640 1-3 3 R .733 1-3 3
Wt. Ax Space Loss On Ax	l. Basselle le	a1 a2 a3 GNEV GNEV GNEV GNEV	44 12 32 .10 .50 .40 2 2 L .500 1-2 R .540 1-2 R .540 1-2 R .560 2 L .580 1-2 2 L .580 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2	32 .20 .30 .50 .500 .3 3 L .500 3 3 L .500 3 3 L .500 3 3 3 L .500 3 3 3 4 .500 3 3 3 4 .500 3 1 .500 3 1 .500 3 1 .500 3 1 .500 3 1 .500 3 1 .500 3 1 .500 3 1 .500 3 1 .500 3 1 .500 3 1 .500 3 1 .500 3 1 .500 3 1 .500 3 1 .500 3 1 .500 3 1 .500 3 1 .500 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3	44 12 32 .20 .40 .40 .3 3 I. .400 1-2 2 R .480 1-2 2 R .520	44 12 32 .50 .50 .50 .500 1–2 .580 1–2 .8 .620 1–2 .8 .620	24 16 8 .10 .30 .60 2 -3 3 R .780 1 3 8 .840 1 3 8 .840	24 16 8 .10 .40 .50 2-3 3 R .580 2-3 3 R .740 1-3 3 R .813 1-3 3 R	24 16 8 .10 .45 .45 .45 .45 .2-3 .2 .540 .720 1 .3 .800 .800 .850	24 16 8 .10 .50 .40 2-3 2 L .580 2 3 2 L .740 2-3 2 L .740 3 3 1-3 3 8 8 8	24 16 8 .20 .30 .50 2-3 3 R .560 2-3 3 R .680 1-3 3 R .760 1-3 8 .820	24 16 8 .20 .40 .40 .40 .480 2 3 2 L .640 1-3 8 R .733 1 3 8 R .800
Wt. Ax Space Loss On Ax	L. Baselle le	a1	44 12 32 .10 .50 .40 .2 .2 .1 .500 1-2 .2 .8 .540 1-2 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	3 3 L .500 3 3 L .500 2-3 3 R .560 1-3	44 12 32 .20 .40 .40 .40 .40 1-2 .2 R .520 1-2 .2 R .520 1-3	44 12 32 .20 .50 .30 2 2 L .500 1-2 2 R .620 1-2 2 R .620 1-2 2 R	24 16 8 .10 .30 .60 2 3 R .660 2 3 R .780 1 3 R .840 1 3 R .840 1 3 R	24 16 8 .10 .40 .50 2-3 3 R .580 2-3 3 R .740 1-3 8 .813 1-3 3 R .813	24 16 8 .10 .45 .45 .45 .45 .45 .45 .45 .45	24 16 8 .10 .50 .40 .40 .40 .2-3 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7	24 16 8 .20 .30 .50 2-3 3 R .560 2-3 3 R .680 1-3 3 R .760 1-3 8 .820 1-3	24 16 8 .20 .40 .40 .40 .40 .40 .40 .40 .4
Whax Spa Loa On	L. Baselle le	a1 A2 A3 A3 A4	44 12 32 .10 .50 .40 2 L .500 1–2 2 R .540 1–2 2 R .560 2–3 2 L .580 2 L .580 1–2 2 L .580 1–2 1–2 1–2 1–2 1–2 1–2 1–2 1–2	3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	44 12 32 .20 .40 .40 .40 1-2 .8 .480 1-2 .8 .520 1-2 .8 .520 1-3 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	44 12 32 .20 .50 .30 .2 .500 1-2 .8 .620 1-2 .8 .620 1-2 .8 .640 1-2 .8	24 16 8 .10 .30 .60 2 3 R .660 2 3 R .780 1 3 R .840 1 3 R .880 1 3 R	24 16 8 .10 .40 .50 2-3 3 R .580 2-3 3 R .740 1-3 3 R .813 1-3 3 R	24 16 8 .10 .45 .45 .45 .45 .45 .45 .45 .2-3 .2 .1 .720 1 .3 3 R .800 1-3 3 R .850 1-3 3 R	24 16 8 .10 .50 .40 2-3 2 1 .580 2 3 2 1 .793 1-3 3 8 840 1-3 3 R	24 16 8 .20 .30 .50 2-3 3 R .560 1-3 3 R .760 1-3 3 8 .760 1-3 3 8 .760	24 16 8 .20 .40 2 .3 2 L .480 1-3 3 R .733 1 .3 8 .800 1-3 3 R
Wt. Ax Space Loss On Ax	a. Basele acing ad les 10 20 30 40	2 L X X Y 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	44 12 32 32 10 .50 .500 1-2 R .540 1-2 2 R .540 2-3 2 L .581 2 -3 2 L .581 2 -3 2 L .581 2 -3 2 L .581	32 .20 .30 .50 .3 3 L .500 3 3 L .500 2-3 3 R .560 1-3 8 R .632 1-3	44 12 32 20 .40 .40 .40 3 3 I400 1-2 2 R .480 1-2 2 R .520 1-2 2 R .540 1-3 8 R .568	44 12 32 .20 .50 .30 2 2 1. .500 1-2 2 R .620 1-2 2 R .640 1-2 2	24 16 8 .10 .30 .60 2 -3 3 R .660 2 -3 3 R .780 1 3 8 .840 1 3 R .880 1 -3 3	24 16 8 .10 .40 .50 2-3 3 R .580 2-3 3 R .740 1-3 3 R .813 1-3 3 R .860 1-3 3	24 16 8 .10 .45 .45 .45 .45 .45 .2-3 2 L .540 2-3 2 L .720 1 -3 3 R .800 1-3 3 R .850 1-3 8 .850 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1-3	24 16 8 .10 .50 .40 2-3 2 L .580 2 3 2 L .740 2-3 2 L .793 1-3 3 R .840 1-3 3 3 1-3 3 3 3 1-3 3 1-3 3 1-3 3 3 3 3 4 3 4 3 4 3 4 4 4 5 6 6 7 8 8 8 8 8 8 8 8 8 8 8 8 8	24 16 8 .20 .30 .50 2-3 3 R .560 2-3 3 R .680 1-3 3 R .760 1-3 3 R .820	24 16 8 .20 .40 .40 .40 .40 .20 .480 2 3 2 L .640 1-3 3 R .800 1-3 3 R .800 1-3 8 R .840
Wt. Ax Space Loss On Ax	a. Bassale le acing ad les	2 L X X Y 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	44 12 32 .10 .50 .40 2 L .500 1–2 2 R .540 1–2 2 R .540 2–3 2 L .581 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	44 12 32 .20 .40 .40 .40 1-2 .8 .400 1-2 .8 .520 1-2 .8 .540 1-3 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	44 12 32 .20 .50 .30 2 2 L .500 1-2 .8 .620 1-2 .8 .620 1-2 .8 .620 1-2 .8 .620 1-2 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	24 16 8 .10 .30 .60 2 3 R .660 2 3 R .780 1 3 R .840 1 3 R .840 1 3 R .840 1 3 R	24 16 8 .10 .40 .50 2-3 3 R .580 2-3 3 R .740 1-3 3 R .813 1-3 3 R .860 1-3 3 R .8888 1-3 3	24 16 8 .10 .45 .45 .45 .2-3 .2 .540 2-3 .2 .720 1-3 3 R .800 1-3 3 R .880 1-3 3 R .880 1-3 3 8 8 8	24 16 8 .10 .50 .40 2-3 2 1 .580 2 3 2 1 .740 2-3 2 1 .793 1-3 3 8 840 1-3 8 872 1-3 3 8 872	24 16 8 .20 .30 .50 2-3 3 R .560 1-3 3 R .760 1-3 3 R .820 1-3 3 R .8256	24 16 8 .20 .40 .40 .2 3 .2 L .480 1-3 3 R .733 1-3 3 R 8.00 1-3 3 R 8.40 1-3
Wt. Ax Space Loss On Ax	a. Basele acing ad les 10 20 30 40	a1 a2 a3 GNEV GNEV GNEV GNEV GNEV CONEV CO	44 12 32 32 10 .50 .50 1-2 2 R .540 1-2 2 R .540 1-2 2 R .540 2-4 2 L .581 2 -3 2 L .581 2 L .581 2 -3 2 L .581 2 L .581	44 12 32 .20 .30 .50 3 3 L .500 3 3 L .500 2-3 3 R .560 1-3 3 R .693	44 12 32 .20 .40 .40 .3 3 I400 1-2 R .480 1-2 2 R .520 1-2 2 R .540 1-3 3 R .568	44 12 32 .20 .50 .30 .50 .30 1-2 .500 1-2 .8 .580 1-2 .620 1-2 .8 .640 1-2 .8 .652 1-3 1 L .680	24 16 8 .10 .30 .60 2 -3 3 R .660 2 -3 3 R .780 1 3 8 840 1 3 8 880 1 -3 3 R .840 1 3 8 R .840	24 16 8 .10 .40 .50 2-3 3 R .580 2-3 3 R .740 1-3 3 R .813 1-3 3 R .860 1-3 3 8 .860 1-3 3 8 .860 1-3 3 8 .860 1-3 3 8 .860 1-3 3 8 8 .860 1-3 3 8 8 .860 1-3 3 8 8 .860 1-3 3 8 8 .860 1-3 3 8 .860 1-3 .860 .860 1-3 .860 1-3 .860 1-3 .860	24 16 8 .10 .45 .45 .45 .45 .45 .2-3 .2 .1 .720 1 -3 .800 1-3 .850 1-3 .880 .880	24 16 8 .10 .50 .40 2-3 2 L .580 2 3 2 L .740 2-3 2 L .793 3 R .840 1-3 3 R .872 1-3 3 R .872 1-3 8 .872 1-3 8 .872 1-3 8 .872	24 16 8 .20 .30 .50 .50 2-3 3 R .560 2-3 3 R .680 1-3 3 R .820 1-3 3 R .820 1-3 3 R .856	24 16 8 .20 .40 .40 .40 .40 .20 .480 2 3 2 L .640 1-3 3 R .800 1-3 3 R .800 1-3 3 R .840 .84
Wt. Ax Space Loss On Ax	a. Bassale le acing ad les	a L X X X X A A A A A A A A A A A A A A A	44 12 32 .10 .50 .40 .500 1-2 2 R .540 1-2 2 R .560 2-3 2 L .581	3 2 .20 .30 .50 .3 3 L .500 .3 3 L .500 .3 3 L .500 .3 3 L .500 .2 .3 3 R .632 .1 .3 8 R .632 .1 .3 8 R .693 .1 .3	44 12 32 .20 .40 .40 .40 .40 .1-2 .2 .400 1-2 .2 .8 .520 1-2 .8 .520 1-3 .8 .8 .640 .640	44 112 32 .20 .50 .30 .2 2 L .500 1-2 R .620 1-2 R .620 1-2 R .640 1-2 L .680 1-3	24 16 8 .10 .30 .60 .60 .60 .60 .60 .780 1 3 .880 1 3 .840 1 3 .880 1 3 .880 .880 1 3 .880 1 3 .880 1 3 .880 .88	24 16 8 .10 .40 .50 2-3 3 R .580 2-3 3 R .740 1-3 3 R .813 1-3 3 R .860 1-3 3 R .888 1-3 9 1-3 1 1-3 1 1-3 1 1 1 1 1 1 1 1 1 1 1 1	24 16 8 .10 .45 .45 .45 .45 .45 .2-3 2 L .540 2-3 2 L .720 1-3 3 R .800 1-3 3 R .850 1-3 3 R .850 1-3 3 8 8 8 8 8 8 8 8 8 8 8 8 8	24 16 8 .10 .50 .40 .40 .2-3 2 L .580 2 3 2 L .740 2-3 2 L .793 1-3 8 .840 .872 1-3 8 .872 1-3 8 .893	24 16 8 .20 .30 .50 2-3 3 R .560 2-3 3 R .680 1-3 3 R .820 1-3 8 .856 1-3	24 16 8 .20 .40 .40 .23 .2 .480 .23 .2 .640 1-3 3 R .800 1-3 3 R .840 1-3 3 R .840 1-3 3 R .840 1-3 3 8 8 8 8 8 8 8 8 8 8 8 8 8
Wt. Ax Space Loss On Ax	a. Bass le acing ad dles 10 20 30 40	al Albania Alb	44 12 32 .10 .50 .40 2 L .500 1-2 2 R .540 1-2 2 R .540 2-3 2 L .581 2 3 2 L .581 2 - 1 .581 2 - 1 .58	3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	44 12 32 .20 .40 .40 .40 .400 1-2 .2 .8 .480 1-2 .2 .8 .520 1-3 .8 .8 .640 1-3 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	1-2 -2 -30 -50 -30 -2 -2 -30 -2 -2 -3 -3 -3 -3 -1 -2 -2 -3 -3 -3 -1 -2 -3 -3 -3 -3 -3 -3 -3 -3 -3 -3	24 16 8 .10 .30 .60 2 3 3 R .660 2 -3 3 R .780 1 3 3 R .840 1 -3 3 R .904 1 3 8 R .920	24 16 8 .10 .40 .50 .50 2-3 3 R .580 2-3 3 R .740 1-3 3 R .813 1-3 8 R .860 1-3 3 R .888 1-3 3 R .888 1-3 8 R .888	24 16 8 .10 .45 .45 .45 .2-3 .2 .1 .540 .720 1 .3 3 R .800 1-3 3 R .880 1-3 3 R .880 1-3 3 R .880 1-3 8 8 8 8 8 8 8 8 8 8 8 8 8	24 16 8 .10 .50 .40 2-3 2 1 .580 2 3 2 1 .740 2-3 2 1 .793 3 R .840 1-3 3 R .872 1-3 3 R .893 1-3 3 R	24 16 8 .20 .30 .50 2-3 3 R .560 1-3 3 R .760 1-3 3 R .820 1-3 3 R .856 1-3 3 R .8880 1-3 3 R	24 16 8 .20 .40 .40 .2 3 2 L .640 1-3 3 R .733 3 8 .800 1-3 3 8 .840 1-3 3 8 .840 1-3 3 8 .840 1-3 8 8 8 8 8 8 8 8 8 8 8 8 8
Wt. Ax Space Loss On Ax	1. Basic le	a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV	44 12 32 .10 .50 .40 .500 1-2 2 R .540 1-2 2 R .540 2-3 2 L .581 2 3 2 L .581 2 L .581	44 12 32 .20 .30 .50 3 L .500 3 3 L .500 2-3 3 R .500 1-3 3 R .693 1-3 3 R	44 12 32 32 .20 .40 .40 .3 3 L .400 1-2 2 R .520 1-2 2 2 R .540 1-3 3 R .640 1-3 3 R .730 1-3	44 12 32 .20 .50 .30 .2 2 L .500 1-2 R .620 1-2 R .620 1-2 L .680 1-3 L .680 1-3 1	24 16 8 .10 .30 .60 2 .3 .8 .660 2 -3 .8 .780 1 .3 .8 .840 1 .3 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	24 16 8 .10 .40 .50 2-3 3 R .580 2-3 3 R .740 1-3 3 8 .813 1-3 3 R .860 1-3 3 R .907 1-3 3	24 16 8 .10 .45 .45 .45 .45 .45 .45 .45 .45	24 16 8 .10 .50 .40 .40 .2-3 2 .580 2 3 2 .740 .793 .793 .840 .1-3 3 R .872 .1-3 3 R .893 .1-3 3 3 R .893	24 16 8 .20 .30 .50 2-3 3 R .560 2-3 8 .680 1-3 3 R .760 1-3 3 R .820 1-3 3 R .880 1-3 3 R .910	24 16 8 .20 .40 .40 .40 .40 .40 .40 .40 .4
Wt. Ax Space Loss On Ax	1. Basile le l	a1 a2 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	10 .50 .40 .50 .40 .50 .40 .50 .40 .50 .40 .50 .60 .50 .60 .50 .60 .60 .60 .60 .60 .60 .60 .60 .60 .6	3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	44 12 32 .20 .40 .40 .40 .1 .400 .1 .2 .2 .8 .480 .1 .2 .2 .8 .520 .1 .2 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	44 112 32 .20 .50 .30 .2 2 L .500 1-2 2 R .620 1-2 2 R .620 1-2 2 R .640 1-2 2 L .500 1-2 1 L .500 1-3 1 L .760 1-3 1	24 16 8 8 .10 .30 .60 2 3 8 .660 2 3 8 .780 1 3 8 .840 1 3 .840 1 3 .840 .840 1 3 .840 1 3 .840 .840 1 3 .840 1 3 .840 1 3 .840	24 16 8 .10 .40 .50 2-3 3 R .580 2-3 3 R .740 1-3 3 R .813 1-3 3 R .860 1-3 3 R .907 1-3 3 R .907	24 16 8 .10 .45 .45 .45 .2-3 .2 .540 2-3 .2 .1 .720 1-3 3 R .800 1-3 3 R .880 1-3 3 R .880 1-3 3 R .880 1-3 3 8 8 8 8 8 8 8 8 8 8 8 8 8	24 16 8 .10 .50 .40 2-3 2 1 .580 2 3 2 1 .740 2-3 2 1 .793 1-3 3 8 840 1-3 3 8 893 1-3 3 8 920 1-3 3 3 8	24 16 8 .20 .30 .50 2-3 3 R .560 2-3 3 R .760 1-3 3 R .820 1-3 3 R .856 1-3 3 R .910 1-3 3	24 16 8 .20 .40 .40 .23 .2 .480 1-3 3 8 .733 1-3 3 8 .840 1-3 3 8 .840 1-3 3 8 .840 1-3 3 8 .840 1-3 3 8 8 .840 1-3 3 8 8 .840 1-3 3 8 8 8 8 8 8 8 8 8 8 8 8 8
Wt. Ax Space Loss On Ax	1. Basic le	a1 a2 GNEVGNEVGNEVGNEVGNEVGNEVGNEVGNEVGNEVGNEV	44 12 32 .10 .50 .40 .500 1-2 2 R .540 1-2 2 R .540 2-3 2 L .581 2 3 2 L .581 2 - 1 .581 2 - 1 .58	44 12 32 .20 .30 .50 3 L .500 3 3 L .500 2-3 3 R .560 1-3 3 R .698 1-3 3 R .770	44 12 32 32 .20 .40 .40 .3 3 L .400 1-2 2 R .520 1-2 2 2 R .540 1-3 3 R .640 1-3 3 R .730 1-3	44 12 32 .20 .50 .30 .50 .30 1-2 2 R .620 1-2 2 R .640 1-2 2 R .640 1-2 1 L .680 1-3 1 L .760 1-3	24 16 8 8 .10 .30 .60 2 3 R .660 2 3 R .780 1 3 R .840 1 3 R .880 1 3 R .904 1 3 R .920 1 3 R .920 1 3 R	24 16 8 .10 .40 .50 2-3 3 R .580 2-3 3 R .740 1-3 3 R .813 1-3 3 R .860 1-3 3 R .8907 1-3 3 R .9907	24 16 8 .10 .45 .45 .45 .45 .45 .2-3 .2 .1 .720 1 -3 3 R .800 1-3 3 R .850 1-3 3 R .890 1-3 3 8 .890 1-3 3 8 .890 1-3 3 8 .890 1-3 3 8 .890 1-3 .890 1-3 .990 1-3 .890 .990	24 16 8 .10 .50 .40 2-3 2 L .580 2 3 2 L .740 2-3 2 L .793 1-3 3 R .840 1-3 3 R .893 1-3 3 R .893 1-3 3 R .920 1-3	24 16 8 .20 .30 .50 2-3 3 R .560 2-3 8 .680 1-3 3 R .760 1-3 3 R .820 1-3 3 R .880 1-3 3 R .910	24 16 8 .20 .40 .40 .40 .40 .40 .40 .40 .4

TABLE 7.3 (Continued)

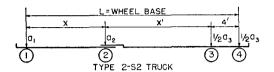
	1 37											
	uck N		91	92	93	94	95	96	97	98	99	100
$\frac{\mathbf{w} \mathbf{n}}{\mathbf{A} \mathbf{x}}$	ı. Bası		16	28	28 16	28 16	28 16	28	28	28	32 16	32 16
	ie acing	Х Х'	8	$\frac{16}{12}$	12	12	$\frac{16}{12}$	$^{16}_{12}$	$^{16}_{12}$	$^{16}_{12}$	16	16
Los		a ₁	.20	.10	.10	.10	.10	.20	.20	.20	.10	.10
On Ax		\mathbf{a}_2	.50 ,30	.30 .60	.40 $.50$	$.45 \\ .45$	$.50 \\ .40$.30 .50	$.40 \\ .40$.50 $.30$.30 $.60$.40 .50
Ī		G N	$\frac{2-3}{2}$	3	3	3	2 2	3	3	2 2	3	3 3
1	10	\mathbf{E}	\mathbf{L}	L	$^3_{ m L}$	$^3_{ m L}$	L	$^3_{ m L}$	$^3_{ m L}$	\mathbf{L}	\mathbf{L}	\mathbf{L}
		-V G	$\frac{.560}{2-3}$	$\frac{.600}{2-3}$.500 2-3	$\frac{.450}{2-3}$.500 2-3	2-3	.400 2-3	.500 2-3	.600 2-3	$\frac{.500}{2-3}$
		N	2	3	3	2	2	3	2	2	3	3
	20	\mathbf{v}	$_{.680}^{ m L}$	$^{ m R}_{.720}$	$_{.660}^{\mathbf{R}}$	$_{.630}^{\mathbf{L}}$	$_{.660}^{ m L}$	$_{.620}^{ m R}$	$_{.560}^{ m L}$	$_{.620}^{ m L}$	$^{ m R}_{.660}$	R .580
ľ		G	2-3	1-3	1-3	1-3	2-3	1-3	1-3	2-3	2-3	2-3
	30	N E	$^2_{ m L}$	$^3_{\mathbf{R}}$	$^3_{ m R}$	$^3_{ m R}$	$^2_{ m L}$	$^3_{f R}$	$^3_{ m R}$	$^2_{ m L}$	$^3_{ m R}$	$^3_{ m R}$
1		V	.720	.787	.747	.727	.740	.693	.653	.680	.740	.687
		G N	$\frac{1-3}{3}$	1-3 3	$_3^{1-3}$	$^{1-3}_3$	$^{1-3}_{3}$	$^{1-3}_3$	$^{1-3}_3$	$^{1-3}_{3}$	$_{3}^{1-3}$	1-3 3
<u>a</u>	40	E	R .780	R	\mathbf{R}	R	R	$^{\mathrm{R}}$	R	\mathbf{R}	R .800	\mathbf{R}
		G	1-3	$\frac{.840}{1-3}$.810 1-3	$\frac{.795}{1-3}$	$\frac{.780}{1-3}$.770 1-3	$\frac{.740}{1-3}$.710 1-3	1-3	.760 1-3
Span-Feet	۳0	N	3	3	3	3	3	3	3	3	3	\mathbf{R}^3
,	50	E V	$^{ m R}_{.824}$	$^{ m R}_{.872}$	$^{ m R}_{.848}$	$^{ m R}_{.836}$	$^{ m R}_{.824}$	$_{.816}^{ m R}$	$^{ m R}_{.792}$	$^{ m R}_{.768}$	$rac{\mathbf{R}}{.840}$.808
1		G	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3
	60	N E	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$
-		V	.853	.893	.873	.863	.853	.847	.827	.807	.867	.840
- }		G N	$^{1-3}_{3}$	$^{1-3}_{3}$	$^{1-3}_{3}$	$^{1-3}_{3}$	$\frac{1-3}{3}$	$^{1-3}_{3}$	$_3^{1-3}$	1-3 3	$^{1-3}_{3}$	$^{1-3}_3$
1	80	$_{ m V}^{ m E}$	R .890	R .920	$^{ m R}_{.905}$	$^{ m R}_{.898}$	$_{.890}^{ m R}$	$^{ m R}_{.885}$.870	$^{ m R}_{.855}$	$^{ m R}_{.900}$.880
ŀ		G	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3
	100	N E	$^3_{ m R}$	$^3_{f R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^{3}_{ m R}$
	100	v	,912	.936	.924	.918	.912	.908	.896	.884	.920	.904
_	ick No	э.	101	102	103	104	105	106	107	108	109	110
	. Base		32	32	32	32	32	36	36	36	36	36
Ax.		e L X X'	32 16 16		32 16 16							
Ax Spa Loa	le icing	X X'	16 16 .10	32 16 16 .10	32 16 16 .20	32 16 16 .20	32 16 16 .20	36 16 20 .10	36 16 20 .10	36 16 20 .10	36 16 20 .10	36 16 20 .20
Ax.	le acing ad	X X′	16 16	32 16 16	32 16 16	32 16 16	32 16 16	36 16 20	36 16 20	36 16 20	36 16 20	36 16 20
Ax Spa Loa On	le acing ad	X X' a ₁ a ₂ a ₃	16 16 .10 .45 .45	32 16 16 .10 .50 .40	32 16 16 .20 .30 .50	32 16 16 .20 .40 .40	32 16 16 .20 .50 .30	36 16 20 .10 .30 .60	36 16 20 .10 .40 .50	36 16 20 .10 .45 .45	36 16 20 .10 .50 .40	36 16 20 .20 .30 .50
Ax Spa Loa On	le acing ad	X X' a ₁ a ₂ a ₃ G N E	16 16 .10 .45 .45 .45	32 16 16 .10 .50 .40	32 16 16 .20 .30 .50	32 16 16 .20 .40 .40	32 16 16 .20 .50 .30	36 16 20 .10 .30 .60	36 16 20 .10 .40 .50	36 16 20 .10 .45 .45	36 16 20 .10 .50 .40 2 2	36 16 20 .20 .30 .50 3 3 L
Ax Spa Loa On	le acing ad les	X X' a ₁ a ₂ a ₃ G N E V	16 16 .10 .45 .45 .3 .L .450	32 16 16 .10 .50 .40 2 2 L	32 16 16 .20 .30 .50 3 L	32 16 16 .20 .40 .40 3 3 L	32 16 16 .20 .50 .30 2 2 L	36 16 20 .10 .30 .60 3 4 L	36 16 20 .10 .40 .50 3 L	36 16 20 .10 .45 .45 3 3 L	36 16 20 .10 .50 .40 2 2 L	36 16 20 .20 .30 .50 3 3 L
Ax Spa Loa On	le acing ad les	X X' a ₁ a ₂ a ₃ G N E V	16 16 .10 .45 .45 .3 3 L .450 2-3	32 16 16 .10 .50 .40 2 2 L .500 2-3 2	32 16 16 .20 .30 .50 3 L .500 2–3	32 16 16 .20 .40 .40 3 3 L .400	32 16 16 .20 .50 .30 2 2 L .500 2-2 2-3 2-3	36 16 20 .10 .30 .60 3 4 .600 2-3 3	36 16 20 .10 .40 .50 3 3 L .500	36 16 20 .10 .45 .45 .45 3 3 L .450	36 16 20 .10 .50 .40 2 2 L .500	36 16 20 .20 .30 .50 3 L .500
Ax Spa Loa On	le acing ad les	X X' a ₁ a ₂ a ₃ G N E V	16 16 .10 .45 .45 3 L .450 2-3 2	32 16 16 .10 .50 .40 2 2 L .500 2-3 2 L	32 16 16 .20 .30 .50 3 L .500 2–3 3 R	32 16 16 .20 .40 .40 3 3 L .400 2–3 2 L	32 16 16 .20 .50 .30 2 L .500 2–3 2 L	36 16 20 .10 .30 .60 3 3 L .600 2–3 3 R	36 16 20 .10 .40 .50 3 L .500 2-3 3 R	36 16 20 .10 .45 .45 .45 3 L .450 1-2 2 R	36 16 20 .10 .50 .40 2 2 L .500 1-2 R	36 16 20 .20 .30 .50 3 3 L .500 2-5 3 R
Ax Spa Loa On	le acing ad les	X X' a ₁ a ₂ a ₃ G N E V G N E	16 16 .10 .45 .45 .3 3 L .450 2-3 2 L .540	32 16 16 .10 .50 .40 2 2 L .500 2–3 2 L .581	32 16 16 .20 .30 .50 3 L .500 2-3 3 R .560 2-3	32 16 16 .20 .40 .40 3 3 L .400 2-3 2 L .480	32 16 16 .20 .50 .30 2 2 L .500 2–3 2 L	36 16 20 .10 .30 .60 3 3 L .600 2-3 8 .600	36 16 20 .10 .40 .50 3 3 L .500 2-3 R .500 2-3	36 16 20 .10 .45 .45 3 3 L .450 1-2 2 R .470 2-3	36 16 20 .10 .50 .40 2 2 L .500 1-2 2 R .520	36 16 20 .20 .30 .50 3 3 L .500 2-2 3 R .500
Ax Spa Loa On	le acing ad les 10	X X' a1 a2 a3 G N E V G N E V G N	16 16 .10 .45 .45 .3 .3 .L .450 .2–3 .2 .540 .2–3	32 16 16 .10 .50 .40 2 L .500 2-3 2-1 L .581 2-3	32 16 16 .20 .30 .50 3 L .500 2-3 R .560 2-3 3	32 16 16 .20 .40 .40 3 3 L .400 2-3 2 L .480 2-8 2	32 16 16 .20 .50 .30 2 L .500 2-3 2 L .560 2-3 2-3 2-3	36 16 20 .10 .30 .60 3 L .600 2-3 R .600 2-3 3	36 16 20 .10 .40 .50 3 L .500 2-3 R .500 2-3 3	36 16 20 .10 .45 .45 3 L .450 1-2 2 R .470 2-3	36 16 20 .10 .50 .40 2 2 L .500 1-2 2 R .520 2-3	36 16 20 .30 .50 3 3 L .500 2-5 3 R .500
Ax Spa Loa On	le acing ad les	X X' a1 a2 a3 G N E V G N E V G N E V V C G N E V V C G N E V C G N E V	16 16 .10 .45 .45 .3 3 L .450 2-3 2 L .540 2-3 2 L	32 16 16 .10 .50 .40 2 L .500 2-3 2 L .581 2-3 2 L .687	32 16 16 .20 .30 .50 3 L .500 2-3 3 R .560 2-3 8 R	32 16 16 .20 .40 .40 .40 3 L .400 2-3 2 L .480 2-3 2 L .587	32 16 16 .20 .50 .30 2 L .500 2-3 2 L .560 2-3 2 L .640	36 16 20 .10 .30 .60 3 L .600 2-3 3 R .600 2-3 3 R	36 16 20 .10 .40 .50 3 L .500 2-3 3 R .500	36 16 20 .10 .45 .45 .45 3 L .450 1-2 2 R 470 2-3 2 L	36 16 20 .10 .50 .40 2 2 L .500 .40 2 2 R 8 2 2 2 2 2 2 2 2 2 2 2 2 2	36 16 20 .30 .50 .50 .500 2-5 3 R .500 2-6 3 R
Ax Spa Loa On Axl	le acing ad les 10	X X' a1 a2 a3 G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V	16 16 .10 .45 .45 .3 .3 .L .450 .2–3 .2 .L .540 .2–3 .2 .L .660 .1–3	32 16 16 .10 .50 .40 2 L .500 2–3 2 L .581 2–3 2 L .687 2–3	32 16 16 20 30 .50 50 2-3 3 R .560 2-3 3 R .560 2-3 1 R	32 16 16 20 .40 .40 3 3 L .400 2-3 2 L .480 2-3 2 L .587 1-3	32 16 16 .20 .50 .30 2 L .500 2-3 2 L .560 2-3 2 L .560 2-3 2 2 3 4 2 4 2 3 4 4 5 6 6 6 7 8 8 8 8 8 8 8 8 8 8 8 8 8	36 16 20 .10 .30 .60 3 3 L .600 2-3 3 R .600 2-3 8 .700	36 16 20 .10 .40 .50 3 3 L .500 2-3 3 R .500 2-3 8 .634 1-3	36 16 20 .10 .45 .45 .45 3 3 L .450 1-2 2 R .470 2-3 L .600 1-3	36 16 20 .10 .50 .40 2 2 L .500 1-2 2 R .520 2-3 2 L .634 2-3	36 16 20 .20 .50 .50 3 3 L .500 2-5 3 R .500 2-5 3 R .600 1-3
Ax Spa Loa On Axl	le acing ad les 10	X X' a ₁ a ₂ a ₃ G N E V G N E V G N E V G N E V	16 16 10 .45 .45 .45 .450 2-3 2 L .540 2-8 2 L .660 1-3 3 R	32 16 16 .10 .50 .40 2 2 L .500 2–3 2 L .581 2–3 2 L .687 2–3 2 L	32 16 16 120 30 .50 3 3 L .500 2-3 3 R .560 2-3 3 R .640 1-3 3 R	32 16 16 .20 .40 .40 3 3 L .400 2-3 2 L .480 2-3 2 L .587 1-3 3 R	32 16 16 16 .20 .50 .30 2 2 L .500 2–3 2 L .560 2–3 2 L .560 2–3 2 L .560 2–3 2 L .560 2–3 2 L .560 2–3 2 L .560 2–3 2 L .560 2–3 2 L .560 2–3 2 L .560 2–3 2 2 L .560 2–3 2 2 2 2 2 2 2 2 2 2 2 2 2	36 16 20 .10 .30 .60 3 3 L .600 2-3 3 R .600 2-3 3 R .700	36 16 20 .10 .40 .50 3 3 L .500 2-3 3 R .500 2-3 3 R .634 1-3 3 R	36 16 20 .10 .45 .45 .45 .450 1-2 2 R .470 2-3 2 L .600 1-3 3 R	36 16 20 .10 .50 .40 2 2 L .500 1-2 2 R .520 2-3 2 L .6344 2-3 2 L	36 16 20 .20 .30 .50 3 3 L .500 2-5 3 R .500 2-5 3 R .600
Ax Spa Loa On Axl	le acing ad les 10 20 30	X X' a1 a2 a3 G N E V G S O S O S O S O S O S O S O S O S O S	16 16 10 .45 .45 .45 3 3 L .450 2-3 2 L .540 2-3 2 L .660 1-3 3 R .740	32 16 16 .10 .50 .40 2 L .500 2–3 2 L .581 2–3 2 L .687 2–3 2 L .687	32 16 16 20 30 50 3 3 L 500 2-3 3 R 560 2-3 3 R 640 1-3 3 R 720	32 16 16 20 .40 .40 3 3 L .400 2-3 2 L .480 2-3 2 L .587 1-3 3 R	32 16 16 .20 .50 .30 2 L .500 2-3 2 L .560 2-3 2 L .540 2-3 2 L .560 2-3 2 L .560 2-3 2 L .560 2-3 2 L .560 2-3 2 L .560 2-3 2 L .660 2-3 2 2 2 .660 2-3 2 2 2 2 2 2 2 2 2 2 2 2 2	36 16 20 .10 .30 .60 3 3 L .600 2-3 3 R .600 2-3 3 R .700 1 3 8 .700	36 16 20 .10 .40 .50 2-3 3 R .500 2-3 8 R .634 1-3 3 R .710	36 16 20 .10 .45 .45 .45 .450 1-2 2 R .470 2-3 2 L .600 1-3 3 R	36 16 20 .10 .50 .40 2 2 L .500 1-2 2 R .520 2-3 2 L .634 2-3 2 L .700	36 16 20 .20 .50 .50 3 3 L .500 2-5 3 R .500 2-5 3 R .600
Ax Spa Loa On Axl	le acing ad les 10 20 30 40	X X X A 1 A 2 A 2 A 3 A 3 A 5 A 5 A 5 A 5 A 5 A 5 A 5 A 5	16 16 10 .45 .45 .45 .3 3 .1 .450 .2 2 2 .540 .2 -3 2 .1 .660 .1 -3 3 R.740 .1 -3 3 R.740	32 16 16 .10 .50 .40 2 2 L .500 2–3 2 L .581 2–3 2 L .687 2–3 2 L .740	32 16 16 16 20 30 50 3 3 L 500 2-3 3 R 560 2-3 3 R 720 1-3 3 R	32 16 16 .20 .40 .40 3 3 L .400 2-3 2 L .480 2-3 2 L .587 1-3 3 R .680 1-3	32 16 16 .20 .50 .30 .500 2-3 2 L .500 2-3 2 L .540 2 3 2 L .640 2 3 2 L .680 1 3	36 16 20 .10 .30 .60 3 3 L .600 2-3 3 R .600 2-3 3 R .700	36 16 20 .10 .40 .50 3 3 L .500 2-3 R .500 2-3 R .634 1-3 R .710	36 16 20 .10 .45 .45 .3 3 L .450 1-2 2 R .470 2-3 2 L .600 1-3 3 R .685 1-3	36 16 20 .10 .50 .40 2 2 L .500 1-2 2 R .520 2-3 2 L .6344 2-3 2 L .7000 2-3 2	36 16 20 .30 .50 3 3 L .500 2-5 3 R .600 1-3 3 R .670
Ax Spa Loa On Axl	le acing ad les 10 20 30	X X' a1 a2 a3 G NE V G NE V G NE V G NE V	16 16 10 .45 .45 .45 3 3 L .450 2-3 2 L .540 2-3 2 L .660 1-3 8 R	32 16 16 .10 .50 .40 2 2 L .500 2–3 2 L .581 2–3 2 L .687 2–3 2 L .687 2–3 2 1 .687 1–1 .740 .740 1–1 .740 1–1 .740 1–1 .740 1–1 .740 1–1 .740 1–1 .740 1–1 .740 1–1 .740 1–1 .740 1–1 .740 1–1 .740 1–1 .740 1–1 .740 1–1 .740 1–1 .740 1–1 .740 1–1 .740 .740 1–1 .740 .74	32 16 16 120 30 .50 2-3 3 1 .500 2-3 3 R .560 2-3 3 R .640 1-3 3 R	32 16 16 16 .20 .40 .40 .40 2-3 2 L .480 2-3 2 L .587 1-3 8 .680 1-3	32 16 16 .20 .50 .30 2 L .500 2-3 2 L .560 2-3 2 L .5640 2 3 2 L .640 1 3	36 16 20 .10 .30 .60 3 3 L .600 2-3 3 R .600 2-3 3 R .700 1 - 3 8 .700 1 - 3	36 16 20 .10 .40 .50 3 3 L .500 2-3 3 R .500 2-3 3 R .503 4 1-3 8 .710	36 16 20 .10 .45 .45 .45 .450 1-2 2 R .470 2-3 2 L .600 1-3 8 .685 1-3	36 16 10 20 .10 .50 .40 2 2 L .500 1-2 2 R .520 2-3 2 L .634 2-3 2 L .700 2-3	36 16 20 .30 .50 3 3 L .500 2–5 3 R .500 1–3 3 R
Ax Spa Loa On Axl	le acing ad les 10 20 30 40	X X' a1 a2 a3 G N E V G N E V G N E V G N N E V G N N E V G N N E V G N N E V G N N E V G N N E V G N N E V G N N E V G N N E V V G N N E V V G N N E V V	16 16 10 .45 .45 .45 .45 .23 .450 .2-3 .2 .540 .2-3 .2 .540 .2-3 .8 .740 .1-3 .8 .740 .1-3 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	32 16 16 .10 .50 .40 2 2 L .500 2–3 2 L .581 2–3 2 L .687 2–3 2 L .740 1–3 8 R	32 16 16 16 16 16 16 16 16 16 16	32 16 16 .20 .40 .40 3 3 L .400 2-3 2 L .480 2-3 2 L .587 1-3 3 R .680 1-3 3 R	32 16 16 .20 .50 .30 2 2 L .500 2–3 2 L .540 2 3 2 L .640 2 3 2 L .680 1 3 8 R .712	36 16 20 .10 .30 .60 3 3 L .600 2-3 3 R .600 2-3 3 R .700 1 3 3 R .700 1 3 8 .800 2 - 3 8 .800 2 - 3 8 .800 2 - 3 8 .800 1 - 3 8 .800 1 - 3 8 .800 1 - 3 8 .800 1 - 3 8 .800 1 - 3 8 .800 1 - 3 .800 1 - 3 .800 .80	36 16 20 .10 .40 .50 3 3 L .500 2-3 3 R .500 2-3 3 R .634 1-3 3 8 .710 1-3 8 .768 1-3	36 16 20 .10 .45 .45 .45 .450 1-2 2 R .470 2-3 2 L .600 1-3 3 R .685 1-3 R	36 16 20 .10 .50 .40 2 2 L .500 1-2 2 R .520 2-3 2 L .6344 2-3 2 L .700 2-3 2 L .740 1-3	36 16 20 .30 .50 .50 2-5 3 R .500 2-5 3 R .500 1-3 3 R .670 1-3 3 R .670
Ax Spa Loa On Axl	le acing ad les 10 20 30 40	X X X	16 16 10 .45 .45 .45 .45 .2 .3 .450 .2 .3 .2 .540 .2 .3 .2 .4 .540 .2 .3 .4 .5 .4 .6 .6 .6 .6 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7	32 16 .10 .50 .40 .2 .1 .500 2-3 2-3 2-1 .581 2-3 2-1 .687 2-3 2-1 .740 1-3 3-8 R776	32 16 16 .20 .30 .50 2-3 3 R .500 2-3 3 R .640 1-3 3 R .720	32 16 16 16 20 .40 .40 .40 2-3 2-1 .480 2-3 2-1 .587 1-3 3 8 .680 1-3 3 R .744	32 16 16 .20 .50 .30 .30 2 2 L .500 2-3 2 L .560 2-3 2 L .640 2 3 2 L .640 2 3 3 R .712	36 16 20 .10 .30 .60 2-3 3 R .600 2-3 3 R .700 1 - 3 3 R .700 1 - 3 3 R	36 16 20 .10 .40 .50 2-3 3 L .500 2-3 3 R .500 2-3 3 R .500 1-3 3 R .500 1-3 3 1-3 3 1-3 3 1-3 3 3 1-3 3 3 1-3 3 3 3 3 1-3 3 3 3 3 3 4 3 3 3 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4 3 4 4 4 5 4 5 4 5 4 5 6 6 6 6 7 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8	36 16 20 20 3 3 3 L .450 1-2 2 R .470 2-3 2 L .600 1-3 3 R .685 1-3 3 R	36 16 20 10 .50 .40 2 2 L .500 1-2 2 R .520 2-3 2 L .634 2-3 2 L .700 2-3 2 L .740 1-3 3 R	36 16 20 .30 .50 .50 3 3 L .500 2-; 3 3 R .600 1-3 3 R .670 1-3 3 R
Ax Spa Loa On Axl	10 20 30 40 50	X X X	16 16 16 10 .45 .45 .45 .23 .450 .2-3 .2 .540 .2-3 .2 .540 .2-3 .8 .740 .1-3 .8 .740 .1-3 .8 .740 .1-3 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	32 16 16 .10 .50 .40 2 2 L .500 2–3 2 L .581 2–3 2 L .687 2–3 2 L .740 1–3 3 R .776 1–3 3 R	32 16 16 16 16 16 16 16 16 16 16	32 16 16 .20 .40 .40 3 3 L .400 2-3 2 L .480 2-3 2 L .587 1-3 3 R .680 1-3 3 R .787	32 16 16 16 16 16 16 16 16 16 16	36 16 20 .10 .30 .60 3 3 L .600 2-3 3 R .600 2-3 3 R .700 1-3 3 R .760 1-3 8 .808 1-3 8 R .840	36 16 20 .10 .40 .50 3 3 L .500 2-3 R .500 2-3 8 R .634 1-3 3 R .710 1-3 8 R .768 1-3 3 R .807	36 16 20 10 .45 .45 .45 3 3 L .450 1-2 2 R .470 2-3 2 L .600 1-3 3 R .685 1-3 8 .748 1-3 8 .790	36 16 20 .10 .50 .40 2 2 L .500 1-2 2 R .520 2-3 2 L .700 2-3 2 L .700 1-3 3 R .773	36 16 20 .30 .50 .50 .50 .50 .50 .50 .50 .50 .50 .5
Ax Spa Loa On Axl	10 20 30 40 50	X X X	16 16 16 10 .45 .45 .45 3 3 L .450 2-3 2 L .540 2-3 2 L .660 1-3 8 R .740 1-3 8 R .792 1-3 8 8 .827	32 16 .10 .50 .40 2 2 L .500 2-3 2 L .581 2-3 2 L .687 2-3 2 L .687 1-3 3 R .813 1-3	32 16 16 .20 .30 .50 2-3 3 R .500 2-3 3 R .640 1-3 3 R .776 1-3 3 R .776 1-3 3 1-3	32 16 .20 .40 .40 .40 .2-3 .400 .2-3 .440 .2-3 .2 .480 .2-3 .2 .587 .1-3 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	32 16 16 .20 .50 .30 2 L .500 2-3 2 L .540 2 3 2 L .640 2 3 2 L .680 1 3 3 R .712 1-3 .712	36 16 20 .10 .30 .60 2-3 3 R .600 2-3 3 R .700 1 -3 3 R .808 1-3 8 8 .840 1-3	36 16 16 16 20 .10 .40 .50 3 3 L .500 2-3 3 R .500 2-3 3 R .710 1-3 3 R .768 1-3 3 R .807 1-3	36 16 16 20 .10 .45 .45 .45 .450 1-2 2 R 470 2-3 2 L .600 1-3 3 R 8.5 1-3 3 R .748 1-3 3 R .790 1-3	36 16 16 17 10 10 10 10 10 10 10 10 10 10 10 10 10	36 16 20 .30 .50 .50 .50 .50 .50 .50 .60 .60 .67 .73 .8 .73 .8 .73 .8 .73 .73 .73 .73 .73 .73 .73 .73 .73 .73
Ax Spa Loa On Axl	10 20 30 40 50	X X X 1 a 1 a 2 a 3 G N E V V G N E V V G N E V V G N E V V G N E V V G N E V C G N E	16 16 16 10 .45 .45 .3 3 L .450 2-3 2 L .540 2-3 2 L .660 1-3 3 R .740 1-3 3 R .792 1-3 3 R .827	32 16 .10 .50 .40 .2 .1 .500 2-3 .1 .550 2-3 .1 .687 2-3 .1 .776 1-3 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	32 16 .20 .30 .50 3 3 L .500 2-3 3 R .640 1-3 3 R .720 1-3 3 R .776 1-3 3 R .776 1-3 3 R	32 16 .20 .40 .40 .40 .400 .400 .4400 .4400 .2-3 .2-4 .4800 .2-3 .2-3 .2-3 .3-3 .8-8.0 .1-3 .8-8.0 .7-44 .1-3 .8-7.7 .7-3 .8-7.7 .7-3 .8-7.7 .7-3 .8-7.7 .7-3 .8-7.7 .7-3 .8-7.7 .8-7	32 16 .20 .50 .30 2 L .500 2-3 L .540 2 3 2 L .640 2 3 2 L .640 1 3 R .712 1-3 R	36 16 20 .10 .30 .60 3 3 L .600 2-3 3 R .600 2-3 3 R .700 1-3 3 R .808 1-3 3 R .808 1-3 8 .808 1-3 8 .808 1-3 8 .808	36 16 16 20 .10 .40 .50 .50 3 3 L .500 2-3 3 R .634 1-3 3 R .710 1-3 3 R .768 1-3 3 R .807 1-3 3 R	36 16 20 .10 .45 .45 .45 .45 .450 1-2 .470 2-3 .2 .600 1-3 .8 .8 .748 1-3 .8 .748 1-3 .8 .790 1-3 .8 .8 .790 1-3 .8 .8	36 16 16 16 17 10 10 10 10 10 10 10 10 10 10 10 10 10	36 16 20 20 30 50 50 50 2-5 3 8 R 600 1-3 3 8 R 736 670 1-3 8 R 736 1-3 8 R 736 1-3 8 R 736 1-3 8 746 1-3 8 747 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1-3
Ax Spa Loa On Axl	10 20 30 40 60	X X X a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	16 16 16 10 .45 .45 .45 .3 3 L .450 2-3 2 L .540 2-3 2 L .660 1-3 8 R .792 1-3 8 R .827 1-3 8 R .827	32 16 16 .10 .50 .40 .50 2 L .500 2-3 2 L .587 2-3 2 L .687 2-3 2 L .740 1-3 3 R .813 1-3 3 R	32 16 16 16 16 16 16 16 16 16 16	32 16 16 16 16 20 .40 .40 2-3 2 L .480 2-3 2 L .587 1-3 3 R .744 1-3 3 R .787 1-3 3 R .787	32 16 16 .20 .50 .30 2 L .500 2-3 2 L .560 2-3 2 L .640 2 3 2 L .640 1 3 3 R .712 1-3 3 R .712 1-3 3 R	36 16 20 .10 .30 .60 3 3 L .600 2-3 3 R .600 2-3 3 R .700 1 -3 3 R .808 1-3 3 R .84 .840 1-3 3 R .880	36 16 20 .10 .40 .50 3 3 L .500 2-3 3 R .500 2-3 3 R .500 1-3 3 R .768 1-3 3 R .807 1-3 3 R .807	36 16 20 .10 .45 .45 .45 .450 1-2 2 R .470 .2-3 2 L .600 1-3 3 R .685 1-3 3 R .748 1-3 3 R .798 .798	36 16 16 17 10 10 10 10 10 10 10 10 10 10 10 10 10	36 16 20 .30 .50 .50 .50 .500 2-5 .500 2-5 .500 1-3 .8 .670 1-3 .8 .736 1-3 .8 .736 1-3 .8 .736 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1-3
Ax Spa Loa On	10 20 30 40 60	X X X 1 a 1 a 2 a 3 G N E V V G N E V V G N E V V G N E V V G N E V V G N E V C G N E	16 16 16 10 .45 .45 .3 3 L .450 2-3 2 L .540 2-3 2 L .660 1-3 3 R .740 1-3 3 R .792 1-3 3 R .827	32 16 .10 .50 .40 .2 .1 .500 2-3 .1 .550 2-3 .1 .687 2-3 .1 .776 1-3 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	32 16 .20 .30 .50 3 3 L .500 2-3 3 R .640 1-3 3 R .720 1-3 3 R .776 1-3 3 R .776 1-3 3 R	32 16 .20 .40 .40 .40 .400 .400 .4400 .4400 .2-3 .2-4 .4800 .2-3 .2-3 .2-3 .3-3 .8-8.0 .1-3 .8-8.0 .7-44 .1-3 .8-7.7 .7-3 .8-7.7 .7-3 .8-7.7 .7-3 .8-7.7 .7-3 .8-7.7 .7-3 .8-7.7 .8-7	32 16 .20 .50 .30 2 L .500 2-3 L .540 2 3 2 L .640 2 3 2 L .640 1 3 R .712 1-3 R	36 16 20 .10 .30 .60 3 3 L .600 2-3 3 R .600 2-3 3 R .700 1-3 3 R .808 1-3 3 R .808 1-3 8 .808 1-3 8 .808 1-3 8 .808	36 16 16 20 .10 .40 .50 .50 3 3 L .500 2-3 3 R .634 1-3 3 R .710 1-3 3 R .768 1-3 3 R .807 1-3 3 R	36 16 20 .10 .45 .45 .45 .45 .450 1-2 .470 2-3 .2 .600 1-3 .8 .8 .748 1-3 .8 .748 1-3 .8 .790 1-3 .8 .8 .790 1-3 .8 .8	36 16 16 16 17 10 10 10 10 10 10 10 10 10 10 10 10 10	36 16 20 20 30 50 50 50 2-8 3 R 600 1-3 3 R 8 R 670 1-3 3 R 736 1-3 3 R

44 METHOD OF CONVERTING HEAVY MOTOR VEHICLE LOADS

			Continue									
	ck No Base		111 36	112 36	113 40	114	115	116	117	118	119 40	120
Ax	e	X	16	16	16	16	16	16	16	$\frac{40}{16}$	16	16
Spa	cing	X'	20	20	24	24	24	24	24	24	24	28
Loa		81 82	.20 .40	.20 .50	.10 .30	.10 .40	.10 .45	.10 .50	.20	.20 .40	.20 .50	.10 .30
Ax	les	a ₃	.40	.30	.60	.50	.45	.40	.50	.40	.30	.60
		G N	3	2 2	3 3	3 3	3 3	2 2	3 3	3 3	2 2	8 3
	10	E V	.400	.500	$^{ m L}_{ m .600}$.500	$_{.450}$.500	$_{.500}^{ m L}$.400	.500	.600
		G	1-2	1-2	3	3	1-2	1-2	3	1-2	1-2	3
- 1	20	N E	2 R.	$^2_{ m R}$	3	3 L	$^2_{ m R}$	$^2_{ m R}$	$^3_{f L}$	$^2_{ m R}$	$^2_{ m R}$	3 L
-		v	.440	.540	.600	.500	.470	.520	.500	.440	.540	.600
		G N	2-3	2-3 2	2-3 3	2-3 3	$\frac{2-3}{2}$	2-3	2-3	1-2	1-2	2-3 3
l	30	E	L	${f L}$	R	\mathbf{R}	L	L	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}
		G	.534 13	.600 2-3	1-3	.580 1-3	.540 1-3	2-3	.560 1-3		$\frac{.594}{2-3}$	2-3
ايد	40	N	3	2	3	3	3	2	3	3	2	3
F.	40	\mathbf{v}	$_{.620}^{ m R}$	$_{.650}^{ m L}$	$^{ m R}_{.720}$	$_{.660}^{ m R}$	$_{f .630}^{ m R}$.660	R .620	R .560	.620	R .690
Span-Feet		G	1-3	2-3	1-3 3	1-3	1-3	2-3	1-3	1-3	2-3 2	1-3
Sp	50	N E	$^3_{ m R}$	L	\mathbf{R}	\mathbf{R}	$^3_{ m R}$	$^2_{ m L}$	\mathbf{R}	$^{3}_{ m R}$	L	\mathbf{R}
]		- V G		$\frac{.680}{1-3}$.776 1-3	.728 13	704 1-3	.708 2-3	.696 1-3		.656 2-3	
1		N	3	3	3	3	3	2 L	3	3	2	3
ĺ	60	\mathbf{v}	R .747	R .713	R .813	R .773	$^{ m R}_{.753}$	$^{ m L}_{.740}$	R .747	R .707	.680	R .787
		G	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3	1-3
	80	N E	$^3_{f R}$	$^3_{ m R}$	$^{3}_{ m R}$	$^{3}_{ m R}$	$^3_{ m R}$	$^{3}_{ m R}$	$^3_{ m R}$	3 R	3 R	$^3_{ m R}$
		v	.810	.785	.860	.830	.815	.800	.810	.780	.750	.840
		G N	$^{1-3}_{3}$	1-3 3	$_{3}^{1-3}$	$^{1-3}_3$	1~3 3	$^{1-3}_{3}$	1-3 3	1-3 3	1-3 3	$^{1-3}_{3}$
	100	E	R .848	$_{.828}^{\mathbf{R}}$	$_{.888}^{ m R}$	R .864	$^{ m R}_{.852}$	$_{.840}^{\mathrm{R}}$	R .848	R .824	.800	R .8 72
Tr	ıck N	0.	121									
	ıck N		121 44	122	123 44	124 44	125	126 44				
WI	ı. Bas- le	e L X	44 16	122 44 16	123 44 16	124 44 16	125 44 16	126 44 16				
WI	ı. Bas le acing	e L	44	122 44	123 44	124 44 16 28	125 44	126 44				
Ax Sp: Lo On	n. Bas le acing ad	E L X X' a ₁ a ₂	16 28 .10 .40	122 44 16 28 .10 .45	123 44 16 28 .10 .50	124 44 16 28 .20 .30	125 44 16 28 .20 .40	126 44 16 28 .20 .50				
Ax Sp: Lo On	n. Bas- le acing ad	e L X X' a ₁ a ₂ a ₃ G	16 28 .10 .40 .50	122 44 16 28 .10 .45 .45	123 44 16 28 .10 .50 .40	124 44 16 28 .20 .30 .50	125 44 16 28 .20 .40 .40	126 44 16 28 .20 .50 .30				
Ax Sp: Lo On	n. Bas- le acing ad les	e L X X' a ₁ a ₂ a ₃ G	16 28 .10 .40 .50	122 44 16 28 .10 .45 .45	123 44 16 28 .10 .50 .40	124 44 16 28 .20 .30 .50	125 44 16 28 .20 .40 .40	126 44 16 28 .20 .50 .30				
Ax Sp: Lo On	n. Bas le acing ad	E L X X' a1 a2 a3 G N E V	16 28 .10 .40 .50 3 3 L	122 44 16 28 .10 .45 .45 .3 3 L	123 44 16 28 .10 .50 .40 2 2 L .500	124 44 16 28 .20 .30 .50	125 44 16 28 .20 .40 .40 .3 3 L	126 44 16 28 .20 .50 .30 2 2 L				
Ax Sp: Lo On	n. Bas- le acing ad les	e L X X, a ₁ a ₂ a ₃ G N E V	44 16 28 .10 .40 .50 3 1 .500	122 44 16 28 .10 .45 .45 .3 3 1 .450	123 44 16 28 .10 .50 .40 2 2 L .500	124 44 16 28 .20 .30 .50 3 3 L	125 44 16 28 .20 .40 .40 3 3 L .400 1-2	126 44 16 28 .20 .50 .30 2 2 1 .500				
Ax Sp: Lo On	n. Bas- le acing ad les	e L X X' a ₁ a ₂ a ₃ G N E V	44 16 28 .10 .40 .50 3 3 L .500	122 44 16 28 .10 .45 .45 3 L .450 1-2 R	123 44 16 28 .10 .50 .40 2 2 L .500 1-2 R	124 44 16 28 .20 .30 .50 3 L .500 3 L	125 44 16 28 .20 .40 .40 3 3 L .400 1-2 R	126 44 16 28 .20 .50 .30 2 2 L .500 1–2 R				
Ax Sp: Lo On	le acing ad les	e L X X, a ₁ a ₂ a ₃ G N E V	44 16 28 .10 .40 .50 3 3 L .500 3 3	122 44 16 28 .10 .45 .45 .3 3 L .450 1-2 2 R .470	123 44 16 28 .10 .50 .40 2 1 .500 12 2	124 44 16 28 .20 .30 .50 3 L .500 3 L .500	125 44 16 28 .20 .40 .40 3 3 L .400 1-2 2 R .440	126 44 16 28 20 .30 .30 2 2 1, .500 1–2 2 R .540				
Ax Sp: Lo On	a. Bassle le acing ad les 10	e L X X, a ₁ a ₂ a ₃ G N E V	44 16 28 .10 .40 .50 3 L .500 3 L .500 2-8 3	122 44 16 28 .10 .45 .45 .3 3 L .450 1-2 2 R .470	123 44 16 28 .10 .50 .40 2 1 .500 1-2 2 R .520	124 44 16 28 .20 .30 .50 3 1 .500 3 3 L .500 2-3	125 44 16 28 .20 .40 .40 3 3 L .400 1-2 2 R .440	126 44 16 28 20 .50 .30 2 1 .500 1 2 R .540				
Ax Sp: Lo On	le acing ad les	e L X X' a ₁ a ₂ a ₃ G N E V	44 16 28 .10 .40 .50 3 3 L .500 3 3 L .500 2–8	122 44 16 28 .10 .45 .45 .45 .45 .2 .450 .1-2 .2 .470	123 44 16 28 .10 .50 .40 2 2 1 .500 1-2 2 R .520	124 44 16 28 .20 .30 .50 3 L .500 3 L .500	125 44 16 28 .20 .40 .40 3 3 1 .400 1-2 2 R	126 44 16 28 20 .30 .30 2 2 1, .500 1–2 2 R .540				
WITAX Spp Loo On Axx	a. Bassle le acing ad les 10	AL XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	44 16 28 10 .40 .50 3 3 L .500 2-8 3 R .527 2-3	122 44 16 28 .10 .45 .45 .3 3 1 .450 1-2 2 R .470 1-2 2 R .497 2-3	123 44 16 28 .10 .50 .40 2 2 1 .500 12 2 R .520 1-2 2 R .520 1-2 2 R .547 2-3	124 44 16 28 .20 .30 .50 3 3 L .500 2-3 8 .520 2-3	125 44 16 28 .20 .40 .40 .40 1-2 R .440 1-2 R .440 1-2 R .440 2-8	126 44 16 28 .20 .50 .30 2 2 1 .500 1–2 R .540 1–2 R .540 1–2 R				
WITAX Spp Loo On Axx	a. Bassle le acing ad les 10	A1 A2 A3 GNE V GNE V GNE V GNE V GNE	44 16 28 .10 .40 .50 3 3 L .500 2-8 3 R R .527 2-3 3 R	122 44 16 28 .10 .45 .45 .3 3 1 .450 1-2 2 R .470 1-2 2 R .497 2-3 3 R	123 44 16 28 .10 .50 .40 2 2 L .500 1-2 2 R .520 1-2 2 R .547 2-3 2 L	124 44 16 28 .30 .50 .50 3 3 L .500 2-3 3 R R .520	125 44 16 28 .20 .40 .40 .10 .10 .10 .10 .10 .10 .10 .1	126 44 16 28 .20 .50 .30 2 2 1 .500 1–2 2 R .540 1–2 2 R .594				
WITAX Spp Loo On Axx	a. Bassle acing ad less 10 20 30	A1 A2 A3 GNEV GNEV GNEV GNEV	44 16 28 10 .40 .50 3 3 L .500 2-8 3 R .527 2-3 3 R .620	122 44 16 28 .10 .45 .45 .3 3 L .450 1-2 2 R .470 1-2 2 R .497 2-3 3 R .585	123 44 16 28 .10 .50 .40 2 2 1 .500 12 2 R .520 1-2 R .547 2-3 2 L .620	124 44 16 28 .20 .30 .50 3 3 L .500 2-3 R R .520 2-3 R R .590	125 44 16 28 .20 .40 .40 .40 .1-2 .R .440 .1-2 .R .440 .1-2 .R .493 .2-3 .3 .R .R .520	126 44 16 28 20 .50 .50 .30 2 2 1 .500 1-2 2 R .540 1-2 R .594 1-2 R .620				
WITAX Spp Loo On Axx	a. Bas- le acing ad les 10 20 30	e L	44 16 28 .10 .40 .50 3 3 L .500 2-8 3 R .527 2-3 3 R .620	122 44 16 28 .10 .45 .45 .45 .1 .450 1-2 2 R .470 1-2 2 R .497 2-3 3 R .585 1-3	123 44 16 28 10 .50 .40 2 2 L .500 1-2 2 R .520 1-2 2 R .547 2-3 2 L .620 2-3	124 44 16 28 .30 .50 .50 3 3 L .500 2-3 3 R .520 2-3 8 R .590	125 44 16 28 .20 .40 .40 .40 1-2 2 R .440 1-2 2 R .493 2-3 3 R .520 1-3	126 44 16 28 .20 .50 .30 2 2 1 .500 1-2 R .540 1-2 R .594 1-2 R .620 1-2				
Ax Sp: Lo On	a. Bassle acing ad less 10 20 30	E L X X X A A A A A A A A A A A A A A A A	44 16 28 .10 .40 .50 3 L .500 3 L .500 2-8 3 R .527 2-3 3 R .620 1-3	122 44 16 28 .10 .45 .3 3 1 .450 1-2 2 R .470 1-2 2 R .497 2-3 8 .585 1-3	123 44 16 28 10 .50 .40 2 1 .500 1-2 2 R .520 1-2 2 R .547 2-3 2 L .620 2-3	124 44 16 28 .20 .30 .50 3 3 L .500 2-3 3 R .520 2-3 3 R .520	125 44 16 28 20 40 40 3 3 L 400 1-2 2 R 493 2-3 R 520 1-3	126 44 16 28 20 .50 .50 .30 2 2 1 .500 1-2 2 R .540 1-2 R .594 1-2 R .620				
WITAX Spp Loo On Axx	a. Bas- le acing ad les 10 20 30	e L X X X X X X X X X X X X X X X X X X	44 16 28 .10 .40 .50 3 3 L .500 2-8 3 R .527 2-3 3 R .620 1-3 R .688 1-3	122 44 16 28 .10 .45 .45 .45 .1 .450 1-2 .2 .8 .470 1-2-2 .8 .497 .2-3 .3 .8 .585 1-3 .8 .660 1-3	123 44 16 28 10 .50 .40 2 2 L .500 1-2 2 R .520 1-2 2 R .547 2-3 2 L .620 2-3 L .676 2-3	124 44 16 28 20 .30 .50 .50 3 3 L .500 2-3 3 R .520 2-3 3 R .590 1-3 8 .656 1-3	125 44 16 28 .20 .40 .40 .40 1-2 2 R .400 1-2 2 R .493 2-3 3 R .520 1-3 8 R .600	126 44 16 28 .20 .50 .30 2 2 L .500 1-2 R .540 1-2 2 R .594 1-2 2 R .620 1-2 R .620 2-3				
WITAX Spp Loo On Axx	a. Bas- le acing ad les 10 20 30	e L	44 16 28 10 40 50 3 3 L 500 3 3 L 500 2-8 3 R 62 1-3 3 R 688	122 44 16 28 .10 .45 .45 3 3 L .450 1-2 2 R .470 1-2 2 R .497 2-3 3 R .585 1-3 3 R .660	123 44 16 28 .10 .50 .40 2 1 .500 1-2 2 R .520 1-2 2 R .547 2-3 2 L .620 2-3 2 L .676	124 44 16 28 .30 .50 3 L .500 3 L .500 2-3 3 R .520 2-3 3 R .590 1-3 3 R .656 1-3 3 R	125 44 16 28 .20 .40 .40 3 3 L .400 1-2 2 R .440 1-2 2 R .493 2-3 3 R .520 1-3 3 R .600	126 44 16 28 20 .50 .30 2 2 1 .500 1-2 2 R .540 1-2 2 R .594 1-2 2 R .620 1-2 R .620				
WITAX Spp Loo On Axx	a. Bas- le acing ad less 10 20 40	e L XX a1 a2 a3 GN EV GN EV GN EV GN EV GN EV CON EV	44 16 28 .10 .40 .50 3 3 L .500 2-8 3 R .527 2-3 3 R .620 1-3 3 R .620 1-3 3 R .740	122 44 16 28 .10 .45 .45 .3 3 1 .450 1-2 2 R .470 1-2 2 R .497 2-3 3 R .585 1-3 3 R .60 .60 .60 .60 .60 .60 .60 .60	123 44 16 28 10 .50 .40 2 2 L .500 1-2 2 R .520 1-2 2 R .547 2-3 2 L .620 2-3 2 L .676 2-3 2 L .714	124 44 16 28 .20 .30 .50 .50 3 3 L .500 2-3 3 R .520 2-3 3 R .590 1-3 3 R .656 1-3 3 R .713	125 44 16 28 20 40 40 40 3 3 L 400 1-2 2 R 440 1-2 2 R 493 2-3 3 R 520 1-3 3 R 600 1-3 3 R 6667	126 44 16 28 .20 .50 .30 2 2 L .500 1-2 R .540 1-2 2 R .594 1-2 2 R .620 1-2 L .666				
WITAX Spp Loo On Axx	a. Bas- le acing ad less 10 20 40	e L	44 16 28 .10 .40 .50 .3 3 L .500 3 3 L .500 2-8 3 R .527 2-3 3 R .620 1-3 3 R	122 44 16 28 .10 .45 .45 .3 3 L .450 1-2 2 R .470 1-2 2 R .497 2-3 3 R .585 1-3 3 R .660 1-3 3 R .717 1-3	123 44 16 28 10 .50 .40 2 L .500 1-2 R .520 1-2 R .547 2-3 2 L .620 2-3 2 L .714 1-3	124 44 16 28 .30 .50 3 3 L .500 2-3 3 R .520 2-3 3 R .590 1-3 3 R .656 1-3 3 R .713	125 44 16 28 .20 .40 .40 .40 .40 1-2 2 R .440 1-2 2 R .493 2-3 3 R .520 1-3 3 R .600 1-3 3 R .6667	126 44 16 28 .50 .30 .30 2 2 L .500 1-2 2 R .540 1-2 2 R .620 1-2 R .660 2-3 2 L .660 1-3				
WITAX Spp Loo On Axx	a. Bas- le acing ad less 10 20 40	e L XX a1 a2 a2 B3 GNE V GNE E V GNE	44 16 28 .10 .40 .50 3 3 L .500 2-8 3 R .527 2-3 3 R .620 1-3 3 R .688 1-3 3 R .740	122 44 16 28 10 45 45 3 3 L 450 1-2 2 R 470 1-2 2 R 497 2-3 R 585 1-3 3 R 660 1-3 R 717 1-3 3 R	123 44 16 28 10 .50 .40 2 2 L .500 1-2 2 R .520 1-2 2 R .547 2-3 2 L .620 2-3 2 L .714 1-3 3 R	124 44 16 28 20 30 50 3 1 500 2-3 3 R 520 2-3 3 R 520 1-3 3 R 656 1-3 8 R 7113	125 44 16 28 20 40 40 3 3 L 400 1-2 2 R 493 2-3 8 R 600 1-3 3 R 667 1-3 3 R	126 44 16 28 20 50 30 2 1 500 1-2 2 R 540 1-2 2 R 620 1-2 2 R 636 2-3 1 660 1-3 1 L				
WITAX Spp Loo On Axx	10 20 30 40 60 60 60 60 60 60 60 60 60 60 60 60 60	e L XX XY a1 a2 GNE V	44 16 28 .10 .40 .50 3 3 L .500 2-8 3 R .527 2-3 3 R .527 2-3 3 R .527 2-3 3 R .527 2-3 3 R .527 2-3 3 R .620 1-3 3 R .688 .740	122 44 16 28 .10 .45 .45 .3 3 L .450 1-2 2 R .470 1-2 2 R .497 2-3 3 R .585 1-3 3 R .717 1-3 R .717	123 44 16 28 10 .50 .40 2 L .500 1-2 2 R .520 1-2 2 R .524 2 L .620 2-3 2 L .676 2-3 2 L .714 1-3 3 R .770 1-3	124 44 16 28 .30 .50 3 3 L .500 2-3 3 R .520 2-3 3 R .590 1-3 3 R .656 1-3 3 R .713 1-3 R .785	125 44 16 28 .20 .40 .40 .40 .40 1-2 2 R .440 1-2 2 R .493 2-3 3 R .520 1-3 3 R .600 1-3 3 R .6667 1-3 3 R .750	126 44 16 28 .50 .30 .30 2 2 L .500 1-2 2 R .540 1-2 2 R .620 1-2 R .660 1-3 1 L .5660 1-3 1 L .555 1-3				
WITAX Spp Loo On Axx	1. Bas- le acing ad less 10 20 30 40 50 60 80	e L	44 16 28 .10 .40 .50 3 3 L .500 2-8 3 R .527 2-3 3 R .620 1-3 3 R .688 1-3 3 R .688 1-3 3 R .688 1-3 3 8 .746	122 44 16 28 10 45 3 3 1 450 1-2 2 R 470 1-2 2 R 497 2-3 R 585 1-3 3 R 660 1-3 3 R 717 1-3 3 R 788	123 44 16 28 10 50 40 2 2 L 500 1-2 2 R 520 1-2 2 R 547 2-3 2 L 676 2-3 2 L 714 1-3 3 R 770 1-3 3	124 44 16 28 20 30 50 3 1 L 500 2-3 3 R 520 2-3 3 R 590 1-3 3 R 656 1-3 3 R 713 1-3 3 R 785	125 44 16 28 20 40 40 3 3 L 400 1-2 2 R 493 2-3 8 R 520 1-3 3 R 667 1-3 3 R 750	126 44 16 28 20 50 30 2 2 1 500 1-2 2 R 540 1-2 2 R 620 1-2 2 R 620 1-2 2 L 660 1-3 1 L 735 1-3 1				
WITAX Spp Lo On Ax	10 20 30 40 60 60 60 60 60 60 60 60 60 60 60 60 60	e L XX XY a1 a2 GNE V	44 16 28 .10 .40 .50 3 3 L .500 2-8 3 R .527 2-3 3 R .527 2-3 3 R .527 2-3 3 R .527 2-3 3 R .527 2-3 3 R .620 1-3 3 R .688 .740	122 44 16 28 .10 .45 .45 .3 3 L .450 1-2 2 R .470 1-2 2 R .497 2-3 3 R .585 1-3 3 R .717 1-3 R .717	123 44 16 28 10 .50 .40 2 L .500 1-2 2 R .520 1-2 2 R .524 2 L .620 2-3 2 L .676 2-3 2 L .714 1-3 3 R .770 1-3	124 44 16 28 .30 .50 3 3 L .500 2-3 3 R .520 2-3 3 R .590 1-3 3 R .656 1-3 3 R .713 1-3 R .785	125 44 16 28 .20 .40 .40 .40 .40 1-2 2 R .440 1-2 2 R .493 2-3 3 R .520 1-3 3 R .600 1-3 3 R .6667 1-3 3 R .750	126 44 16 28 .50 .30 .30 2 2 L .500 1-2 2 R .540 1-2 2 R .620 1-2 R .660 1-3 1 L .5660 1-3 1 L .555 1-3				

TABLE 7.4

CONTROLLING CONDITIONS AND MAXIMUM SHEARS IN SIMPLE SPANS
PRODUCED BY THE TYPE 2-S2 TRUCKS WEIGHING ONE KIP EACH



One hundred and eight variations in the Type 2-S2 truck are given in this table. Each truck number, from 1 to 108, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight on each axle.

Tru	ick N	0.	1	2	3	4	5	6	7	8	9	10
Wh	Base	L	20	20	20	20	20	20	24	24	24	24
Ax		X	8	8	8	8	8	8	8	8	8	8
	icing	_X'	8	8	8	- 8	8	- 8	12	12	12	12
Los	ad	\mathbf{a}_1	.10	.10	.10	.20	.20	.20	.10	.10	.10	.20
Ax	les	\mathbf{a}_2	.30 .60	.40 .50	.50 $.40$.30 .50	.40 .40	$.50 \\ .30$.30 .60	.40 .50	.50 .40	.30 .50
		G	3-4	2-3	2-3	3-4	1-2	1-2	3-4	1-2	1-2	3-4
- 1		N	3	2	2	3	2	2	3	2	2	3 L
	10	\mathbf{E}	L	L	L	L	\mathbf{R}	\mathbf{R}	L	R	R	
		V	.480	.450	.540	.400	.440	.540	.480	.420	.520	.400
		G	1-4	$^{2-4}$	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4
	20	N E	$^4_{ m R}$	2 L	$^2_{ m L}$	$^4_{ m R}$	$^2_{\mathbf{L}}$	$^2_{ m L}$	4 R	$^2_{\mathbf{L}}$	$\mathbf{\overset{2}{L}}$	4 R
	20	$\tilde{\mathbf{v}}$.660	.650	.700	.570	.600	.650	.600	.550	.620	.510
		G	1-4	1-4	2-4	1-4	1-4	2-4	1-4	1-4	2-4	1-4
ļ		N	4	4	$^2_{ m L}$	4	4	2	4	4	2	4
l	30	E	R	R	L	R	R	L	R	R	L	R
Ì			773	.740	.767	.713	.680	.700	.720	.673	.714	.647
		G N	1-4 4	14 4	$^{2-4}_2$	$^{1-4}_{4}$	1-4 4	1-4 1	1-4 4	1-4 4	2- 4 2	1-4
eet	40	Ë	Ř	Ř	Ĺ	Ř	Ř	È.	Ř	Ř	Ĺ	Ř
F		$\overline{\mathbf{v}}$.830	.805	.800	.785	$.7\overline{60}$.765	.790	.755	.760	.785
Span-F		G	1-4	1-4	1-4	1-4	1-4	14	1-4	1-4	2-4	1-4
ğ		N E	4	4	4	4	4	1	4	A R	2	4 R
02	50	v	$_{.864}^{\mathbf{R}}$	R .844	R .824	$_{.828}^{ m R}$.808	$_{.812}^{ m L}$	R .832	.804	L .788	.788
- 1		G	1-4	1-4	1-4	1~4	1-4	1-4	1-4	1-4	1-4	1-4
		N	4	4	4	4	4	1	4	4	4	4
- 1	60	\mathbf{E}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{L}	\mathbf{R}	R	\mathbf{R}	\mathbf{R}
1		v	.887	.870	.853	.857	.840	.843	.860	.837	.813	.823
		G	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4
	80	N E	4 R	4 R	$^{4}_{ m R}$	4 R	4 R	L L	$^{4}_{ m R}$	4 R	4 R	Ř.
	00	Ÿ	.915	.903	.890	.893	.880	.883	.895	.878	.860	.868
		G	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4
		N	4	4	4	4	4	1	4	4	4	4
į	100	E	R	R .922	R .912	R .914	R .904	$_{.906}^{ m L}$	R .916	R .902	.888	R .894
- 1	_		.932	.922	.912	.914	.904	.506	.916	.902	.088	.594

All dimensions are in feet and shears are in kips.

a1, a2, and a3-Represent the ratio of gross vehicle weight on axles.

G-Axle group causing maximum shear, thus 1-3 means axles 1, 2, and 3.

N-Number of critical axle under which maximum shear occurs.

E-End of span at which critical axle is placed

V-Maximum shear.

46 METHOD OF CONVERTING HEAVY MOTOR VEHICLE LOADS
TABLE 7.4 (Continued)

			Continue									
	nck No		24	12 24	13 28	14 28	15 28	28		18 28	19 32	$-\frac{20}{32}$
Ax		X X	8	8	8	8	8	8	8	8	8	8
Spa	acing		.20	.20	16	16	16	.20	16	16	20	20
On		a ₁	.40	.50	.10 .30	.10 .40	.10 .50	.30	.20 .40	.20 $.50$.10 .30	.10 .40
Ax	les	a ₃	$\frac{.40}{1-2}$.30 1-2	3-4	$\frac{.50}{1-2}$	$\frac{.40}{1-2}$.50 3-4	.40 1-2	.30 1-2	3-4	$\frac{.50}{1-2}$
1		G N	2	2	3	2	2	3	2	2 R	3	2
	10	E V	R .440	$^{ m R}_{.540}$	$^{ m L}_{.480}$	$_{.420}^{ m R}$	$_{.520}^{ m R}$	$_{.400}^{ m L}$	R .440	.540	$_{.480}^{\mathbf{L}}$	R .420
		G	1-2	12	24	1–2	1-2	2-4	1-2	1-2	3-4	1-2
	20	N E V	$^2_{ m R}$	$^2_{ m R}$	$^{4}_{\rm R}$	$^2_{ m R}$	$^2_{ m R}$	$^4_{ m R}$	$^2_{ m R}$	$^2_{ m R}$	$_{\rm L}^3$	$^2_{ m R}$
			.520 2-4	.620 24	.540	.460	.560	.450	$\frac{.520}{2-4}$.620 1-2	.540	2-4
		G N	2	2	1-4 4	$\substack{1-4\\4}$	$\frac{2-4}{2}$	1- 4 4	2	2	$^{2-4}_{4}$	4
	30	\mathbf{v}	L .614	L .660	$^{ m R}_{.667}$	$_{.607}^{ m R}$	$_{.660}^{\mathbf{L}}$	$^{ m R}_{.580}$	$_{.560}^{\mathbf{L}}$	R .647	$_{.620}^{ m R}$	R .546
		G	1-4	1-4	1-4	1-4	2-4	1-4	1-4	14	1-4	1-4
ig g	40	N E	4 R	\mathbf{L}^{1}	$^{4}_{ m R}$	$^4_{ m R}$	$^2_{ m L}$	$^4_{ m R}$	1 L	$^{1}_{ m L}$	4 R	$^{4}_{ m R}$
Ę.		_v	.700	.735	.750	.705	.720	.685	.660	.705	.710	.655
Span-Feet		G N	$^{1-4}_{4}$	14 1	1-4 4	$^{\mathbf{1-4}}_{4}$	$^{2-4}_2$	14 4	$^{1-4}_{1}$	$^{1-4}$	$^{1-4}_{4}$	1-4 4
S	50	\mathbf{v}	R .760	L .788	$_{.800}^{\mathbf{R}}$	$rac{\mathbf{R}}{.764}$	$^{ m L}_{.756}$	$^{ m R}_{.748}$	$^{ m L}_{.728}$	$^{ m L}_{.764}$	$^{ m R}_{.768}$	R .724
		G	1-4	1-4	1-4	1-4	2-4	1-4	1-4	1-4	1-4	1-4
	60	N E	4 R	$^1_{f L}$	4 R	$^4_{ m R}$	$^2_{ m L}$	4 R	L L	$_{ m L}^{ m 1}$	$^4_{ m R}$	$^{4}_{ m R}$
		v	.800	.823	.833	.803	.780	.790	.773	.803	.807	.770
		G N	$^{\mathbf{1-4}}_{4}$	1-4 1	$^{1-4}_{4}$	1-4 4	14 4	1-4 4	$^{\mathbf{1-4}}_{1}$	14 1	1-4 4	$^{1-4}_{4}$
	80	E	R .850	$^{ m L}_{868}$	$^{ m R}_{.875}$	R .853	R .830	R .843	$_{.830}^{\mathbf{L}}$	$_{.853}^{ m L}$	R .855	R .828
		G	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4
	100	N E	4 R	$^1_{\mathbf{L}}$	$^{4}_{ m R}$	$^4_{ m R}$	$^4_{ m R}$	4 R	$^{1}_{\mathbf{L}}$	$^{1}_{\mathbf{L}}$	$^4_{ m R}$	$^{4}_{ m R}$
		v	.880	.894	.900	.882	.864	.874	.864	.882	.884	.862
	uck N		21	22	23	24	25	26	27	28	29	30
Wh	ı. Bas	e L	32	32	32	32	36	36	36	36	36	36
Ax Spa	ı. Bas le acing		32 8 20	32 8 20	32 8 20	32 8 20	36 8 24	36 8 24	36 8 24	36 8 24	36 8 24	36 8 24
Ax Spa Loa	n. Bas le acing ad	e L X X' a ₁	8 20 .10	32 8 20 .20	32 8 20 .20	32 8 20 .20	36 8 24 .10	36 8 24 .10	36 8 24 .10	36 8 24 .20	36 8 24 .20	36 8 24 .20
Ax Spa	n. Bas le acing ad	e L X X' a ₁ a ₂ a ₃	32 8 20 .10 .50 .40	32 8 20 .20 .30 .50	32 8 20 .20 .40 .40	32 8 20 .20 .50 .30	36 8 24 .10 .30 .60	36 8 24 .10 .40 .50	36 8 24 .10 .50 .40	36 8 24 .20 .30 .50	36 8 24 .20 .40 .40	36 8 24 .20 .50 .30
Ax Spa Loa On	n. Bas le acing ad	e L X X' a ₁ a ₂ a ₃ G	32 8 20 .10 .50 .40 1-2 2	32 8 20 .20 .30 .50 3–4 3	$ \begin{array}{r} 32 \\ 8 \\ 20 \\ .20 \\ .40 \\ .40 \\ 1-2 \\ 2 \end{array} $	32 8 20 .20 .50 .30 1–2 2	36 8 24 .10 .30	36 8 24 .10 .40 .50 1–2 2	36 8 24 .10 .50 .40 1-2 2	36 8 24 .20 .30 .50	$ \begin{array}{r} $	36 8 24 .20 .50 .30 1-2 2
Ax Spa Loa On	n. Bas le acing ad	e L X X' a ₁ a ₂ a ₃ G N E	32 8 20 .10 .50 .40 1-2 2 R	32 8 20 .20 .30 .50 3–4 3 L	32 8 20 .20 .40 .40 .40 1-2 2 R	32 8 20 .20 .50 .30 1–2 2 R	36 8 24 .10 .30 .60	36 8 24 .10 .40 .50 1-2 2 R	36 8 24 .10 .50 .40 1-2 2 R	36 8 24 .20 .30 .50 3–4 3 L	36 8 24 .20 .40 .40 1-2 2 R	36 8 24 .20 .50 .30 1–2 2 R
Ax Spa Loa On	n. Bas le acing ad les	e L X X' a ₁ a ₂ a ₃ G N E V	32 8 20 .10 .50 .40 1-2 2 R .520 1-2	32 8 20 .20 .30 .50 3–4 3 L .400	32 8 20 .20 .40 .40 1-2 2 R .440 1-2	32 8 20 .20 .50 .30 1–2 2 R .540 1–2	36 8 24 .10 .30 .60 3 4 3 L .480	36 8 24 .10 .40 .50 1-2 2 R .420	36 8 24 .10 .50 .40 1-2 2 R .520 1-2	36 8 24 .20 .30 .50 3-4 3 L .400	36 8 24 .20 .40 .40 1-2 2 R .440 1-2	36 8 24 .20 .50 .30 1-2 2 R .540
Ax Spa Loa On	n. Bas le acing ad les	e L X X' a ₁ a ₂ a ₃ G N E V	32 8 20 .10 .50 .40 1-2 2 R .520	32 8 20 .20 .30 .50 3–4 3 L	32 8 20 .20 .40 .40 1-2 2 R .440	32 8 20 .20 .50 .30 1–2 2 R .540	36 8 24 .10 .30 .60 3 4 3 L	36 8 24 .10 .40 .50 1–2 2 R .420	36 8 24 .10 .50 .40 1-2 2 R .520	36 8 24 .20 .30 .50 3–4 3 L	36 8 24 .20 .40 .40 1-2 2 R .440 1-2 2	36 8 24 .20 .50 .30 1-2 2 R .540
Ax Spa Loa On	le acing ad les	e L X X' a ₁ a ₂ a ₃ G N E V G N E V	32 8 20 .10 .50 .40 1-2 2 R .520 1-2 2 R	32 8 20 .20 .30 .50 3–4 3 L .400 3 -4 3 L	32 8 20 .20 .40 .40 1-2 2 R .440 1-2 2 R	32 8 20 .50 .50 .30 1-2 2 R .540 1-2 2 R	36 8 24 .10 .30 .60 3 .4 3 L .480 3-4 3 L	36 8 24 .10 .40 .50 1-2 2 R .420 1-2 2 R	36 8 24 .10 .50 .40 1-2 2 R .520 1-2 2 R	36 8 24 .20 .30 .50 3-4 3 L .400 3-4 3 L	36 8 24 .20 .40 .40 1-2 2 R .440 1-2 2 R	36 8 24 .20 .50 .30 1-2 2 R .540 1-2 2 R
Ax Spa Loa On	le acing ad les 10 20	a ₁ a ₂ a ₃ G N E V G N E V G N E N	32 8 20 .10 .50 .40 1-2 2 R .520 1-2 2 R .566 2-4	32 8 20 .20 .30 .50 3-4 .400 3-4 3 L .450 2-4	32 8 20 .40 .40 .40 1-2 R .440 1-2 R .520 1-2	32 8 20 .50 .50 .30 1-2 R .540 1-2 R .620 1-2	36 8 24 .10 .30 .60 3 4 3 L .480 3-4 3 L	36 8 24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 2-4	36 8 24 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 1-2	36 8 24 .20 .30 .50 3-4 3 L .400 3-4 3 L .450 2-4	36 8 24 .20 .40 .40 1-2 2 R .440 1-2 2 R	36 8 24 .20 .50 .30 1-2 2 R .540 1-2 2 R
Ax Spa Loa On	le acing ad les	a ₁ a ₂ a ₃ G N E V G N E V G N E V G N E V	32 8 20 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 2-4 2	32 8 20 .30 .50 3-4 3 L .400 3-4 3 L .450 2-4 4 R	32 8 20 .20 .40 .40 .40 1-2 2 R .440 1-2 2 R .520 12 2 R	32 8 20 .50 .30 1-2 2 R .540 1-2 2 R .620 1-2	36 8 24 .10 .30 .60 3.4 3 L .480 3-4 3 L .540 2-4 R	36 8 24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 2-4 4	36 8 24 .10 .50 .40 1-2 R .520 1-2 2 R .560 1-2 2 R	36 8 24 20 30 .50 3-4 3 L .400 3-4 3 L .450 2-4 4 R	36 8 24 .20 .40 .40 1-2 2 R .440 1-2 2 R .520 1-2 2	36 8 24 20 .50 .30 1-2 2 R .540 1-2 2 R .620
Ax Spa Loa On	le acing ad les 10 20	a ₁ a ₂ a ₃ G N E V G N E V G N E V G O G O G O G O G O G O G O G O G O G	32 8 20 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 2-4 2 L .607 2-4	32 8 20 .30 .50 3-4 3 L .400 3 - 4 3 L .450 2-4 4 R .526 1-4	32 8 20 .20 .40 .40 .40 .41 .440 1-2 2 R .520 1-2 2 R .520 1-2	32 8 20 .50 .50 .30 1-2 R .540 1-2 R .620 1-2	36 8 24 .10 .30 .60 3 4 3 L .480 3 -4 2 -4 4	36 8 24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 2-4 4 R .493 1-4	36 8 24 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 1-2 2 R .560 1-2	36 8 24 .20 .30 .50 3-4 3 L .400 3-4 3 L .450 2-4	36 8 24 .20 .40 .40 .40 1-2 2 R .440 1-2 2 R .520 1-2	36 8 24 .20 .50 .30 1–2 2 R .540 1–2 2 R .620 1–2 2 R
What Space Loss On Ax	a. Bas le acing ad les 10 20	a1 a2 a3 GNEV GNEV GNEV GNEV	32 8 20 .10 .50 .40 1-2 2 R .520 1-2 2 R .566 2-4 2 L .607 2-4 2	32 8 20 .20 .30 .50 3-4 3 L .400 3 -4 2-4 4 R .526	32 8 20 .20 .40 .40 .1-2 2 R .440 1-2 2 R .520 1-2 2 R .547 1-4	8 20 .20 .50 .30 .1-2 2 R .5440 1-2 2 R .620 -1-2 2 R .647 1-4 1	36 8 24 .10 .30 .60 3 4 3 L .480 3-4 3 L .540 2-4 R .580	36 8 24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 2-4 4 R .493 1-4	36 8 24 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 1 2 2 R .574 2-4 2-4	36 8 24 .20 .30 .50 .50 .50 3-4 3 L .400 3-4 3 L .450 2-4 4 R .486	36 8 24 .20 .40 .40 .40 .40 .1-2 2 R .520 1-2 2 R .547 1-4	36 8 24 .20 .50 .30 1-2 2 R .620 1-2 2 R .620 1-2 2 R .647
What Space Loss On Ax	le acing ad les 10 20	a1 a2 a3 GNEV GNEV GNEV GNEV	32 8 20 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 2-4 2 L .607 2-4 2 L .680	32 8 20 .20 .30 .50 3-4 3 L .400 3 -4 4 R .526 1-4 4 R .635	32 8 20 .40 .40 .40 .40 .41 .440 1-2 2 R .520 1-2 2 R .547 1-4 1 L .620	32 8 20 .50 .50 .30 1–2 2 R .620 1–2 2 R .647 1–4 1 L .675	36 8 24 .10 .30 .60 3 .4 3 .4 .480 3 -4 3 .L .540 2 -4 4 .R .580 1 -4 4 .R .670	36 8 24 .10 .40 .50 1–2 2 R .420 1–2 2 R .460 2–4 4 R .493 1–4 4 R .605	36 8 24 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 1-2 2 R .574 2-4 2 L .640	36 8 24 .20 .30 .50 3-4 3 L .400 3-4 3 L .450 2-4 4 R R .486 1-4 4 R .585	36 8 24 .20 .40 .40 .40 .40 .40 .42 2 R .520 1-2 2 R .520 1-2 1-2 2 1-2 1-2 1-2 1-2 1-2	36 8 24 .20 .50 .30 1-2 2 R .620 1-2 2 R .620 1-2 2 R .620 1-2 2 R .647 1-2 2 R
What Space Loss On Ax	a. Bas le acing ad les 10 20	a1 a2 a3 GNEV GNEV GNEV GNEV G	32 8 20 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 2-4 2 L .607 2-4 2 L .607	32 8 20 .20 .30 .30 .30 .30 .30 .30 .4 .4 .400 .3 .4 .4 .450 .2 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4	32 8 20 .20 .40 .40 .40 .40 .40 .40 .40 .4	8 20 .20 .50 .30 .1-2 2 R .5440 1-2 2 R .6620 1-2 2 R .647 1-4 1 L .675 1-4	36 8 24 .10 .30 .30 .30 .4 3 .4 .4 .4 .80 .3 .4 .4 .4 .5 .4 .4 .4 .6 .7 .6 .6 .6 .6 .6 .6 .6 .6 .6 .6	36 8 24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 2-4 4 R .493 1-4 4 R .605 1-4	36 8 24 .10 .50 .40 .52 R .520 1-2 2 R .560 1-2 2 R .574 2-4 .640 2-4	36 8 24 .20 .30 .50 3-4 3 L .400 3-4 3 L 450 2-4 4 R R .586 1-4	36 8 24 .20 .40 .40 .40 .40 .40 .40 .40 .4	36 8 24 .20 .50 .50 .52 R .540 1-2 2 R .620 1-2 2 R .620 1-2 2 R .647 1-2 2 R
Ax Spa Loa On	a. Bas le acing ad les 10 20	e L	32 8 20 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 2-4 2 L .607 2-4 2 L .680	32 8 20 .20 .30 .30 .30 .4 .400 3.4 3.4 .450 2-4 4 R .526 1-4 4 R .635	32 8 20 .20 .40 .40 .40 .40 .40 .40 .40 .52 .520 .520 .520 .547 .64 .64 .64 .64 .64 .64 .64 .64	8 20 .20 .50 .50 .50 .50 .540 .540 .540 .540 .5	36 8 24 .10 .30 .30 .4 .3 .4 .4 .4 .5 .4 .5 .6 .7 .7 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	36 8 24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 2-4 4 R .493 1-4 4 R .605 1-4 4 R	36 8 24 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 1 2 2 R .574 2-4 2 L	36 8 24 .20 .30 .350 3-4 3 L .400 3-4 3 L .450 2-4 4 R .486 1-4 4 R .585 1-4 4 R	36 8 24 .20 .40 .40 .40 .40 .40 .40 .40 .4	36 8 24 .20 .50 .50 1-2 R .540 1-2 2 R .620 1-2 2 R .620 1-2 2 R .647 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2
What Space Loss On Ax	a. Bas le acing ad les 10 20 30	e L X X X	32 8 20 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 2-4 2 L .607 2-4 2 2 L .607 2-4 2 2 2 2 2 2 2 2 2 2 2 2 2	32 8 20 .20 .30 .30 .30 .30 .31 .400 3 -4 3 L .450 2-4 4 R .635 1-4 4 R .635 1-4 4 R	32 8 20 .20 .40 .40 .40 .1-2 2 R .520 12 2 R .520 12 14 1 L .696	8 20 .20 .50 .30 .1-2 2 R .5440 1-2 2 R .6620 1-2 2 R .647 1-4 1 L .7440	36 8 24 .10 .30 .30 .30 .4 3 L .480 3-4 3 L .540 2-4 4 R .670 1-4 4 R .6736	36 8 24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 2-4 4 R .605 1-4 4 R .605	36 8 24 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 1-2 2 R .574 2-4 2 L .640 2-4 2 L .640 2-4 2 L .640 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-4	36 8 24 .20 .30 .50 3-4 3 L .400 3-4 4 R .486 1-4 4 R .586 1-4 4 R .668	36 8 24 .20 .40 .40 .40 .40 .40 .40 .40 .4	36 8 24 .20 .50 .50 .80 .1-2 .80 .540 1-2 .80 .620 1-2 .80 .647 1-2 .80 .647 1-2 .80 .647 1-2 .80 .647 1-2 .80 .80 .80 .80 .80 .80 .80 .80
What Space Loss On Ax	n. Bas le acing ad less 10 20 30 40 50	e L X X X	32 8 20 .10 .50 .50 .40 .1-2 2 R .520 1-2 2 R .560 2-4 2 L .607 2-4 2 L .607 2-4 2 L .607 2-4 2-4 .607 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-4	32 8 20 .20 .30 .30 .50 3-4 3 L .400 3-4 .450 2-4 4 R .526 1-4 4 R .635 1-4 4 R .708	32 8 20 .20 .40 .40 .40 .40 .40 .40 .40 .4	8 20 .20 .50 .50 .50 .540 .540 .540 .540 .540 .	36 8 24 .10 .30 .30 .30 .4 3 .4 .4 .4 .5 .5 .4 .5 .6 .7 .6 .7 .6 .7 .6 .7 .6 .7 .6 .7 .6 .7 .6 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7	36 8 24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 2-4 4 R .493 1-4 4 R .605 1-4 4 R .684 1-4 4	36 8 24 .10 .50 .40 .1-2 2 R .520 1-2 2 R .574 2-4 2 L .692 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-	36 8 24 .20 .30 .350 3-4 3 L .400 3-4 3 L .450 2-4 4 R R.486 1-4 4 R R.585 1-4 4 R R.6668	36 8 24 .20 .40 .40 .40 .40 .40 .40 .40 .4	36 8 24 .20 .50 .50 .8 .540 1–2 R .620 1–2 2 R .620 1–2 2 R .647 1–2 1–2 1–2 1–2 1–2 1–2 1–2 1–2
What Space Loss On Ax	a. Bas le acing ad les 10 20 30	e L	32 8 20 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 2-4 2 L .607 2-4 2 L .680 2-4 2 L .580	32 8 20 .20 .30 .50 3-4 3 L .400 3 -4 4 8 8 .526 1-4 4 R .635 1-4 4 R .635 1-4 4 R .635	32 8 20 .40 .40 .40 .41 .440 1-2 2 R .520 1-2 2 R .527 1-4 1 L .620 1-4	8 20 .20 .50 .30 1-2 2 R .540 1-2 2 R .647 1-4 1 L .740 1-4	36 8 24 .10 .30 .60 3 .4 3 .1 .480 3 .4 .580 1-4 4 .8 .670 1-4 4 .736 1-4	36 8 24 .10 .40 .50 1-2 2 R .420 1-2 2 R .420 2-4 4 R .493 1-4 4 R .605 1-4 4 R .605	36 8 24 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 1 · 2 2 R .574 2-4 2 L .640 2-4 2-4 2-4 2-4 2-4 2-4	36 8 24 .20 .30 .50 .50 3-4 3 L .400 3-4 4 R R .486 1-4 4 R R .585 1-4 4 R R	36 8 24 .20 .40 .40 .40 .40 .40 .40 .40 .4	36 8 24 .20 .50 .30 .30 .1-2 2 R .640 1-2 2 R .647 1-2 2 R .660 1-4 1-1
What Space Loss On Ax	n. Bas le acing ad less 10 20 30 40 50	e L XX a1 a2 a3 G NE V G	32 8 20 .10 .50 .40 .40 .52 R .520 1-2 2 R .560 2-4 2 L .607 2-4 2 L .680 2-4 2 L .724 2-4 2-1 .724 2-1 .724 1-	8 20 .20 .30 .30 .3 .4 3 L .400 3 .4 4 R .526 1 -4 4 R .708 1 -4 4 R .757 1 -4	32 8 20 .20 .40 .40 .40 .40 .40 .40 .40 .4	8 20 .20 .50 .50 .51 2 2 R .540 2 2 R .620 1-2 2 R .647 1-4 1 L .740 1-4 1 L .783 1-4 1 L .783 1-4	36 8 24 .10 .30 .30 .30 .4 3 L .480 3 -4 4 4 8 .540 2-4 4 4 8 .670 1-4 4 4 8 .736 1-4 4 8 .736 1-4 .736 1-4 .736 1-4 .736 1-4 .736 1-4 .736 1-4 .736 1-4 .736 1-4 .736 1-4 .736 1-4 .736 1-4 .736 1-4 .736 1-4 .736 1-4 .736 1-4 .736 1-4 .736 1-4 .736 1-4 .736 1-4 .736	36 8 24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 2-4 4 R .605 1-4 4 R .684 1-4 4 R .737 1-4	36 8 24 .10 .50 .40 .1-2 2 R .520 1-2 2 R .560 1-2 2 R .574 2-4 1 .692 2-4 2 L .692 1-2 1-2 2 2 2 2 3 2 3 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4	36 8 24 .20 .30 .350 .3-4 3 L .400 3-4 3 L .450 2-4 4 R .586 1-4 4 R .586 1-4 4 R .586 1-4 4 R .586 1-4 4 R .586 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	36 8 24 .20 .40 .40 .40 .40 .40 .40 .40 .4	36 8 24 20 .50 .50 .50 .70 .70 .70 .70 .70 .70 .70 .7
What Space Loss On Ax	n. Bas le acing ad less 10 20 30 40 50	e L	32 8 20 .10 .50 .40 1-2 2 R .520 2-4 2 L .607 2-4 2 L .680 2-4 2 L .724 2-4 2 L .753 1-4 4 R	32 8 20 .20 .30 .30 .30 .30 .30 .30 .30 .3	32 8 20 .20 .40 .40 .40 .40 .40 .40 .52 .8 .520 .520 .520 .547 .547 .696 .696 .696 .747 .747 .747	8 20 .20 .50 .50 .51	36 8 24 .10 .30 .30 .4 .3 .4 .4 .4 .5 .5 .6 .7 .6 .7 .6 .7 .6 .7 .6 .7 .6 .7 .6 .7 .6 .7 .6 .7 .6 .7 .6 .7 .6 .7 .6 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7	36 8 24 .10 .40 .50 1-2 2 R .420 2-2 R .460 2-4 4 R .605 1-4 4 R .684 1-4 4 R .737 1-4 4 R	36 8 24 .10 .50 .50 1-2 2 R .520 1-2 2 R .560 1-2 2 R .574 2-4 2 L .692 2-4 2 L .726 1-4 1 L	36 8 24 .20 .30 .30 .350 3-4 3 L .400 2-4 4 R .486 1-4 4 R .668 1-4 4 R .723 1-4 4 R	36 8 24 .20 .40 .40 .1-2 2 R .440 1-2 2 R .520 1-2 2 R .547 1-4 1 L .664 1-4 1 L .720 1-4 1 L .1 L	36 8 24 .20 .50 .50 1-2 2 R .620 1-2 2 R .620 1-2 2 R .647 1-2 2 R .647 1-4 1 .716 1-4 1 .716 1-4 1 .716 1-4 1 .716 1-4 1 .716 1-4 1 .716 1-4 1 .716 1-4 1 .716 1 .717 1 .716 1
What Space Loss On Ax	10	e L XX a1 a2 GNE V GNE V GNE V GNE V GNE V GNE V CNE	32 8 20 .10 .50 .40 1-2 2 R .520 1-2 2 R .560 2-4 2 L .680 2-4 2 L .680 2-4 2 L .724 4 2 L .752 8 .850 1-2 8 .850 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2	32 8 20 .20 .30 .30 .30 .30 .30 .30 .30 .3	32 8 20 .20 .40 .40 .40 .40 .40 .40 .40 .4	8 20 .20 .50 .30 .30 .1-2 2 R .5440 .1-2 2 R .6647 .1-4 1 L .7440 .1-4 1 L L .7838 .1-4 1 L L .8388	36 8 24 .10 .30 .30 .30 .4 3 L .480 3 -4 4 R .580 1-4 4 4 R .736 1-4 4 R .736 1-4 4 R .736 1-4 4 8 .736 1-4 8 .736 8 .736 1-4 8 .736	36 8 24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 2-4 4 R .605 1-4 4 R .684 1-4 4 R .737 1-4 4 R .737 1-4 4 R .738	36 8 24 .10 .50 .40 .52 R .520 1-2 R .560 1-2 R .574 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-	36 8 24 .20 .30 .50 3-4 3 L .400 3-4 4 R .486 1-4 4 R R .585 1-4 4 R R .793	36 8 24 .20 .40 .40 .40 .40 .1-2 2 R .440 .1-2 2 R .520 .1-2 2 R .547 .1-4 .1 L .580 .1-4 .1 L .720 .1-4 .720	36 8 24 20 .50 .50 .50 .70 1-2 2 R .620 1-2 2 R .647 1-2 2 R .647 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2
What Space Loss On Ax	10	e L XX a1 a2 GNE V	32 8 20 .10 .50 .40 1-2 2 R .520 2-4 2 L .607 2-4 2 L .680 2-4 2 L .680 2-4 2 L .680 1-2 2 R .520 2-4 2 L .607 2-4 2 L .607 2-4 2 L .608 2-4 2 L .608 2-4 2 L .608 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-4	32 8 20 .20 .30 .30 .30 .30 .30 .30 .30 .3	32 8 20 .20 .40 .40 .1-2 .2 .8 .440 .1-2 .2 .8 .520 .520 .520 .547 .1-4 .1 .696 .1-4 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1	8 20 .20 .50 .50 .50 .50 .50 .50 .50 .50 .50 .5	36 8 24 .10 .30 .30 .4 3 L .480 3 -4 4 R .580 1-4 4 R .736 1-4 4 R .736 1-4 4 R .736 1-4 4 R .736 1-4 4 8 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	36 8 24 .10 .40 .50 1-2 2 R .420 2-2 R .460 2-4 4 R .605 1-4 4 R .684 1-4 4 R .684 1-4 4 R .685 1-4 4 8 .737 1-4 8 .737 1-4 8 1-4 8 .737 1-4 8 8 8 8 8 8 8 8 8 8 8 8 8	36 8 24 .10 .50 .50 1-2 2 R .520 1-2 2 R .560 1 2 2 R .574 2-4 2 L .692 2-4 2 L .726 1-4 1 L .780	36 8 24 .20 .30 .30 .50 3-4 3 L .400 3-4 4 R .486 1-4 4 R .586 1-4 4 R .723 1-4 4 R .793	36 8 24 .20 .40 .40 .1-2 2 R .440 .520 .720 .720 .790 .790	36 8 24 .20 .50 .50 .50 .70 .70 .70 .70 .70 .70 .70 .7
What Space Loss On Ax	10	e L	32 8 20 .10 .50 .40 .50 .40 1-2 2 R .520 1-2 2 R .560 2-4 2 L .607 2-4 2 L .607 2-4 2 L .523 1-2 2 L .607 2-4 2 L .607 2-4 2 L .607 2-4 2 L .724 2 L .724 2 L .724 2 .724	32 8 20 .20 .30 .50 .50 .50 .50 .50 .60 .60 .60 .60 .60 .60 .60 .6	32 8 20 .20 .40 .40 .40 .40 .40 .40 .41 .52 R .52 R .547 1-4 1 L .696 1-4 1 L .747 1-4 1 L .747	8 20 .20 .50 .30 .1-2 2 R .5440 1-2 2 R .627 .1-4 1 L .783 1-4 1 L .838 1-4	36 8 24 .10 .30 .60 3 .4 3 L .480 3 -4 3 L .540 2-4 4 R .580 1-4 4 4 R .736 1-4 4 R .780 1-4 4 8 .780 1-4 8 8 .780 1-4 8 8 .780 1-4 8 8 .780 1-4 8 8 .780 1-4 8 8 8 .780 1-4 8 8 .780 1-4 8 8 .780 1-4 8 8 .780 1-4 8 8 .780 1-4 8 8 .780 1-4 8 8 .780 1-4 8 8 .780 1-4 8 .780	36 8 24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 2-4 4 R .685 1-4 4 R .684 1-4 4 R .737 1-4 4 R .803 1-4 4 8 .804 1-4 4 8 .805 1-4 8 .805 1-4 .805 1-4 8 .805 1-4 8 .805 1-4 8 .805 1-4 8 .805 1-4 8 .805 1-4 8 .805 1-4 8 .805 1-4 8 .805 1-4 8 .805 1-4 8 .805 1-4 8 .805 1-4 8 .805 1-4 8 .805 1-4 .805 1-4 8 .805 1-4 8 .805 1-4 8 .805 8 .805 1-4 8 .805 1-4 8 .805 1-4 8 .805 8 .805 1-4 8 .805 .805 8 .805 8 .805 8 .805 8 .805 8 .805 8 .805 8	36 8 24 .10 .50 .40 .50 .40 .52 R .520 1-2 R .560 1-2 R .574 2-4 2 L .692 2-4 2 L .726 1-4 1 L .780 1-4	36 8 24 .20 .30 .50 .50 3-4 3 L .400 3-4 3 L .450 2-4 4 R .585 1-4 4 R R.668 1-4 4 R R.723 1-4 4 R	36 8 24 .20 .40 .40 .1-2 2 R .440 1-2 2 R .520 1-2 2 R .547 1-4 1 L .664 1-4 1 L .720 1-4 1 L .720 1-4	36 8 24 20 .50 .30 .30 .30 .30 .30 .30 .30 .3

TABL	E 7.4	(Contin	ued)								
Truck Wh. Ba		31 40	32 40	33 40	34 40	35 40	36 40	37 24	38 24	39 24	24
Axle	X	. 8	8	8	8	8	8	12	12	12	12
Spacin Load	g X		.10	.10	.20	.20	.20	.10	.10	.10	.20
On Axles	a:	2 .30	.40 .50	.50	.30	.40	.50 .30	.30	.40	.50	.30
Axies	a: G	3 4	12	.40 1-2	.50 3-4	.40 1-2	1-2	$\frac{.60}{3-4}$.50 2-3	2-3	.5() 3-4
1	0 E	$^3_{ m L}$	$^2_{ m R}$	$^2_{ m R}$	3 L	$^2_{ m R}$	$^2_{f R}$	$^3_{ m L}$	$^2_{ m L}$	$^2_{ m L}$	$^{3}_{ m L}$
	_ v	.480	.420	.520	.490	.440	.540	.480	.450	.540	.400
	G N	34 3	$_{2}^{1-2}$	1-2 2	3-4 3	$_2^{1-2}$	$^{1-2}_{2}$	$^{2-4}_4$	$\frac{2-4}{2}$	$\frac{2-4}{2}$	2-4 4
2	0 E V	L .540	$^{ m R}_{.460}$	R .560	$_{.450}^{ m L}$	R .520	2 R .620	R .660	L .650	.700	R .570
	G	3-4	1 2	12	34	1 2	1 -2	1-4	2-4	2-4	1-4
3	0 E	3 L	$^2_{ m R}$	$\frac{2}{\mathbf{R}}$	$^3_{ m L}$	2 R	2 R	4 R	$^2_{ m L}$	$_{\rm L}^2$	$^{4}_{ m R}$
	V	,560	.474	.574	.467	.547	.647	.760	.734	.767	.687
	G N	1: 4 4	14 4	$\frac{2}{2}$	14 4	$\frac{1\cdot 2}{2}$	$^{1-2}_2$	$^{1-4}_{4}$	$^{1-4}_{4}$	$^{2-4}_2$	1-4 4
₹ 40		R .630	R .555	$_{.600}^{ m L}$	R .535	$ m_{.560}$	R .660	R .820	R .795	$ar{ ext{L}}_{.800}$	R .765
Span-Feet	G	1-4	1 4	2 - 4	1-4	1.4	1-4	1-4	1-4	2-4	1-4
s Spa	0 E	4 R	$^4_{ m R}$	$^2_{ m L}$	4 R	1 L	1 L	4 R	$\overset{4}{\mathbf{R}}$	$_{\rm L}^2$	$^{4}_{ m R}$
	v	.704	.644	.660	.628	.632	.692	.856	.836	.820	.812
	G N	1-4 4	$^{1-4}_{4}$	$^{2-4}_{2}$	$^{1-4}_{4}$	$_{1}^{1-4}$	14 1	$^{1-4}_{4}$	1-4 4	$^{1-4}_{4}$	$^{1-4}_{4}$
6		Ř .753	.703	$\overset{2}{\overset{\text{L}}{\text{L}}}_{.700}$.690	.693	Ĺ .743	$ m_{.880}$	$^{ m R}_{.863}$	R .847	R .843
-	G	1-4	1 4	1 4	1-4	14	14	14	1-4	1-4	1-4
81	0 E	4 R	4 R	$^{1}_{\mathbf{L}}$	4 R	1 L	1 L	$^{4}_{ m R}$	4 R	4 R	4 R
	V	.815	.778	.760	.768	.770	.808	.910	.898	.885	.883_
	G N	1 -4 4	14 4	14 1	1 4 4	$^{1-4}_{1}$	1-4 1	$^{1}_{4}^{4}$	$^{1-4}_4$	1-4 4	$^{1-4}_{4}$
100	0 E V	.852	R .822	.808	R .814	.816	.846	R .928	.918	R .908	.906
Truck	No.	41	42	43	44	45	46	47	48	49	50
Wh. Ba		24	24	28	28	28	28	28	28	32	32
Axle Spacin	g X X	, 12 8	$\frac{12}{8}$	$\frac{12}{12}$	12 12	$\frac{12}{12}$	12 12	12 12	$\frac{12}{12}$	$\frac{12}{16}$	12 16
Load	aı		.20 .50	.10	.10	.10	.20	.20	.20 .50	.10 .30	.10 .40
On Axles	a:	.40	.30	.60	.50	.40	.50	.40	.30	.60	.50
İ	G N	2 · 3 2	$\frac{2}{2}$ 3	3-4 3	2 2	$\frac{2}{2}$	34 3	2 2	$\frac{2}{2}$	$_{3}^{-4}$	2 2
10	0 $\hat{\mathbf{E}}$	L	.530	$^{3}_{\rm L}_{.480}$	$_{.400}^{ m ar{R}}$.500	.400	R .400	R .500	\mathbf{L}	Ř .400
	G	$\frac{.440}{2.4}$	2 4	2 4	2 4	2-4	$-\frac{.400}{2-4}$	2-4	2-4	.480 2-4	2-4
20	N	$^2_{ m L}$	$^2_{ m L}$	4 R	$^2_{ m L}$	$^2_{ m L}$	4 R	$^2_{\rm L}$	$^2_{\mathbf{L}}$	$^4_{ m R}$	$^4_{ m R}$
	v	,600	.650	.600	.550	.620	.510	.520	.590	.540	.450
	G N	2-4 2 L	$\frac{2}{2}$	14 4	$rac{2\cdot 4}{2}$	$\frac{2-4}{2}$	$^{1-4}_{4}$	24 2	$^{2-4}_2$	$^{2-4}_{4}$	2-4 4
30	V E	$^{ m L}_{.666}$	$_{.700}^{ m L}$	R .707	$_{.667}^{ m L}$.714	R .620	L ,614	.660	$^{ m R}_{.660}$	R .600
-			2 4			2.4	1 4	1 4	2-4	1-4	1-4
	G	1-4	2.4	1 4	1 4						
형 40	N	4	2	4	4	2	4 R	4 R	2	4	4 R
Feet 40	0 E V	4 R .740	,725	4 R .780	4 R .745	2 L .760	.715	R .689	2 L .695	4 R .740	R .695
an-Feet	$ \begin{array}{ccc} & N \\ & E \\ & V \\ \hline & G \end{array} $	$^{4}_{ m R}$	$^2_{ m L}$	$\overset{4}{\mathrm{R}}$	$^4_{ m R}$	$^2_{ m L}$	\mathbf{R}	\mathbf{R}	$_{\rm L}^2$	$^{4}_{ m R}$	R
Span-Feet	O E V G N E	4 R .740 1-4 4 R	2 L .725 14 4 R	$\begin{array}{c} 4 \\ R \\ .780 \\ \hline 1-4 \\ 4 \\ R \end{array}$	1-4 R .745 1-4 R	$\begin{array}{c} & \begin{array}{c} & 2 \\ & L \\ & .760 \\ \hline & 2 \cdot 4 \\ & 2 \\ & L \end{array}$	715 1-4 4 R	R .689 1-4 4 R	$-\frac{ {\overset{2}{\overset{L}{\overset{L}{1-4}}}}_{.695}^{L}}{\overset{1-4}{\overset{L}{\overset{L}{\overset{L}{1-4}}}}}$	1-4 R .740 1-4 R	1-4 4 R
Span-Feet	0 E V G N O E V	4 R .740 1-4 4 R .792	2 L .725 14 4	$ \begin{array}{r} 4 \\ R \\ .780 \\ \hline 1-4 \\ 4 \end{array} $	4 R .745 1-4 4	$\begin{array}{c} 2\\ L\\ .760\\ \hline 2\cdot 4\\ 2\\ L\\ .788\\ \end{array}$	$ \begin{array}{r} R \\ .715 \\ \hline 1 4 \\ 4 \end{array} $	R .680 1-4 4	$ \begin{array}{r} 2 \\ L \\ .695 \\ \hline 1-4 \\ 1 \\ L \\ .724 \end{array} $	4 R .740 1–4 R .792	R .695 1-4 4 R .756
	O E V G N G N G N	4 R .740 1-4 4 R .792 1-4 4	2 L .725 1-4 4 R .772 1-4	1-4 4 R 1-4 4 R .824 1-4	4 R .745 1-4 4 R .796 1-4	$\begin{array}{c} 2\\ L\\ .760\\ \hline 2\cdot 4\\ 2\\ L\\ .788\\ \hline 1-4\\ 4\\ \end{array}$	R .715 1 4 4 R .772 1-4	R .689 1-4 4 R .744 1-4 4	$ \begin{array}{r} 2 \\ L \\ .695 \\ \hline 1-4 \\ 1 \\ L \\ .724 \\ \hline 1-4 \\ 1 \end{array} $	4 R .740 1-4 R .792 1-4	R .695 1-4 4 R .756 1-4
Span-Feet	0 E V G N G N G V V V V V V V V V V V V V V	4 R .740 1-4 4 R .792 1-4	2 L .725 1-4 4 R .772 1-4 4 R .810	4 R .780 1-4 4 R .824 1-4 4 R .853	4 R .745 1-4 4 R .796 1-4 4 R .830	2 L .760 2 · 4 2 L .788 1 · 4 4 R .807	R .715 1 4 R .772 1 -4 4 R .810	R .680 1-4 4 R .744 1-4 4 R .787	2 L .695 1-4 1 L .724 1-4 1 L .770	4 R .740 1–4 R .792 1–4 4 R .827	R .695 1-4 4 R .756 1-4 4 R .797
	O E V G N E V G N E V G G N E V G	4 R .740 1-4 4 R .792 1-4 4 R .827	2 L.725 1-4 4 R.772 1-4 4 R.810	4 R .780 1-4 4 R .824 1-4 4 R .853	4 R .745 1-4 4 R .796 1-4 4 R .830	2 L .760 2 · 4 2 L .788 1 · 4 4 R .807	R .715 1 4 4 R .772 1 -4 4 R .810	R 680 1-4 4 R .744 1-4 4 R .787	2 L .695 I-4 1 L .724 1-4 1 L .770	4 R .740 1-4 4 R .792 1-4 4 R .827	R .695 1-4 4 R .756 4 R .797
	O E V G N E V G N E V G N E V G N E V	4 R .740 1-4 4 R .792 1-4 4 R .827 1-4 4 R	2 L .725 1-4 4 R .772 1-4 4 R .810 1-4 4 R	4 R .780 1-4 4 R .824 1-4 4 R .853 1-4 R	4 R .745 1-4 4 R .796 1-4 4 R .830 1-4 4 R	2 L .760 2 · 4 2 L .788 1 · 4 4 R .807	R .715 1 4 4 R .772 1 -4 4 R .810 1 -4 4 R	R .689 1-4 4 R .744 1-4 4 R .787 1 4 4 R	2 L .695 1-4 1 L .724 1-4 1 L .770 1-4 1 L	4 R .740 1-4 R R .792 1-4 4 R .827 1-4 4 R	R .695 1-4 4 R .756 1-4 4 R .797 1-4 4 R
6	0 E V G N G N G N G N G N G N G N G N G N G	4 R .740 1-4 4 R .792 1-4 4 R .827 1-4 4 R .827	2 L .725 1-4 R R .772 1-4 4 R .810 1-4 4 R .858	4 R .780 1-4 4 R .824 1-4 4 R .853 1-4 4 R .890	4 R .745 1-4 R R.796 1-4 4 R .830 1-4 4 R .837	2 L .760 2 · 4 2 L .788 1 · 4 R .807 1 · 4 4 R .855	R .715 1 4 R .772 1 -4 4 R .810 1 -4 4 R .858	R .689 1-4 4 R .744 1-4 4 R .787 1 4 4 R .840	2 L .695 1-4 1 L .724 1-4 1 L .770 1-4 1 L .828	4 R .740 1-4 4 R .792 1-4 4 R .827 1-4 4 R .827	R .695 1-4 4 R .756 1-4 4 R .797 1-4 4 R .848
80	O E V G NE V G N	4 R .740 1-4 4 R .792 1-4 4 R .827 1-4 4 R .870 1-4 4	2 L .725 1-4 4 R .772 1-4 4 R .810 1-4 4 R .858 1-4	4 R .780 1-4 4 R .824 1-4 4 R .853 1-4 4 R .890	4 R .745 1-4 4 R .796 1-4 4 R .830 1-4 4 R .873 1-4	2 L .760 2 · 4 2 L .788 1 · 4 4 R .807 1 · 4 4 R .855	R .715 4 R .772 1-4 4 R .810 1-4 R .858 1-4	R .680 1-4 4 R .744 1-4 4 R .787 1 4 R .840 1-4	2 L .695 1-4 1 L .724 1-4 1 L .770 1-4 1 L .828 1-4	4 R .740 1-4 R R .792 1-4 4 R .827 1-4 4 R .870	R .695 1-4 4 R .756 1-4 4 R .797 1-4 4 R .848 1-4
6	O E V G NE V G N	4 R .740 1-4 4 R .792 1-4 4 R .827 1-4 4 R .870	2 L .725 1-4 4 R .772 1-4 4 R .810 1-4 4 R .858	4 R 780 1-4 4 R .824 1-4 4 R .853 1-4 4 R .890	4 R .745 1 - 4 4 R .796 1 - 4 4 R .830 1 - 4 4 R .837 1 - 4	2 L .7660 2 · 4 2 L .788 1 · 4 4 R .807 1 · 4 4 R .855	R .715 1 4 R .772 1 -4 4 R .810 1 -4 4 R .858	R .689 1-4 4 R .744 1-4 4 R .787 1 4 4 R .840	2 L .695 I-4 1 L .724 I-4 1 L .770 I-4 1 L .828	4 R .740 1-4 4 R .792 1-4 4 R .827 1-4 4 R .827	R .695 1-4 4 R .756 1-4 4 R .797 1-4 4 R .848 1-4

48			Метно	DOFC	ONVER	TING H	EAVY M	OTOR V	/ EHICLI	LOAD	5	
			Continued									
	ick No		51	52	53	54	55	56	57	58	59	60
-	1. Base	_	32	32	32	32	36	36	36	36	36	36_
Ax	le acing	$\mathbf{X}_{\mathbf{X'}}$	$^{12}_{16}$	$\frac{12}{16}$	12 16	$\frac{12}{16}$	$\frac{12}{20}$	$\frac{12}{20}$	$\frac{12}{20}$	$\frac{12}{20}$	$\frac{12}{20}$	$\frac{12}{20}$
Loz		aı	.10	.20	.20	.20	.10	.10	.10	.20	.20	.20
On		a_2	.50	.30	.40	.50	.30	.40	.50	.30	.40	.50
Ax	ies	as	.40	.50	.40	.30	3 4	.50	·40 2	3-4	40 2	
- 1		G N	2 2	$^{3-4}_3$	$\frac{2}{2}$	$\frac{2}{2}$	3	2 2	2	3	2	2
	10	\mathbf{E}	\mathbf{R}	\mathbf{L}	\mathbf{R}	\mathbf{R}	L	R	R	L	R	R
1		-V G	.500 2-4	$\frac{.400}{2-4}$.400 1-2	$\frac{.500}{1-2}$	$\frac{.480}{3-4}$ -	$-\frac{.400}{3-4}$.500 1-2	3-4	.400 1-2	$\frac{500}{1-2}$
l		N	2	4	2	2	3	3	2	3	2	2
	20	$_{ m V}^{ m E}$	L	R	R	R .580	$_{.540}^{ m L}$	l. .450	$^{ m R}_{.540}$	$_{.450}^{ m L}$	R .480	$^{ m R}_{.580}$
		G	.540 2-4	.450 2-4	.480 2-4	2-4	2 4	2-4	2-4	2-4	1-2	1-2
į		N	2	4	2	2	4	4	2	4	2	2 R
	30	E V	$_{.660}^{ m L}$	$^{ m R}_{.566}$	$_{.560}^{ m L}$	$^{ m L}_{.620}$	$rac{ extbf{R}}{.620}$	$^{ m R}_{.546}$	$^{ m L}_{.607}$	$^{ m R}_{.526}$	$_{.520}^{ m R}$	$_{.620}^{ m R}$
		- <u>v</u> 	2-4	1-4	1-4	2-4	1-4	1-4	2-4	1-4	2-4	1-2
		N	2	4	4	2	4	4	2	4	2	$\frac{2}{R}$
eet	40	E V	$^{ m L}_{.720}$	$^{ m R}_{.665}$	$^{ m R}_{.620}$	$^{ m L}_{.665}$	$^{ m R}_{.700}$	$^{ m R}_{.645}$	$_{.680}^{ m L}$	$^{ m R}_{.615}$	$_{.580}$	$^{ m R}_{.640}$
1		G	2-4	1-4	1-4	1-4	1-4	1-4	2-4	1-4	1-4	1-4
Span-Feet		N	2	4	4	1	4	4	2 L	4	4	1
SQ.	50	E V	L .756	$^{ m R}_{.732}$	$^{ m R}_{.696}$	1. .700	$^{ m R}_{.760}$	$^{ m R}_{.716}$	L .724	$^{ m R}_{.692}$	$_{.648}^{ m R}$	$^{ m L}_{.676}$
- 1		G	2 4	1 4	14	1-4	1-4	14	2-4	1-4	1-4	1-4
- 1		N	2	4	4	1	4	4	2	4	4	1
	60	E V	$^{ m L}_{.780}$	R .777	$rac{ ext{R}}{.747}$	1. .750	R .800	$^{ m R}_{.763}$	$rac{1}{.753}$	R .743	R .707	$rac{1}{.730}$
		G	1-4	1-4	1-4	1-4	1-4	1-4	1 4	1-4	14	1-4
		N	4	4	4	1	4	4	4	4	4	1
	80	E V	$^{ m R}_{.825}$	R .833	R .810	$_{.813}^{ m L}$	$^{ m R}_{.850}$	R .823	R .795	$^{ m R}_{.808}$	R .780	L .798
		G	1-4	1-4	1-4	1.4	1 4	1-4	1-4	1-4	1-4	1-4
		N	4	4	4	1	4	4	4	4	4	1
	10 0	E V	$_{.860}^{ m R}$	$^{ m R}_{.866}$	R .848	$^{ m L}_{.850}$	R .880	$^{ m R}_{.858}$	$_{.836}^{ m R}$	$^{ m R}_{.846}$	$_{.824}^{ m R}$	$_{.838}^{ m L}$
=				62	63	64			67	68	69	70
	uck No n.Base		40	40	40	40	65 40	40	44	44	44	44
Ax		X	12	12	12	12	12	12	12	12	12	12
	acing	X'	24	24	24	24	24	24	28	28	28	28
Lo		a ₁	.10 .30	.10 .40	.10 .50	.20 .30	.20 .40	.20 .50	.10	.10 .40	.10 .50	.20 .30
On Ax	les	82 83	.60	.50	.40	.50	.40	.30	.60	.50	.40	.50
		G	3-4	2	2	3-4	2	2	3-4	2	2	3-4
	10	N E	$^3_{f L}$	$\frac{2}{\mathbf{R}}$	$^2_{f R}$	$\frac{1}{3}$	$^{2}_{ m R}$	$\frac{2}{\mathbf{R}}$	$^{3}_{ m L}$	$\frac{2}{R}$	2	3
	10	$\tilde{\mathbf{v}}$									В	
			.480	.400	.500	.400	.400	.500	.480	.400	$^{ m R}_{.500}$	$_{.400}^{ m L}$
		G	3-4	3-4	$\frac{.500}{1-2}$	3-4	1-2	.500 1-2	3-4	3-4	.500 1-2	3-4
	. 20	N	3-4 3	3-4 3	$\frac{.500}{1-2}$	3-4	$^{1-2}_{2}$	$\frac{.500}{1-2}$	3-4 3	3-4 3	$\frac{.500}{1-2}$	$\frac{.400}{3-4}$
	20	N E V	3-4 3 1 .540	.400 3-4 3 L .450	.500 1-2 2 R .540	3-4 3 L .450	1-2 2 R .480	.500 1-2 2 R .580	3-4 3 L .540	.400 3-4 3 L .450	.500 1-2 2 R .540	3-4 3 L .450
	20	N E V	3-4 3-4 3 1, .540 2-4	3-4 3 L .450 2-4	.500 1-2 2 R .540 1-2	3-4 3 L .450 2-4	1-2 2 R .480	.500 1-2 2 R .580 1-2	3-4 3 L .540 3-4	3-4 3 1 .450 3-4	.500 1-2 2 R .540 1-2	3-4 3 L .450 3-4
		N E V G N	3-4 3 1 .540	.400 3-4 3 L .450	.500 1-2 2 R .540	3-4 3 L .450	1-2 2 R .480	.500 1-2 2 R .580	3-4 3 L .540	3-4 3 1 450 3-4 3	.500 1-2 2 R .540	3-4 3 L .450
	30	N E V G N E V	.480 3-4 3 I. .540 2-4 4 R .580	3-4 3 L .450 2-4 4 R .493	.500 1-2 2 R .540 1-2 2 R .560	3-4 3 L .450 2-4 4 R .486	1-2 2 R .480 1-2 2 R .520	.500 1-2 2 R .580 1-2 2 R .620	3-4 3 L .540 3-4 3 L .560	3-4 3 L .450 3-4 3 L .467	.500 1-2 2 R .540 1-2 2 R .560	3-4 3 L .450 3-4 3 L .467
		G N E V G	.480 3-4 3 I. .540 2-4 4 R .580 2-4	3-4 3 L .450 2-4 4 R .493	.500 1-2 2 R .540 1-2 2 R .560 2-4	3-4 3 L .450 2-4 4 R .486 2-4	1-2 2 R .486 12 2 R .520	.500 1-2 2 R .580 1-2 2 R .620 1-2	3-4 3 L .540 3-4 3 L .560 2-4	3-4 3 1 .450 3-4 3 1 .467 2-4	.500 1-2 2 R .540 1-2 2 R .560 2-4	3-4 3 L .450 3-4 3 L .467 2-4
et		N E V G N E V	.480 3-4 3 I. .540 2-4 4 R .580	3-4 3 L .450 2-4 4 R .493	.500 1-2 2 R .540 1-2 2 R .560	3-4 3 L .450 2-4 4 R .486	1-2 2 R .480 1-2 2 R .520	.500 1-2 2 R .580 1-2 2 R .620	3-4 3 L .540 3-4 3 L .560	3-4 3 L .450 3-4 3 L .467	.500 1-2 2 R .540 1-2 2 R .560 2-4	3-4 3 L .450 3-4 3 L .467
-Feet	30	G N E V G N E V	.480 3-4 3 1, .540 2-4 4 R .580 2-4 4 R	3-4 3 1 .450 2-4 4 R .493 2-4	.500 1-2 2 R .540 1-2 2 R .560 2-4 2 L	3-4 3 L .450 2-4 4 R .486 2-4 4 R .565	1-2 2 R .480 1-2 2 R .520 2-4 2 L	.500 1-2 2 R .580 1-2 2 R .620 1-2	3-4 3 1 .540 3-4 3 4 .560 2-4 4	.400 3-4 3 1, 450 3-4 3 1, .467 2-4 4 R .555	.500 1-2 2 R .540 1-2 2 R .560 2-4 2 L	3-4 3 L .450 3-4 3 L .467 2-4 4 R
an-Feet	30	G S S S S S S S S S S S S S S S S S S S	.480 3-4 3 1. .540 2-4 4 R .580 2-4 4 R .660 1-4	.400 3-4 3 L .450 2-4 4 R .493 2-4 4 R .595	.500 1-2 2 R .540 1-2 2 R .560 2-4 2 L .640 2-4	3-4 3 1 .450 2-4 4 R .486 2-4 4 R .565	1-2 R .480 1-2 2 R .520 2-4 2 L .540	.500 1-2 2 R .580 1-2 2 R .620 1-2 2 R .640 1-4	3-4 3 L .540 3-4 3 L .560 2-4 4 R .630	.400 3-4 3 1, 450 3-4 3 1, .467 2-4 4 R .555	.500 1-2 2 R .540 1-2 2 R .560 2-4 2 L	3-4 3 L .450 3-4 3 L .467 2-4 4 R
Span-Feet	30	G N E V G N E V	.480 3-4 3 1, .540 2-4 4 R .580 2-4 4 R	.400 3-4 3 L .450 2-4 4 R .493 2-4 4 R .595	.500 1-2 2 R .540 1-2 2 R .560 2-4 2 L .640 2-4 2	3-4 3 1 .450 2-4 4 R .486 2-4 4 R .565 1-4 4	1-2 2 R .480 1-2 2 R .520 2-4 2 L	.500 1-2 2 R .580 1-2 2 R .620 1-2 2 R	3-4 3 L .540 3-4 3 L .560 2-4 R .630	3-4 3-4 3-4 1-450 3-4 3-1-467 2-4 4-R	.500 1-2 2 R .540 1-2 2 R .560 2-4 2	3-4 3 1. 450 3-4 3 1. 467 2-4 4 R .535 1-4 4 R
Span-Feet	30	GNEV GNEV GNEV	.480 3-4 3 1, .540 2-4 4 R .580 2-4 4 R .660 1-4 4 R	3-4 3 L .450 2-4 4 R .493 2-4 4 R .595 1-4 4 R	.500 1-2 2 R .540 1-2 2 R .560 2-4 2 L .640 2-4 2 L .692	3-4 3 L .450 2-4 4 R .486 2-4 4 R .565 1-4 4 R	1-2 2 R .480 1-2 2 R .520 2-4 2 L .540 1-4 4 R	.500 1-2 2 R .580 1-2 2 R .620 1-2 2 R .640 1-4 1 L	3-4 3 L .540 3-4 3 L .560 2-4 4 R .630 1-4 R	.400 3-4 3 L .450 3-4 3 L .467 2-4 4 R .555 1-4 4 R	.500 1-2 2 R .540 1-2 2 R .560 2-4 2 L .600	.400 3-4 3 L .450 3-4 3 1 .467 2-4 4 R .535 1-4 R .612
Span-Feet	30	GNEV GNEV GNEV G	.480 3-4 3 1 .540 2-4 4 R .580 2-4 4 R .660 1-4 4 R .728	.400 3-4 3 L .450 2-4 4 R .493 2-4 4 R .595 1-4 4 R .676	.500 1-2 2 R .540 1-2 2 R .560 2-4 2 L .640 2-4 2 L .692 2-4	3-4 3 1 450 2-4 4 R 486 2-4 4 R 565 1-4 4 R	1-2 2 R .480 1-2 2 R .520 2-4 2 L .540 1-4 4 R	.500 1-2 2 R .580 1-2 2 R .620 1-2 2 R .620 1-4 1 L .652 1-4	3-4 3-1 1.540 3-4 3 1.540 2-4 4 R.630 1-4 4 R.696 1-4	.400 3-4 3 L .450 3-1 L .467 2-4 4 R .555 1-4 4 R .636 1-4	.500 1-2 2 R .540 1-2 2 R .560 2-4 2 L .600 2-4 2 1.660 2-4	3-4 3 1 450 3-4 3 1 467 2-4 4 R .535 1-4 4 8 .612
Span-Feet	30	MEV GNEV GNEV GNE	.480 3-4 3 1. .540 2-4 4 R. .580 2-4 4 R. .660 1-4 4 R. .728	.400 3-4 3 L .450 2-4 4 R .493 2-4 4 R .595 1-4 4 R .676	.500 1-2 R .540 1-2 R .540 2-2 R .560 2-4 2 L .640 2-4 2 L .692 2-4 2 L	3-4 3 L .450 2-4 4 R .486 2-4 4 R .565 1-4 4 R .652	1-2 2 R .480 1-2 2 R .520 2-4 2 L .540 1-4 4 R	.500 1-2 2 R .580 1-2 2 R .620 1-2 2 R .640 1-4 1 L	3-4 3 L .540 3-4 3 L .560 2-4 4 R .630 1-4 R	.400 3-4 3 1 1. .450 3-4 3 1. .467 2-4 4 R .555 1-4 4 R .636	.500 1-2 2 R .540 1-2 2 R .560 2-4 2 L .600	.400 3-4 3 L .450 3-4 3 1 .467 2-4 4 R .535 1-4 R .612
Span-Feet	30 40 50	NEV GNEV GNEV GNEV	.480 3-4 3 1 .540 2-4 4 R .580 2-4 4 R .660 1-4 4 R .728 1-4 4 R	.400 3-4 3 L .450 2-4 4 R .493 2-4 4 R .595 1-4 4 R .676 1-4 4 R .730	.500 1-2 2 R .540 1-2 2 R .560 2-4 2 L .640 2-4 2 L .692 2-4 2 L .726	3-4 3 L .450 2-4 4 R .486 2-4 4 R .565 1-4 4 R .652 1-4 4 R	1-2 R .486 1-2 R R.520 2-4 2 L.540 1-4 4 R.600 1-4 4 R.6667	.500 1-2 2 R .580 1-2 2 R .620 1-2 2 R .640 1-4 1 L .652 1-4 1 I I I I I I I I I I I I I I I I I I	.480 3-4 3 L .540 3-4 3 L .560 2-4 4 R .630 1-4 4 R .696 1-4 4 R .696	.400 3-4 3 L .450 3-4 3 L .467 2-4 4 R .555 1-4 4 R .636 1-4 4 R	.500 1-2 R .540 1-2 R .540 1-2 L .660 2-4 L .600 2-4 L .660 2-4 L .670 2-4 L .670	3-4 3 L .450 3-4 3 L .467 2-4 4 R .535 1-4 4 R .612 1-4 4 R
Span-Feet	30 40 50	GNEV GNEV GNEV GNEV G	.480 3-4 3 IL .540 2-4 4 R .580 2-4 4 R .660 1-4 4 R .728 1-4 4 R	3-4 3 L .450 2-4 4 R .595 1-4 R .676 1-4 R R.730 1-4	.500 1-2 2 R .540 1-2 2 R .5560 2-4 2 L .640 2-4 2 L .726 2-4 2 L .726	3-4 3 L .450 2-4 4 R .486 2-4 4 R .565 1-4 4 R .652 1-4 4 R .710	1-2 R .480 1-2 R .520 2-4 2 L .540 1-4 4 R .600 1-4 4 R	.500 1-2 2 R .580 1-2 2 R .620 1-2 2 R .640 1-4 1 L .652 1-4 1 L .710 1-4	.480 3-4 3 L .540 3-4 3 L .560 2-4 4 R .630 1-4 4 R .696 1-4 4 R .747 1-4	.400 3-4 3 L .459 3-4 3 L .467 2-4 4 R .555 1-4 4 R .636 1-4 4 R .697	.500 1-2 2 R .540 1-2 2 R .560 2-4 2 L .600 2-4 2 L .600 2-4 2 L .700	3-4 3-4 450 3-4 3 1 467 2-4 4 R .535 1-4 4 R .612 1-4 4 R .677
Span-Feet	30 40 50	NEV GNEV GNEV GNEV	.480 3-4 3 1 .540 2-4 4 R .580 2-4 4 R .660 1-4 4 R .728 1-4 4 R	.400 3-4 3 L .450 2-4 4 R .493 2-4 4 R .595 1-4 4 R .676 1-4 4 R .730	.500 1-2 2 R .540 1-2 2 R .560 2-4 2 L .640 2-4 2 L .692 2-4 2 L .726	3-4 3 L .450 2-4 4 R .565 1-4 4 R .652 1-4 4 R .710 1 4 4 R	1-2 R .486 1-2 R R.520 2-4 2 L.540 1-4 4 R.600 1-4 4 R.6667	.500 1-2 2 R .580 1-2 2 R .620 1-2 2 R .640 1-4 1 L .652 1-4 1 I I I I I I I I I I I I I I I I I I	.480 3-4 3 L .540 3-4 3 L .560 2-4 4 R .630 1-4 4 R .696 1-4 4 R .696	.400 3-4 3 L .450 3-4 3 1 .467 2-4 4 R .555 1-4 4 R .636 1-4 4 R .697	.500 1-2 2 R .540 1-2 2 R .560 2-4 2 L .660 2-4 2 L .700 2 4 2	3-4 3 L .450 3-1 3 1, .467 2-4 4 R .612 1-4 4 R .677 1-4
Span-Feet	30 40 50	NEV GNEV GNEV GNEV GNEV	.480 3-4 3-1 1.540 2-4 4 R 580 2-4 4 R .660 1-4 4 R .728 1-4 4 R .773 1-4 4 R .830	.400 3-4 3 L .450 2-4 4 R .595 1-4 4 R .676 1-4 4 R .730 1-4 4 R	.500 1-2 2 R .540 1-2 2 R .5560 2-4 2 L .640 2-4 2 L .7726 2-4 2 L .7770	3-4 3 L .450 2-4 4 R .565 1-4 4 R .652 1-4 4 R .710 1 4 4 R	1-2 R .480 1-2 R .520 2-4 2 L .540 1-4 4 R .660 1-4 4 R .667 1 4 4 R	.500 1-2 2 R .580 1-2 2 R .620 1-2 2 R .640 1-4 1 L .652 1-4 1 L .710 1-4 1 L .783	.480 3-4 3 L .540 3-4 3 L .560 2-4 4 R .630 1-4 4 R .747 1-4 4 R .747	.400 3-4 3 L .459 3-4 3 L .467 2-4 4 R .555 1-4 4 R .636 1-4 4 R .697	.500 1-2 R .540 1-2 R .540 1-2 R .560 2-4 L .600 2-4 2 L .700 2-4 2 L .700 2-4 2 L .750	3-4 3 L .450 3-4 3 1 .467 2-4 4 R .535 1-4 4 R .612 1-4 4 R .677 1-4 4 R .758
Span-Feet	30 40 50	NEV GNEV GNEV GNEV GNEV G	.480 3-4 3 1 .540 2-4 4 R .580 2-4 4 R .660 1-4 4 R .773 1-4 4 R .830 1-4	.400 3-4 3 L .450 2-4 4 R .595 1-4 4 R .676 1-4 4 R .730 1-4 8 .798	.500 1-2 R .540 1-2 R .5560 2-4 2 L .640 2-4 2 L .692 2-4 2 L .726 2-4 2 L .776	3-4 3 L .450 2-4 4 R .486 2-4 4 R .565 1-4 4 R .710 1 4 4 R .788 1 4	1-2 R .480 1-2 2 R .520 2-4 2 L .540 1-4 4 R .600 1-4 4 R .667 1 4 4 R	.500 1-2 2 R .580 1-2 2 R .620 1-2 2 R .640 1-4 1 L .652 1-4 1 L .710 1-4 1 L .788	.480 3-4 3 L .540 3-4 3 L .560 2-4 4 R .636 1-4 4 R .747 1-4 4 R .810	.400 3-4 3 L .450 3-4 3 L .467 2-4 R .555 1-4 4 R .636 1-4 4 R .697 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	.500 1-2 2 R .540 1-2 2 R .560 2-4 2 L .606 2-4 2 I .700 2 4 2 I .750 1-4	.400 3-4 3 L .450 3-4 3 L .467 2-4 4 R .612 1-4 4 R .677 1-4 4 R .677 1-4 7 1-4 8 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4
Span-Feet	30 40 50	NEV GNEV GNEV GNEV GNEV	.480 3-4 3-1 1.540 2-4 4 R 580 2-4 4 R .660 1-4 4 R .728 1-4 4 R .773 1-4 4 R .830	.400 3-4 3 L .450 2-4 4 R .493 2-4 4 R .595 1-4 4 R .730 1-4 4 R .730 1-4 4 R	.500 1-2 2 R .540 1-2 2 R .560 2-4 2 L .640 2-4 2 L .726 2-4 2 L .726 2-4 4 4 R	3-4 3 L .450 2-4 4 R .486 2-4 4 R .565 1-4 4 R .652 1-4 4 R .710 1 4 4 R	1-2 R .480 1-2 R .520 2-4 2 L .540 1-4 4 R .660 1-4 4 R .667 1 4 4 R	.500 1-2 2 R .580 1-2 2 R .620 1-2 2 R .640 1-4 1 L .652 1-4 1 L .710 1-4 1 L .783	.480 3-4 3 L .540 3-4 3 L .560 2-4 4 R .696 1-4 4 R .747 1-4 4 R .810 1-4	.400 3-4 3 L .450 3-4 3 L .467 2-4 4 R .555 1-4 4 R .636 1-4 4 R .697 1-4 4 R	.500 1-2 R .540 1-2 R .540 1-2 R .560 2-4 2 L .600 2-4 2 L .700 2 4 2 L .750 1-4 4	.400 3-4 3 L .450 3-4 3 1 .467 2-4 4 R .535 1-4 4 R .612 1-4 4 R .677 1-4 4 R .758 1-4 4
Span-Feet	30 40 50 60	NEV GNEV GNEV GNEV GNEV GN	.480 3-4 3 1 .540 2-4 4 R .580 2-4 4 R .660 1-4 4 R .773 1-4 4 R .773 1-4	.400 3-4 3 L .450 2-4 4 R .493 2-4 4 R .595 1-4 4 R .730 1-4 4 R .798	.500 1-2 2 R .540 1-2 2 R .5560 2-4 2 L .640 2-4 2 L .692 2-4 2 L .776 2-4 2 L .776 1-4 4	3-4 3 L .450 2-4 4 R .486 2-4 4 R .565 1-4 4 R .710 1 4 4 R .783 1 4	1-2 R .480 1-2 R .520 2 R .520 2-4 2 L .540 1-4 4 R .600 1-4 4 R .667 1 4 R .750	.500 1-2 2 R .580 1-2 2 R .620 1-2 2 R .640 1-4 1 L .710 1-4 1 L .783 1-4 1	.480 3-4 3 L .540 3-4 3 L .560 2-4 4 R .630 1-4 4 R .747 1-4 4 R .810 1-4 4	.400 3-4 3 L .450 3-4 3 L .467 2-4 R .555 1-4 4 R .636 1-4 4 R .697 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	.500 1-2 2 R .540 1-2 2 R .560 2-4 2 L .606 2-4 2 I .700 2 4 2 I .750 1-4	.400 3-4 3 L .450 3-4 3 L .467 2-4 4 R .612 1-4 4 R .677 1-4 4 R .677 1-4 7 1-4 8 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4

					E	UIVALE	NT LO	ADS				49
TAB Truc			Continue 71	d) 72	73	74	75	76	77	78	79	80
Wh.			44	44	28	28	28	28	28	28	32	32
Axle Spac		X X'	$\frac{12}{28}$	12 28	16 8	16 8	16 8	16 8	16 8	$^{16}_{8}$	$\frac{16}{12}$	$\frac{16}{12}$
Load		a ₁	.20	.20	.10	.10	.10	.20	.20	.20	.10	.10
On Axle	s	a ₂ a::	.40 .40	.50 .30	.30 .60	.40 .50	.50 .40	.30 .50	.40	.50 .30	.30 .60	.40 .50
j		G N	2 2	2 2	3–4 3	2 3	$\frac{2 \cdot 3}{2}$	3 4 3	$\frac{2-3}{2}$	2 -3 2	3 · 4 3	2 2
	10	E V	R	\mathbf{R}	\mathbf{L}	L	\mathbf{L}	L	$ar{ ext{L}}_{.440}$	$\stackrel{ ilde{ id}}}}}}}}}.}}}} } } } } } $	$ m _{.480}$	R .400
-		G	1 2	.500 1 · 2	.480 2-4	$\frac{.450}{2-4}$	2-4	$\frac{.400}{2-4}$		2-4	2-4	2-4
ļ	20	N E	$^2_{ m R}$	$\frac{2}{R}$	$^4_{ m R}$	2 L	$^{2}_{ m L}$	4 R	$^2_{ m L}$	2 L	4 R	$^2_{ m L}$
-		V	.480	.580	.660	.650	.700	.570	.600	.650	.600	.550
		G N	$rac{1}{2}^2$	$\frac{1-2}{2}$	$egin{array}{c} 1-4 \ 4 \end{array}$	$^{2-4}_{2}$	$_{2}^{-4}$	$_{4}^{1-4}$	$\frac{2-4}{2}$	$\frac{2-4}{2}$	2-4 4	2 ·4 2
Ì	30	E V	R .520	R .620	R .747	L .734	I. .767	R .660	$_{.666}^{ m L}$.700	R .700	L .667
-		G	1 2	1-2	1 4	1 4	2-4	14	1-4	2-4	1-4	1-4
set	40	$_{ m E}^{ m N}$	$^2_{ m R}$	$\frac{2}{R}$	$^{4}_{ m R}$	4 R	$^2_{ m L}$	4 R	$^4_{ m R}$	$^2_{ m L}$	4 R	$^{4}_{ m R}$
님		_ <u>V</u>	.540 1-4	$\frac{.640}{1-2}$.810	.785	2 4	.745 1-4	.720 1-4	.725	.770	$\frac{.735}{1-4}$
Span-Feet		G N	1	2	$^{1-4}_{4}$	1 4 4	2	4	4	1-4 4	$\frac{1-4}{4}$	4
0.1	50	E V	$^{ m L}_{.568}$	$^{ m R}_{.652}$	$^{ m R}_{.848}$	$_{.828}^{ m R}$	L .820	$^{ m R}_{.796}$	$^{ m R}_{.776}$	R .756	$^{ m R}_{.816}$	R .788
-		G N	1-4 1	1-4	1-4 4	14	1-4	1-4	1-4 4	1-4	1-4	1- 4 4
i	60	\mathbf{E}	L	\mathbf{L}	R	R	R	4 R	\mathbf{R}	\mathbf{R}	\mathbf{R}	R
-		V G	1-4	.690 1-4	.873	.857 1-4	1-4	$\frac{.830}{1-4}$.813	$\frac{.797}{1-4}$	$\frac{.847}{1-4}$	
	80	N E	1 L	$_{ m L}^{ m 1}$	4 R	A R	$^4_{ m R}$	4 R	$^{4}_{ m R}$	$^{4}_{ m R}$	$^{4}_{ m R}$	4 R
_		V	.730	.768	.905	.893	.880	.873	.860	.848	.885	.868
		G N	1-4 1	$^{1-4}$	1 -4 4	14 4	14 4	1-4 4	1-4 4	$^{1-4}_{4}$	$^{1-4}$	$^{1-4}_{4}$
	100	E V	$_{.784}^{\mathbf{L}}$	L .814	R .924	R .914	R .901	R .898	$^{ m R}_{.888}$	$^{ m R}_{.878}$	$^{ m R}_{.908}$	R .894
Tru	ek N	о,	81		83	84	85	86	87	88	89	90
$\frac{\mathbf{W}\mathbf{h}}{\mathbf{A}\mathbf{x}\mathbf{k}}$	Bas		32 16	32	32	32 16	36	36	36	36	36	36
	eing	X X'	12	16 12	16 12	12	16 16	16 16	$^{16}_{16}$	$^{16}_{16}$	$\frac{16}{16}$	16 16
Loa- On	d	a 1 a 2	.10 .50	.20 .30	.20 .40	.20 .50	$.10 \\ .30$.10	.10 .50	.20 .30	.20	.20
Axle	es .	аз	.40	.50	.40	.30	.60	.50	.40	.50	.40	.30
l		G N	2 2	3-4 3	2 2	2 2	3-4 3	2 2	2 2	3-4 3	2 2	$\frac{2}{2}$
i	10	\mathbf{v}	R .500	$_{.400}$	R .400	R .500	$_{.480}^{\mathrm{L}}$	$^{ m R}_{.400}$	$^{ m R}_{.500}$	$_{.400}^{\mathbf{L}}$	$^{ m R}_{.400}$	$^{ m R}_{ m .500}$
		G N	2-4	2-4	2 4 2	2-4	3-4 3	3-4	2-3	3-4	2-3	1-2
	20	E V	$_{.620}^{ m L}$	R	L	L	L	$\overset{\circ}{\mathbf{L}}$	L	L	L	\mathbf{R}
-		G	2-4	.510 2 4	.520 2- 4	.590 2-4	.540 2-4	2 4	.540 2-4	.450 2-4	2-4	2-4
i	30	N E	$_{\mathbf{L}}^{2}$	$^4_{ m R}$	$^2_{ m L}$	$^2_{ m L}$	$^4_{ m R}$	$\frac{4}{\mathbf{R}}$	$^2_{\mathbf{L}}$	$^4_{ m R}$	$\frac{2}{1}$	$^2_{ m L}$
		V	.714 2-4	1 4	.614 2-4	.660	.660 1-4	.600	$\frac{.660}{2-4}$.566	$\frac{.560}{2-4}$.620
j.	40	N	2	4	2	2-4 2	4	1-4	2	$^{1-4}_{4}$	2	2
Fee	40	\mathbf{v}	1. .760	R .695	$_{.660}^{ m L}$	$_{.695}$	R .730	R .685	$_{.720}^{\mathbf{L}}$	$^{ m R}_{.645}$	$_{.620}^{ m L}$	$^{ m L}_{.665}$
Span-Feet		G N	2-4	14	1-4 4	2 4	$\frac{1-4}{4}$	1-4	2-4 2	1-4	1-4	2 4
S	50	\mathbf{E}	Ī	R	R	Ĺ	R	Ŕ	$_{\rm L}$	R	\mathbf{R}	L
-	*****	V G	$\frac{.788}{2-4}$.756 1-4	$\frac{.728}{1-4}$.716 1-4	.784 1-4	$\frac{.748}{1-4}$.756 2-4	.716 1–4	$\frac{.680}{1-4}$	$\frac{.692}{2-4}$
ļ	60	N E	$^2_{ m L}$	${f R}^4$	$^{4}_{ m R}$	$^{4}_{ m R}$	$^4_{ m R}$	$^4_{\rm R}$	$^2_{ m L}$	$^4_{ m R}$	4 R	$_{ m L}^2$
-		V	.806	.797	.773	.750	.820	.790	.780	.763	.733	.710
-		G N	1:-4 4	1-4 4	$\begin{smallmatrix}1&4\\&4\end{smallmatrix}$	$^{1-4}_4$	1-4 4	14 4	1-4 4	$^{1-4}_4$	$\frac{1-4}{4}$	$^{1-4}_{4}$
	80	$_{ m V}^{ m E}$	R .850	R .848	R .830	$_{.813}^{ m R}$	$^{ m R}_{.865}$	$^{ m R}_{.843}$	$_{.820}^{ m R}$	$^{ m R}_{.823}$	$_{.800}^{ m R}$.778
-		G	1-4	14	1-4	1-4	1-4	14	1-4	1-4	1-4	1-4
	100	N E	4 R	$^4_{ m R}$	A R	R R	$^{4}_{ m R}$	4 R	$^4_{ m R}$	$^4_{ m R}$	$^{4}_{ m R}$	$^4_{ m R}$
		v	.880	.878	.864	.850	.892	.874	.856	.858	.840	.822

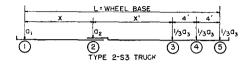
50 METHOD OF CONVERTING HEAVY MOTOR VEHICLE LOADS

TABLE 7.4 (Continued)

			Continue									
	ck No Base		91 40	92 40	93	94	95 40	96	97 44	98 44	99	100
Axl	e	X X	16	16	16	16	16	16	16	16	16	16
Spa Loa	cing	X'				.20		$-\frac{20}{.20}$	$\frac{24}{.10}$	$\frac{24}{.10}$	$\frac{24}{10}$	$-\frac{24}{.20}$
On		\mathbf{a}_2	.30	.40	.50	.30	.40	.50	.30	.40	.50	.30
Axl	es	G G	3-4	.50	2	.50 3-4	.40	.30	3-4	.50	2	$\frac{.50}{3-4}$
	10	Ñ E	3 L	${f r}^{ar 2}$	${f r}^{ar 2}$	$^3_{ m L}$	$\frac{1}{2}$	2 R	3 L	2 R	$\overset{-}{\overset{2}{R}}$	3 L
		V	480	.400	.500	.400	.400	.500	.480	.400	.500	.400
		G N	$\frac{3-4}{3}$	$_{3}^{-4}$	$\frac{1-2}{2}$	$_{3}^{-4}$	$_{2}^{1-2}$	$^{1-2}_{\ 2}$	34 3	3~4 3	1-2	$\frac{3-4}{3}$
	20	E V	$_{.540}^{ m L}$	$^{ m L}_{.450}$	2 R .520	$_{.450}^{ m L}$	R .440	R .540	$_{.540}^{ m L}$	L .450	$_{.520}^{ m R}$	$_{.450}^{ m L}$
- -		G	2-4	2-4	2-4	2-4	2-4	1 2	24	24	2-4	2- 4
	30	$_{ m E}^{ m N}$	$^4_{ m R}$	$^{4}_{ m R}$	$^2_{ m L}$	$^{4}_{ m R}$	$^2_{ m L}$	$^2_{ m R}$	$^4_{ m R}$	$^4_{ m R}$	$_{ m L}^2$	$^{4}_{ m R}$
- -		V	.620	.546	.607	.526	.506	.594	.580	.493	.554	.486
ည		G N	1-4 4	$^{1-4}_{\underline{4}}$	$\frac{2-4}{2}$	$\frac{1-4}{4}$	$^{2-4}_2$	$\frac{2-4}{2}$	2-4 4	$\frac{2-4}{4}$	24 2 L	2-4 4
)an	40	E V	.690	$^{ m R}_{.635}$	$^{ m L}_{.680}$	$^{ m R}_{.595}$	$_{.580}^{ m L}$	$^{ m L}_{.635}$	$_{.660}^{ m R}$	R .595	.640	$^{ m R}_{.565}$
Span-Feet		G	1-4 4	1-4	2 4	1 -4	1-4	2-4	1-4	1-4	2-4	14
*	50	N E	\mathbf{R}	\mathbf{R}	L	R	4 R	2 L	4 R	R R	2 L	R R
-		G	.752 1-4	$\frac{.708}{1-4}$.724 2-4	.676 1-4	$\frac{.632}{1-4}$	2-4	$\frac{.720}{1-4}$.668 1-4		$\frac{.636}{1-4}$
	60	Ň E	4 R	$^{4}_{ m R}$	$^{^{2}}_{ m L}$	4 R	4 R	2 L	4 R	4 R	L L	4 R
		v	.793	.757	.753	.730	.693	.690	.767	.723	.726	.697
-		G N	14 4	14 4	$^{1-4}_{4}$	$^{1-4}_{4}$	$^{1-4}_{4}$	$^{1-4}_{1}$	$^{1-4}_{4}$	$^{1-4}_{4}$	$\frac{2-4}{2}^{-}$	$^{1-4}_{4}$
	80	E V	Ř .845	.818	Ř .790	$^{ m R}_{.798}$	Ř .770	Ĺ .758	$\overset{\cdot}{ ext{R}}$	R .793	$ ilde{ ilde{L}}$	R .773
-		G	1-4	1–4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4
1	100	N E	$^4_{ m R}$	$^{4}_{ m R}$	$^{4}_{ m R}$	$^4_{ m R}$	$^4_{ m R}$	$_{ m L}^{ m 1}$	$^4_{ m R}$	$^{4}_{ m R}$	$^4_{ m R}$	$^{4}_{\rm R}$
		V	.876	.854	.832	.838	.816	.806	.860	.834	.808	.818
	ck No		101	102	103	104	105	106	107	108		
Wh.	. Base	e L	101 44 16	16	103 48 16	48	48	48	48	48		
Wh. Axl Spa	Base e cing	X X X'	16 24	16 24	16 28	48 16 28	48 16 28	48 16 28	48 16 28	48 16 28		
Wh. Axl Spa Loa On	Base e cing d	X X' a ₁ a ₂	16 24 .20 .40	16 24 .20 .50	16 28 .10 .30	16 28 .10 .40	48 16 28 .10 .50	48 16 28 .20 .30	48 16 28 .20 .40	48 16 28 .20 .50		
Wh. Axl Spa Loa On	Base e cing d	X X' a1 a2 a3	.20 .40 .40	.20 .50 .30	16 28 .10 .30 .60	16 28 .10 .40 .50	48 16 28 .10 .50 .40	48 16 28 .20 .30 .50	48 16 28 .20 .40 .40	48 16 28 .20 .50 .30		
Wh. Axl Spa Loa On	Base e cing d es	X X' a ₁ a ₂ a ₃ G	16 24 .20 .40 .40 .2	16 24 .20 .50 .30	48 16 28 .10 .30 .60 3-4 3	48 16 28 .10 .40 .50	48 16 28 .10 .50 .40 2 2	48 16 28 .20 .30 .50 3-4 3	48 16 28 .20 .40 .40	48 16 28 .20 .50 .30		
Wh. Axl Spa Loa On	Base e cing d	a ₁ a ₂ a ₃ G N E V	16 24 .20 .40 .40 2 2 R .400	16 24 .20 .50 .30 2 2 R .500	48 16 28 .10 .30 .60 3-4 3 L	48 16 28 .10 .40 .50 2 2 R .400	48 16 28 .10 .50 .40 2 2 R .500	48 16 28 .20 .30 .50 3-4 3 L	48 16 28 .20 .40 .40 2 2 R .400	48 16 28 .20 .50 .30 2 2 R .500		
Wh. Axl Spa Loa On	Base e cing d es	2 L X X' a ₁ a ₂ a ₃ G N E V	44 16 24 .20 .40 .40 2 2 R .400 1-2	44 16 24 .20 .50 .30 2 2 R .500 1-2	48 16 28 .10 .30 .60 3-4 3 L .480 3-4	48 16 28 .10 .40 .50 2 2 R .400 3-4	48 16 28 .10 .50 .40 2 2 R .500 1-2	48 16 28 .20 .30 .50 3-4 3 L .400 3-4	48 16 28 .20 .40 .40 2 2 R .400	48 16 28 .20 .50 .30 2 2 R .500		
Wh. Axl Spa Loa On	Base e cing d es	A X X' a1 a2 a3 G N E V G N E	44 16 24 .20 .40 .40 2 2 R .400 1-2 R	44 16 24 .20 .50 .30 2 R .500 1-2 R	48 16 28 .10 .30 .60 3-4 3 L .480 3-4 3 L	48 16 28 .10 .40 .50 2 2 R .400 3-4 3 L	48 16 28 .10 .50 .40 2 2 R .500 1-2 2 R	48 16 28 .20 .30 .50 3-4 3 L .400 3-4 3 L	48 16 28 .20 .40 .40 2 2 R .400 1-2 2 R	48 16 28 .20 .50 .30 2 2 R .500 1 2 2		
Wh. Axl Spa Loa On	Base e cing d es	a1 a2 a3 G N E V G N E V	44 16 24 .20 .40 .40 2 2 R .400 1-2 2 R .440	44 16 24 .20 .50 .30 2 2 R .500 1-2 2 R .540 1-2	48 16 28 .10 .30 .60 3-4 3 L .480 3-4 3 L .540	48 16 28 .10 .40 .50 2 2 R .400 3-4 3 L .450 3-4	48 16 28 .10 .50 .40 2 2 R .500 1-2 2 R .520 1-2	48 16 28 .20 .30 .50 3-4 3 L .400 3-4 3 L .450 3-4	48 16 28 .20 .40 .40 2 2 R .400 1-2 2 R .440 1-2	48 16 28 .20 .50 .30 2 2 R .500 1 2 2 R .540 1-2		
Wh. Axl Spa Loa On	Base e cing d es	at az az GNEV	44 16 24 20 40 40 2 2 R .400 1–2 2 R	44 16 24 .20 .50 .30 2 2 R .500 1-2 2 R	48 16 28 .10 .30 .60 3-4 3 L .480 3-4 3 L .540	48 16 28 .10 .40 .50 2 R .400 3-4 3 L	48 16 28 .10 .50 .40 2 2 R .500 1-2 2 R	48 16 28 .20 .30 .50 3-4 3 L .400 3-4 3 L	48 16 28 .20 .40 .40 2 2 R .400 1-2 2 R	48 16 28 .20 .50 .30 2 2 R .500 1 2 2 R		
Wh. Axl Spa Loa On	Base e cing d es 10	A X X' a1 a2 a3 GNE V GNE V GNE V CNE V	44 16 24 20 .40 .40 2 2 R .400 1-2 2 R .440 1-2 2 R .493	44 16 24 .20 .50 .30 2 2 R .500 1-2 2 R .540 1-2 2 R .540 1-2 2 R	48 16 28 .10 .30 .60 3-4 3 L .480 3-4 3 L .540 3-4 3 L .540 3-4 3 L .540 .50	48 16 28 .10 .40 .50 2 2 R .400 3-4 3 L .450 3-4 3 L .467	48 16 28 .10 .50 .40 2 2 R .500 1-2 2 R .520 1-2 2 R .524 .525 .536 .540	48 16 28 .20 .30 .50 3-4 3 L .400 3-4 3 L .450 3-4 3 L .450	48 16 28 .20 .40 .40 .40 2 2 R .400 1-2 2 R .440 1-2 2 R .449	48 16 28 .20 .50 .30 2 2 R .500 1 2 2 R .540 1-2 2 R .594		
Wh. Axl Spa Loa On Axl	Base e cing d es	A X X X A A A A A A A A A A A A A A A A	44 16 24 .20 .40 .40 2 2 R .400 1-2 2 R .440 1-2 2 R .493 2-4	44 16 24 .20 .50 .30 2 2 R .500 1-2 2 R .540 1-2 2 R .540 1-2 2 R	48 16 28 10 30 60 60 3-4 3 L 480 3-4 3 L 540 3-4 3 L 560 2-4 4	48 16 28 .10 .40 .50 2 2 R .400 3-4 .450 3-4 .450 3-4 .467 2-4	48 16 28 .10 .50 .40 2 2 R .500 1-2 2 R .520 1-2 2 R .547 2-4	48 16 28 .20 .30 .50 3-4 3 L .400 3-4 3 L .450 3-4 3 L .450 3-4 3-4 4-67 2-4 4-67	48 16 28 .20 .40 .40 .40 1-2 2 R .400 1-2 2 R .440 1-2 2 R .493 1-2 2	48 16 28 20 50 30 2 2 R 500 1 2 2 R 540 1-2 2 R 540 1-2 2 1-2 1-2 1-2 1-2 1-2 1-2		
Wh. Axl Spa Loa On Axl	Base e cing d es 10	A X X X A A A A A A A A A A A A A A A A	44 16 24 20 40 40 2 2 8 400 1-2 2 1 1 2 2 8 40 1-2 2 2 1 40 1-2 2 2 1 40 1-2 2 2 40 40 1-2 2 40 40 1-2 40 40 1-2 40 40 1-2 40 40 40 40 40 40 40 40 40 40	44 16 24 20 .50 .50 2 2 R .500 1-2 2 R .540 1-2 2 R .540 1-2 2 R .540 1-2 2 2 2 2 3 8 8 8 8 8 8 8 8 8 8 8 8 8	48 16 28 .10 .30 .60 .60 3-4 3 L .480 3-4 3 L .540 3-4 3 L .540 3-4 8 4 8 8 8 8 8 8 8 8 8 8 8 8 8	48 16 28 10 40 .50 2 2 R .400 3-4 3 L .450 3-4 3 L .467 2-4 4 R	48 16 28 .10 .50 .40 2 2 R .500 1-2 2 R .520 1-2 2 R .520 1-2 2 2 1-2 2 2 2 2 2 2 2 2 2 2 2 2 2	48 16 28 20 30 .50 3-4 3 L .400 3-4 3 L .450 3-4 3 L .467 2-4 4 R	48 16 28 20 .40 .40 .40 2 2 R .400 1-2 2 R .449 1-2 2 R .493 1-2 2 R	48 16 28 .20 .50 .30 2 2 R .500 1 2 2 R .540 1-2 2 R .594 1-2 2 R		
Wh. Axl Spa Loa On Axl	Base e cing d es	a1 a2 G N E V G N E V G N E V G G M E V G G M	44 16 24 .20 .40 .40 .40 1-2 2 R .400 1-2 2 R .440 1-2 2 R .493 2-4 .540 2-4 .540	44 16 24 20 .50 .30 2 2 R .500 1-2 R .540 1-2 2 R .594 1-2 2 R	48 16 28 .10 .30 .60 3-4 3 L .480 3-4 3 L .540 3-4 3 L .540 3-4 8 .60 1-4 8 1 .60 .60 .60 .60 .60 .60 .60 .60	48 16 28 .10 .40 .50 2 2 R .400 3-4 3 L .450 3-4 3 L .467 2-4 4 R .555 1-4	48 16 28 .10 .50 .40 2 2 R .500 1-2 2 R .520 1-2 2 R .547 2-4 2 L .60 .60 .60 .60 .60 .60 .60 .60	48 16 28 .20 .30 .50 3-4 3 L .400 3-4 3 L .450 3-4 3 L .467 2-4 4 R .535 1-4	48 16 28 .20 .40 .40 .40 .2 .2 .8 .400 1-2 .2 .8 .440 1-2 .2 .8 .493 1-2 .8 .5 .9 .9 .9 .9 .9 .9 .9 .9 .9 .9	48 16 28 .20 .50 .30 2 2 R .500 1 2 2 R .540 1-2 2 R .594 1-2 2 R .594 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2		
Wh. Axl Spa Loa On Axl	Base e cing d es	A L X X X A 1 A 2 A 3 A 3 A 3 A 5 A 5 A 5 A 5 A 5 A 5 A 5	44 16 24 .20 .40 .40 .2 .2 .2 .40 .1–2 .2 .440 .1–2 .2 .493 .2–4 .2 .493 .2–4 .2 .40 .2 .40 .40 .40 .40 .40 .40 .40 .40	44 16 24 .20 .50 .30 2 R .500 1-2 2 R .540 1-2 2 R .594 1-2 2 R .692 2 2 2 2 2 2 2 2 3 3 3 4 1 2 2 2 3 4 4 4 4 4 4 4 4 4 4 4 4 4	48 16 28 .10 .60 .60 3-4 3 L .480 3-4 3 L .540 3-4 3 L .540 2-4 4 R .630 1-4 4 R	48 16 28 .10 .40 .50 2 2 R .400 3-4 3 L .450 3-4 3 L .467 2-4 4 R .555 1-4 4 R	48 16 28 .10 .50 .40 2 2 R .500 1-2 2 R .520 1-2 2 R .547 2-4 2 L .600 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-4	48 16 28 .20 .30 .50 .50 3-4 3 L .400 3-4 3 L .450 3-4 3 L .467 2-4 4 R R	48 16 28 .20 .40 .40 .40 1-2 2 R .440 1-2 2 R .493 1-2 2 R .493 1-2 2 L	48 16 28 .20 .50 .50 .30 2 R .500 1 2 R .540 1-2 R .594 1-2 R .620 1-2 R R .7 R		
Wh. Axl Spa Loa On Axl	Base e cing d es	A L X X X A 1 A 2 A 3 A 3 A 3 A 5 A 5 A 5 A 5 A 5 A 5 A 5	44 16 24 .20 .40 .40 .2 .2 .40 1-2 .2 .440 1-2 .2 .493 2-4 .493 2-4 .540 2-4 .592	44 16 24 .20 .50 .30 2 2 R .500 1-2 2 R .540 1-2 2 R .594 1-2 2 R .594 1-2 2 L .644	48 16 28 .10 .30 .60 3-4 3 L .480 3-4 3 L .540 3-4 3 L .560 2-4 4 R .630 1-4 8 .60 1-4 8 8 8 8 8 8 8 8 8 8 8 8 8	48 16 28 .10 .40 .50 2 2 R .400 3–4 3 L .450 3–4 3 L .467 2–4 4 R .555 1–4 4 R .628	48 16 28 .10 .50 .40 2 2 R .500 1-2 2 R .520 1-2 2 R .547 2-4 2 L .600 2-4 2 L .660	48 16 28 .20 .30 .50 3-4 3 L .400 3-4 3 L .450 3-4 3 L .467 2-4 4 R .535 1-4 4 R .595 1-4 8 8 8 8 8 8 8 8 8 8 8 8 8	48 16 28 .20 .40 .40 .40 2 2 R .400 1-2 2 R .440 1-2 2 R .493 1-2 2 R .560	48 16 28 .20 .50 .30 2 2 R .500 1 2 2 R .540 1-2 2 R .594 1-2 2 R .626 636		
Wh. Axl Spa Loa On Axl	Base e cing d es 10 20 30 40 50	A L XX A1 A2 A3 G NE V G N G N	44 16 24 .20 .40 .40 .2 .2 .40 .40 .1–2 .2 .440 .1–2 .2 .493 .2–4 .2 .493 .2–4 .40 .40 .40 .40 .40 .40 .40 .4	44 16 24 .20 .50 .30 2 2 R .500 1-2 2 R .540 1-2 2 R .594 1-2 2 R .620 2-2 2 4 2 4 2 4 2 4 4 4 4 4 4 4 4 4 4 4 4 4	48 16 28 .10 .30 .60 3-4 3 L .480 3-4 3 L .540 3-4 3 L .560 2-4 4 R .630 1-4 4 8 .630 1-4 4 8 8 1-4 8 8 8 8 8 8 8 8 8 8 8 8 8	48 16 28 .10 .40 .50 2 2 R .400 3-4 3 L .450 3-4 3 L .467 2-4 4 R .555 1-4 4 R .628 1-4	48 16 28 .10 .50 .40 2 2 R .500 1-2 2 R .520 1-2 2 R .547 2-4 2 L .660 2-4 2 L .660	48 16 28 .20 .30 .50 3-4 3 L .400 3-4 3 L .450 3-4 3 L .467 2-4 4 R .535 1-4 4 R .596	48 16 28 .20 .40 .40 .2 2 R .400 1-2 2 R .440 1-2 2 R .493 1-2 2 R .560 1-4 4	48 16 28 .20 .50 .30 2 2 R .500 1 2 2 R .540 1-2 2 R .620 1-2 2 R .636 2-4		
Wh. Axl Spa Loa On Axl	Base e cing d es	E L	44 16 24 20 40 40 2 2 R 400 1-2 2 R 493 2-4 2 L 540 2-4 2-5 1-4	44 16 24 20 .50 .50 2 2 R .500 1-2 2 R .540 1-2 2 R .540 1-2 2 R .540 1-2 2 2 4 8 .540 1-2 2 2 4 8 .550 1-2 2 2 4 8 .550 1-2 2 2 8 .550 1-2 1-2 2 8 .550 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2	48 16 28 .10 .30 .60 .60 3-4 3 L .480 3-4 3 L .540 3-4 4 R .630 1-4 4 R .630 1-4 8 .630 1-4 8 .630 1-4 8 .640 1-	48 16 28 10 .40 .50 .50 2 2 R .400 3-4 3 L .450 3-4 3 L .467 2-4 4 R .555 1-4 R .628 1-4	48 16 28 .10 .50 .40 2 2 R .500 1-2 2 R .520 1-2 2 R .520 1-2 2 L .600 2-4 2 L .600 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-4	48 16 28 20 30 50 3-4 3 L 400 3-4 3 L 450 3-4 4 8 535 1-4 4 8 8 6 1-4	48 16 28 .20 .40 .40 .2 2 R .400 1-2 2 R .440 1-2 2 R .493 1-2 2 R .520 2-4 2 L .560 1-4	48 16 28 .20 .50 .30 2 2 R .500 1 2 2 R .540 1-2 2 R .594 1-2 2 R .626 636		
Wh. Axl Spa Loa On Axl	Base e cing d es 10 20 30 40 50	E L XX a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	44 16 24 .20 .40 .40 .2 .2 .40 1-2 .2 .440 1-2 .2 .493 2-4 .2 .493 2-4 .493 2-4 .493 2-4 .493 2-4 .493 2-4 .493 2-4 .493 2-4 .493 2-4 .493 2-4 .493 .4	44 16 24 .20 .50 .30 .30 .500 1-2 .2 R .540 1-2 .2 R .594 1-2 .2 R .620 2-4 .2 L .644 2-4 .644 1-4 .644 .645	48 16 28 .10 .30 .30 .30 .4 3 L .480 .3-4 3 L .540 .540 .560 2-4 4 R .630 1-4 4 R .688 1-4 4 R .740 1-4	48 16 28 .10 .40 .50 2 2 R .400 3–4 3 L .450 3–4 3 L .467 2–4 4 R .628 1–4 4 R .628 1–4	48 16 28 .10 .50 .40 2 2 R .500 1-2 2 R .520 1-2 2 R .547 2-4 2 L .660 2 4 2 L .660	48 16 28 .20 .30 .50 .50 3-4 3 L .400 3-4 3 L .450 3-4 3 L .467 2-4 4 R .535 1-4 4 R .596 1-4 R .663 1-4	48 16 28 .20 .40 .40 .40 2 2 R .400 1-2 2 R .440 1-2 2 R .493 1-2 2 R .560 1-4 4 R .613 1-4	48 16 28 .20 .50 .30 2 2 R .500 1 2 2 R .540 1-2 2 R .594 1-2 2 R .620 1-2 2 L .6550 1-4		
Wh. Axl Spa Loa On Axl	Base e cing d es 10 20 30 40 50	L XX x a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV GNEEV GN	44 16 24 .20 .40 .40 .2 .2 .40 .2 .2 .40 .1 .2 .2 .440 .1 .2 .2 .440 .2 .2 .440 .2 .45 .45 .45 .45 .45 .45 .45 .45	44 16 24 .20 .50 .50 .30 2 2 R .500 1-2 2 R .540 1-2 2 R .594 1-2 2 R .620 2-4 2 L .644 2-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1	48 16 28 .10 .30 .60 3-4 3 L .480 3-4 3 L .540 3-4 4 R 630 1-4 4 R .688 1-4 4 R 740 1-4 4 R	48 16 28 .10 .40 .50 .50 .2 R .400 .3 L .450 .450 .450 .467 .467 .467 .467 .468 .628 .628 .628 .648 .669 .648 .648 .658 .648 .648 .658	48 16 28 .10 .50 .40 .2 2 2 R .500 1-2 2 R .520 1-2 2 R .547 2-4 2 L .660 2-4 2 L .660 2-4 2 L .700 2-4 2 L .700 2-4 2 2 2 2 2 2 2 3 2 4 2 4 2 4 4 4 4 4 4 4 4 4 4 4 4 4	48 16 28 .20 .30 .50 .50 3-4 3 L .400 3-4 3 L .450 3-4 3 L .467 2-4 4 R .535 1-4 4 R .663 1-4 4 R R	48 16 28 .20 .40 .40 .2 2 R .400 1-2 2 R .493 1-2 2 R .550 1-4 4 R .613 1-4 4 R	48 16 28 .20 .50 .50 .30 2 R .500 1 2 R .540 1-2 R .594 1-2 R .620 1-2 R .636 2-4 L L .650 1-4 1 L		
Wh. Axl Spa Loa On Axl	Base e cing d es 10 20 30 40 50 60	A L XX X A 1 A 2 A 2 A 2 A 2 A 2 A 2 A 2 A 2 A 2	44 16 24 20 40 40 2 2 R 400 1-2 2 R 440 1-2 2 R 493 2-4 2 L .540 2-4 2 L .540 1-4 4 R R .653 1-4 4 R R	44 16 24 .20 .50 .30 .30 .2 .8 .500 1-2 .8 .540 1-2 .8 .620 2-4 .2 .644 2-4 .644 2-4 .644 1-4 .644 1-4 .645 .748	48 16 28 10 30 .60 3-4 3 L .480 3-4 3 L .540 3-4 4 R .688 1-4 4 R .740 1-4 4 R .805	48 16 28 .10 .40 .50 2 2 R .400 3-4 3 L .450 3-4 3 L .467 2-4 4 R .628 1-4 4 R .690 1-4 4 R .768	48 16 28 .10 .50 .40 .2 2 R .500 1-2 2 R .520 1-2 2 R .547 2-4 2 L .660 2-4 2 L .750	48 16 28 .20 .30 .50 .50 3-4 3 L .400 3-4 3 L .450 3-4 4 R .535 1-4 4 R .596 1-4 4 R .663 1-4 4 R .68 .748	48 16 28 20 40 40 40 2 2 R 400 1-2 2 R 440 1-2 2 R 493 1-2 2 R 520 2-4 2 L 560 1-4 4 R R R R 710	48 16 28 .20 .50 .30 2 2 R .500 1 2 2 R .540 1-2 2 R .620 1-2 2 R .636 2-4 2 L .650 1-4 L .728		
Wh. Axl Spa Loa On Axl	Base e cing d es 10 20 30 40 50 60 80	a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	44 16 24 .20 .40 .40 .2 .2 .40 .40 .2 .2 .440 .1–2 .2 .8 .493 .2–4 .2 .540 .2–4 .4 .4 .4 .4 .4 .4 .4 .4 .4	44 16 24 .20 .50 .30 .30 .2 .8 .500 1-2 .2 .8 .540 1-2 .2 .8 .620 2-4 .2 .644 2-4 .644 2-4 .644 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1	48 16 28 .10 .30 .30 .60 3-4 3 L .480 3-4 3 L .540 3-4 4 R .630 1-4 4 R .688 1-4 4 R .740 1-4 4 R .805	48 16 28 .10 .40 .50 2 R .400 3 -4 3 L .450 3 -4 8 .555 1 -4 4 R .628 1 -4 R .690 1 -4 R .768 1 -4 4 R .768	48 16 16 28 .10 .50 .40 2 2 R .500 1-2 2 R .520 1-2 2 R .547 2-4 2 L .660 2-4 2 L .750 2-4 2 L .750	48 16 28 20 30 30 3-4 3 L 400 3-4 3 L 450 3-4 3 L 467 2-4 4 R 596 1-4 4 R 663 1-4 4 R 748 1-4 4	48 16 28 .20 .40 .40 .2 2 R .400 1-2 2 R .440 1-2 2 R .493 1-2 2 R .560 1-4 4 R .613 1-4 4 R .710	48 16 28 .20 .50 .50 .30 2 2 R .500 1 2 R .540 1-2 2 R .594 1-2 2 R .620 1-2 2 L .636 2-4 1 L .728 1-4 1		
Wh. Axl Spa Loa On	Base e cing d es 10 20 30 40 50 60	A L XX a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	44 16 24 20 40 40 2 2 8 8 400 1-2 2 8 8 493 2-4 2 L 540 2-4 2 4 8 8 653 1-4 4 8 8 740 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	44 16 24 20 50 30 2 2 R 500 1-2 2 R 540 1-2 2 R .594 1-2 2 R .620 2-4 2 L .670 1-4 1 L .743 1-4	48 16 28 10 30 .60 .60 3-4 3 L .480 3-4 3 L .560 2-4 4 R .638 1-4 4 R .740 1-4 R .805	48 16 28 .10 .40 .50 .2 2 R .400 3-4 3 L .450 3-4 3 L .467 2-4 4 R .555 1-4 4 R .628 1-4 4 R .690 1-4 R .768	48 16 28 .10 .50 .40 2 R .500 1-2 R .520 1-2 R .547 2-4 L .600 2-4 2 L .700 2-4 2 L .750 1-4	48 16 28 .20 .30 .30 .3-4 3 L .400 3-4 3 L .450 3-4 3 L .467 2-4 4 R R .535 1-4 4 R R .663 1-4 4 R .748	48 16 28 .20 .40 .40 .40 .2 2 R .400 1-2 2 R .440 1-2 2 R .493 1-2 2 R .520 2-4 4 R .613 1-4 4 R .710	48 16 28 .20 .50 .30 2 2 R .500 1 2 2 R .540 1-2 2 R .594 1-2 2 R .620 1-2 2 L .650 1-4 L .728 1-4		

TABLE 7.5

CONTROLLING CONDITIONS AND MAXIMUM SHEARS IN SIMPLE SPANS PRODUCED BY THE TYPE 2-S3 TRUCKS WEIGHING ONE KIP EACH



Ninety variations in the Type 2-S3 truck are given in this table. Each truck number, from 1 to 90, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight on each axle.

Tru	ck N	o.	1	2	3	4	5	6	7	8	9	10
Wh.	. Bas	e L	24	24	24	24	24	24	28	28	28	28
Axle		X	8	8	8	8	8	8	8	8	8	8
	cing	X'	8	88	8	- 8	- 8	- 8	12	12	12	12
Loa	ď	aı	$\frac{.10}{.225}$.10 .30	.10	.20	.20	.20	.10 .225	.10	.10	.20
Axle	es	a ₂	.675	.60	.50	.60	.50	.40	.675	.30 .60	.40 .50	.20 .60
1		G	3-5	3-5	1-2	3-5	1-2	1-2	3-5	3-5	1-2	3–5
		N	3	3	2	3	2	2	3	3	2	3
	10	\mathbf{E}	L	L	R	L	R	R	L	L	R	${f L}$
-		_ <u>v</u>	.405	.360	.420	.360	.340	.440	.405	.360	420	.360
		G N	$_{5}^{2-5}$	$^{2-5}_2$	$^{2-5}_2$	$^{2-5}_{5}$	2-5 2	$^{2-5}_{2}$	$_{5}^{2-5}$	$^{2-5}_{5}$	$\overset{-2-5}{2}$	2-5 5
	20	E	Ř	Ĺ	Ĺ	Ř	Ĺ	Ĺ	Ř	Ř	Ĺ	Ř
		v	.585	.540	.599	.520	.500	.560	.540	.480	.500	.480
		G	15	15	25	1-5	1-5	2-5	1-5	1-5	2-5	1-5
		N	5	5	2	5	5	2	5	5	2	$\overset{5}{\mathrm{R}}$
	30	E	R .710	R -680	$_{.700}^{L}$	R .653	$_{.614}^{ m R}$	$_{.640}^{ m L}$	R .667	R .627	$_{.633}^{\mathbf{L}}$.600
-		- č –	1-5	1-5	2-5	1 -5	1-5	1 5	1-5	1-5	2-5	1-5
.		Ň	5	5	2	5	5	1	5	5	2	5
뒒	40	\mathbf{E}	\mathbf{R}	\mathbf{R}	L	\mathbf{R}	R	L	R	R	L	\mathbf{R}
Span-Feet		v	.783	.760	.750	.740	.710	.720	.750	.720	.700	.700
й		G	1-5	1 5	1 5	1-5	1 5	1-5	1-5	1-5	1-5	1-5
de	50	N E	5 R	5 R	5 R	$^{5}_{ m R}$	5 R	$_{ m L}^{1}$	$^{5}_{ m R}$	$\overset{5}{\mathrm{R}}$	$^{5}_{ m R}$	5 R
-	90	v	.826	.808	.784	.792	.768	.776	.800	.776	.744	.760
-		G	1-5	1 5	1 5	1-5	1.5	15	15	1-5	1-5	1-5
		N	5	5	5	5	5	1	5	5	5	$^{5}_{ m R}$
	60	$_{ m V}^{ m E}$	$^{ m R}_{.855}$	$^{ m R}_{.840}$	$^{ m R}_{.820}$	$^{ m R}_{.827}$	$^{ m R}_{.807}$.813	$_{.833}^{ m R}$	$_{.813}^{\mathbf{R}}$	R .787	$_{.800}^{ m R}$
-		- V	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5
i		N	5	5	5	5	5	1 1	5	1-9 5	1-5 5	5
	80	\mathbf{E}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	R	\mathbf{L}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}
		V	.891	.880	.865	.870	.855	.860	.875	.860	.840	.850
		G	1-5	1 5	$_{5}^{1-5}$	1-5	1-5	1-5	1-5	1-5	1.5	1-5
	100	N E	5 R	5 R	R R	5 R	5 R	1	5 R	5 R	$^{5}_{ m R}$	$^{5}_{ m R}$
i	100	$\ddot{\mathbf{v}}$.913	.904	.892	.896	.884	.888	.900	.888	.872	.880
~ <u></u>												

All dimensions are in feet and shears are in kips.

a₁, a₂, and a₃—Represent the ratio of gross vehicle weight on axles.

G-Axle group causing maximum shear, thus 1-3 means axles 1, 2, and 3.

N-Number of critical axle under which maximum shear occurs.

E-End of span at which critical axle is placed.

V-Maximum shear.

TABLE 7.5 (Continued)

			Continue									
	ıck No		28	28	$\frac{13}{32}$	32	15 32	16 32	17 32	18 32	19 36	36
Ax		X X	8 12	8 12	8 16		8 16	8 16	8 16	8 16	8 20	8 20
Lo: On	ad	81 82	.20	.20	.10 .225	.10 .30	.10	.20 .20	.20 .30	.20 .40	.10 .225	.10
Ax		8.2	.50	.40	.675	.60	.50 1-2	.60	.50	.40	.675 3-5	.60
- 1		G N	$\substack{\substack{1-2\\2}}$	$\substack{1-2\\2}$	3-5 3	3–5 3	2	3-5 3	1-2 2	$\frac{1-2}{2}$	3	3-5 3
	10	E V	R .340	R .440_	.405	.360	.420	.360	R .349	R .440	L .405	.360
1		G N	1-2 2	1-2 2	3-5	3-5 3	$\frac{1-2}{2}$	3-5 3	1-2	$^{1-2}_2$	3-5 3	3-5 3
	20	Ë V	${f R} = .420$	${f R} = .520$	$\mathbf{\overset{3}{L}}_{.540}$	L .480	${f \tilde{R}}$	L .480	Ř .420	Ř .520	Ľ .540	L .480
Í		G	1 -5	2-5	2-5	2-5	2-5	2-5	2-5	1-2	2-5	2-5
	30	N E	ā R	$^2_{ m L}$	$\overset{5}{ ext{R}}$	$\overset{5}{\mathbf{R}}$	$^2_{ m L}$	$^{5}_{ m R}$	5 R	$^2_{ m R}$	5 R	$^{5}_{\rm R}$
١		V	.547	.587	.630	.580	.566	.560	.494	.547	.600	.540
		G N	1-5 5	1-5 1	$^{1-5}_{5}$	1–5 5	$\substack{2-5\\2}$	1-5 5	$^{1-5}_{5}$	$\frac{1-5}{1}$	1-5 5	1–5 5
ee	40	E	- R -660	$_{.680}^{\mathbf{L}}$	5 R .718	$_{.680}^{ m R}$.650	$_{.660}^{\mathbf{R}}$	$_{.610}^{ m R}$	$_{.640}^{ m L}$	$^{ m R}_{.685}$	$_{.640}^{ m R}$
Span-Feet		G	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5
Spa	50	N E	$\overset{5}{\mathbf{R}}$	$^{1}_{ m L}$	$\overset{5}{ ext{R}}$	$\overset{5}{\mathbf{R}}$	5 R	$^{5}_{ m R}$	Ř R	$^{1}_{ m L}$	$_{\mathbf{R}}^{5}$	$\overset{5}{\mathbf{R}}$
		v	.728	.744	.774	.744	.704	.728	.688	.712	.748	.712_
		G N	$_{5}^{1-5}$	$^{1-5}$	15	$^{1-5}_{5}$	$^{1-5}_{5}$	$^{1-5}_{5}$	$^{1-5}_{5}$	1 ~ 5 ≀	1-5 5	1–5 5
	60	$_{ m V}^{ m E}$	R .778	L .787	R .812	R .787	$^{ m R}_{.754}$	R .773	$^{ m R}_{.740}$	$_{.760}^{ m L}$	$^{ m R}_{.790}$	R .760
i		G	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5
	80	N E	5 R	L L	$\overset{5}{\mathrm{R}}$	$\overset{5}{\mathrm{R}}$	$^{5}_{\rm R}$	5 R	$_{\rm R}^{5}$	$^1_{ m L}$	$\overset{5}{\mathrm{R}}$	$^{5}_{\mathbf{R}}$
		$\frac{\mathbf{v}}{\mathbf{G}}$.830	.840	$\frac{.859}{1-5}$	$\frac{.840}{1.5}$.815 1 · 5	.830 1-5		.820	.843	.820
	100	N	ā	1	5	5	5	õ	5	1	5	5
	100	E V	R .864	L .872	R .887	R .872	.852	.864	R .844	L .856	.874	R .856
	uck N		21	22	23	24	25	26	27	28	29	30
	ı. Bas	e L	36	36	36	36	40	40	40	40	40	40
	10	v		0	O	0	0	0	0	0	0	
	le acing	X X'	8 20	8 20	$\frac{8}{20}$	$\frac{8}{20}$	8 24	8 24	8 24	8 24	8 24	8 24
Sp.	acing ad	а1	.10	.20	.20	.20	.10	.10	.10	.20	.20	.20
Sp	acing ad	a ₁ a ₂ a ₃	.10 .40 .50	.20 .20 .20 .60	20 .20 .30 .50	.20 .40 .40	.10 .225 .675	.10 .30 .60	.10 .40 .50	.20 .20 .60	.20 .30 .50	.20 .40 .40
Sp. Lo On	acing ad les	a ₁ a ₂ a ₃ G	8 20 .10 .40 .50 1-2 2	20 .20 .20 .60 3-5	20 .20 .30 .50 1-2 2	20 .20 .40 .40 12 2	.10 .225 .675 3-5	.10 .30 .60 3-5 3	24 .10 .40 .50 1-2 2	.20 .20 .60 3-5	.20 .30 .50 1–2	.20 .40 .40 .1-2 2
Sp. Lo On	acing ad	a ₁ a ₂ a ₃	8 20 .10 .40 .50	20 .20 .20 .60 3-5 3 L	20 .20 .30 .50 1-2 2 R	20 .20 .40 .40 1-2 2 R	24 .10 .225 .675 3-5 3 L	24 .10 .30 .60 3-5 3 L	24 .10 .40 .50 1-2 2 R	24 .20 .20 .60 3-5 3 L	24 .20 .30 .50 1–2 2 R	24 .20 .40 .40 .1-2 2 R
Sp. Lo On	acing ad les	a ₁ a ₂ a ₃ G N E V	8 20 .10 .40 .50 1-2 2 R .420	20 .20 .20 .60 3-5 3 L .360 3-5	20 .20 .30 .50 1-2 2 R .340	20 .20 .40 .40 12 2 R .440	24 .10 .225 .675 3-5 3 L .405	24 .10 .30 .60 3-5 3 L .360 3-5	24 .10 .40 .50 1-2 2 R .420	24 .20 .20 .60 3-5 3 L .360 3-5	24 .20 .30 .50 1-2 2 R .340	24 .20 .40 .40 1-2 2 R .440 1-2
Sp. Lo On	acing ad les	a ₁ a ₂ a ₃ G N E V G N E	8 20 .10 .40 .50 1-2 2 R .420 1-2 2 R	20 .20 .20 .60 3-5 3 L .360 3-5 1	20 .20 .30 .50 .50 .2 R .340 1-2 2 R	20 .20 .40 .40 .40 1-2 2 R .440 1-2 2 R	24 .10 .225 .675 3-5 3 L .405 3-5 3-5 1L	24 .10 .30 .60 3-5 3 L .360 3-5 3 L	24 .10 .40 .50 1-2 2 R .420 1-2 2 R	24 .20 .20 .60 3-5 3 L .360 3-5 3	24 .20 .30 .50 1-2 2 R .340 1-2 2 R	24 .20 .40 .40 .1-2 2 R .440 1-2 2 R
Sp. Lo On	acing ad les	a ₁ a ₂ a ₃ G N E V G N E	8 20 .10 .40 .50 1-2 2 R .420 1-2 2 R	20 .20 .20 .60 3-5 3 L .360 3-5 3 L .480	20 .20 .30 .50 .50 .2 R .340 1-2 2 R .420	20 .20 .40 .40 1-2 2 R .440 1-2 2 R	24 .10 .225 .675 3-5 3 L .405 3-5 3 L .540	24 .10 .30 .60 3-5 3 L .360 3-5 3 L .480	24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460	24 .20 .20 .60 3-5 3 L .360 3-5 3 L .480	24 .20 .30 .50 1-2 2 R .340 1-2 2 R	24 .20 .40 .40 1-2 2 R .440 1-2 2 R
Sp. Lo On	acing ad les 10	a ₁ a ₂ a ₃ G N E V G N E V G N	8 20 .10 .40 .50 .50 1-2 2 R .420 1-2 2 R .460 2-5	20 .20 .20 .60 3-5 3 L .360 3-5 3 L .480 2-5	20 .20 .30 .50 .50 .50 .340 .340 .2 .2 .8 .420 .2 .5	20 .20 .40 .40 1-2 2 R .440 1-2 2 R .520	24 .10 .225 .675 3-5 3 L .405 3-5 3 L .540 3-5 3	24 .10 .30 .60 3-5 3 L .360 3-5 3 L .480 3-5	24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460	24 .20 .20 .60 .60 3-5 3 L .360 3-5 3 L .480	24 .20 .30 .50 .50 1-2 2 R .340 1-2 2 R .420	24 .20 .40 .40 1-2 2 R .440 1-2 2 R .520
Sp. Lo On	acing ad les	a ₁ a ₂ a ₃ G N E V G N E V	8 20 .10 .40 .50 .50 .50 .50 .420 .420 .420 .460 .2-5	20 .20 .20 .60 3-5 3 L .360 3-5 3 L .480	20 .20 .30 .50 .50 .50 .340 .340 .1-2 .2 .8 .420 .2-5 .5 .8	20 .20 .40 .40 .1-2 2 R .440 1-2 2 R .520	24 .10 .225 .675 3-5 3 L .405 3-5 3 L .540	24 .10 .30 .60 3-5 3 L .360 3-5 3 L .480	24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460	24 .20 .20 .60 3-5 3 L .360 3-5 3 L .480	24 .20 .30 .50 1-2 2 R .340 1-2 2 R .420	24 .20 .40 .40 1-2 2 R .440 1-2 2 R .520
Sp. Lo On	acing ad les 10	a ₁ a ₂ a ₃ G N E V G N E V G N E V G G S G S G S G S G S G S G S G S G S	8 20 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 2-5 2 L .500 2-5	20 .20 .20 .60 3-5 3 1 .360 3-5 480 2-5 R .534 1-5	20 20 30 .50 1-2 R .340 1-2 R .420 2-5 5 R .454 1-5	20 .20 .40 .40 1 · 2 R .440 1 - 2 2 R .520 1 - 2 2 R .547 1 - 5	24 .10 .225 .675 3-5 3 1 .405 3-5 3 1 .540 3-5 3 1 .540 3-5 3 1 .540 3-5 3 1 .540 3-5 3 1 .540 3-5 3 1 .540 3 3 1 .540 3 3 3 4 1 .540 3 3 4 5 5 6 7 8 8 8 8 8 8 8 8 8 8 8 8 8	24 .10 .30 .60 3-5 3 L .360 3-5 3 L .480 3-5 3 L .520 1-5	24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 1-2 2 R .474	24 .20 .20 .60 3-5 3 L .360 3-5 3 L .480 3-5 3 L .520	24 .20 .30 .50 .50 1-2 R .340 1-2 R .420 1-2 R .447 1-5	24 20 40 40 1-2 2 R 440 1-2 2 R 520 1-2 2 R 524 1-2
Sp. Lo On Ax	acing ad les 10	a ₁ a ₂ a ₃ GNEV GNEV GNEV GNE	8 20 10 40 50 1-2 2 R 420 1-2 2 R 460 2-5 2 L 500 2-5 2 L	20 .20 .60 3-5 3 L .360 3-5 3 L .480 2-5 5 R	20 .20 .30 .50 1-2 R .340 1-2 2 R .420 2-5 5 R.454 1-5 5 R	20 .20 .40 .40 .40 1-2 2 R .440 1-2 2 R .520 1-2 2 R .547 1-5 1 L	24 .10 .225 .675 3-5 3 L .405 3-5 3 L .540 3-5 3 L .585 1-5 5 R	24 .10 .30 .60 3-5 3 L .360 3-5 3 L .480 3-5 3 L .520 1-5 R	24 .10 .40 .50 1-2 .2 .420 1-2 2 .460 1-2 2 .474 2-5 2 L	24 .20 .60 3-5 3 L .360 3-5 3 L .480 3-5 3 L .520 1-5 5 R	24 .20 .30 .50 1-2 2 R .340 1-2 2 R .420 1-2 2 R .420 1-5 8 R	24 .20 .40 .40 .40 1-2 2 R .520 1-2 2 R .547 1-5 1
Sp. Lo On Ax	acing ad les 10 20 30	a ₁ a ₂ a ₃ GNEV GNEV GNEV GNEV	8 20 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 2-5 2 L .500 2-5	20 .20 .60 3-5 3 L .360 3-5 3 L .480 2-5 R .534 1-5 5 R	20 .20 .30 .50 1-2 2 R .340 1-2 2 R .420 2-5 5 R .454	20 .20 .40 .40 .40 1-2 2 R .440 1-2 2 R .520 1-2 2 R .547 1-5 1 L .600	24 .10 .225 .675 3-5 3 .1 .405 3-5 3 1 .540 3-5 5 1 .540 3-5 5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5	24 .10 .30 .60 3-5 3 L .360 3-5 3 L .480 3-5 3 L .480 3-5 3 L	24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 1-2 2 R .455 1-2 2 1-2 2 2 1-2 2 2 1-2 2 2 1-2 2 2 2 1-2 2 2 2 2 2 2 2 2 2 2 2 2 2	24 .20 .60 3-5 3 L .360 3-5 3 L .480 3-5 3 L .520 1-5 5 R	24 .20 .30 .50 1-2 R .340 1-2 R .420 1-2 R .420 1-5 S R .510	24 .20 .40 .40 1-2 R .440 1-2 R .520 1-2 2 R .547 1-5 1 L
Sp. Lo On Ax	acing ad les 10 20 30 40	a1 a2 a3 GNEV GNEV GNEV GNEV GNEV	8 20 10 40 50 1-2 2 R 420 1-2 2 R 460 2-5 2 L 599 1-5 5	20 .20 .60 3-5 3 L .360 3-5 3 L .480 2-5 R .534 1-5 R .620 1-5	20 20 20 30 50 1-2 2 R 340 1-2 2 R 420 2-5 8 454 1-5 5 8 560 1-5	20 .20 .40 .40 .40 .40 1-2 2 R .440 1-2 2 R .520 1-2 2 R .5247 1-5 1 L .600 1-5	24 .10 .225 .675 3-5 3 .1 .405 3-5 3 .1 .540 3-5 3 .1 .585 1-5 5 R .653 1-5 5	24 .10 .30 .60 3-5 3 L .360 3-5 3 L .480 3-5 3 L .520 1-5 R .600 1-5 8	24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 1-2 2 R .474 2-5 2 L .550 1-5 5 1-5 1-5 1-5 1-5 1-5 1-5	24 .20 .60 3-5 3 L .360 3-5 3 L .480 3-5 3 L .520 1-5 R .580 1-5 8	24 .20 .30 .50 1-2 2 R .340 1-2 2 R .420 1-2 2 R .420 1-5 5 R	24 .20 .40 .40 .40 1-2 R .440 1-2 2 R .520 1-2 2 R .547 1-5 1 L .560
Sp. Lo On	acing ad les 10 20 30	a1 a2 a3 GNEV GNEV GNEV GNEV GNEV	8 20 1.10	20 .20 .60 3-5 3 L .360 3-5 3 L .480 2-5 5 R .620 1-5 5 R .696	20 20 30 .50 1-2 2 R .340 2-5 5 R .420 2-5 5 R .560 1-5 8 .648	20 .20 .40 .40 .40 1-2 2 R .520 1-2 2 R .527 1-5 1 L .600 1-5	24 .10 .225 .675 .675 .3 .1 .405 .3–5 .3 .1 .540 .3–5 .3 .1 .585 .1–5 .5 .6 .6 .6 .7 .22	24 .10 .30 .60 3-5 3 L .360 3-5 3 L .480 3-5 3 L .520 1-5 R .60 1-5	24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 1-2 2 R .474 2-5 2 L .550 1-1-2	24 .20 .60 3-5 3 L .360 3-5 3 L .480 3-5 3 L .520 1-5 5 R .580 1-5 5 R	24 .20 .30 .50 1-2 2 R .340 1-2 2 R .420 1-2 2 R .427 1-5 5 R	24 .20 .40 .40 .40 1-2 2 R .520 1-2 2 R .547 1-5 1
Sp. Lo On Ax	acing ad les 10 20 30 40	a1 a2 a3 GNEV GNEV GNEV GNEV GNEV	8 20 .10 .40 .50 .1-2 2 R .420 .1-2 2 R .460 .2-5 2 L .500 .2-5 2 L .599 .1-5 R .664 .1-5	20 .20 .60 3-5 3 L .360 3-5 3 L .480 2-5 R .534 1-5 R .620 1-5 R .696 1-5	20 20 20 30 .50 1-2 2 R .340 1-2 2 R .420 2-5 R .420 1-5 8 R .648 1-5 8	20 .20 .40 .40 .40 .40 .42 .2 .8 .440 .440 .520 .7 .8 .520 .7 .8 .520 .7 .8 .547 .7 .7 .7 .7 .7 .7 .7 .7 .7	24 .10 .225 .675 3-5 3 .405 3-5 3 1 .540 3-5 3 1 .585 1-5 5 R .653 1-5 5 R .653 1-5 7 8 8 8 1-5 8 8 8 8 8 8 8 8 8 8 8 8 8	24 .10 .30 .60 3-5 3 L .480 3-5 3 L .520 1-5 R .600 1-5 R .680 1-5	24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 1-2 2 R .474 2-5 2 R .474 2-5 550 1-5 R	24 .20 .60 3-5 3 L .360 3-5 3 L .480 3-5 3 L .520 1-5 5 R .580 1-5 5 R	24 .20 .30 .50 1-2 2 R .420 1-2 2 R .420 1-5 5 8 .510	24 .20 .40 .40 .40 .40 .40 .40 .40 .4
Sp. Lo On Ax	acing ad les 10 20 30 40	a1 a2 a3 GNEV GNEV GNEV GNEV GNEEV GNEEV	8 20 10 40 50 1-2 R 420 1-2 2 R 460 2-5 2 L 500 2-5 599 1-5 5 R 664 1-5 5 R	20 .20 .60 3-5 3 L .360 3-5 3 L .480 2-5 5 R .620 1-5 5 R	20 20 20 30 .50 1-2 2 R .420 2-5 5 R .454 1-5 5 R .648 1-5 5 R	20 .20 .40 .40 .40 .40 .40 .40 .40 .4	24 .10 .225 .675 .3 .5 .405 .3 .540 .540 .585 .1 .585 .1 .585 .1 .5 .5 .5 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7	24 .10 .30 .60 .3-5 .1 .360 .3-5 .1 .480 .3-5 .520 .1-5 .5 .8 .600 .1-5 .8 .680 .1-5 .8 .680	24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 1-2 2 R .474 2-5 2 L .550 1-5 5 R	24 .20 .60 3-5 3 L .360 3-5 3 L .480 3-5 3 L .520 1-5 5 R .664 1-5 5 R	24 .20 .30 .50 1-2 2 R .340 1-2 2 R .420 1-2 2 R .447 1-5 5 R .608 1-5 5 R	24 .20 .40 .40 .40 .40 .40 .40 .40 .4
Sp. Lo On Ax	acing ad less 10 20 30 40 50	a1 a2 GNEV GNEV GNEV GNEV GNEV G	8 20	20 .20 .60 3-5 3 L .360 3-5 3 L .480 2-5 5 R .534 1-5 5 R .620 1-5 5 R .696 1-5 8 .747 1-5	20 20 20 30 .50 1-2 2 R .340 1-2 2 R .420 2-5 R .454 1-5 5 R .560 1-5 8 .707 1-5	20 .20 .40 .40 .40 .40 1-2 R .520 1-2 R .520 1-5 1 L .600 1-5 1 L .680 1-5 1 L .734 1-5	24 .10 .225 .675 3-5 3 1 .405 3-5 3 1 .540 3-5 3 1 .540 3-5 7 .540 1-5 .653 1-5 8 .722 1-5 8 .722 1-5 8	24 .10 .30 .60 3-5 3 L .360 3-5 3 L .480 3-5 8 L .520 1-5 8 .600 1-5 5 R .680 1-5 8 .733 1-5	24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 1-2 2 R .472 2-5 2 R .492 1-2 2 8 .492 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-	24 .20 .60 3-5 3 L .360 3-5 3 L .480 3-5 5 R .520 1-5 5 R .664 1-5 5	24 .20 .30 .50 1-2 R .340 1-2 2 R .420 1-2 2 R .420 1-5 5 R .510 1-5 8 .608 1-5	24 .20 .40 .40 .40 .40 .40 .40 .40 .4
Sp. Lo On Ax	acing ad les 10 20 30 40 50 60	a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	8 20 10 40 50 1-2 2 R 420 1-2 2 R 460 2-5 2 L 500 2-5 599 1-5 5 R 664 1-5 5 R 720 1-5 5	20 .20 .60 3-5 3 L .360 3-5 3 L .480 2-5 8 R .620 1-5 8 R .620 1-5 8 R .747 1-5 8	20 20 20 30 50 1-2 R 340 1-2 R 420 2-5 R 454 1-5 5 R .560 1-5 8 .648 1-5 8 .707 1-5 5	20 .20 .40 .40 .40 .40 .40 .40 .40 .4	24 .10 .225 .675 .675 .3 .1 .405 .3 .405 .3 .540 .5585 .1 .588 .653 .1 .5 .722 .1 .5 .768 .768 .768	24 .10 .30 .60 3-5 3 L .360 3-5 3 L .480 3-5 5 R .600 1-5 5 R .680 1-5 5 R .733 1-5 5	24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 1-2 2 R .474 2-5 2 R .474 2-5 5 R .624 1-5 5 R	24 .20 .60 3-5 3 L .480 3-5 3 L .520 1-5 5 R .664 1-5 5 R .720 1-5 5 R	24 .20 .30 .50 1-2 2 R .340 1-2 2 R .420 1-2 2 R .447 1-5 5 R .610 1-5 5 R .674 1-5 5	24 .20 .40 .40 .40 .40 .40 .40 .40 .4
Sp. Lo On Ax	acing ad less 10 20 30 40 50	a1 a2 a G NEV GNEV GNEV GNEV GNEV GNEV GNEV	8 20 1.10	20 .20 .60 3-5 3 L .360 3-5 3 L .480 2-5 5 R .620 1-5 5 R .696 1-5 5 R .747 1-5 8 .848	20 20 20 30 .50 1–2 2 R .340 1–2 2 R .420 2–5 5 R .560 1–5 5 R .648 1–5 5 R .707 1–5 8 .707 1–5 8 .707 1–7 1–7 1–7 1–7 1–7 1–7 1–7 1–	20 .20 .40 .40 .40 .40 .40 .40 .40 .4	24 .10 .225 .675 .675 .3 .1 .405 .3 .540 .3 .540 .585 .1 .585 .1 .588 .653 .722 .722 .768 .768 .768 .768 .826	24 .10 .30 .60 3-5 3 L .360 3-5 3 L .480 3-5 5 R .600 1-5 5 R .733 1-5 5 R .735 8 .735 1-5 5 R .736 1-5 5 R .737 1-5 5 R .738	24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 1-2 2 R .474 2-5 2 R .624 1-5 5 R .624 1-5 8 .624 1-5 8 .627 1-5 8 1-5 8 .627 1-5 8 .627 1-5 8 1-5 8 1-5 8 1-5 8 1-5 8 1-5 8 1-5 8 1-5 8 1-5 8 1-5 8 1-5 8 1-5 8 1-5	24 .20 .60 .60 .60 .60 .60 .60 .60 .6	24 20 30 30 50 1-2 2 R 340 1-2 2 R .420 1-2 2 R .447 1-5 5 R .510 1-5 5 R .608 1-5 5 R .674 1-5 5 R .755	24 .20 .40 .40 .40 .40 .40 .40 .40 .4
Sp. Lo On Ax	acing ad les 10 20 30 40 50 60	a1 a2 a G NEV GNEV GNEV GNEV GNEV GNEV GNEV GNE	8 20 1.10	20 .20 .60 3-5 3 L .360 3-5 3 L .480 2-5 R .534 1-5 5 R .620 1-5 5 R .696 1-5 5 R	20 20 30 50 1-2 R .340 1-2 2 R .420 2-5 R .454 1-5 5 R .648 1-5 5 R .707	20 .20 .40 .40 .40 .40 1-2 R .520 1-2 R .520 1-2 R .547 1-5 1 L .680 1-5 1 L .734 1-5 1 L	24 .10 .225 .675 3-5 3 1 .405 3-5 3 1 .540 3-5 5 8 .653 1-5 5 R .722 1-5 8 R .768	24 .10 .30 .60 3-5 3 L .360 3-5 3 L .480 3-5 5 R .600 1-5 5 R .680 1-5 5 R .733 1-5 5 R	24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 1-2 2 R .474 2-5 5 1-5 5 R .624 1-5 5 R	24 .20 .60 3-5 3 L .480 3-5 3 L .520 1-5 5 R .664 1-5 5 R .720 1-5 5 R	24 .20 .30 .50 1-2 2 R .340 1-2 2 R .420 1-2 2 R .447 1-5 5 R .608 1-5 5 R .674 1-5 5 R .674	24 .20 .40 .40 .40 .40 .40 .40 .40 .4
Sp. Lo On Ax	acing ad les 10 20 30 40 50 60	a1 a2 a G NEV GNEV GNEV GNEV GNEV GNEV GNEV	8 20 10 40 50 1-2 2 R 420 1-2 2 R 460 2-5 2 L 500 2-5 599 1-5 5 R 720 1-5 8 R 790 1-5	20 .20 .60 3-5 3 L .360 3-5 3 L .480 2-5 8 R .620 1-5 8 R .620 1-5 8 R .620 1-5 8 R .620 1-5 8 R .620 1-5 8 R .640 R .640	20 20 20 30 .50 1-2 R .340 1-2 2 R .420 2-5 R .454 1-5 8 .560 1-5 8 .648 1-5 8 .707 1-5 8	20 .20 .40 .40 .40 .40 .40 .40 .40 .4	24 .10 .225 .675 .675 .3 .1 .405 .3 .4.05 .3 .540 .5.585 .1 .5 .5 .8 .653 .1 .5 .7 .7 .7 .7 .7 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	24 .10 .30 .60 .3-5 .3 .480 .3-5 .3 .520 .1-5 .5 .680 .1-5 .5 .8 .680 .1-5 .8 .733 .1-5 .8 .800 .1-5 .8 .800 .1-5	24 .10 .40 .50 1-2 2 R .420 1-2 2 R .460 1-2 2 R .474 2-5 5 R .624 1-5 5 R .687 1-5 5 R .687 1-5 1-5 1-5 1-5 1-5 1-5 1-5 1-5	24 .20 .60 .60 .60 .60 .60 .60 .60 .6	24 20 30 30 50 1-2 2 R 340 1-2 2 R .420 1-2 2 R .447 1-5 5 R .510 1-5 5 R .608 1-5 5 R .674 1-5 5 R .755	24 .20 .40 .40 .40 .40 .40 .40 .40 .4

TABLE 7.5 (Continued)

TABLE	7.5 (Continue	d)								
Truck No		31	32	33	34	35	36	37	38	39	40
Wh. Base Axle		28 12	28 12		28 12	28 12	28 12	32 12	32 12	$\frac{32}{12}$	32 12
Spacing	X X'	8	- 8	8	- 8	8	8	12	12	12	12
Load On	81 82	.10 .225	.10 .30	.10 .40	.20 .20	.20 .30	.20 .40	$.10 \\ .225$.10 .30	.10 .40	.20 .20
Axles	83	.675	.60	.50	.60	.50	.40	.675	.60	.50	.60
-	G N	3-5 3	$_{3-5}^{3-5}$	2 2	3–5 3	3–5 3	2 2	3–5 3	3-5 3	$\frac{2}{2}$	${\overset{3-5}{3}}$
10	E V	\mathbf{L}	\mathbf{L}	R .400	$_{.360}^{ m L}$	\mathbf{L}	R	\mathbf{r}	L .360	R .400	$_{.360}^{ m L}$
	G	.405 2-5	360 	2-5	2-5	.300 2-5	$\frac{.400}{2-5}$	$\frac{.405}{2-5}$	2-5	2-5	2-5
20	N	5	2	2	5	2	2 L	5	5	$^{2}_{\mathbf{L}}$	5
20	E V	R ,585	L .540	L .599	R .520	.500	.560	R .540	R .480	.500	R .480
	G N	1-5	1-5	2- 5 2	1-5	2 -5	2-5	2-5	2-5	2-5	2-5
30	\mathbf{E}	$^{5}_{ m R}$	5 R	${f L}$	$\overset{5}{\mathbf{R}}$	$^2_{ m L}$	$^2_{\mathbf{L}}$	5 R	5 R	2 L	$^{5}_{ m R}$
i	V G	.697	.667 1-5	$\frac{.700}{2-5}$.627	.600	.640 2-5	.660	.620	$\frac{.633}{2-5}$.586
ا ۾	N	$_{5}^{1-5}$	5	2	1-5 5	15 5	2	$\frac{1-5}{5}$	$^{1-5}_{5}$	2-5 L	1–5 5
40	E V	R .773	$^{ m R}_{.750}$	$^{1.}_{.750}$	R .720	$_{.690}^{ m R}$	L .680	R .740	R .710	.700	R .680
a la	G	15	1-5	2-5	1-5	1-5	1-5	1-5	1-5	2-5	1-5
50	N E	$\overset{5}{\mathrm{R}}$	$^{5}_{\mathbf{R}}$	$_{\mathbf{L}}^{2}$	$\overset{5}{\mathbf{R}}$	$\mathbf{\hat{R}}^{5}$	$^{5}_{ m R}$	$\overset{5}{\mathbf{R}}$	5 R	$_{\mathbf{L}}^{2}$	5 R
	V	.818	.800	.780	.776	.752	.728	.792	.768	.740	.744
	G N	1-5 5	$^{1-5}_{5}$	$_{5}^{1-5}$	$^{1-5}_{5}$	1-5 5	$^{1-5}_{5}$	1-5 5	$_{5}^{1-5}$	$^{1-5}_{5}$	1-5 5
60	\mathbf{E}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	R	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}
ļ	V G	848 	.833 1 -5	.813	.813 I-5	$\frac{.793}{1-5}$	$\frac{.773}{1-5}$.82 7 1–5	.807 1-5	.780 1-5	
0.0	N	5	5	5	5	5	5	5	5	5	5
80	\mathbf{v}	$^{ m R}_{.886}$.875	$^{ m R}_{.860}$	$^{ m R}_{.860}$	$_{.845}^{ m R}$	R .830	$^{ m R}_{.870}$	R .855	R .835	R .840
	Ğ	1-5	1 5	1-5	15	1-5	1-5	1-5	1-5	1–5	1-5
100	N E	$^{5}_{ m R}$	$\overset{5}{\mathrm{R}}$	$\overset{5}{\mathbf{R}}$	$\overset{5}{\mathrm{R}}$	$^{5}_{\mathbf{R}}$	$\overset{5}{\mathrm{R}}$	$\overset{5}{\mathbf{R}}$	$^{5}_{ m R}$	5 R	5 R
	V	.909	.900	.888	.8 88	.876	.864	.896	.884	.868	.872
Fruck N		41	42	43	44	45	4 6	47	48	49	50
Wh. Base Axle		32 12	32 12	36 12	36 12	36 12	36 12	$\frac{36}{12}$	36 12	12	12
Spacing	X X'	12	12	16	16	16	16	16	16	20	20
Load On	a ₁	.20 .30	.20 .40	.10 .225	.10 .30	.10	.20 .20	.20 ,80	.20 .40	.10 .225	.10
Axles	A: A:	.50	.40	.675	.60	.50	.60	.50	.40	.675	.60
	G N	35 3	2 2	3~5 3	3-5 3	2 2	3-5 3	3-5 3	2 2	3-5 3	3-5 3
10	\mathbf{E}	L	\mathbf{R}	L	L	\mathbf{R}	L	L	\mathbf{R}	L	L
	$-\frac{\mathbf{V}}{\mathbf{G}}$.300 2-5	.400 2-5	.405 3-5	$\frac{.360}{3-5}$.400	.360 3-5	.300 3-5	.400	.405 3-5	.360 3-5
	N	5	2	3	3 L	2	3	3	2	3	3
20	\mathbf{v}	R .400	L .480	L .540	.480	R .440	.480	L .400	R .480	L .540	L .480
	G	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5	2-5
30	N E	5 R	$^2_{\mathbf{L}}$	$\overset{5}{\mathbf{R}}$	$\overset{5}{\mathbf{R}}$	2 1.	5 R	$^{5}_{ m R}$	$^2_{f L}$	$\overset{5}{\mathbf{R}}$	5 R
1											
	V	.534	.587	.630	.580	.566	.560	.494	.534	.600	.540
	G N	1-5 5	.587 2-5 2	$\frac{.630}{1-5}$.580 1–5 5	$\frac{.566}{2-5}$.560 1-5 5	1- 5 5	2-5 2	1-5 5	1- 5 5
2 40	G N E	1-5 5 R	.587 2-5 2 L	.630 1-5 5 R	.580 1-5 5 R	.566 2-5 2 L	.560 1–5 5 R	1-5 5 R	2-5 2 L	1-5 5 R	1-5 5 R
40	G N E V	1-5 5 R .640 1-5	.587 2-5 2	.630 1-5 5 R .708 1-5	.580 1-5 5 R .670 1-5	.566 2-5 2 L .650 2-5	.560 1-5 5 R .640	1-5 5 R ,590	2-5 2 1, .600 1-5	1-5 5 R .675	1-5 5 R .630
No.	G N E V G N	1-5 5 R .640 1-5 5	.587 2-5 2 1 .640 1-5	.630 1-5 5 R .708 1-5 5	.580 1-5 5 R .670 1-5 5	.566 2-5 2 L .650 2-5 2	.560 1-5 5 R .640 1-5 5	1-5 5 R .590 1-5 5	2-5 2 1, .600 1-5	1-5 5 R .675 1-5 5	1-5 5 R .630 1-5 5
40 Span-Reet	G NE V G N E V	1-5 5 R .640 1-5	.587 2-5 2 1. .640 1-5	.630 1-5 5 R .708 1-5	.580 1-5 5 R .670 1-5	.566 2-5 2 L .650 2-5	.560 1-5 5 R .640	1-5 5 R ,590	2-5 2 1, .600 1-5	1-5 5 R .675 1-5 5 R .740	1-5 5 R .630
40 40 50	G NE V G N E V	1-5 5 R .640 1-5 5 R .712	.587 2-5 2 L .640 1-5 1 L .680	.630 1-5 5 R .708 1-5 5 R .766	.580 1-5 5 R .670 1-5 5 R .736 1 · 5	.566 2-5 2 I. .650 2-5 2 I. .700 1-5	.560 1-5 5 R .640 1-5 5 R .712	1-5 5 R .590 1-5 5 R .672	2-5 2 1, .600 1-5 1 1, .648	1-5 5 R .675 1-5 5 R .740	1-5 5 R .630 1-5 5 R .704
40 40 50 60	G N E V G N E V G N E	1-5 5 R .640 1-5 5 R .712 1-5 5 R	.587 2-5 2 .640 1-5 1 L .680 1 5 1 L	.630 1-5 5 R .708 1-5 5 R .766 1-5 5	.580 1-5 5 R .670 1-5 5 R .736 1 · 5 5	.566 2-5 2 L .650 2-5 2 .700 1-5 5 R	.560 1-5 5 R .640 1-5 5 R .712 1-5 5 R	1-5 5 R .590 1-5 5 R .672 1-5 7	2-5 2 L .600 1-5 1 L .648 1-5 1 L	1-5 5 R .675 1-5 5 R .740 1-5 5 R	1-5 5 R .630 1-5 5 R .704
	G N E V G N E V V	1-5 5 R .640 1-5 5 R .712 1-5 5 R	.587 2-5 2 .640 1-5 1 L .680 1 5 1 1,734	.630 1-5 5 R .708 1-5 5 R .766 1-5 5 R .805	.580 1-5 5 R .670 1-5 5 R .736 1 · 5 8 .780	.566 2-5 2 L .650 2-5 2 1 .700 1-5 5 R	.560 1-5 5 R .640 1-5 5 R .712 1-5 5 R	1-5 5 R .590 1-5 5 R .672 1-5 727	2-5 2 L .600 1-5 1 L .648 1-5 1 L	1-5 5 R .675 1-5 5 R .740 1-5 5 R .783	1-5 5 R .630 1-5 5 R .704 1-5 5 R
60	GNEV GNEV GNEV GN	1-5 5 R .640 1-5 5 R .712 1-5 5 R .760 1-5	.587 2-5 2 L .640 1-5 1 .680 1 5 1 1,734 1 5	.630 1-5 5 R .708 1-5 5 R .766 1-5 5 R .805 1-5	.580 1-5 5 R .670 1-5 5 R .736 1 · 5 5 R .780 1 - 5 5	.566 2-5 2 L .650 2-5 2 .700 1-5 5 R .747 1-5 5	.560 1-5 5 R .640 1-5 5 R .712 1-5 5 R .760 1-5 5	1-5 5 R .590 1-5 5 R .672 1-5 5 R .727 1-5	2-5 2 1 .600 1-5 1 L.648 1-5 1 1 1.707	1-5 5 R .675 1-5 5 R .740 1-5 5 R .783 1-5 5	1-5 5 R .630 1-5 5 R .704 1-5 5 R .753 1-5
	GNEV GNEV GNEV G	1-5 5 R .640 1-5 5 R .712 1 5 5 R .760 1-5 5	.587 2-5 2 L .640 1-5 1 L .680 1 5 1 1,734 1 5 1 1,1	.630 1-5 5 R .708 1-5 5 R .766 1-5 5 R .805 1-5	.580 1-5 5 R .670 1-5 5 R .736 1 · 5 5 R .780 1 - 5 5	.566 2-5 2 1 .650 2-5 2 1 .700 1-5 R .747 1-5 R	.560 1-5 5 R .640 1-5 5 R .712 1-5 5 R .760 1-5 8	1-5 5 R .590 1-5 5 R .672 1-5 7 R .727 1-5 R	2-5 2 1,600 1-5 1 1,648 1-5 1,707 1-6 1	1-5 5 R .675 1-5 5 R .740 1-5 6 R .783 1-5 7	1-5 5 R .630 1-5 5 R .704 1-5 5 R .753
60	GNEV GNEV GNE	1-5 5 R .640 1-5 5 R .712 1-5 5 R .760 1-5	.587 2-5 2 L .640 1-5 1 L .680 1 5 1 1 1,734 1 5 1 1 1,800 1-5	.630 1-5 5 R .708 1-6 5 R .766 1-5 5 R .805 1-5 5 R .805	.580 1-5 5 R .670 1-5 5 R .736 1 · 5 R .786 1 · 5 R .786 .786 1 · 5 R .786 .7	.566 2-5 2 L .650 2-5 2 L .700 1-5 5 R .747 1-5 5 R .810	.560 1-5 5 R .640 1-5 5 R .712 1-5 5 R .760 1-5 5 R .760	1-5 5 R ,590 1-5 5 R ,672 1-5 5 R ,727 1-5 5 R ,795 1-5	2-5 2 1,600 1-5 1 1 1,648 1-5 1 1,707 1-6 1 1,780 1-5	1-5 5 R .675 1-5 5 R .740 1-5 5 R .783 1-5 5 R .838 1-5	1-5 5 R .630 1-5 5 R .704 1-5 5 R .753 1-5 5 R .815
50 60	GNEV GNEV GNEV	1-5 5 R .640 1-5 5 R .712 1-5 5 R .760 1-5 5 R	.587 2-5 2 L .640 1-5 1 L .680 1 5 1 1,734 1 5 1 1,2800	.630 1-5 5 R .708 1-5 5 R .766 1-5 5 R .805 1-5 5 R	.580 1-5 5 R .670 1-5 5 R .736 1 · 5 5 R .780 1 - 5 5 R .835	.566 2-5 2 L .650 2-5 2 1700 1-5 5 R .747 1-5 8 R .810	.560 1-5 5 R .640 1-5 5 R .712 1-5 5 R .760 1-5 8 .760 1-5 8 .760	1-5 5 R .590 1-5 5 R .672 1-5 5 R .727 1-5 6 R	2-5 2 L,.600 1-5 1 L,.648 1-5 1 L,.707 1-5 1 L,.780	1-5 5 R .675 1-5 5 R .740 1-5 5 R .783 1-5 5 R	1-5 5 R .630 1-5 5 R .704 1-5 5 R .753 1-5 8 .753

METHOD OF CONVERTING HEAVY MOTOR VEHICLE LOADS

54 TABLE 7.5 (Continued) Truck No. 51 52 53 54 55 56 57 58 59 60 Wh. Base L 40 40 40 40 44 44 44 44 44 44 Axle Spacing 19 12 X X, 12 19 19 19 12 19 12 19 20 20 20 20 24 24 24 24 24 24 Load .10 .20 .20 .20 .20 aı .10 .10 .10 .20 On Axles a .40 .20 .30 .40 .225 .30 .20 .30 .40 .50 .60 .50 .40 675 .60 .50 .60 .50 .40 2 3-5 3--5 2 3-5 3--5 2 3-5 3-5 2 GNEV 3 L 5 3 $\bar{2}$ 3 $\bar{2}$ 3 2 $_{
m L}^{3}$ 3 10 \mathbf{R} R R R .360 400 .360 300 .400 405 400 .360.300400 1-2 3-5 1-2 1-2 G 3-5 3-5 3-5 1-2 3--5 3-5 NEV 9 3 2 3 3 2 3 3 2 3 20 R Τ. \mathbf{R} R R 440 480 400 480540480 .440.480400 480 2-5 2 5 2-5 1-2 $\frac{1-2}{2}$ 1-2 GNEV 3-53-5 3-5 3-5 $^3_{\mathbf{L}}$ 2 5 5 2 3 3 3 2 30 R \mathbf{R} $\bar{\mathbf{R}}$ $\bar{\mathbf{R}}$ T. Ŕ 520 500 .534.454 .520585 .520460 .520 434 2-5 1-5 1-5 2-5 2-5 2-5 2-5 1-2 G N E V 2-52-5 2 5 5 2 5 5 2 5 5 2 Span-Feet 40 ۲, R. R \mathbf{L} R R Ť. R Ŕ R 599 .600 540 560 653 600 .550.580.510.5402-5 1-5 G 1-5 1 -5 1--5 1-5 1-5 2-5 1-5 1-5 NEV 2 5 5 R 2 L 1 5 1 50 T. R R Ř Ř Ř $\bar{\mathbf{L}}$.672.660 .680 632 .616 714 620 .648.592.584 GNEV 1--5 1-5 1-5 1-5 1-5 1-5 1-5 1-51.5 1-5 5 5 5 5 5 Ř 60 R. \mathbf{R} R L Ŕ Ŕ Ŕ R L 680 $.7\overline{27}$.714.733694 762 680 .707.660.654 G 1-51-5 1-5 1-5 1-5 1-5 1--5 1-5 1-5 1-5 5 5 5 R 5 5 5 80 Ë \mathbf{R} R. Ŕ. T. Þ R R Ř T. .785.770 .800 $.\overline{760}$ 795 740 821 .760.780.745 1-5 GNEV 1--5 1-5 1-5 1-5 1-51-5 1-5 1-5 1-5 5 R 5 5 1 5 5 5 5 5 100 R Ř T. Ř Ť. R \mathbf{R} P R .828 .840 .816 .808 $.8\hat{5}7$.836 .796.792.808 824 Truck No. 61 62 63 70 64 66 67 68 65 69 Wh. Base L 32 32 32 32 32 36 36 32 36 36 Axle 16 16 16 16 16 16 16 16 16 16 Spacing 8 8 8 12 12 12 12 Load $.10 \\ .225$.10 .10 .10 .10 .20 .20 .20 .20 8.1 .10 .40 .225 On .40 .20 .3ŏ .ãŏ .20 82 .40 Axles 675 .60 .50 .50 .40 .5ŏ as .60 .675 .60 .60 G N 3-53-5 2 2 3-5 3-5 3-5 2 2 3-5 3-53 $\frac{7}{2}$ 3 3 3 $\bar{2}$ $^3_{
m L}$ 3 3 10 E $\bar{\mathbf{R}}$ Ŕ Ŕ 405 .360.400 .360 300 .400 .405 .360 .400.360 G $^{2-5}$ $^{2-5}$ 2-52-52--5 2-5 2--5 2-5 $^{2-5}$ 2-5 $^2_{
m L}$ 2 L 5 2 . 2 L 2 5 5 5 Ř 20 E R R Ŕ Ŕ .585 .599.540 .520 500 .560 540 480 .500 480 2-5 2-5 2-5 2-5 $^{2-5}$ 2-5 2-5 G N 2-5 2-5 2-5 5 2 2 5 2 L 2 5 2 5 30 E R L T, R. \mathbf{R} \mathbf{R} L R. .690 .660 $.7\overline{0}0$ 586 .614 600 640 .660 .620 .633 1-5 1-5 2-5 2-5 G N 1-5 1-5 1-5 1-5 2-5 1-5 5 R 2 5 2 5 2 5 Span-Feet 40 E R L R R T. R R Ĺ R 763.740.750 .680 .700670 .730700.700.660G N 1-5 2-5 1-51-5 1-51-5 1-5 1-5 2-5 1-5 $^{2}_{
m L}$ 5 5 2 5 Ë 50 Ř Ř Ř R Ŕ R \mathbf{R} Ŕ .712 .810 .792.780 .736.784.740.728.760.7601-5 G N 1-5 1--5 1-5 1-5 1-5 1-5 1-5 1-5 1-5 5 5 R 5 5 R 5 5 5 R 5 Ë 60 R R R Ŕ Ŕ R .842 .827.807 .760 .800780 820 .800 .773.773 G 1-51-5 1-5 1-5 1-51-5 1-5 1--5 1-5 1 - 55 R 5 R 5 5 R 5 5 R 5 80 Ë R R R. Ř .870881 .855 835 .820 .850865.850.830 .830G 1-5 1-5 1-5 1-5 1--5 1-5 1-5 1-5 1-5 1-5

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m R}^{5}$

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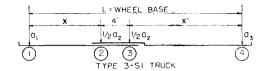
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TADIE	7 5	(Continued)
IABLE	4.0	(Continued)

TAE	3LE	7.5 (Continue	d)								
	ck N		71	72	73	74	75	76	77	78	79	80
Wh. Axle	Bas		36 16	36 16	- 40 16	40 16	16	$\frac{40}{16}$	16	16	16	16
Spac		X X′	12	12	16	16	16	16	16	16	20	20
Load	d	a ₁	.20 .30	.20	.10 .225	.10 .30	.10 .40	.20	.20	.20	.10 .225	.10
On Axle	es	\mathbf{a}_2	.50	.40 $.40$.675	.60	.50	.20 .60	.30 $.50$	$.40 \\ .40$.675	.30 $.60$
		G	3-5	2	3-5	3-5	2	3. 5	3-5	2	3-5	3-5
	10	N E	$^3_{\mathbf{L}}$	$^2_{ m R}$	3 L	$^3_{ m L}$	$^2_{ m R}$	$^3_{ m L}$	3 L	$\frac{2}{\mathbf{R}}$	$^{3}_{ m L}$	$_{\rm L}^3$
-		V	.300	.400	.405	.360	.400	.360	.300	.400	.405	.360
İ		G N	2-5 5	$\substack{2-5\\2}$	$_{3-5}^{3-5}$	35 3	$^{2-4}_{2}$	$_{3}^{-5}$	35 3	$\frac{1}{2}$	$^{3-5}_3$	$_3^{-5}$
	20	\mathbf{E}	\mathbf{R}	$\mathbf L$	\mathbf{L}	L	2 L	L	\mathbf{L}	$^{\mathrm{R}}$	$_{ m L}$	I,
-		V G	$\frac{.400}{2-5}$	2-5	2-5	$\frac{.480}{2-5}$	2 -5	$-\frac{.480}{2.5}$	$\frac{.400}{2-5}$	$\frac{.440}{2-5}$.540 2-5	$\frac{.480}{2-5}$
		N	5	2 L	5	5	2	5	5	2 L	5	5
	30	$_{ m V}^{ m E}$	$^{ m R}_{.534}$	L .587	$_{,630}^{ m R}$	$^{ m R}_{.580}$	$_{.566}^{ m L}$	$^{ m R}_{.560}$	R .494	$_{.534}^{ m L}$	$_{.600}^{ m R}$	$rac{\mathbf{R}}{.540}$
		G	1-5	2-5	1–5	1-5	2-5	1-5	1-5	2-5	2-5	2-5
ايد	40	$_{ m E}^{ m N}$	$^{5}_{ m R}$	$^2_{ m L}$	$^{5}_{ m R}$	5 R	$^2_{ m L}$	5 R	5 R	$^2_{ m L}$	$^{5}_{ m R}$	$^{5}_{\rm R}$
Ž.	40	v	.620	.640	.698	.660	.650	.620	.570	.600	.675	.630
Span-Feet		G	1.5	2.5	1.5	1-5	2-5	1-5	1-5	2-5	1-5	1-5
S	50	N E	$^{5}_{ m R}$	$_{ m L}^2$	$\overset{5}{\mathbf{R}}$	$\overset{5}{\mathrm{R}}$	$^2_{ m L}$	$\overset{5}{\mathrm{R}}$	ā R	$^2_{ m L}$	$\overset{5}{\mathrm{R}}$	$\overset{5}{\mathrm{R}}$
_		V	.696	.672	.758	.728	.700	.696	.656	.640	.732	.696
		G N	1-5 5	1:-5 5	$^{1-5}_{5}$	1-5 5	1-5 5	$^{1-5}_{5}$	$^{1-5}_{5}$	$^{1.5}_{5}$	$^{1-5}_{5}$	$^{1-5}_{5}$
	60	\mathbf{E}	\mathbf{R}	\mathbf{R}	R	\mathbf{R}	\mathbf{R}	\mathbf{R}	R	R	R	\mathbf{R}
-		_ <u>V</u>	.747 1–5	$\frac{.720}{1-5}$	$\frac{.798}{1-5}$.773 1–5	.740 1-5	.747 1-5		.680 15	.777 15	$\frac{.747}{1-5}$
İ		N	5	5	5	5	5	5	5	5	5	5 R
	80	E V	$_{.810}^{ m R}$	$^{ m R}_{.790}$	R .849	R .830	$_{.805}^{ m R}$	$^{ m R}_{.810}$	$^{ m R}_{.785}$	$^{ m R}_{.760}$	$_{.833}^{ m R}$	$_{.810}^{ m R}$
-		G	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5
	100	N E	5 R	\mathbf{R}^{5}	$^{5}_{ m R}$	5 R	5 R	5 R	5 R	$^{5}_{ m R}$	$\overset{5}{\mathbf{R}}$	$\overset{5}{\mathrm{R}}$
	100	Ÿ	.848	.832	.879	.864	.844	.848	.828	.808	.866	.848
Truc	ck N	D.	81	82	83	84	85	86	87	88	89	90
	Bas		44	44	44	44	48	48	4×	48	48	48
Axle	e cing	X X'	$\frac{16}{20}$	$\frac{16}{20}$	$\frac{16}{20}$	$\frac{16}{20}$	$\frac{16}{24}$	$\frac{16}{24}$	$\frac{16}{24}$	$\frac{16}{24}$	$\frac{16}{24}$	$\frac{16}{24}$
Load		aı	.10	.20	.20	.20	.10	.10	.10	.20	.20	.20
On Axle	20	\mathbf{a}_2	.40 .50	.20 .60	$.30 \\ .50$	$.40 \\ .40$	$.225 \\ .675$.30 .60	$.40 \\ .50$.20 .60	.30 .50	.40 .40
		G	2	3-5	3-5	2	3-5	3-5	2	3-5	35	2
	10	N E	$^2_{ m R}$	3	3	$\frac{2}{R}$	$^3_{ m L}$	$^3_{ m L}$	$\frac{2}{R}$	$^3_{ m L}$	$^3_{\mathbf{L}}$	$^2_{ m R}$
İ	10	Ÿ	.400	.360	.300	.400	.405	.360	.400	$.3\overline{60}$.300	.400
"		G	1 2 2	3 5	3-5	1-2	3-5	3 5	1 2	3–5	3 5	1 2
	20	N E	\mathbf{R}	3 L	$_{\mathbf{L}}^{3}$	$\overset{2}{ ext{R}}$	$^3_{ m L}$	3 L	$\frac{2}{\mathbf{R}}$	$^3_{ m L}$	$^3_{ m L}$	\mathbf{R}^2
-		V	,420	.480	.400	$\frac{.440}{1-2}$.540 3-5	.480	.420	3-5	3-5	.440
-		G N	$\frac{2-5}{2}$	2-5 5	25 5	2	3	3 5 3	$^{1}_{2}^{2}$	3	35 3	$\frac{1-2}{2}$
	30	\mathbf{v}	.500	R .534	$^{ m R}_{.454}$	$^{ m R}_{.493}$	L .585	$_{.520}^{ m L}$	R .447	L .520	$_{.434}^{ m L}$	R .493
-		G	2-5	$\frac{.554}{2-5}$	2 5	2 5	2-5	2 5	$-\frac{347}{2-5}$	2-5	2.5	2-5
اي	40	N	2 L	5	5	$^2_{ m L}$	5 R	5	2 L	5 R	5 R	$^2_{ m L}$
<u> </u>	40	$_{ m V}^{ m E}$.599	R .600	$^{ m R}_{.540}$	$.5\overline{60}$.653	$_{.600}^{ m R}$	$.5\overline{50}$.580	.510	.520
Span-Feet		G	2.5	1-5	1–5	2-5	1-5	1-5	2-5	1-5	1-5	2-5
ã	50	$_{ m E}^{ m N}$	$_{\mathbf{L}}^{2}$	$^{5}_{ m R}$	$^{5}_{ m R}$	$^2_{ m L}$	5 R	5 R	$^2_{ m L}$	$\overset{5}{\mathrm{R}}$	$_{\mathbf{R}}^{5}$	$_{ m L}^2$
_		<u>v</u>	.660	.664	.616	.608	.706	.664	.620	.632	.576	.576
		G N	1∴5 5	1–5 5	$^{1-5}_{5}$	15 5	$_{5}^{1-5}$	15 5	$_{5}^{1-5}$	15 5	15 5	2-5 2
	60	\mathbf{E}	\mathbf{R}	R	\mathbf{R}	R	R	\mathbf{R}	R	\mathbf{R}	\mathbf{R}	L
i-		V C	$\frac{.707}{1-5}$	$\frac{.720}{1-5}$.680 15	.640 15	.755	.720	1-5	.693 1-5	$\frac{.647}{1-5}$	-614 1-5
		G N	5	1-ə 5	5	5	$^{1-5}_{5}$	$^{1-5}_{5}$	5	5	5	1
	80	$_{ m V}^{ m E}$	$^{ m R}$	R .790	$^{ m R}_{.760}$	$^{ m R}_{.730}$	$^{ m R}_{.816}$	R .790	R .755	$^{ m R}_{.770}$	$^{ m R}_{.735}$	$_{.700}^{ m L}$
-		G	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5
	100	N	5	5	5	5	5	5	5	5	5	1
	100	\mathbf{E}	R	R	R	$rac{ ext{R}}{.784}$	$^{ m R}_{.853}$	$^{ m R}_{.832}$	$^{ m R}_{.804}$	$^{ m R}_{.816}$	$rac{\mathbf{R}}{.788}$	$^{ m L}_{.760}$
		ν	.824	.832	.808	- 4 CT **	.000	.004	.004	.010	.100	.100

TABLE 7.6

CONTROLLING CONDITIONS AND MAXIMUM SHEARS IN SIMPLE SPANS
PRODUCED BY THE TYPE 3-SI TRUCKS WEIGHING ONE KIP EACH



Ninety variations in the Type 3-S1 truck are given in this table. Each truck number from 1 to 90, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight on each axle.

Tru	ick No	٠.	1	2	3	4	5	6	7	×	9	10
Wh	. Base	ı L	24	24	24	24	24	24	28	28	28	28
Ax		X	8	×	8	8	8	8	8	8	8	8
	cing	Χ.	12	12	12	12	12	12	16	16	16	16
Loa	ıd	\mathbf{a}_1	.10	.10	.10	.20	.20	.20	.10	.10	.10	.20
On Ax	Ion	a ₂	.40 .50	.50 .40	.60 $.30$.40 .40	.50 .30	.534 $.266$.40 $.50$.50 .40	.60 .30	.40 .40
AX	ies				2.3		2 3	2 3			2-3	4
		G N	4	$\frac{2}{2}$	2.5	4	2 3	2 3	4	4	2-3	4
- 1	10	E	L	Ĺ	Ĺ	Ĺ	Ĺ	Ĺ	Ĭ.	Ĺ	Ĺ	Ľ
1		v	.500	.400	.480	.400	.400	.427	.500	400	.480	.400
į		G	2 -4	2 4	2-4	2-4	1 3	1 3	2-4	1-3	1 3	1-3
- 1		N	4	4	$^{2}_{ m L}$	4	3	3	4	3	3	$^3_{ m R}$
- [20	E	R	R		\mathbf{R}	R	R	R	\mathbf{R}	R	R
ł		V	.620	.550	.600	.520	.530	.561	.540	.490	.580_	.440
		G	14	1-4	2 4	1.4	1 -4	2 4	1 4	1 -4	2 4	1-4
-	30	N E	$^4_{ m R}$	4 R	2 L	$^4_{ m R}$	$^{4}_{ m R}$	2 L	4 R	4 R	2 L	$^{4}_{ m R}$
1	30	V	.733	.687	.700	.653	.607	.622	.667	.607	.660	.573
Ì		G	1-4	1-4	2 4	1-4	1 4	1 4	1-4	1 4	2-4	14
		Ň	4	4	2 4	4	4	1 4	4	4	3	4
et	40	Ë	Ř	Ř	Ĺ	Ŕ	Ř	Ĺ	Ř	Ř	Ĺ	Ř
Feet	• •	$\vec{\mathbf{v}}$.800	.765	.780	.740	.705	.707	.750	.705	.720	.680
п		G	1-4	14	1 4	14	1-4	1 4	1-4	1 4	2-4	1-4
Span		N	4	4	4	4	4	1	4	4	2	4
ω.	50	E	R	R	R	R	R	L	R	R	L	R
- 1		V	.840	.812	.784	.792	.764	.765	.800	.764	.756	.744
		G N	1-4 4	1 4	1 - 4 4	14 4	1-4	1 4	1-4	1 -4	$\frac{2}{2}$	1 4 4
	60	E	$\overset{4}{\mathrm{R}}$	$^{4}_{ m R}$	Ř	Ř.	$^4_{ m R}$	Ī.	4 R	$^4_{ m R}$	Ĺ	Ř
	00	v	.867	.843	.820	.827	.803	.804	.833	.803	.780	.787
		G	1-4	1-4	1-4	1-4	14	1 4	1-4	1-4	1-4	1-4
1		Ñ	4	4	4	4	4	11	4	4	4	4
	80	Е	\mathbf{R}	R	R	\mathbf{R}	R	Ĺ	R	R	R	R
İ		V	.900	.883	.865	.870	.853	.853	.875	.853	.830	.840
-		G	1-4	1-4	1-4	1-4	1-4	1 4	1-4	1-4	1-4	í - 4
i		N	4	4	4	4	4	1	4	4	4	4
j	100	E	R	R	R	R	R	L	R	P	R	R
		V	,920	.906	.892	.896	.88v	.883	.900	.882	.864	.872

All dimensions are in feet and shears are in kips,

a1, a2, and a3-Represent the ratio of gross vehicle weight on axles.

G--Axle group causing maximum shear, thus 1-3 means axles 1, 2, and 3.

N-Number of critical axle under which maximum shear occurs.

E-End of span at which critical axle is placed.

V-Maximum shear.

T A	RI	E.	7.6	(Continued)	

			(Continue									
	ick N		28	12 28	13 32	32	15 32	16 32	$\frac{17}{32}$	18 32	- 19 36	$\frac{20}{36}$
Ax	le	X X,	8	8	8 20	8 20	8 20	8 20	- 8	8 20	8	8
Los	acing ad	a ₁	.20	$-\frac{16}{.20}$.10	.10	.10	.20	.20	.20	.10	.10
On Ax	les	\mathbf{a}_3	$.50 \\ .30$	$.534 \\ .266$.40 .50	.50 .40	.60 .30	.40 .40	.50 .30	.534 $.266$.40 .50	.50 .40
T		G	2-3	2-3	4	23	2-3	4	2-3	2-3	4	2-3
	10	N E	2 L	$^2_{f L}$	$^{4}_{ m L}$	$_{ m L}^2$	$_{\rm L}^2$	$_{ m L}^4$	$_{ m L}^2$	$_{ m L}^2$	4 L	$_{ m L}^2$
-		-V G	1 3	$-\frac{.427}{1-3}$	$-\frac{.500}{3.4}$	$\frac{.400}{1-3}$	$-\frac{.480}{1-3}$			$-\frac{.427}{1-3}$.500	$\frac{.400}{1-3}$
	20	N	3 R	3 R	4 R	$\frac{3}{R}$	3 R	3 R	3 R	3 R	$\hat{ ext{4}}$	3 R
ļ		E V	.530	.561	.500	.490	.580	.440	.530	.561	.500	.490
		G N	$\frac{1-3}{3}$	1⊢3 3	$\substack{2-4\\4}$	$\substack{2-4\\2}$	$\frac{2-4}{2}$	$\substack{2-4\\4}$	$^{1-3}_{3}$	$\frac{1-3}{3}$	$\substack{2-4\\4}$	$\frac{1-3}{3}$
Į	30	$_{ m V}^{ m E}$	R ,587	$^{ m R}_{619}$	$_{.607}^{ m R}$	$_{.547}^{ m L}$	$_{.620}^{ m L}$	$^{ m R}_{.507}$	$^{ m R}_{.587}$	R .619	$^{ m R}_{.553}$	$^{ m R}_{.527}$
		G	1 4	1-4	1-4	1-4	2 4	14	1-4	1-4	14	2-4
set	40	N E	1 I.	$^{ m l}_{ m L}$	$^4_{\rm R}$	$^{4}_{ m R}$	$^2_{ m L}$	4 R	1 L	1 L	$^4_{ m R}$	$^2_{ m L}$
Span-Feet		_ <u>V</u>	.665 1 4	$-\frac{c80}{1-4}-$	1 4	.645 1-4	2-4	1 4	1 4	,653 1-4	.650 14	$\frac{.595}{1-4}$
3pa1		N	1	ì	4	4	2	4	1	1	4	4
01	50	V	L .732	I. .744	.760	.716	.732	R .696	.708	.723	,720	.668
		G N	1 4 1	1-4	1 4 4	1-4 4	$\frac{2}{2}$	1-4	1-4 1	14 1	$^{1-4}_{4}$	14 4
	60	E V	Ī. .777	Ĺ .787	.800	Ř .763	.760	Ř .747	Ĺ .757	L .769	$\frac{\hat{\mathbf{R}}}{.767}$	R .723
1.		G	14	1-4	1-4	1 4	1-4	1-4	1-4	1 4	1-4	1 4
	80	N E	1 L	$^{ m l}_{ m L}$	$^{4}_{\rm R}$	$^4_{ m R}$	1 L	4 R	$^{1}_{ m L}$	$^{1}_{ m L}$	4 R	4 R
-		v	.833	.840	.850	.823	.805	.810	.818	.827	825	.793
i	*00	G N	1	1-4 1	14 4	1 4	1 · 4 1	$^{1-4}_{4}$	1-4 1	1-4 1	1-4 4	1 4 4
	100	$_{ m V}^{ m E}$	$^{ m L}_{.866}$	$^{ m L}_{.872}$	$^{ m R}_{.880}$	R .858	L .844	R .848	$^{ m I.}_{.854}$	$^{ m L}_{.861}$	R .860	$^{ m R}_{.834}$
Tru	ick N	0.	21	22	23	24	25	26	27	28	29	30
Wh	ı, Base	e L	36	36	36	36	40	40	40	40	40	40
Wh	ı, Base											
Wh Axl Spa Loa	i, Bass le icing	e L X X' a1	36 8 24 ,10	36 8 24 .20	36 8 24 .20	36 8 24 .20	40 8 28 .10	8 28 .10	40 8 28 .10	8 28 .20	8 28 .20	8 28 .20
Wh Axl Spa	i, Base le icing id	e L X X' a ₁ a ₂ a ₃	36 8 24 .10 .60 .30	36 8 24 .20 .40 .40	36 8 24 .20 .50 .30	36 8 24 .20 .534 .266	8 28 .10 .40 .50	8 28 .10 .50 .40	8 28 .10 .60 .30	8 28 .20 .40 .40	40 8 28 .20 .50 .30	8 28 .20 .534 .266
Axl Spa Loa On	i. Basi le acing ad les	e L X X' a ₁ a ₂ a ₃ G	36 8 24 .10 .60 .30 2 3	36 8 24 .20 .40 .40	36 8 24 .20 .50 .30 2 3	36 8 24 .20 .534 .266 2-3 2	40 8 28 .10 .40 .50	40 8 28 .10 .50 .40 2 3 2	40 8 28 .10 .60 .30 2 3 2	40 8 28 .20 .40 .40	40 8 28 .20 .50 .30 2–3 2	$ \begin{array}{r} 40 \\ 8 \\ 28 \\ .20 \\ .534 \\ .266 \\ 2-3 \\ 2 \end{array} $
Axl Spa Loa On	i, Base le icing id	e L X X' a ₁ a ₂ a ₃ G	36 8 24 .10 .60 .30 2 3	36 8 24 .20 .40 .40	36 8 24 .20 .50 .30	36 8 24 .20 .534 .266	40 8 28 .10 .40 .50	40 8 28 .10 .50 .40 2 3	40 8 28 .10 .60 .30	40 8 28 .20 .40 .40	40 8 28 .20 .50 .30 2-3 2 L	8 28 .20 .534 .266 2-3
Axl Spa Loa On	i. Basi le acing ad les	e L X X X' a1 a2 a3 G N E V G	36 8 24 .10 .60 .30 2 3 2 L .480	36 8 24 .20 .40 .40 4 4 4 .409 1 3	36 8 24 .20 .50 .30 2 3 2 L .400	36 8 24 .20 .534 .266 2 3 2 L .427 1-3	40 8 28 .10 .40 .50 4 1 .500 4	40 8 28 .10 .50 .40 2 8 2 L .400 1 - 3	40 8 28 .10 .60 .30 2 3 2 L .480 1 - 3	40 8 28 .20 .40 .40 4 4 4 L .400 1-3	40 8 28 .20 .50 .30 2–3 2 L .400 1–3	40 8 28 .20 .534 .266 2-3 2 L .427 1-3
Axl Spa Loa On	i. Basi le acing ad les	e L X X X a1 a2 a3 G N E V G N E	36 8 24 .10 .60 .30 2 3 2 L .480 1 3 R	36 8 24 .20 .40 .40 4 4 L .409 1 3 R	36 8 24 .20 .50 .30 2 3 2 L .400 1 3 R	36 8 24 .20 .534 .266 2-3 2 L .427 1-3 3 R	40 8 28 .10 .40 .50 4 L .500 4 L	40 8 28 .10 .50 .40 2 3 2 L .400 1-3 3 R	40 8 28 .10 .60 .30 2 3 2 L .480 1 - 3 R	40 8 28 .20 .40 .40 4 4 L .400 1-3 3 R	40 8 28 .20 .50 .30 2-3 2 L .400 1-3 3 R	40 8 28 .20 .534 .266 2-3 2 L .427 1-3 3 R
Axl Spa Loa On	i. Base le acing ad les	e L X X' a ₁ a ₂ a ₃ G N E V G N E V	36 8 24 .10 .60 .30 2 3 2 L .480 1 3 R .580	36 8 24 .20 .40 .40 4 4 4 L .409 1 3 3 R .440 1 3	36 8 24 .20 .50 .30 2 3 2 .400 1 3	36 8 24 .20 .534 .266 2-3 2 L .427 1-3 3	40 8 28 .10 .40 .50 4 4 I. .500 4	40 8 28 .10 .50 .40 2 3 2 L .400 1-3 3	40 8 28 .10 .60 .30 2 3 2 L .480 1-3 3	40 8 28 .20 .40 .40 4 4 4 L .400 1-3 3	40 8 28 .20 .50 .30 2-3 2 L .400 1-3 3	40 8 28 .20 .534 .266 2-3 2 L .427 1-3 3 R .561
Axl Spa Loa On	l. Base le acing ad les 10	e L X X' a ₁ a ₂ a ₃ G N E V G N E V	36 8 24 .10 .60 .30 2 3 2 1 .480 1 3 8 .580 1-3 3	36 8 24 .20 .40 .40 4 4 .409 1 3 .8 .440 1 -3 3	36 8 24 .20 .50 .30 2 3 2 1 .400 1 3 8 .530 1 .3 8	36 8 24 .20 .534 .266 2.3 2 L .427 1-3 3 R .561 1 3	40 8 28 10 .40 .50 4 1 .500 4 1 .500 3 4 4 1 .500 4	40 8 28 .10 .50 .40 2 · 3 2 L .400 1 · 3 R .490 1 · 3	40 8 28 .10 .60 .30 2 3 2 L .480 1 3 8 .580 1 3	40 8 28 .20 .40 .40 4 4 L .400 1-3 3 R .440 1: 3	40 8 28 .20 .50 .30 2–3 L .400 1–3 3 R .530 1–3	8 28 20 .534 .266 2-3 2 L .427 1-3 3 R .561
Axl Spa Loa On	i. Base le acing ad les	E L X X X a1 a2 a3 G N E V G N E V G N E V	86 8 24 .10 .60 .30 2 3 2 L .480 1 3 R .580 1 -3 3 R .620	36 8 24 .20 .40 .40 4 L .409 1 3 3 R .440 1 3 3 R .493	36 8 24 .20 .50 .30 2 3 2 L .400 1 3 8 .530 1-3 3 R .587	36 8 24 .20 .534 .266 2-3 2 L .427 1-3 3 R .561 1 3 8 .619	40 8 28 10 .40 .50 4 4 L .500 4 4 L .509 3 .4 4 R	40 8 28 .10 .50 .40 2 L .400 1-3 8 .490 1-3 3 R .527	40 8 28 .10 .60 .30 2 .2 .4 .4 .5 .5 .5 .6 .6 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3	40 8 28 .20 .40 .40 4 L .400 1-3 3 R .440 1-3 3 R .449	8 28 28 .20 .50 .30 2-3 2 L .400 1-3 3 R .530 1-3 8 R .587	40 8 28 20 .534 .266 2-3 2 L .427 1-3 3 R .561 1 3 8 R
White Axis Spatial Load of Axis Spatial Load of Axis Axis Spatial Control of A	les 10	e L X X X a1 a2 a3 G N E V E V G N E V E V E V E V E V E V E V E V E V E	86 8 24 .10 .60 .30 2 3 2 L .480 1 3 8 .580 1-3 3 R .620 2 -4	36 8 24 .20 .40 .40 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .8 .8 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4	36 8 24 .50 .50 .30 2 .50 2 .400 1 3 3 R .530 1 3 R .587 1 - 3 3	36 8 24 .20 .534 .266 2.3 2 L 427 13 3 R .561 1.3 8 .619	40 8 28 10 40 .50 4 4 1 .500 4 4 4 1 .500 3 4 4 R .513 2-4	40 8 28 .10 .50 .40 2 3 2 L .400 1.3 3 R .490 1.3 3 R .527 2-4 2-4	40 8 28 .10 .60 .30 2 .480 1.3 3 R .580 1 3 R .620	40 8 28 .20 .40 .40 .40 .41 .400 1-3 .8 .440 1-3 .8 .493 1-3 .8	40 8 28 20 50 30 2-3 2 L 400 1-3 3 R 530 1-3 3 R 587 1-3	40 8 28 .20 .534 .266 2-3 2 L .427 1-3 3 R .561 13 3 13 3 13 3 13 14 .53 15 .53 15 .53 .53 .53 .53 .53 .53 .53 .5
White Axis Spatial Load of Axis Spatial Load of Axis Axis Spatial Control of A	l. Base le acing ad les 10	aı az az G N E V G N E V G G N E V G	86 8 24 10 .60 .30 2 3 2 L .480 1 3 8 R .580 1 -3 3 R 620 2 -4	36 8 24 .20 .40 .40 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4	36 8 24 .20 .50 .30 2 3 2 .400 1 3 3 R .530 1-3 8 .587 1-3	36 8 24 .534 .266 .23 .2 .427 1-3 .3 .8 .561 1 3 .8 .619 1 3	40 8 28 10 40 50 4 1 1 500 4 4 1 509 3 4 4 8 51 509 3 2 4	40 8 28 10 50 40 2 3 2 L 400 1-3 3 R 490 1-3 3 R 5527 2-4	40 8 28 .10 .60 .30 2 3 2 .480 1 3 8 .580 1 3 8 .620 1 3	40 8 28 .20 .40 .40 .40 .40 .1-3 .8 .440 .1-3 .8 .493 .1-3	8 28 20 .50 .30 2-3 2 L .400 1-3 3 R .530 1-3 8 R .587 1-3	40 8 28 .20 .534 .266 2-3 2 L .427 1-3 8 .561 1 3 8 .619
White Axis Spatial Load of Axis Spatial Load of Axis Axis Spatial Control of A	les 10	e L X X, X, a1 a2 a2 a3 G N E V G N E V G N E V G N E V G N E V O G S O S O S O S O S O S O S O S O S O	86 8 24 .10 .60 .30 2 3 2 L .480 1 3 8 .580 1-3 3 R .620 2 4 L	36 8 24 .20 .40 .40 .40 .40 .40 .40 .1 .3 .8 .440 .1 .3 .8 .493 .1 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4	36 8 24 .20 .50 .30 2 3 2 L .400 1 3 3 R .530 1-3 3 R .587 1-3 3 R .615 1 4	36 8 24 .20 .534 .266 2 .3 2 L .427 1 .3 3 R .561 1 .3 3 8 .619 1 .3 8 .647 1 .4	40 8 28 28 10 40 50 4 4 1, 500 4 4 4 1, 500 3 - 4 4 R 513 2 - 4 R 60 60 1 - 4 8 - 5 8 -	40 8 28 28 .10 .50 .40 2 3 2 L .400 1 3 8 R .527 2 4 2 L .5527	40 8 28 .10 .60 .30 2 3 2 L .480 1 -3 3 R .580 1 3 3 R .620 1 3 3 R .620 2 4	40 8 28 .20 .40 .40 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4	40 8 28 20 50 30 2-3 2 L 400 1-3 3 R 530 1-3 3 R 587 1-3 3 R 1-4	40 8 28 20 .534 .266 2-3 2 L .427 1-3 3 R .561 1 3 3 R .619 1 3 8 .647
Axl Spa Loa On	les 10	e L X X a1 a2 a3 G N E V R E V R E	86 8 24 .10 .60 .80 2 3 2 L .480 1 3 8 R .580 1-3 8 R .620 2 -4 2 L .660 2 -4 2 L	36 8 24 .20 .40 .40 .40 .40 .40 .40 .1 .3 .8 .440 .1 .3 .8 .440 .1 .40 .1 .40 .1 .40 .40 .40 .40 .40 .40 .40 .40	36 8 24 .20 .50 .50 2 3 2 L .400 1 3 8 .530 1 3 R .587 1 3 R .615	36 8 24 .20 .534 .266 .2.3 .2 .427 1-3 .8 .619 1 3 .8 .619 1 3 .8 .647 1 4 .1 .1	40 8 28 28 .10 .40 .50 4 4 .500 4 4 .500 3 .4 4 R .513 2 .4 4 R .600 1 .4 .600 1 .4 .600	40 8 28 28 .10 .50 .40 2 3 2 L .400 1-3 3 R .527 2-4 2 L .555 2-4 2 L	40 8 28 28 .10 .60 .30 2 3 2 L .480 1 3 8 .580 1 3 8 .620 1 3 8 .620 1 3 8 .620 1 3 8 .640 .640 .650	40 8 28 .20 .40 .40 4 4 L .400 1-3 3 R .440 1-3 3 R .493 1-3 3 R .493 1-4 .405 1-4 .405 1-4 .405 1-4 .405 1-4 .405 1-4 .405 1-4 .405 1-4 .405 1-4 .405	40 8 28 .20 .50 .30 2-3 2 L .400 1-3 3 R .530 1-3 3 R .587 1-3 3 R .510 1-4 1 L	40 8 28 20 .5346 .264 .2-3 .2 L .427 1-3 .8 .619 1 3 .8 .619 1 3 .8 .619 1 4 .647
White Axis Spatial Load of Axis Spatial Load of Axis Axis Spatial Control of A	a. Base electing ad less as a les as a less as a less as a less as a less as a less as a les as a les as a	e L XX a1 a2 G NE V G N	86 8 24 .10 .60 .30 2 3 2 .1 .480 1 3 R .580 1-3 3 R .620 2 4 2 .1 .666 2 4 2 1 .708	36 8 24 .20 .40 .40 .40 .40 .40 .40 .1 .3 .8 .440 .1 .3 .8 .493 .1 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4	36 8 24 .20 .50 .50 .30 .23 .24 .400 .13 .8 .530 .1-3 .8 .587 .1-3 .8 .61 .61 .1 .1 .1 .684	36 8 24 .20 .534 .266 2 .3 2 L .427 1 .3 3 R .619 1 3 3 8 .619 1 1 .1 .1 .1 .1 .1 .1 .1 .1 .1	40 8 28 28 10 40 50 4 4 1, 500 4 4 4 1, 500 3 - 4 4 R 61 61 61 61 61 61 61 61 61 61	40 8 28 28 .10 .50 .40 2 3 2 L .400 1-3 3 R .527 2-4 2 L .555 2-4 2 L .527	40 8 28 .10 .60 .30 2 3 2 L .480 1 -3 3 R .580 1 3 R .620 1 3 R .620 1 2 4 .64 .64 .65 .66 .66 .66 .67 .67 .68 .68 .69 .69 .69 .69 .69 .69 .69 .69	40 8 28 .20 .40 .40 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4	40 8 28 20 50 30 2-3 2 L 400 1-3 3 R 580 1-3 3 R 587 1-4 1 L 466	40 8 28 20 .534 .266 2-3 2 L .427 1-3 3 R .561 1 3 3 R .619 1 3 8 .647 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4
White Axis Spatial Load of Axis Spatial Load of Axis Axis Spatial Control of A	10 20 30 40 50	e L XX a1 a2 G NE V G N	86 8 24 10 .60 .30 2 3 2 L .480 1 3 R .580 1-3 3 R .620 2 4 2 L .708	36 8 24 .20 .40 .40 .40 .40 .40 .40 .1 3 .8 440 .1 3 .8 493 .1 4 .4 4 .6 48 .1 4 .4 8 .6 48 .1 4 .4 8 .4	36 8 8 24 .20 .50 .50 .30 2 3 2 L .400 1 3 8 .530 1-3 3 R .587 1-3 4 1 L .684 1-4 1	36 8 24 .20 .534 .266 2.3 2 L .427 1-3 3 R .619 1 3 8 .647 1 4 1 L .701 1 4 1	40 8 28 28 10 40 50 4 4 1 500 4 4 4 1 509 3 4 4 R 600 1 4 4 R 680 1 4 4 8 680 1 4 8	40 8 28 28 .10 .50 .40 2 3 2 L .400 1-3 3 R .527 2-4 2 L .555 2-4 2 L .624 1-4	40 8 28 .10 .60 .30 2 3 2 L .480 1 -3 3 R .580 1 3 R .620 1 3 R .620 1 2 4 .64 .64 .65 .66 .66 .66 .67 .67 .68 .68 .69 .69 .69 .69 .69 .69 .69 .69	40 8 28 .20 .40 .40 .40 .40 .400 .1-3 .8 .440 .1-3 .8 .493 .1-3 .8 .8 .493 .1-3 .8 .8 .9 .1-4 .1	40 8 28 .20 .50 .30 2-3 2 L .400 1-3 3 R .587 1-3 3 R .587 1-4 1 L .660 1 4 1	40 8 28 20 .5344 .265 2-3 2 L .427 1-3 3 R .619 1 3 8 .619 1 4 1 L .680 1-4
White Axis Spatial Load of Axis Spatial Load of Axis Axis Spatial Control of A	a. Base electing ad less as a les as a less as a less as a less as a less as a less as a les as a les as a	e L XX a1 a2 a3 GNE V GNE V GNE V GNE V GNE V GNE V CONE V CONE CONE CONE CONE CONE CONE CONE CONE	36 8 24 .10 .60 .30 2 3 L .480 1 3 R .580 1 -3 R .620 2 -4 2 L .660 2 -4 2 L .708	36 8 24 .20 .40 .40 .40 .40 .1 3 .8 440 .1 3 .8 440 .1 4 .4 4 .6 60 .1 4 .6 4 .6 4 .6 4 .7 6 .7 6 .7 7	36 8 24 .20 .50 .30 2 3 2 L .400 1 3 8 R .587 1-3 3 R .615 1 4 1 L .684 1-L .737	36 8 24 .20 .534 .226 .23 .2 .427 1-3 .8 .617 1 3 .8 .619 1 3 .8 .647 1 4 1 L .751	40 8 28 .10 .40 .50 4 4 1 .500 3 .4 4 4 R .513 .500 1 .500 1 .500 1 .500 1 .500 1 .500 1 .500 1 .500 1 .500 1 .500 1 .500 1 .600 .600 1 .600 .600 1 .600 1 .600 1 .6000 1 .6000 1 .6000 1 .6000	40 8 28 .10 .50 .40 2 .3 2 L .400 1 .3 3 R .490 1 .3 R .527 2 L .4 L	40 8 28 .10 .60 .30 2 3 2 L .480 1 3 8 R .620 1 3 8 R .620 2 4 2 L .640 2 4 2 L .640	40 8 28 .20 .40 4 4 L .400 1-3 3 R .440 1.3 3 R .440 1.3 3 R .490 1.3 3 1.3 3 1.3 3 1.3 1.3 1.3	8 28 28 20 .50 .30 2-3 2 L .400 1-3 R .530 1-3 3 R .5587 1-3 3 R .615 1-4 1 L .660 1 4 1 L .717	40 8 28 .20 .5366 2-3 2 L .427 1-3 3 R .561 13 3 R .619 14 1 L .680 1-4 1 L .733
White Axis Spatial Load of Axis Spatial Load of Axis Axis Spatial Control of A	1. Base le eacing ad les 10 20 30 40 50 60	e L XX a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	86 8 24 10 .60 .30 2 3 2 L .480 1 3 R .580 1-3 3 R .620 2 4 2 L .660 2 -4 2 L .740 2 L .740 1 -4	36 8 24 .20 .40 .40 .41 .409 1 3 3 R .440 1 3 3 R .440 1 4 4 .409 1 3 4 .440 1 4 4 .440 1 5 6 .440 1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	36 8 24 .20 .50 .30 .30 2 3 2 L .400 1 3 8 .530 3 R .530 1 - 3 8 R .615 1 4 1 L .684 1 - 4 1 L .737 1 - 4 1	36 8 24 .20 .534 .266 2.3 2 L .427 1-3 3 R .561 1 3 3 R .619 1 3 3 R .1 3 1 3 1 4 1 4 1 L .701 1 4 1 L .751 1 4 1 L .751 1 4 1 L .751 1 L	40 8 28 .10 .40 .50 4 4 1 .500 4 4 4 1 .500 3 .4 4 4 R .600 1 .4 4 4 R .680 1 .4 4 4 8 .733 1 .4 4 4 .4 8 .733 1 .4 .734 1 .4 .735	40 8 28 .10 .50 .40 2 3 2 L .400 1 - 3 3 R .490 1 - 3 8 R .527 2 - 4 2 L .555 2 4 4 2 L .683 1 - 4	40 8 28 .10 .60 .30 2 3 2 L .480 1 -3 3 R .580 1 3 3 R .620 1 3 3 R .624 2 L .644 2 L	40 8 28 .20 .40 .40 .4 4 4 4 L .400 1-3 3 R .449 1-3 3 R .520 1 4 1 L .600 1-4 1 L	8 28 28 20 50 30 2-3 2 L .400 1-3 3 R .587 1-3 3 R .615 1-4 1 L .660 1 4 1 L	40 8 8 28 .20 .534 .268 .23 2 L .427 1-3 3 R .561 1-3 3 R .619 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4
White Axis Spatial Load of Axis Spatial Load of Axis Axis Spatial Control of A	10 20 30 40 50	e L XX a1 a2 a2 a2 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	86 8 24 .10 .60 .30 2 3 2 L .480 1 3 R .580 1-3 R .620 2 4 2 L .708 2 4 2 L .708 1 4 1 L	36 8 24 .20 .40 .40 .40 .40 .40 .40 .1 3 .8 440 .1 3 .8 493 .1 4 .8 648 .1 4 .8 648 .7 07 .7 07	36 8 24 .20 .50 .50 .30 2 3 2 L .400 1 3 8 .530 1 3 R .587 1 3 R .587 1 4 1 L .684 1 L .737 1 -4 1 L L	36 8 24 .20 .534 .266 .2-3 2 L .427 1-3 3 R .619 1 3 R .619 1 1 4 1 L .701 1 4 1 L .751 1 4 1 L	40 8 28 .10 .40 .50 4 4 1 .500 3 .4 4 R .513 2 .4 4 R .600 1 .4 4 R .680 1 .4 4 R .733 1 .4 4 R	8 28 .10 .50 .50 .40 .2 3 2 L .400 .1 3 3 R .527 .2 4 2 L .555 .2 4 4 2 L .624 .1 4 4 R .6883 .1 4 4 R	40 8 28 28 .10 .60 .30 2 3 2 L .480 1 3 8 .580 1 3 8 .620 1 3 8 .640 2 4 2 L .644 2 1 .644 2 1 .720	40 8 28 .20 .40 4 4 4 L .400 1-3 3 R .440 1-3 3 R .493 1-3 3 R .520 1 4 1 L .6667 1-4 1 L L	8 28 .20 .50 .50 .50 .50 .50 .50 .50 .50 .50 .5	40 8 28 28 20 .5346 2-3 2 L .427 1-3 3 R .561 13 3 R .619 13 4 1 L .680 1-4 1 L .733 1 1 L .1 L .733
White Axis Spatial Load of Axis Spatial Load of Axis Axis Spatial Control of A	1. Base le eacing ad les 10 20 30 40 50 60	e L XX a1 a2 a2 BC GNEV	86 8 24 10 .60 .30 2 3 2 L .480 1 3 R .580 1-3 3 R .620 2-4 2 L .740 2 L .740 1-4 1 L .790 1-4	36 8 24 .20 .40 .40 .41 .409 1 3 3 R .440 1 1 3 3 R .493 1 - 4 4 4 R 68 .648 1 4 4 R R .707 1 - 4 R R .707	36 8 8 24 .20 .50 .30 .30 2 3 2 L .400 1 3 8 .530 1 -3 3 R .587 1 -3 1 4 1 L .684 1 -4 1 L .737 1 -4 1 L .803 1 4	36 8 24 .20 .534 .266 2 .3 2 L .427 1 .3 3 R .561 1 .3 3 R .619 1 .3 3 R .511 1 .4 1 .7 1 .4 1	40 8 28 .10 .40 .50 4 4 1 .500 4 4 4 1 .500 3 .4 4 4 R .600 1 .4 4 4 R .680 1 .4 4 4 R .800 1 .4 .800 1 .4	40 8 28 .10 .50 .40 2 .3 2 L .400 1 .3 3 R .490 1 .3 3 R .527 2 .4 2 L .525 2 .4 4 .4 4 .4 6 .5 2 .4 4 .4 4 .4 4 .4 6 .5 1 .4 4 .4	40 8 28 .10 .60 .30 2 3 2 L .480 1 -3 3 R .580 1 3 3 R .620 1 3 3 R .620 1 4 2 L .720 1 4 1 L .720 1 -4	40 8 28 .20 .40 .40 .40 .41 .400 1-3 3 R .440 1-3 3 R .493 1-3 3 R .493 1-2 .400 1-3 .400 1-4 1 .400 1-4 .400	40 8 8 28 .20 .50 .30 2-3 2 L .400 1-3 3 R .587 1-3 3 R .615 1-4 1 L .717 1-4 1 L .718 1 .788 1 4	40 8 8 28 28 20 534 266 2-3 2 L 427 1-3 3 R 619 1-3 3 R 647 1-4 1 L 7333 1-4 1 L 500 1-4
White Axis Spatial Load of Axis Spatial Load of Axis Axis Spatial Control of A	1. Base le eacing ad les 10 20 30 40 50 60	e L XX a12 a22 a23 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	86 8 24 10 .60 .30 2 3 2 L .480 1 3 R .580 1-3 3 R .620 2 4 2 L .708 2 4 2 L .708 2 4 1 L .790	36 8 24 .20 .40 .40 .40 .41 .409 1 3 3 R .440 1 3 3 R .493 1 - 4 .4 4 R .560 1 4 .648 1 - 4 .780	36 8 8 24 .20 .50 .50 .30 2 3 2 L .400 1 3 8 .530 1-3 8 .587 1-3 8 .615 1 4 1 L .684 1-4 1 L .737 1-4 1 L .803	36 8 24 .20 .534 .266 2 .3 2 L .427 1 .3 3 R .619 1 .3 3 8 .619 1 .1 1	40 8 28 28 10 40 50 4 4 1, 500 3 - 4 4 R 600 1 4 4 R 680 1 - 4 4 R 733 1 4 4 R 8 680 1 - 4 4 8 R 8 R 8 R 8 R 8 R 8 R 8 R 8 R	40 8 28 .10 .50 .40 2 3 2 L .400 1 3 8 R .527 2 4 2 L .555 2 4 2 L .624 1 4 4 R .683 1 4 8 R	40 8 28 .10 .60 .30 2 3 2 L .480 1 3 8 .580 1 3 8 .620 1 3 8 .620 1 4 2 L .684 2 4 2 L .684 2 4 2 L .620 1 3 3 8 C .620 1 3 3 8 C .620 1 3 3 8 C .620 1 3 3 8 C .620 1 4 2 L .620 1 4 2 L .620 1 5 C .620 1 5 C .620 1 6 C .620 1 6 C .620 1 7 C	40 8 28 .20 .40 .40 .40 .41 .400 1-3 3 8 .440 1-3 3 8 .493 1-3 1 .520 1 4 1 .L	40 8 28 .20 .50 .30 2-3 2 L .400 1-3 3 R .587 1-3 3 R .587 1-4 1 L .660 1 4 1 L .717 1-4 1 L .788	40 8 28 20 .5344 .266 2-3 2 L .427 1-3 3 R .619 1-3 3 R .619 1-1 1-1 L .680 1-4 1-1 L .733 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4

TABLE 7.6 (Continued)

			Continue									
	ck No Base		31 28	32 28	33 28	34 28	35 28	36 28	37 32	38 32	39 32	40 32
AxI	e	X X'	12	12	12	12	12	12	12	12	12	12
Spa Loa	cing	X'	.10	.10	.10	.20	.20	.20		.10	.10	.20
On Axl		a ₂ a ₃	.40 .50	.50 .40	.60 .30	.40	.50 .30	.534 .266	.40 .50	.50 .40	.60 .30	.40
1121		G	4	2-3	2-3	4	9 -3	2-3	4	2-3	2-3	4
- 1	10	N E	4 L	$^2_{ m L}$	$^2_{ m L}$	$^4_{ m L}$	2 L	2 L	$^4_{ m L}$	$^2_{ m L}$	2 L	$^{4}_{ m L}$
-		V G	2 4	$\frac{.400}{2-4}$.480 2-4	24	2 4	.427 2-4	2.4	1 3	1-3	2-4
1		N	4	4	2 L	4	2	2	4	3	3	4
- 1	20	E V	R .620	R .550	.600	$^{ m R}_{.520}$	$_{.510}^{ m L}$	$_{.533}^{ m L}$	$^{ m R}_{.540}$	R .470	$^{ m R}_{.560}$	$^{ m R}_{.440}$
		G N	14	1-4 4	2-4	1-4 4	2-4 2	$\frac{2-4}{2}$	2-4	2 4	2-4	2-4
	30	\mathbf{E}	\mathbf{R}	\mathbf{R}	2 L	\mathbf{R}	$_{ m L}$	\mathbf{L}	$^{\mathrm{R}}$.600	.660	\mathbf{R}
-		- V G	$\frac{.720}{1-4}$	$\frac{.673}{1-4}$.700 2-4	$\frac{.627}{1.4}$.607 1-4	.622 14	.660 1 4	1 4	2-4	1-4
달	40	N E	$^{4}_{ m R}$	4 R	$^2_{ m L}$	$^{4}_{ m R}$	$^4_{ m R}$	4 R	$^4_{ m R}$	$^4_{ m R}$	$^2_{ m L}$	$^{4}_{ m R}$
Span-Feet		V	.790	.755	.750	.720	.685	.673	.740	.695	.720	.660
pan		G N	$^{1-4}_{4}$	$^{1-4}_4$	$\frac{2-4}{2}$	$\begin{array}{c} 1-4 \\ 4 \end{array}$	1-4 4	$^{1-4}_{4}$	$egin{array}{c} 1-4 \ 4 \end{array}$	$^{1-4}_{4}$	$\frac{2-4}{2}$	14 4
S	50	$\mathbf{E}_{\mathbf{V}}$	R .832	$^{ m R}_{.804}$	$^{ m L}_{.780}$	$^{ m R}_{.776}$	$^{ m R}_{.748}$	R .739	R .792	R .756	L .756	$rac{\mathbf{R}}{.728}$
		G	1-4	1-4	1-4	1 4	1 4	1-4	1-4	1-4	2-4	1-4
	60	N E	4 R	4 R	4 R	$^{4}_{ m R}$	$^4_{ m R}$	$\overset{4}{\mathrm{R}}$	$^4_{ m R}$	$\overset{4}{\mathrm{R}}$	2 L	$^{4}_{ m R}$
-		V G	.860 1-4	$\frac{.837}{1-4}$	$\frac{.813}{1-4}$.813 1- 4	$\frac{.790}{1.4}$.782 1-4	.827	.797	.780 14	$\frac{.773}{1-4}$
	80	Ň E	4 R	4 R	4 R	4 R	4 R	4 R	4 R	4 R	4 R	4 R
		V	.895	.878	.860	.860	.843	.837	.870	.848	.825	.830_
Ì		G N	$^{1-4}_{4}$	$^{1-4}_{4}$	1-4 4	$^{1-4}_{4}$	1-4 4	1 4 4	1 4 4	$^{1-4}_{4}$	$^{1-4}_{4}$	14 4
	100	$\mathbf{E}_{\mathbf{V}}$	R .916	R .902	R .888	.888	$^{ m R}_{.874}$	R .869	R .896	R .878	$^{ m R}_{.860}$	R .864
Tru	ck No		41	42	43	44	45	46	47	48	49	50
	. Base	e L	32	32	36	36	36	36	36	36	40	40
Āxl	e		32 12	32 12	36 12	36 12	36 12			12	40 12 24	12
Axl Spa Loa	e cing	e L X X' a ₁	32 12 16 .20	32 12 16 .20	36 12 20 .10	36 12 20 .10	36 12 20 .10	36 12 20 .20	36 12 20 .20	12 20 .20	12 24 .10	12 24 .10
Axl Spa	e cing d	e L X X' a ₁ a ₂ a ₃	32 12 16 .20 .50 .30	32 12 16 .20 .534 .266	36 12 20 .10 .40 .50	36 12 20 .10 .50 .40	36 12 20 .10 .60 .30	36 12 20 .20 .40 .40	36 12 20 .20 .50 .30	12 20 .20 .534 .266	12 24 .10 .40 .50	12 24 .10 .50 .40
Axl Spa Loa On	e cing d	X X' a ₁ a ₂ a ₃ G	32 12 16 .20 .50 .30 2-3 2	32 12 16 .20 .534 .266 2-3 2	36 12 20 .10 .40	36 12 20 .10 .50 .40 2-3 2	36 12 20 .10 .60 .30 2-3 2	36 12 20 .20 .40	36 12 20 .20 .50 .30 2 3	12 20 .20 .534 .266	12 24 .10 .40	12 24 .10 .50 .40
Axl Spa Loa On	e cing d	X X' a ₁ a ₂ a ₃ G N E	32 12 16 .20 .50 .30 2-3 2	32 12 16 .20 .534 .266 2-3 2 L	36 12 20 .10 .40 .50	36 12 20 .10 .50 .40 2-3 2 L	36 12 20 .10 .60 .30 2-3 2	36 12 20 .20 .40 .40 .40	36 12 20 .20 .50 .30 2 3	12 20 .20 .534 .266 2-3 2 L	12 24 .10 .40 .50	12 24 .10 .50 .40 2-3 2 L
Axl Spa Loa On	e cing d	e L X X' a ₁ a ₂ a ₃ G N E V	32 12 16 .20 .50 .30 2-3 2 1. .400	32 12 16 .20 .534 .266 2-3 2 L .427	36 12 20 .10 .40 .50 4 4 L .500 3-4	36 12 20 .10 .50 .40 2-3 2 L .400	36 12 20 .10 .60 .30 2-3 2 L .480	36 12 20 .20 .40 .40 4 4 4 L .400	36 12 20 .50 .50 .30 2 3 2 L .400	12 20 .20 .534 .266 2-3 2 L .427 1 -3	12 24 .10 .40 .50 4 4 L .500	12 24 .10 .50 .40 2-3 2 L .400
Axl Spa Loa On	e cing d	a ₁ a ₂ a ₃ G N E V G N E	32 12 16 .20 .50 .30 2-3 2 I .400 1-3 3 R	32 12 16 .20 .534 .266 2–3 2 L .427 1–3 3 R	36 12 20 .10 .40 .50 4 4 L .500 3-4 R	36 12 20 .10 .50 .40 2-3 2 L .400 1-3 3 R	36 12 20 .10 .60 .30 2 3 2 L .480 1-3 3 R	36 12 20 .20 .40 .40 .40 4 L .400 1-3 3 R	36 12 20 .20 .50 .30 2 3 2 L .400 1-3 3 R	12 20 .20 .534 .266 2-3 2 L .427 1 ·3 3 R	12 24 .10 .40 .50 4 4 L .500 4 L	12 24 .10 .50 .40 2-3 2 L .400 1-3 3 R
Axl Spa Loa On	e .cing .d es	a ₁ a ₂ a ₃ G N E V	32 12 16 .20 .50 .30 2-3 2 I. .400 1-3 3 R	32 12 16 .20 .534 .266 2-3 2 L .427 1-3 3 R	36 12 20 .10 .40 .50 4 4 L .500 3-4 4 R	36 12 20 .10 .50 .40 2-3 2 L .400 1-3 3 R	36 12 20 .10 .60 .30 2 .3 2 L .480 1–3 R .560	36 12 20 .40 .40 .40 4 4 L .400 1-3 3 R	36 12 20 .20 .50 .30 2 3 2 L .400 1-3 3 R	12 20 .20 .534 .266 2-3 2 L .427 1 -3 8 8	12 24 .10 .40 .50 4 4 L .500 4 L	12 24 .10 .50 .49 2-3 2 L .400 1-3 8 .470
Axl Spa Loa On	e cing d es	a ₁ a ₂ a ₃ GNEV GNEV GN	32 12 16 .20 .50 .30 2-3 2 1, .400 1-3 3 R .490 2-4	32 12 16 .20 .534 .266 2-3 2 L .427 1-3 3 R .520 1-3	36 12 20 .10 .40 .50 4 4 L .500 3-4 4 R .500 2-4	36 12 20 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 2-4	36 12 20 .10 .60 .30 2-3 2 1, .480 1-3 3 R .560	36 12 20 .20 .40 .40 .40 4 4 1, .400 1-3 3 R .400 2-4	36 12 20 .50 .50 .30 2 3 2 L .400 1-3 3 R .490	12 20 .20 .534 .266 2-3 2 L .427 1-3 3 R .520	12 24 .10 .40 .50 4 4 L .500 4 4 L .500 2-4	12 24 .10 .50 .49 2-3 2 L .400 1-3 8 .470 1-3
Axl Spa Loa On	e .cing .d es	e L X X' a ₁ a ₂ a ₃ G N E V G N E V	32 12 16 .20 .50 .30 2-3 2 1, .400 1-3 3 R .490 2-4	32 12 16 .20 .534 .266 2–3 2 L .427 1–3 3 R .520 1–3 3 R .592	36 12 20 .10 .40 .50 4 4 L .500 3-4 4 R .500 2-4	36 12 20 .10 .50 .40 2-3 2 L .400 1-3 3 R .470	36 12 20 .10 .60 .30 2 1 .480 1-3 3 R .560 2 4 2 L	36 12 20 .20 .40 .40 4 4 4 1 .400 1-3 3 R .400 2-4	36 12 20 .20 .50 .30 2 3 2 L .400 1-3 3 R .490	12 20 .20 .534 .266 2-3 2 L .427 1 -3 3 R .520	12 24 .10 .40 .50 4 4 4 L .500 4 4 L .500	12 24 .10 .50 .40 2-3 2 L .400 1-3 3 R .470
Axl Spaa Loa On Axl	e cing d es	a1 a2 a3 G NEV G NEV G NEV G	32 12 16 .20 .50 .30 2-3 2 1, .400 1-3 3 R .490 2-4 2 L .567 2-4	32 12 16 .20 .534 .266 2-3 2 L .427 1-3 3 R .520 1-3 R .592	36 12 20 .10 .40 .50 4 4 L .500 3-4 4 R R.500 2-4 4 R.607	36 12 20 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 2-4 2 L .547	36 12 20 .10 .60 .30 2 .3 2 L .480 1-3 3 R .560 2 .4 2 L	36 12 20 .40 .40 .40 4 4 L .400 13 8 R .400 2-4 4 R .507	36 12 20 .50 .50 .30 2 3 2 L .400 1-3 3 R .490 1-3 8 .560	12 20 .20 .534 .266 2-3 2 L .427 1-3 8 R .520 1-3 3 R .592	12 24 .10 .40 .50 4 4 L .500 4 L .500 2-4 4 R R .553 2-4	12 24 .10 .50 .40 2 · 3 2 L .400 1-3 3 R .470 1-3 3 R .514
Axl Spaa Loa On Axl	e cing d es	a1 a2 a3 GNEV GNEV GNEV GNE	32 12 16 .20 .50 .30 2-3 2 I .400 1-3 3 R .490 2-4 2 L .567	32 12 16 .20 .534 .264 .2-3 2 L .427 1-3 3 R .520 1-3 3 R .592	36 12 20 .10 .40 .50 4 4 L .500 3-4 R .500 2-4 4 R .607	36 12 20 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 2-4 2 L .547 2-4 2 L	36 12 20 .10 .60 .30 2.3 2 L .480 1-3 3 R .560 2.4 2 L .620 2.4 2 I	36 12 20 .20 .40 .40 4 4 L .400 1-3 8 R .400 2-4 4 4 R R	36 12 20 .20 .50 .30 2 3 2 L .400 1-3 3 R .490 11 3 8 R .560	12 20 .20 .534 .266 2-3 2 L .427 1-3 8 8 .520 1-3 3 R R .592	12 24 .10 .40 .50 4 4 L .500 4 4 L .500 2-4 4 R R	12 24 .10 .50 .40 2 L .40 1-3 3 R .470 1-3 3 R .514
Axl Spaa Loa On Axl	e cing id es 10 20 30	e L X X X	32 12 16 .20 .50 .50 2-3 2 1 .400 1-3 3 R 490 2-4 2 L .567 2-4 2 L .667	32 12 16 .20 .5346 .2-3 2 L .427 1-3 3 R .520 1-3 3 R .592 2-4 2 L .640 1-4	36 12 20 .10 .40 .50 4 4 L .500 3-4 4 R .500 2-4 4 R .607	36 12 20 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 2-4 2 L .547 2-4 2 L .547 1-4	36 12 20 .10 .60 .30 2 .3 2 L .480 1-3 3 R 6.560 2 .4 2 L .620 2 4 2 1,.690 2 -4 2 .690 2 -4	36 12 20 .20 .40 .40 4 4 L .400 1-3 8 R .400 2-4 4 R .507 1-4	36 12 20 .50 .50 .30 2 2 4 400 1-3 3 R .490 1 3 R .560	12 20 .20 .534 .266 2-3 2 L .427 13 3 R .520 13 3 R .592	12 24 .10 .40 .50 4 4 L .500 2-4 4 R .553 2-4	12 24 .10 .50 .40 2.3 2 L .400 1-3 3 R .470 1-3 3 R .514 2 L .59 .50 .40 .40 .50 .40 .50 .40 .50 .50 .50 .50 .50 .50 .50 .50 .50 .5
Axl Spa Loa On	e cing d es 10 20 30 40	e L X X' a ₁ a ₂ a ₃ G N E V G N E V G N E V G N E V G N E V C S O S O S O S O S O S O S O S O S O S	32 12 16 .20 .50 .30 2-3 2 I .400 1-3 3 R .490 2-4 2 L .567 2-4 2 L .625	32 12 16 .20 .534 .266 2-3 2 L .427 1-3 3 R .520 1-3 3 R .592 2-4 2 L	36 12 20 .10 .40 .50 4 4 L L .500 3-4 R R .500 2-4 4 R R.607 1-4 4 R R.690	36 12 20 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 2-4 2 L .547 2-4 2 L .635	36 12 20 .10 .60 .30 2.3 2 L .480 1-3 3 R .560 2.4 2 L .620 2.4 2 I .690 2-4 2	36 12 20 .40 .40 .40 4 4 L .400 1-3 8 R .400 2-4 4 R R.507 1-4 4 R .600	36 12 20 .20 .50 .30 2 3 2 L .400 1-3 3 R .490 1-3 3 R .560 1-3 3 R .595	12 20 .20 .534 .266 2-3 2 L .427 1-3 3 R .520 1-3 3 R .592 1-3 3 R .628	12 24 .10 .40 .50 4 4 L .500 2-4 4 R .553 2-4 4 R .640	12 24 .10 .50 .40 2 · 3 2 L .400 1-3 3 R .470 1-3 8 R .514 2-4 2 L .595
Axl Spaa Loa On Axl	e cing id es 10 20 30	e L X X X	32 12 16 .20 .50 .50 2-3 2 1 .400 1-3 3 R .490 2-4 2 L .567 2-4 4 .692	32 12 16 .20 .5346 .2-3 .2 .1 .427 1-3 .8 .520 1-3 .8 .592 .2 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4	36 12 20 .10 .40 .50 4 4 L .500 3-4 4 R .500 2-4 4 R .607 1-4 4 R .69 .69 1-4 4 R	36 12 20 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 2-4 2 L .547 2-4 2 L .635 1-4 4 R .708	36 12 20 .10 .60 .30 2.3 2 1480 1-3 3 R 560 2.4 2 L .620 2.4 2 L .690 2-4 2 L .732	36 12 20 .20 .40 4 4 4 L .400 1-3 8 R .400 2-4 4 R .507 1-4 4 R .600 1-4 4 R	36 12 20 .20 .50 .50 30 2 3 2 L .400 1-3 3 R .560 1-3 3 R .560 1-1 4 L .644	12 20 .534 .266 2-3 2 L .427 1-3 3 R .520 1-3 3 R .592 1-3 1 4 1 L L .427 1-4 1 L	12 24 .10 .40 .50 4 4 L .500 4 4 L .500 2-4 4 R .553 2-4 4 R .640 .640 .641 1-4 4 R	12 24 .10 .50 .40 .400 1-3 .8 .470 1-3 .8 .514 2-4 .595 1-4 4 R R
Axl Spaa Loa On Axl	e.c.ing d.d es 10 20 30 40	e L X X X	32 12 16 .20 .50 .50 2-3 2 1 .400 1-3 3 R .490 2-4 2 L .567 2-4 2 L .692 1-4 4 8	32 12 16 .20 .5346 .2-3 2 L .427 1-3 3 R .592 1-3 3 R .592 2-4 2 L .4040 1-4 4 8 .680	36 12 20 .10 .40 .50 4 4 L .500 3-4 4 R .500 2-4 4 R .607 1-4 4 R .752	36 12 20 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 2-4 2 L .547 2-4 2 L .635 1-4 4 R .708	36 12 20 .10 .60 .30 2.3 2 L .480 1-3 3 R .560 2.4 2 L .620 2.4 2 I .690 2-4 2 I .732 2 L .732	36 12 20 .20 .40 4 4 L .400 1-3 3 R .400 2-4 4 R .507 1-4 4 R .600 1-4 4 R .680	36 12 20 .20 .50 .50 .50 2 3 2 L .400 1-3 3 R .560 1-3 3 R .560 1-4 1 L .644 1	12 20 .534 .266 2-3 2 L .427 1-3 3 R .520 1-3 3 R .592 1-3 3 R .592 1-4 1 L	12 24 .10 .40 .50 4 4 L .500 2-4 4 R .558 2-4 4 R .712 1-4 4	12 24 .10 .50 .40 .400 1-3 .8 .470 1-3 .8 .514 2-4 .595 1-4 4 R R.6660 1-4
Axl Spaa Loa On Axl	e cing d es 10 20 30 40	e L X X X	32 12 16 .20 .50 .30 2-3 2 L .400 1-3 3 R .490 2-4 2 L .567 2-4 2 L .625 1-4 .625 1-4 .692 1-4	32 12 16 .20 .534 .264 .2-3 2 L .427 1-3 3 R .520 1-3 3 R .592 2-4 2 L .640 1-4 4 .680 1-4	36 12 20 .10 .40 .500 3-4 4 R .500 2-4 4 R .607 1-4 4 R .690	36 12 20 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 2-4 2 L .547 2-4 2 L .635 1-4 4 R R R R R R R R R R R R R R R R R R	36 12 20 .10 .60 .30 2.3 2 L .480 1-3 3 R .560 2.4 2 L .620 2.4 2 L .732 2-4 2 L .732	36 12 20 40 40 4 4 4 4 4 5 7 1-3 8 8 400 2-4 4 8 8 600 1-4 8 680 1-4	36 12 20 .20 .50 .30 2 3 2 L .400 1-3 3 R .490 1-3 3 R .5560 1-3 4 L .644	12 20 .20 .534 .266 2-3 2 L .427 1-3 8 8 .520 1-3 8 R .592 1-4 1 L .659 1 4	12 24 .10 .40 .50 4 4 L .500 4 4 L .500 2-4 4 R R .640 1-4 R R712	12 24 .10 .50 .40 .400 1-3 .8 .470 1-3 .8 .514 2-4 .595 1-4 4 R R.6660 1-4
Axl Spaa Loa On Axl	e.c.ing d.d es 10 20 30 40	e L XX A1 A2 A2 A3 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	32 12 16 .20 .50 .50 2-3 2 1 .400 1-3 3 R .490 2-4 2 L .567 2-4 2 4 R .692 1-4 4 R .692 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	32 12 16 .20 .5346 .2–3 2 L .427 1–3 3 R .592 1–3 3 R .592 2–4 2 L .44 4 R .680 1–4 4 R .733 1–4	36 12 20 .10 .40 .50 4 4 L .500 3-4 4 R .500 2-4 4 R .607 1-4 4 R .752 1-4 4 R .752 1-4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	36 12 20 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 2-4 2 L .547 2-4 4 R .708 1-4 4 R .757	36 12 20 .10 .60 .30 2.3 2 L .480 1-3 3 R .560 2.4 2 L .620 2.4 2 L .732 2 -4 2 L .782 2 -4 2 L .760 2-4	36 12 20 .20 .40 4 4 L .400 1-3 3 R .400 2-4 4 R .507 1-4 4 R .680 1-4 4 R .733 1 1 4	36 12 20 .20 .50 .50 .50 .50 .2 .3 .2 .400 1-3 .3 .8 .560 1-3 .3 .8 .560 1-4 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1	12 20 .534 .266 2-3 2 L .427 1-3 3 R .520 1-3 3 R .628 1-4 1 L .659 1 4 1 L .715	12 24 .10 .40 .50 4 4 L .500 2-4 4 R .553 2-4 4 R R.712 1-4 R R.760 1-4	12 24 .10 .50 .40 .400 1-3 .8 .470 1-3 .8 .514 2-4 .2 L .595 1-4 4 R .660 1 1-4 .7 .7 .7 .7
Axl Spaa Loa On Axl	e.c.ing d.d es 10 20 30 40	E L XX A1 A2 A2 A2 A2 A2 A2 A2 A2 A2 A2 A2 A2 A2	32 12 16 .20 .50 .50 2-3 2 1 .400 1-3 3 R .490 2-4 2 L .567 2-4 2 L .625 1-4 4 R .692 1-4 4 R .743 1-44 1-4	32 12 16 .20 .5346 .2-3 2 L .427 1-3 3 R .520 1-3 2 L .427 1-4 4 R .680 1-4 4 R .733 1-4 4 R	36 12 20 .10 .40 .50 4 4 L .500 3-4 4 R .500 2-4 4 R .607 1-4 4 R .752 1-4 4 R .752 1-4 4 R .793	36 12 20 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 2-4 2 L .547 2-4 2 L .635 1-4 4 R .708 1-4 R .757	36 12 20 .10 .60 .30 2.3 2 L .480 1-3 3 R .560 2.4 2 L .620 2.4 2 L .73 2 -4 2 L .760 2-4 2 L .760 2-4 2 L .760	36 12 20 .20 .40 .40 .4 4 4 L .400 1-3 3 R .400 2-4 4 R .507 1-4 4 R .680 1-4 4 R .733 1 4 4 R	36 12 20 .20 .50 .50 .50 .50 .50 .50 .50 .50 .50 .5	12 20 .20 .534 .266 2-3 2 L .427 1-3 3 R .520 1-3 3 R .628 1-4 1 L .659 1-4 1 L .715 1-4 1 L	12 24 .10 .40 .50 4 4 4 L .500 2-4 4 R .553 2-4 4 R .640 1-4 4 R .712 1-4 4 R	12 24 .10 .50 .40 .40 .40 .40 .470 .514 .514 .595 .1-4 .4 .66 .4 .717 .1-4 .4 .717
Axl Spaa Loa On Axl	e c.cing dd es 10 20 30 40 50 60	e L XX a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV	32 12 16 .20 .50 .50 .2-3 2 1 .400 1-3 3 R .490 2-4 2 L .567 2-4 2 L .625 1-4 4 R .692 1-4 4 R .743 1-4 4 R .744 1-4 8 .744 8	32 12 16 .20 .5346 .2-3 .2 .1 .427 1-3 .8 .520 1-3 .8 .592 .2 .4 .4 .4 .4 .680 1-4 .4 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	36 12 20 .10 .40 .50 4 4 L .500 3-4 4 R .500 2-4 4 R .607 1-4 4 R .752 1-4 4 R .752 1-4 4 R .752	36 12 20 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 2-4 2 L .547 2-4 2 L .635 1-4 4 R .708 1-4 4 R .708	36 12 20 .10 .60 .30 2.3 2 1480 1-3 3 R 560 2.4 2 1620 2.4 2 1692 2.4 2 1732 2.4 2 1755	36 12 20 .20 .40 .40 4 4 L .400 1-3 8 R .400 2-4 4 R .507 1-4 4 R .680 1-4 4 R .733 1 1 4 R .880	36 12 20 .20 .50 .50 .50 .50 .50 .50 .50 .50 .50 .5	12 20 .20 .534 .266 2-3 2 L .427 1 -3 3 R .520 1-3 3 R .592 1-3 1 4 1 L .659 1 1 L .427 1-3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	12 24 .10 .40 .50 4 4 L .500 4 L .500 2-4 4 R .553 2-4 4 R .640 1-4 4 R .712 1-4 4 R .712	12 24 .10 .50 .40 .400 1-3 .8 .470 .1-3 .8 .514 2-4 2 L .595 1-4 4 R .660 1-4 4 R .717 1-4 4 R
Axl Spaa Loa On Axl	ecting d escing d escing d escond d esc	e L XX a1 a2 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	32 12 16 .20 .50 .50 2-3 2 1 .400 1-3 3 R .490 2-4 2 L .567 2-4 2 L .692 1-4 4 R .692 1-4 4 R .743 1-4 4 8 .743 1-4 8 .743 1-4 8 .744 1-4 8 .744 1-4 8 .745 1-4 1-4 1-4 8 .745 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	32 12 16 .20 .5346 .2-3 2 L .427 1-3 3 R .592 1-3 3 R .592 2-4 2 L .4040 1-4 4 R .733 1-4 4 R .800 1-4 4 8 .800 1-4 4 8 .800 1-4 4 8 .800 1-4 4 8 .800 1-	36 12 20 .10 .40 .50 4 4 L .500 3-4 4 R .607 1-4 4 R .752 1-4 4 R .752 1-4 4 R .793 1-4 4 R .845	36 12 20 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 2-4 2 L .547 2-4 2 L .547 2-4 4 R .708 1-4 4 R .757 1-4 4 R .818	36 12 20 .10 .60 .30 2.3 2 L .480 1-3 3 R .560 2.4 2 L .620 2.4 2 L .732 2-4 2 L .760 2-4 2 1 .765 1-4 4	36 12 20 .20 .40 .40 4 4 L .400 1-3 3 R .400 2-4 4 R .507 1-4 4 R .600 1-4 4 R .733 1 1 4 R .800 1 1 4 4 R .800 1 1 4 4 R .800	36 12 20 .20 .50 .50 .50 .50 .50 .50 .50 .5	12 20 .534 .266 2-3 2 L .427 1-3 3 8 .520 1-3 3 R .592 1-3 3 1 .628 1-4 1 L .715 1-4 1 L .715 1-4 1 L .715 1-4 1 .715 1-4 1 .715 1-4 1 .715 1-4 1 .715 1-4 1 .715 1-4 1 .715 1-4 1 .715 1-4 1 .715 .715 1 .715	12 24 .10 .40 .50 4 4 L .500 2-4 4 R .553 2-4 4 R .712 1-4 4 R .760 1-4 4 R .760 1-4 4 R .712	12 24 .10 .50 .40 .400 1-3 3 R .470 1-3 3 R .514 2-4 2 L .595 1-4 4 R .717 1-4 4 R .788 1-4
Axl Spaa Loa On Axl	e c.cing dd es 10 20 30 40 50 60	e L XX a1 a2 GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V	32 12 16 .20 .50 .30 2-3 2 1 .400 1-3 3 R .490 2-4 2 L .567 2-4 2 L .625 1-4 4 R .625 1-4 4 R .743 1-4 .744 .744 .744 .744 .745	32 12 16 .20 .5346 .2-3 2 L .427 1-3 3 R .592 2-4 2 L .640 1-4 4 R .733 1-4 4 R .733 1-4 R	36 12 20 .10 .40 .50 3-4 4 R .500 3-4 4 R .607 1-4 4 R .690 1-4 4 R .793 1-4 4 R .793 1-4 4 R .793	36 12 20 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 2-4 2 L .547 2-4 2 L .635 1-4 4 R R .757 1-4 R R .8 8 8 18 1-4	36 12 20 .10 .60 .30 2 .3 2 480 1-3 3 8560 2 .4 2620 2 .4 2620 2 .4 2752 2760 2 2760 2 2795 1-4	36 12 20 .20 .40 .40 4 4 L .400 13 3 R .400 24 4 R .507 14 4 R .680 14 4 R .733 1 4 R .800 1 4	36 12 20 .20 .50 .50 .50 .50 .50 .50 .50 .50 .50 .5	12 20 .20 .534 .266 2-3 2 L .427 1-3 8 R .520 1-3 3 R .628 1-4 1 L .659 1 4 1 L .715 1 -4 1 L	12 24 .10 .40 .50 4 4 L .500 4 4 L .500 2-4 4 R .553 2-4 4 R R.7640 1-4 4 R R.760 1-4 4 R R.760 1-4 4 R R.760	12 24 .10 .50 .40 2 · 3 2 L .400 1-3 3 R .470 1-3 3 R .470 2-4 2 L .595 1-4 4 R .660 1 · 4 R .717 1-4 R .717

TABLE 7	.6 (Con	tinued)

_			Continue			F4		EC	E-1	FO	F0	CO
	uck N 1. Bas		51 40	52 40	53 40	54 40	55 44	56 44	57 44	58 44	59 44	60 44
Ax		X X'	12 24	12 24	12 24	12 24	12 28	12 28	12 28	12 28	12 28	12 28
Loa	ad	a1 a2	.10 .60	.20 .40	.20 .50	.20 .534	.10 .40	.10 .50	.10 .60	.20 .40	.20 .50	.20 .534
Ax	les	аз	.30	.40	.30	.266	.50	.40	.30	.40	.30	.266
ļ		G N	$^{2-3}_{2}$	4	$^{2-3}_{2}$	2-3 2	4	$\frac{2-3}{2}$	$\overset{2-3}{\overset{2}{2}}$	4	$\begin{smallmatrix}2&3\\2\end{smallmatrix}$	2-3 2
	10	\mathbf{v}	.480	.400	1. .400	$^{ m L}_{.427}$	$_{.500}^{ m L}$	$_{f .400}^{ m L}$	$^{ m L}_{.480}$	$_{.400}^{ m L}$	$_{.400}^{ m L}$	$_{.427}^{ m L}$
		G	1-3	1-3 3	1-3	1-3 3	4	1-3 3	1-3	1-3 3	1-3 3	1-3
	20	N E V	.560	R .400	R .490	R .520	L .500	R .470	R .560	R .400	.490	R .520
		G	1-3	1-3	1-3	1-3	3-4	1-3	1-3	1-3	1-3	1-3
	30	N E	$^3_{ m R}$	$_{\rm R}^3$	$^3_{ m R}$	$^{3}_{ m R}$	$^4_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	$^3_{ m R}$	3 R
		V	.607	.467	.560	.592	.513	.514	.607	.467	.560	.592
د د		G N E	$^{2-4}_2$	$^{2-4}_{4}$	$_3^{1-3}$	$^{1-3}_{3}$	$^{2-4}_{4}$	2 -4 2	$^{1-3}_3$	1-3 3	$^{1-3}_3$	$^{1-3}_{3}$
ee.	40	E V	$_{.660}^{ m L}$	R .540	$^{ m R}_{.595}$	$_{.628}^{ m R}$	$_{.600}^{ m R}$	$_{.555}^{ m L}$	$_{.630}^{ m R}$	$_{.500}^{ m R}$	R .595	$^{ m R}_{.628}$
Span-Feet		G	2-4	1-4	1-4	1 -3	1-4	2-4	24	1-4	1-3	1-3
Sp	50	N E	$^2_{ m L}$	4 R	$_{\mathbf{L}}^{1}$	\mathbf{R}^3	$^4_{ m R}$	$_{ m L}^2$	$^2_{ m L}$	$^4_{ m R}$	$^{3}_{\rm R}$	$^3_{ m R}$
		V G	$\frac{.708}{2-4}$.632 1-4	$\frac{.620}{1-4}$.649 1-4	.672 1-4	$\frac{.624}{1-4}$.684	.584 1-4	$\frac{.616}{2-4}$.649
	•	N	2	4	1	1	4	4	2	4	2	1
	60	\mathbf{v}	$_{.740}^{ m L}$	R .693	$_{.683}^{ m L}$	$_{.698}$	$^{ m R}_{.727}$	$_{.677}^{ m R}$	$^{ m L}_{.720}$	$_{.653}^{\mathbf{R}}$	$_{.663}^{ m L}$	$_{.680}^{ m L}$
İ		G	2-4	1-4	1-4	1-4	1-4	1-4	2-4	1-4	14	1-4
	80	N E	$^2_{ m L}$	4 R	$^{1}_{ m L}$	\mathbf{L}	$\overset{4}{\mathrm{R}}$	4 R	$^2_{ m L}$	R R	\mathbf{L}_{-}^{1}	$_{ m L}^{ m 1}$
		$\frac{\mathbf{v}}{\mathbf{G}}$	780 1-4	.770 1-4	$\frac{.763}{1-4}$	$\frac{.773}{1-4}$	$\frac{.795}{1-4}$.758 1-4	.765 2-4	$\frac{.740}{1-4}$.748 1-4	$\frac{.760}{1-4}$
	100	N E	4 R	$^{4}_{ m R}$	1 L	1 L	4 R	$^{4}_{ m R}$	2 L	4 R	1 L	\mathbf{L}^{1}
	100	\vec{v}	.804	.816	.810	.819	.836	.806	.792	.792	.798	.808_
	ick N		61	62	63	64	65	66	67	68	69	70
W	. Bas	вL	32	32	32	32	32	32	36	36	36	36
Wh	. Bas					32 16 12						
Whax Spa Loa	. Base le icing	e L X X' a ₁	32 16 12 .10	32 16 12 .10	32 16 12 .10	32 16 12 .20	32 16 12 .20	32 16 12 .20	36 16 16 .10	36 16 16 .10	36 16 16 .10	36 16 16 .20
Wh Ax Spa	le le acing ad	ELXXX' a1 a2 a3	32 16 12 .10 .40 .50	32 16 12 .10 .50 .40	32 16 12 .10 .60 .30	32 16 12 .20 .40 .40	32 16 12 .20 .50 .30	32 16 12 .20 .534 .266	36 16 16 .10 .40 .50	36 16 16 .10 .50	36 16 16 .10 .60 .30	36 16 16 .20 .40 .40
Wh Ax Spa Loa On	le le acing ad	X X, X, a ₁ a ₂ a ₃ G	32 16 12 .10 .40 .50	32 16 12 .10 .50 .40 2-3 2	32 16 12 .10 .60 .30	32 16 12 .20 .40 .40	32 16 12 .20 .50 .30 2-3 2	32 16 12 .20 .534 .266	36 16 16 .10 .40 .50	36 16 16 .10 .50 .40 2-3 2	36 16 16 .10 .60 .30 2-3 2	36 16 16 .20 .40 .40
Wh Ax Spa Loa On	le le acing ad	X X X' a ₁ a ₂ a ₃ G	32 16 12 .10 .40 .50	32 16 12 .10 .50 .40 2-3	32 16 12 .10 .60 .30	32 16 12 .20 .40 .40	32 16 12 .20 .50 .30 2–3	32 16 12 .20 .534 .266	36 16 16 .10 .40 .50	36 16 16 .10 .50 .40 2-3	36 16 16 .10 .60 .30	36 16 16 .20 .40 .40
Wh Ax Spa Loa On	le le acing ad	8 L X X' a1 a2 a3 G N E V	32 16 12 .10 .40 .50 4 L .500 2-4	32 16 12 .10 .50 .40 2-3 2 L .400 2-4	32 16 12 .10 .60 .30 2-3 2 L .480	32 16 12 .20 .40 .40 4 4 L .400	32 16 12 .20 .50 .30 2-3 2 L .400 2-4	32 16 12 .20 .534 .266 2 3 2 L .427 2 4	36 16 16 .10 .40 .50 4 4 L .500 2-4	36 16 16 .10 .50 .40 2–3 2 L .400	36 16 16 .10 .60 .30 2-3 2 L .480	36 16 16 .20 .40 .40 4 4 L .400
Wh Ax Spa Loa On	le le acing ad	e L X X' a ₁ a ₂ a ₃ G N E V G N E	32 16 12 .10 .40 .50 4 L .500 2-4 R	32 16 12 .10 .50 .40 2–3 2 L .400 2–4 4 R	32 16 12 .10 .60 .30 2-3 2 L .480 2-4 2 L	32 16 12 .20 .40 .40 4 4 L .400 2-4 4 R	32 16 12 .20 .50 .30 2-3 2 L .400 2-4 2 L	32 16 12 .20 .534 .266 2 3 2 L .427 2 4 2 L	36 16 16 .10 .40 .50 4 4 L .500 2-4 4 R	36 16 16 .10 .50 .40 2–3 2 L .400 2–4 2 L	36 16 16 .10 .60 .30 2-3 2 L .480 2-4	36 16 16 .20 .40 .40 .40 4 4 L .400 2-4 R
Wh Ax Spa Loa On	le le acing ad les	8 L X X' a1 a2 a3 G N E V G N E V	32 16 12 .10 .40 .50 4 4 L .500 2-4 4 R .620	32 16 12 .10 .50 .40 2-3 2 L .400 2-4 4 R .550	32 16 12 .10 .60 .30 2-3 2 L .480 2-4 2 L .600 2-4	32 16 12 .20 .40 .40 4 4 L .400 2-4 4 R .520	32 16 12 .20 .50 .30 2–3 2 L .400 2–4 2 L .510	32 16 12 .20 .534 .266 2 3 2 L .427 2-4 2 L .533	36 16 16 .10 .40 .50 4 4 L .500 2-4 4 R	36 16 16 .10 .50 .40 2–3 2 L .400 2–4 2 L	36 16 16 .10 .60 .30 2-3 2 L .480 2-4 2 L .540	36 16 16 .20 .40 .40 4 4 L .400 2-4 R .440
Wh Ax Spa Loa On	l. Base le icing ad les 10	B L X X, a1 a2 a3 G N E V G N E V G N	32 16 12 .10 .40 .50 4 L .500 2-4 4 R .620 2-4	32 16 12 .10 .50 .40 2-3 L .400 2-4 4 R .550 2-4	32 16 12 .10 .60 .30 2-3 2 L .480 2-4 2 L .600 2-4	32 16 12 .20 .40 .40 4 4 L .400 2-4 4 R .520 2-4	32 16 12 .20 .50 .30 2-3 2 L .400 2-4 2 L .510	32 16 12 .20 .534 .266 2 3 2 L .427 2 - 4 2 L .533 2 - 4 2 2	36 16 16 .10 .40 .50 4 L .500 2-4 R .540 2-4	36 16 16 .10 .50 .40 2-3 L .400 2-4 .450 2-4 2	36 16 16 .10 .60 .30 2-3 2 480 2-4 2 1. .540 2-4	36 16 16 .20 .40 .40 4 4 L .400 2-4 4 R .440 2-4
Wh Ax Spa Loa On	le le acing ad les	BL XXY a1 a2 a3 GN EV GN EV GN EV V	32 16 12 .10 .40 .50 4 4 L .500 2-4 4 R .620 2-4 4 R .713	32 16 12 .10 .50 .40 2-3 2 L .400 2-4 4 R .5550 2-4 4 R .667	32 16 12 .10 .60 .30 2-3 2 L .480 2-4 2 L .600 2-4 2 L .700	32 16 12 .20 .40 .40 .40 4 L .400 2-4 4 R .520 2-4 4 R .613	32 16 12 .20 .50 .30 2-3 2 L .400 2-4 2 L .510 2-4 2 L .500	32 16 12 .20 .534 .266 2 3 L .427 2 - 4 2 L .533 2-4 2 L .622	36 16 16 .10 .40 .50 4 4 L .500 2-4 4 R .540	36 16 16 .10 .50 .40 2-3 2 L .400 2-4 2 L .450 2-4 2 L .600	36 16 16 .10 .60 .30 2 L .480 2-4 2 L .540 2-4 2 L	36 16 16 .20 .40 .40 4 4 L .400 2-4 4 R .440 2-4 4 R .560
WHAX Specification On Ax	l. Base le icing ad les 10	BL XXY, a1 a2 a3 G NEV GNEV GNEV GNEV	32 16 12 .10 .40 .50 4 L .500 2-4 4 R .620 2-4 4 R	32 16 12 .10 .50 .40 2-3 2 L .400 2-4 4 R .550 2-4 4 R	32 16 12 .10 .60 .30 2-3 2 L .480 2-4 2 L .600 2-4 2 L .700 2-4	32 16 12 .20 .40 .40 4 4 L .400 2-4 4 R .520	32 16 12 .20 .50 .30 2-3 2 L .400 2-4 2 L .510 2-4 2 L	32 16 12 .20 .534 .266 2 3 2 L .427 2 .4 2 L .533 2 -4 2 L	36 16 16 .10 .40 .50 4 L .500 2–4 4 R .540 2–4 4 R	36 16 16 .10 .50 .40 2-3 2 L .400 2-4 2 L .450 2-4 2 L	36 16 16 .10 .60 .30 2-3 2 L .480 2-4 2 2 L .540 2-4 2 L .660 2-4 2	36 16 16 .20 .40 .40 4 4 L .400 2-4 4 R .440
WHAX Specification On Ax	l. Base le icing ad les 10	BL XXY a1 a2 a3 GN EV GN EV GN EV V	32 16 12 .10 .40 .50 4 4 L .500 2-4 4 R .620 2-4 4 R .713	32 16 12 .10 .50 .40 2-3 2 L .400 2-4 4 R .550 2-4 4 R .667	32 16 12 10 .60 .30 2-3 2 L .480 2-4 2 L .600 2-4 2 L .700 2-4 2 L	32 16 12 .20 .40 .40 4 4 L .400 2-4 4 R .520 2-4 4 R .613	32 16 12 .20 .50 .30 2 .30 2 .400 2-4 2 .51 .607 1-4 4 R	32 16 12 .20 .534 .266 2 3 2 L .427 2 - 4 2 L .533 2 - L .427 2 - 4 2 - L .533 2 - L .427 2 - L .532 L .533 2 - L .544 2 - L .553 2	36 16 16 .10 .40 .50 4 4 L .500 2-4 4 R R .540 1-4 4 R	36 16 16 10 50 .40 2-3 2 L .400 2-4 2 L .450 2-4 2 L .600	36 16 16 10 .60 .30 2-3 2 L .480 2-4 2 L .540 2-4 2 L .6660 2-4 2 L	36 16 16 .20 .40 .40 .4 4 4 L .400 2-4 4 R .440 2-4 4 R .560
WHAX Specification On Ax	L Basselle acing ad less 10 20	B L X X X X A 1 A 2 A 3 A 2 A 3 A 5 A 5 A 5 A 5 A 5 A 5 A 5 A 5 A 5	32 16 12 .10 .40 .50 4 4 L .500 2-4 4 R .620 2-4 4 R .713 1-4 R .780	32 16 12 .10 .50 .40 2-3 2 L .400 2-4 4 R .555 2-4 4 R .667 1-4 4 R .745	32 16 12 .10 .60 .30 2-3 2 L .480 2-4 2 L .600 2-4 2 L .700 2-4 2 L .700 2-4 2 L	32 16 12 .20 .40 .40 4 4 L .400 2-4 4 R .520 2-4 4 R .613 1-4 .700 1 4	32 16 12 .20 .50 .30 2-3 2 L .400 2-4 2 L .510 2-4 2 L .607 1-4 4 R .665 1-4	32 16 12 .20 .534 .266 2 3 2 L .427 2-4 2 L .533 2-1 .533 2-1 .5427 2-4 2-4 2-4 2-4 2-4 2-1 .622 2-4 2-1 .622 1-4-1 .642 1-424 1-442	36 16 16 10 .40 .50 4 4 L .500 2-4 4 R .540 2-4 4 R .660 1-4 4 R	36 16 .10 .50 .40 2-3 2 L .400 2-4 2 L .450 2-4 2 L .600 1-4 R R .685 1-4	36 16 16 10 .30 2-3 2 L .480 2-4 2 L .540 2-4 2 L .660 2-4 2 L .720 2-4	36 16 16 20 40 4 4 4 L 400 2-4 4 R .440 2-4 4 R .560 1-4 8
Wh Ax Spa Loa On	L Basselle acing ad less 10 20	8 L X X / a1 a2 a2 a3 G N E V G G N E V G G N E E V G G N E E V G G N E E V E T C G N E E V G G N E E V G G N E E V G G N E E V G G N E E V G G N E E V E T E E E E E E E E E E E E E E E	32 16 12 .10 .40 .50 4 4 L .500 2-4 4 R .620 2-4 4 R .713 1-4 4 R .780 1-4 4 R	32 16 12 .10 .50 .40 2-3 2 L .400 2-4 4 R .555 2-4 4 R .667 1-4 4 R, 7,45 1-4 4 R	32 16 12 .10 .60 .30 2-3 2 L .480 2-4 2 L .600 2-4 2 L .700 2-4 2 L .700 2-4 2 L	32 16 12 .20 .40 .40 4 4 L .400 2-4 4 R .520 2-4 4 R .613 1-4 4 R .700 1 4 4	32 16 12 .20 .50 .30 2 L .400 2-4 2 L .510 2-4 2 L .607 1-4 4 R .665	32 16 12 .20 .534 .266 2 3 2 L .427 2 -4 2 L .533 2 -4 2 L .622 2 -4 2 L .622 1 -4 .667 1 -4 4 R	36 16 16 .10 .40 .50 4 4 L .500 2-4 4 R .540 2-4 4 R .660 1-4 4 R	36 16 16 .10 .50 .40 2-3 2 L .400 2-4 2 L .450 2-4 2 L .600 1-4 4 R R	36 16 16 10 60 30 2-3 2 L 480 2-4 2 L .540 2-4 2 L .720 2-4 2 L	36 16 16 20 .40 .40 4 4 L .400 2-4 4 R .560 1-4 4 R .640
WHAX Specification On Ax	le Base le icing ad les 10 20 30	8 L X X X 2 a 3 a 2 a 3 G N E V G N E V V C M E V V C M	32 16 12 .10 .40 .50 4 4 L .500 2-4 4 R .620 2-4 4 R .713 1-4 4 R .78 .78	32 16 12 .10 .50 .40 2-3 2 L .400 2-4 4 R .5550 2-4 4 R .667 1-4 4 R .745	32 16 12 .10 .60 .30 2-3 2 L .480 2-4 2 L .700 2-4 2 L .700 2-4 2 L .750 2-4 2 L .750 2-4 2 L .700 2-4 2 L .700 2-4 2 L .700 2-4 2 L .700 2-4 2 L .700 2-4 2 L .700 2-4 2 L .700 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-4	32 16 12 .20 .40 .40 4 4 L .400 2-4 4 R .520 2-4 4 R .613 1-4 4 .760	32 16 12 .20 .50 .30 2-3 2 L .400 2-4 2 L .510 2-4 2 L .607 1-4 4 R .665 1-4 4 R	32 16 12 .20 .534 .266 2 3 2 L .427 2-4 2 L .533 2-1 .533 2-1 .533 2-1 .622 2-4 2 L .622 1-4 .622 1-4 .64 .64 .64 .65 .65 .65 .65 .65 .65 .65 .65	36 16 16 .10 .40 .50 4 4 L .500 2-4 4 R .540 2-4 4 R .660 1-4 4 R .780	36 16 .10 .50 .40 2-3 2 L .400 2-4 2 2 L .600 1-4 4 R .685 1-4 4 R .748	36 16 16 10 .60 .30 2-3 2 L .480 2-4 2 L .540 2-4 2 L .660 2-4 2 L .720 2-4 2 L .756	36 16 16 20 40 4 4 4 L .400 2-4 4 R .560 1-4 4 R .640 1-4 4 R
WHAX Specification On Ax	a. Basic le acing ad less 10 20 30 40 50	8 L	32 16 12 .10 .40 .50 4 4 L .500 2-4 4 R .620 2-4 4 R .713 1-4 4 R .780 1-4 4 R .780	32 16 12 .10 .50 .40 2-3 2 L .400 2-4 4 R .555 2-4 4 R .667 1-4 4 R .745 1-4 4 R .796	32 16 12 .10 .60 .30 2-3 2 L .480 2-4 2 L .500 2-4 2 L .700 2-4 2 L .700 2-4 2 L .780 2-4 2 L .780 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-4	32 16 12 .20 .40 .40 .4 .4 .400 2-4 4 R .520 2-4 4 R .613 1-4 4 R .700 1 4 4 R .760	32 16 12 .20 .50 .30 2-3 2 L .400 2-4 2 L .510 2-4 2 L .607 1-4 4 R .665 1-4 4 R .732 1-4 4	32 16 12 .20 .534 .266 2 3 2 L .427 2 -4 2 L .533 2 -4 2 L .622 2 -4 2 L .622 1 -4 4 R .723 1 -4 4 4	36 16 .10 .40 .50 .500 2-4 4 R .540 2-4 4 R .660 1-4 4 R .730 1-4 4 R .784	36 16 .10 .50 .40 2-3 2 L .400 2-4 2 L .500 1-4 4 R R .748 1-4 4 1-4	36 16 16 10 60 30 2-3 2 L 480 2-4 2 L .540 2-4 2 L .720 2-4 2 L .756 2-4 2 L .756	36 16 16 .20 .40 .40 .40 2-4 4 R .440 2-4 4 R .560 1-4 4 R .640 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4
WHAX Specific Loss On Ax	le Base le icing ad les 10 20 30	8 L X X X 2 a 3 a 2 a 3 G N E V G N E V V C M E V V C M	32 16 12 10 40 500 2-4 4 1 1-4 4 1-4 4 8 8 8 8 8 8 8 8 1-4	32 16 12 .10 .50 .40 2-8 2 L .400 2-4 4 R .550 2-4 4 R .667 1-4 4 R .745 1-4 4 R	32 16 12 .10 .60 .30 2-3 2 L .480 2-4 2 L .600 2-4 2 L .700 2-4 2 L .750 2-4 2 L	32 16 12 .20 .40 .40 .40 .40 .40 .40 .520 .613 1-4 4 R .613 1-4 4 R .700 1 4 4 1 4 1 4 1 5 1 6 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1 7	32 16 12 .20 .50 .30 2 L .400 2-4 2 L .510 2-4 2 L .607 1-4 4 R .665 1-4 .732 1-4	32 16 12 20 534 266 23 2 L 427 2-4 2 L 533 2-4 2 L 667 1-4 R R23 1-4	36 16 16 10 40 .50 4 4 L .500 2-4 4 R .540 2-4 4 R .660 1-4 4 R .730	36 16 16 10 50 .40 2-3 2 L .400 2-4 2 L .600 1-4 4 R .685 1-4 4 R .748	36 16 16 10 .60 .30 2 3 2 L .80 2 4 2 L .540 2 4 2 L .720 2 4 2 L .725 2 4 2 L .726 2 4 2 L .726 2 4 2 L .726 2 4 2 L .726 2 4 2 L .726 2 4 2 L .726 2 4 2 L .726 2 4 2 L .726 2 4 2 L .726 2 4 2 L .726 2 4 2 L .726 2 4 2 L .726 2 4 2 L .726 2 4 2 L .726 2 4 2 L .726 2 4 2 L .726 2 4 2 L .726	36 16 .20 .40 .40 .40 2-4 4 R .560 1-4 4 R R.712 1-4 4 R R.712
WHAX Specific Loss On Ax	a. Basic le acing ad less 10 20 30 40 50	g L XX a1 a2 a3 GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V	32 16 12 .10 .40 .50 4 4 L .500 2-4 4 R .620 2-4 4 R .713 1-4 4 R .780 1-4 4 R .824 1-4 4 R .824 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-	32 16 12 .10 .50 .40 2-3 2 L .400 2-4 4 R .5550 2-4 4 R .667 1-4 4 R .745 1-4 4 R .796 1-4 8 .830 1-4	32 16 12 .10 .60 .30 2-3 2 L .480 2-4 2 L .700 2-4 2 L .700 2-4 2 L .700 2-4 2 L .700 2-4 2 L .700 2-4 2 L .700 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-4	32 16 12 .20 .40 .40 .4 .4 .4 .4 .8 .5 .2 .4 .4 .8 .6 .1 .4 .4 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	32 16 12 .20 .50 .30 2-3 2 L .400 2-4 2 L .510 2-4 2 L .607 1-4 4 R .665 1-4 4 R .732 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	32 16 12 .20 .534 .266 2 3 2 L .427 2 -4 2 L .533 2 -4 2 L .622 2 -4 2 L .622 1 -4 4 R .723 1 -4 4 R .723 1 -4 8 R .766 .723 1 -4 8 R .723 1 -4 8 R .726 .726 1 -4 8 R .726 .726 .727 .728	36 16 .10 .40 .50 4 4 L .5000 2-4 4 R .660 1-4 4 R .730 1-4 4 R .784 1-4 8 .820 1-4	36 16 16 .10 .50 .40 2-3 2 L .400 2-4 2 L .500 1-4 4 R R .748 1-4 4 R .790 1-4	36 16 16 10 60 30 2-3 2 L 480 2-4 2 L .540 2-4 2 L .560 2-4 2 L .756 2-4 2 L .756 2-4 2 L .756 1-780 1-4	36 16 16 120 40 4 4 4 L 400 2-4 4 R 440 2-4 4 R 560 1-4 4 R 712 1-4 4 R 712
WHAX Specific Loss On Ax	a. Basic le acing ad less 10 20 30 40 50	g L XX a1 a2 a3 GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE E V GNE E V	32 16 12 .10 .40 .40 .500 2-4 4 R .620 2-4 4 R .713 1-4 4 R .824 1-4 4 R .824 1-4 R .825 1-4 4 R	32 16 12 .10 .50 .40 2-3 2 L .400 2-4 4 R .555 2-4 4 R .667 1-4 4 R .745 1-4 4 R .796 1-4 4 R .830 1-4 R	32 16 12 .10 .60 .30 2-3 2 L .480 2-4 2 L .700 2-4 2 L .750 2-4 2 L .750 2-4 2 L .780 1-4 4 8 8 8 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	32 16 12 .20 .40 .40 .4 .4 .4 .400 2-4 .4 .8 .520 2-4 .4 .8 .700 1.4 .760 1.4 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	32 16 12 .20 .50 .30 2-3 2 L .400 2-4 2 L .510 2-4 2 L .607 1-4 4 R .732 1-4 4 R .777 1-4 4 R	32 16 12 .20 .534 .226 2 3 2 L .427 2 -4 2 L .533 2 -4 2 L .622 2 -4 2 L .667 1-4 4 R .769 1-4 4 R	36 16 .10 .40 .50 4 4 L .500 2-4 4 R .660 1-4 4 R .730 1-4 4 R .784 1-4 4 R .820 1-4 4 R	36 16 16 .10 .50 .40 2-3 2 L .400 2-4 2 L .500 1-4 4 R .748 1-4 4 R .790 1-4 4 R	36 16 16 10 .60 .30 2-3 2 L .480 2-4 2 L .540 2-4 2 L .720 2-4 2 L .720 2-4 2 L .720 1-4 2 L .720 2-4 2 L .720 2-4 2 L .720 2-4 2 L .720 2-4 2 L .720 2-4 2 L .720 2-4 2 L .720 2-4 2 L .720 2-4 2 L .720 2-4 2-4 2 L .720 2-4 4 4 4 R .720 2-4 4 4 4 R .720 2-4 4 4 4 4 4 4 4 4 4 4 4 4 4	36 16 16 120 40 4 4 4 L 400 2-4 4 R 840 1-4 4 R 712 1-4 4 R 712 1-4 4 R 7160 1-4 4 8 7160 1-4 8 7160 1-4 8 7160 1-4 8 7160 1-4 8 7160 1-4 8 7160 1-4 8 7160 1-4 8 7160 1-4 8 7160 1-4 8 7160 1-4 8 8 7160 1-4 8 8 7160 1-4 8 8 8 8 8 8 8 8 8 8 8 8 8
WHAX Specific Loss On Ax	1. Bassle le acing ad less 10 20 30 40 50 60	g L XX a1 a2 GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V	32 16 12 .10 .40 .50 4 4 L .500 2-4 4 R .620 2-4 4 R .713 1-4 4 R .824 1-4 4 R .824 1-4 4 R .824 1-4 8 .824 1-4 8 .824 1-4 8 .825 8 8 8 8 8 8 8 8 8 8 8 8 8	32 16 12 .10 .50 .40 2-3 2 L .400 2-4 4 R .5550 2-4 4 R .667 1-4 4 R .745 1-4 4 R .796 1-4 4 R .796 1-4 4 R .836 1-4 4 8 .796 1-4 8 .796 1-4 8 8	32 16 12 .10 .60 .30 2-3 2 L .480 2-4 2 L .700 2-4 2 L .700 2-4 2 L .780 1-4 4 R .807 1-4 4 R .807 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	32 16 12 .20 .40 .40 .4 .4 .4 .5 .20 .4 .4 .8 .5 .2 .4 .4 .8 .6 .1 .4 .4 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	32 16 12 .20 .50 .30 2-3 2 L .400 2-4 2 2 L .510 2-4 2 L .607 1-4 4 R .732 1-4 4 R .773 1-4 4 R .773 1-4 4 R .773 1-4 4 8 .773 1-4 8 8 .773 1-4 8 8 .773 1-4 8 8 .773 1-4 8 8 .773 1-4 8 8 .774 1-4 8 8 .774 1-4 8 8 .774 1-4 8 8 .774 1-4 8 8 .774 1-4 8 8 .774 1-4 8 8 .774 1-4 8 8 .774 1-4 8 8 .774 1-4 8 8 .774 1-4 8 8 .774 1-4 1-4 8 .774	32 16 12 .20 .534 .266 2 3 2 L .427 2-4 2 L .533 2-4 2 L .622 2-4 4 R .723 1-4 4 R .723 1-4 4 R .724 1-4 4 R .725 1-4 4 R .725 1-4 4 8 .725 1-4 8 .725 1-4 8 .725 1-4 8 .725 1-4 8 .725 1-4 8 .725 1-4 8 .725 1-4 8 .725 1-4 8 .725 1-4 8 .725 1-4 8 .725 1-4 8 .725 1-4 8 .725 1-4 8 .725 1-4 8 .725 1-4 .725 .7	36 16 16 .10 .40 .50 4 4 L .5000 2-4 4 R .540 2-4 4 R .660 1-4 4 R .730 1-4 4 R .820 1-4 4 R .8265	36 16 16 .10 .50 .40 2-3 2 L .400 2-4 2 L .500 1-4 4 R .685 1-4 4 R .748 1-4 4 R .798 1-4 4 R .798	36 16 16 10 .60 .30 2-3 2 L .480 2-4 2 L .540 2-4 2 L .720 2-4 2 L .756 2 L .756 2 L .756 2 L .756 2 L .756 2 L .756 2 L .756 2 L .756 2 L .756 2 L .756 2 L .756 2 L .756 2 L .756 2 L .756 2 L .756 2 L .756 2 L .756 2 .756	36 16 16 120 40 4 4 4 L 400 2-4 4 R 560 1-4 4 R 712 1-4 4 R 712 1-4 4 R 8.340
WHAX Specific Loss On Ax	1. Basile le accing ad less 10 20 40 50 60 80	e L XX a1 a2 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	32 16 12 .10 .40 .50 4 4 L .500 2-4 4 R .620 2-4 4 R .713 1-4 4 4 R .824 1-4 4 R .824 1-4 4 R .825 1-4 4 8 .824 1-4 8 .825 1-4 8 .825 1-4 1-4 8 .825 8 8 .825 8 8 8 8 8 8 8 8 8 8 8 8 8	32 16 12 .10 .50 .40 2-3 2 L .400 2-4 4 R .555 2-4 4 R .745 1-4 4 R .796 1-4 4 R .830 1-4 4 R .855 1-4 4 8 .855 1-4 4 8 .855 1-4 4 8 .855 1-4 4 8 .855 1-4 1-4 8 .855 1-4 8 .855 1-4 8 .855 1-4 8 .855 1-4 8 .855 1-4 8 .855 1-4 8 .855 1-4 8 .855 1-4 8 .855 1-4 8 .855 1-4 8 .855 1-4 8 .855 1-4 8 .855 1-	32 16 12 .10 .60 .30 2-3 2 L .480 2-4 2 L .700 2-4 2 L .750 2-4 2 L .780 1-4 4 8 8.80 1-4 4 8 8.80 1-4 4 8 8 8 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	32 16 12 .20 .40 .40 .4 .4 .400 2-4 4 R .520 2-4 4 R .613 1-4 4 R .760 1-4 4 R .760 1-4 4 8 .800 1-4 4 8 8.500 1-4 8 8 8 8 8 8 8 8 8 8 8 8 8	32 16 12 .20 .50 .30 2-3 2 L .400 2-4 2 L .607 1-4 4 R .732 1-4 4 R .777 1-4 4 R .777	32 16 12 .20 .534 .226 2 3 2 L .427 2 -4 2 L .533 2 -4 2 L .622 2 -4 2 L .622 1 -4 4 R .723 1 -4 4 R .769 1 -4 4 R .769 1 -4 4 R .769 1 -4 4 R .769	36 16 .10 .40 .50 4 4 L .500 2-4 4 R .660 1-4 4 R .730 1-4 4 R .820 1-4 4 R .865 1-4 4 R	36 16 16 .10 .50 .40 2-3 2 L .400 2-4 2 L .500 1-4 4 R .748 1-4 4 R .790 1-4 4 R .843 1-4 4	36 16 16 10 .60 .30 2-3 2 L .480 2-4 2 L .540 2-4 2 L .720 2-4 2 L .720 2-4 2 L .720 1-4 2 L .720 1-4 2 1 .756 1-4 1-4 2 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	36 16 16 120 40 4 4 4 L 400 2-4 4 R 840 1-4 4 R 712 1-4 4 R 712 1-4 4 8 820 1-4
WHAX Specific Loss On Ax	1. Bassle le acing ad less 10 20 30 40 50 60	e L	32 16 12 10 40 500 2-4 4 4 1 2-4 4 8 713 1-4 4 8 824 1-4 4 8 853 1-4 4 8 889 890 1-4	32 16 12 10 50 40 2-3 2 L 400 2-4 4 R .550 1-4 4 R .745 1-4 4 R .830 1-4 4 R .830 1-4 8 8.873 1-4	32 16 12 .10 .60 .30 2-3 2 L .480 2-4 2 L .700 2-4 2 L .700 2-4 2 L .750 2-4 2 L .750 2-4 2 4 .750 2-4 2 1 .750 2-4 4 8 8 8.00 1-4 4 8 8.00 1-4 4 8 8.00 1-4 4 8 8.00 1-4 4 8 8.00 1-4 4 8 8.00 1-4 4 8 8.00 1-4 4 8 8.00 1-4 4 8 8 8 8 8 8 8 8 8 8 8 8 8	32 16 12 .20 .40 .40 4 4 L .400 2-4 4 R .520 2-4 4 R .613 1-4 4 R .700 1 4 4 R .800 1-4 4 R .800 1-4 4 8 .800 1-4 .800 1-4 8 8 8 8	32 16 12 .20 .50 .30 2-3 2 L .400 2-4 2 2 L .510 .607 1-4 4 R .732 1-4 4 R .777 1-4 4 8 .777 1-4 4 8 .777	32 16 12 .20 .534 .266 2 3 2 L .427 2-4 2 L .533 2-4 2 L .622 2-4 2 L .622 1-4 4 R .723 1-4 4 R .769 1-4 4 R .769 1-4 8 R .769	36 16 16 10 40 .50 4 4 L .500 2-4 4 R .660 1-4 4 R .784 1-4 4 R .784 1-4 4 R .820 1-4 4 8.340 1-4 8.340 8.3	36 16 16 10 50 40 2-3 2 L 400 2-4 2 L .450 1-4 4 R .685 1-4 4 R .790 1-4 4 R .790 1-4 8 R .790	36 16 16 10 60 .30 2 3 2 L .480 2 4 2 L .540 2 4 2 L .780 2 4 2 L .780 1 4 R .820 1 4	36 16 16 20 40 4 4 4 L 400 2-4 4 R .560 1-4 4 R .760 1-4 4 R .760 1-4 8 8 .760

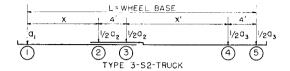
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TABLE 7.6 (Continued)

	BLE		(Continue									
	ick No		71 36	$-\frac{72}{36}$	73	74 40	75 40	76 40	40	$\frac{78}{40}$	79 44	80
Ax	le	X	16	16	16	16	16	16	16	16	16	16
Loa	acing ad	A1	.20	.20	.10	.10	.10	.20	.20	.20	.10	.10
On Ax		a2 a3	.50 .30	.534 .266	.40	.50 .40	.60 .30	.40	.50	.534 .266	.40 .50	.50 .40
	165	G	23	2-3	4	2-3	2-3	4	23	2-3	4	23
	10	N E	$^2_{\mathbf{L}}$	$^2_{ m L}$	4 L	$^2_{ m L}$	$^2_{ m L}$	$^4_{ m L}$	$_{ m L}^2$	$^2_{ m L}$	$^{4}_{ m L}$	$^2_{ m L}$
		V G	.400 1-3	$\frac{.427}{1-3}$.500	1 3	.480 1-3	400	$\frac{.400}{1-3}$.427 1 -3	.500	1-3
1		N E	3	3	4	3	3	4	3	3	4	3
	20	V	R .450	R .481	.500	R .450	R .540	R .400	R .450	R .481	.500	R .450
		G N	2-4 2	2-4 2	2 - 4	2-4 2	$\frac{2-4}{2}$	2-4 4	1-3 3	1-3 3	2-4 4	1-3
	30	E	L ,567	$_{.587}^{ar{ ext{L}}}$	$\overset{\hat{\mathbf{R}}}{.607}$	L .547	$_{.620}^{ar{ ext{L}}}$	$\hat{\mathbf{R}}$.507	R .533	R .565	$\overset{\mathbf{\hat{R}}}{.553}$	$\overset{\circ}{ ext{R}}$
		G	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4
ę.	40	N E	$^2_{ m L}$	$^2_{ m L}$	$^4_{ m R}$	$^2_{ m L}$	$^2_{ m L}$	$^4_{ m R}$	$^2_{ m L}$	$_{ m L}^2$	$^4_{ m R}$	$^2_{ m L}$
Span-Feet		V	.625	.640	.680	.635	.690	.580	.595	.613	.640	.595
pan		G N	$^{1-4}_{4}$	$^{2-4}_2$	$_{4}^{1-4}$	14 4	2-4 2	14 4	$^{2-4}_2$	$\frac{2-4}{2}$	1-4 4	$\frac{2-4}{2}$
w.	50	E V	$^{ m R}_{.676}$	$^{ m L}_{.672}$	R .744	$^{ m R}_{.700}$	$^{ m L}_{.732}$	$_{.664}^{ m R}$	$^{ m L}_{.636}$	L .651	$^{ m R}_{.704}$	$^{ m L}_{.656}$
ľ		G	1-4	1-4 4	1-4 4	$^{1-4}_{4}$	$\frac{2-4}{2}$	1-4 4	14 4	2-4	1-4	1-4
Ì	60	N E	R	\mathbf{R}	R	\mathbf{R}	L	\mathbf{R}	R	L	4 R	\mathbf{R}
		V G	.730 1 -4	.720 1–4	.787		$\frac{.760}{2-4}$	$\frac{.720}{1-4}$.683 1-4	.676 1-4	$\frac{.753}{1-4}$	
	80	N	4 R	$^{4}_{\rm R}$	4 R	$^4_{ m R}$	$_{\mathbf{L}}^{2}$	4 R	4 R	4 R	$^{4}_{ m R}$	4 R
Ì		E V	.798	.790	.840	.813	.795	.790	.763	.753	.815	.783
		G N	$^{1-4}_4$	$^{1-4}_{4}$	$^{1-4}_{4}$	1 4 4	$^{\mathbf{1-4}}_{4}$	1- 4 4	$^{1-4}_{4}$	1- 4 4	$^{1-4}$	$^{1-4}_{\ \ 4}$
	100	$_{ m V}^{ m E}$	$^{ m R}_{.838}$	$^{ m R}_{.832}$	$rac{\mathbf{R}}{.872}$	$^{ m R}_{.850}$	R .828	$_{.832}^{\mathbf{R}}$	R .810	$_{.803}^{ m R}$	$_{.852}^{ m R}$	$^{ m R}_{.826}$
=												
Tru	ack N	э.	81	82	83	84	85	86	87	88	89	90
Wh	ı. Bas	e L	44	44	44	44	48	48	48	48	48	48
Wh Ax	ı. Bas		16 24	16 24	16 24	16 24	48 16 28					
Mi Ax Spa Loa	n. Base le acing ad	X X X'	16 24 .10	16 24 .20	16 24 .20	16 24 .20	16 28 .10	48 16 28 .10	48 16 28 .10	48 16 28 .20	48 16 28 .20	16 28 .20
Mr. Ax Spa	n. Base le acing ad	a ₁ a ₂ a ₃	16 24 .10 .60 .30	16 24 .20 .40 .40	44 16 24 .20 .50 .30	16 24 .20 .534 .266	48 16 28 .10 .40 .50	48 16 28 .10 .50 .40	48 16 28 .10 .60 .30	48 16 28 .20 .40 .40	48 16 28 .20 .50 .30	48 16 28 .20 .534 .266
Ax Spa Loa On	n. Base le acing ad les	X X' a ₁ a ₂ a ₃ G	16 24 .10 .60 .30 2-3 2	16 24 .20 .40 .40	44 16 24 .20 .50 .30 2-3 2	16 24 .20 .534 .266 2-3 2	16 28 .10 .40 .50	48 16 28 .10 .50 .40 2-3 2	48 16 28 .10 .60 .30 2-3 2	48 16 28 .20 .40 .40 .40	48 16 28 .20 .50 .30 2-3 2	$ \begin{array}{r} 48 \\ 16 \\ 28 \\ .20 \\ .534 \\ .266 \\ 2-3 \\ 2 \end{array} $
Ax Spa Loa On	n. Base le acing ad	X X' a ₁ a ₂ a ₃ G	16 24 .10 .60 .30 2-3	16 24 .20 .40 .40	44 16 24 .20 .50 .30	16 24 .20 .534 .266	48 16 28 .10 .40 .50	48 16 28 .10 .50 .40 2-3	48 16 28 .10 .60 .30 2-3	48 16 28 .20 .40 .40	48 16 28 .20 .50 .30 2-3	48 16 28 .20 .534 .266 2-3
Ax Spa Loa On	n. Base le acing ad les	A L X X' A 1 A 2 A 3 G N E V G	44 16 24 .10 .60 .30 2-3 2 1 .480	44 16 24 .20 .40 .40 4 4 L .400	44 16 24 .20 .50 .30 2 3 2 1 .400 1-3	44 16 24 .20 .534 .266 2-3 2 L .427 1-3	48 16 28 .10 .40 .50 4 4 L .500	48 16 28 .10 .50 .40 2-3 2 L .400 1-3	48 16 28 .10 .60 .30 2 3 2 1 .480 1-3	48 16 28 .20 .40 .40 4 4 L .400	48 16 28 .20 .50 .30 2 3 2 L .400	48 16 28 .20 .534 .266 2-3 2 L .427 1-3
Ax Spa Loa On	n. Base le acing ad les	ar ar ar ar ar ar ar ar ar ar ar ar ar a	44 16 24 .10 .60 .30 2-3 2 I. .480 1-3 R	44 16 24 .20 .40 .40 4 4 L .400	44 16 24 .20 .50 .30 2 .1 .400 1-3 3 R	44 16 24 .20 .534 .266 2-3 2 L .427 1-3 3 R	48 16 28 .10 .40 .50 4 4 L .500 4 4 L	48 16 28 .10 .50 .40 2-3 2 L .400 1-3 3 R	48 16 28 .10 .60 .30 2 .1 .480 1-3 .3 R	48 16 28 .20 .40 .40 4 L .400 4 L	48 16 28 .20 .50 .30 2 .3 2 .400 1-3 3 R	48 16 28 .20 .534 .266 2-3 2 L .427 1-3 R
Ax Spa Loa On	n. Base le acing ad les	A L X X' A 1 A 2 A 3 G N E V G N	44 16 24 .10 .60 .30 2-3 2 I. .480 1.3	44 16 24 .20 .40 .40 4 4 .400 4	44 16 24 .20 .50 .30 2 3 2 1 .400 1-3 3	44 16 24 .20 .534 .266 2-3 2 L .427 1-3 3	48 16 28 .10 .40 .50 4 L .500 4 4	48 16 28 .10 .50 .40 2-3 2 L .400 1-3 3	48 16 28 .10 .60 .30 2 3 2 1 .480 1–3 3	48 16 28 .20 .40 .40 4 4 L .400	48 16 28 .20 .50 .30 2 3 2 L .400 1-3 3	48 16 28 .20 .534 .266 2-3 2 L .427 1-3 3
Ax Spa Loa On	le le acing ad les	ar ar ar GNEVGNEVGN	44 16 24 .10 .60 .30 2-3 2 I. .480 1-3 3 R .540 1-3 3	44 16 24 .20 .40 .40 4 .4 .400 4 .4 .400 2-4 4	44 16 24 .20 .50 .30 2 3 L .400 1-3 3 R .450 1-3 3	44 16 24 .20 .534 .266 2-3 L .427 1-3 3 R .481 1-3 3	48 16 28 .10 .40 .50 4 L .500 4 L .500 3-4 4	48 16 28 .10 .50 .40 2-3 2 L .400 1-3 3 R .450 1-3 3	48 16 28 .10 .60 .30 2 3 L .480 1-3 8 .540 1 3	48 16 28 .20 .40 .40 4 L .400 4 L .400 1 .3 3	48 16 28 .20 .50 .30 2 3 2 L .400 1-3 3 R .450 1-3	48 16 28 .20 .534 .266 2-3 2 L .427 1-3 3 R .481 1-3 3
Ax Spa Loa On	n. Base le acing ad les	ar ar ar GNEV GNEV GNEV	44 16 24 .10 .60 .30 2-3 2 L .480 1-3 3 R .540 1-3 3 R	44 16 24 .20 .40 .40 4 L .400 4 L .400 2-4 4 R .453	44 16 24 .50 .30 2 1 .400 1–3 3 R .450 1–3 3 R .533	16 24 20 .534 .266 2-3 2 L .427 1-3 3 R .481 1-3 3 R .565	48 16 28 .10 .40 .50 4 L .500 4 L .500 3-4 4 R R	48 16 28 .10 .50 .40 2-3 2 L .400 1-3 3 R .450 1-3 3 R .500	48 16 28 .10 .60 .30 2 1 .480 1-3 3 R .540 1 3 3 R	48 16 28 .20 .40 .40 4 4 L .400 4 4 L .400 1 · 3 3 R .440	48 16 28 .20 .50 .30 2 3 2 400 1-3 3 R .450 1-3 3 R .533	48 16 28 20 .534 .266 2-3 2 L .427 1-3 3 R .481 1-3 3 R
What Ax Spa Load On Ax	n. Base le acing ad les 10 20	A TABLE TO THE TAB	44 16 24 .10 .60 .30 2-3 2 I. .480 1-3 3 R .540 1-3 3 R	44 16 24 20 40 4 4 4 1 4 4 4 4 4 4 4 4 4 4 4 4 4	44 16 24 .20 .50 .30 2-3 2 L .400 1-3 3 R .450 1-3 3 R .533 1-3	44 16 24 .20 .534 .266 2–3 2 L .427 1–3 3 R .481 1–3 R .565	48 16 28 .10 .40 .50 4 4 L .500 4 4 L .500 3-4 4 R .513 2-4	48 16 28 .10 .50 .40 2-3 2 L .400 1-3 3 R .450 1-3 3 R .500 2	48 16 28 .10 .60 .30 2 .1 .480 1-3 3 R .540 1 3 R .594	48 16 28 .20 .40 .40 4 4 .400 4 4 .400 1 ·3 3 R .440 2 ·4	48 16 28 .20 .50 .30 2-3 2 L .400 1-3 3 R .450 1-3 3	48 16 28 20 .534 .266 2-3 2 L .427 1-3 3 R .481 1-3 3 R
Wh Ax Spa Loa On Ax	le le acing ad les	ar ar ar ar ar ar ar ar ar ar ar ar ar a	44 16 24 .10 .60 .30 2-3 2 L .480 1-3 8 R .540 1-3 8 R .594 2-4 2	44 16 24 .20 .40 .40 4 4 L .400 4 4 L .400 2-4 4 R R .453 2-4 4 R	44 16 24 .20 .50 .30 2-3 2 L .400 1-3 3 R .450 1-3 3 R .533 1-3 3 R	44 16 24 20 534 26 2-3 2 L 427 1-3 3 R 481 1-3 3 R 5565 1-3 3 R	48 16 28 .10 .40 .50 4 4 L .500 4 4 4 L .500 3-4 4 R R 10 .40 .50 4 4 4 4 .50 .50 .50 .50 .50 .50 .50 .50	48 16 28 10 .50 .40 2-3 2 L .400 1-3 3 R .450 1-8 3 R .500 2-4 2 L .400	48 16 28 .10 .60 .30 2 .3 2 L .480 1-3 3 R .540 1 .3 8 .540 2 .4 2	48 16 28 20 40 4 4 4 4 4 4 4 4 4 4 4 4 4	48 16 28 .20 .50 .30 2 3 2 L .400 1-3 3 R .450 1-3 3 R .533 1-3 3 R	48 16 28 .20 .534 .266 2-3 2 1 .427 1-3 3 R .565 1-3 3 R
What Ax Spa Load On Ax	n. Base le acing ad les 10 20	a1 a2 a3 GNEVGNEVGNEVGNEVG	44 16 24 .10 .60 .30 2-3 2 L .480 1-3 3 R .540 1-3 3 R .594 2-4 L	44 16 24 20 40 40 4 4 L 400 4 4 L 400 2-4 4 R 453 2-4 4 R 540 1-4	44 16 24 .20 .50 .30 2-3 2 L .400 1-3 3 R .450 1-3 3 R .533 1-3 3 R .533	44 16 24 .20 .534 .266 2-3 2 L .427 1-3 3 R .481 1-3 3 R .565 1-3 3 R	48 16 28 .10 .40 .50 4 4 L .500 4 4 L .500 3-4 4 R .513 2-4 4 R .600 1-4	48 16 28 .10 .50 .40 2-3 2 L .400 1-3 3 R .500 2-4 2-4 2-555 2-4	48 16 28 .10 .60 .30 2.3 2 L .480 1–3 8 .540 1.3 3 R .594 2–4 2 L	48 16 28 20 40 4 4 4 4 4 4 4 4 4 4 4 4 4	48 16 28 .20 .50 .30 2 3 2 L .400 1-3 3 R .450 1-3 3 R .533 1-3 3 R .533 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1	48 16 28 20 .534 .266 2-3 2 L .427 1-3 3 R .481 1-3 3 R .565 1-3 8 .607 1-3
Ax Spa Loa On	n. Base le acing ad les 10 20	a1 a2 a3 GNEV GNEV GNEV GNEV GNEEV	44 16 24 .10 .60 .30 2-3 2 L .480 1-3 8 .540 1-3 3 R .540 1-3 4 2 L .6660 2-4 2 L	44 16 24 .20 .40 4 4 L .400 4 L .400 2-4 4 R .453 2-4 4 R .540 1-4 4 R	44 16 24 .20 .50 .30 2-3 2 L .400 1-3 3 R .450 1-3 3 R .575 2-4 2 L	44 16 24 .20 .534 .226 2-3 2 L .427 1-3 3 R .565 1-3 3 R .607 1-3 3 R	48 16 28 .10 .40 .50 4 4 L .500 4 4 L .500 3-4 4 R .513 2-4 4 R .600 1-4 4 R	48 16 28 .10 .50 .40 2-3 2 L .400 1-3 3 R .500 2-4 2 L .555 2-4 2 L	48 16 28 .10 .60 .30 2 · 3 2 L .480 1-3 3 R .540 1 · 3 3 R .594 2 - 4 2 L .630 2 · 3 2 · 1 .600 .300 300 1 · 300 1 · 300 2 · 300 2 · 300 2 · 300 2 · 300 3 · 300 2 · 300 2 · 300 3 · 30	48 16 28 20 40 4 4 4 4 4 4 4 4 4 4 4 4 4	48 16 28 .20 .50 .30 2 3 2 L .400 1–3 3 R .450 1–3 3 R .533 1–3 8 .575 1–3 8	48 16 28 .20 .534 .266 2-3 2 L .427 1-3 3 R .565 1-3 3 R .607
What Ax Spa Load On Ax	n. Basele acing ad les 10 20 30 40	a1 a2 a3 GNEV GNEV GNEV GNEV	44 16 24 .10 .60 .30 2-3 2 L .480 1-3 3 R .540 1-3 3 R .594 2-4 2 L .660 2-3 2 L .480 1-3 3 1-3 3 1-3 4 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1-3	44 16 24 .20 .40 4 4 L .400 4 L .400 2-4 4 R .540 1-4 4 R .616	44 16 24 .20 .30 2-3 2 L .400 1-3 3 R .450 1-3 3 R .533 1-3 3 R .575 2-4 2 L	44 16 24 .20 .534 .266 .2–3 .2 .427 1–3 .3 .481 1–3 .3 .8 .565 1–3 .8 .607 1–3 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	48 16 28 .10 .40 .50 4 4 L .500 4 4 L .500 3-4 4 R .513 2-4 R .600 1-4 4 R .600	48 16 16 28 10 50 40 2-3 2 L 400 1-3 3 R 500 2 4 2 L 555 2-4 2 L 624	48 16 28 .10 .60 .30 2 .3 2 L .480 1 -3 8 .540 1 .3 8 .594 2 -4 2 L .630 2 -4 2 L .630 2	48 16 28 .20 .40 .40 4 L .400 1 .3 3 R .440 2 .4 4 R .500 1-4 4 R .568	48 16 28 .20 .50 .30 2 3 2 L .400 1–3 3 R .533 1–3 3 R .533 1–3 3 R .575 1–3 3 8 .500 1–3 .500 1–3 .500 1–3 .500 1–3 .500 1–3 .500 1–3 .500 1–3 .500 1–3 .500 1–3 .500 1–3 .500 1–3 .500 1–3 .500 1–3 .500 1–3 .500 1–3 .500 1–3 .500 1–3 .500 1–3 .500 .500 1–3 .500 1	48 16 28 .20 .534 .266 2-3 2 L .427 1-3 3 R .481 1-3 3 R .565 1-3 3 R .607
Wh Ax Spa Loa On Ax	n. Basele le cacing ad les 10 20 30 40 50	at at at at G NEV	44 16 24 .10 .60 .30 2-3 2 L .480 1-3 3 R .540 1-3 3 R .594 2-4 2 L .660 2-4 2 L	44 16 24 .20 .40 4 4 L .400 4 L .400 2-4 4 R .453 2-4 4 R .540 1-4 4 1-4 4 1-4 1-4 1-4 1-4 1-	44 16 24 .20 .50 .30 2-3 2 L .400 1-3 3 R .450 1-3 3 R .533 1-3 8 .575 2-4 2 L .612 2-4	44 16 24 .20 .534 .226 2-3 2 L .427 1-3 3 R .481 1-3 3 R .565 1-3 3 R .607 1-3 3 8 .633 2	48 16 28 .10 .40 .50 4 4 L .500 4 4 L .500 3-4 4 R .513 2-4 4 R .600 1-4 4 R	48 16 28 .10 .50 .40 2-3 2 L .400 1-3 3 R .500 2-4 2-1 L .555 2-4 2 L .624 2-4 2	48 16 28 .10 .60 .30 2 .3 2 L .480 1-3 8 .540 1 .3 8 .540 2 .4 2	48 16 28 .20 .40 .40 4 L .400 1 .3 3 R .440 2 .4 4 R .500 1-4 4 R .568	48 16 28 .20 .50 .30 2 3 2 L .400 1–3 3 R .533 1–3 3 R .533 1–3 3 R .553 1–3 3 8 .553 1–3 8 .555 1–3 8 .655 1–3 1–3 1–3 1–3 1–3 1–3 1–3 1–3	48 16 28 .20 .534 .226 .23 .2 .427 1-3 .8 .481 1-3 .8 .565 1-3 .8 .607 1-3 .8 .603 1-3 .8 .633 1-3 .8
What Ax Spa Load On Ax	n. Basele acing ad les 10 20 30 40	e L X A1 A2 A2 A3 GNE V GNE V GNE V GNE V GNE V GNE V	44 16 24 .10 .60 .30 2-3 2 L .480 1-3 3 R .540 1-3 3 R .540 2-4 2 L .660 2-4 2 L .600 .6	44 16 24 20 .40 .40 4 4 L .400 4 4 L .400 2-4 4 R .453 2-4 4 R .540 1-4 4 R .680	44 16 24 .20 .50 .30 2-3 2 L .400 1-3 3 R .450 1-3 3 R .553 1 · 3 3 R .575 2-4 2 L .643	44 16 24 20 534 26 2-3 2 L 427 1-3 3 R .481 1-3 3 R .607 1-3 3 R .607 1-3 3 1-3 2-4 2-4 2-4 2-4 2-4 2-4 2-5 1-6 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7	48 16 28 10 .40 .50 4 4 L .500 4 4 4 L .500 3-4 4 R .600 1-4 4 R .600 1-4 4 R .600	48 16 28 10 .50 .40 2-3 2 L .400 1-3 3 R .450 2-4 2 L .5555 2-4 2 L .624 2 L .627	48 16 28 .10 .60 .30 2 · 3 2 L .480 1 · 3 R .540 1 · 3 R .540 2 · 4 2 · L .630 2 · 4 2 · L .630 2 · 4 2 · L .630 2 · C .630 2 30 .63	48 16 28 20 40 4 4 4 4 4 4 4 4 4 4 4 4 4	48 16 28 .20 .50 .30 2 - 3 2 L .400 1-3 3 R .450 1-3 3 R .575 1-3 3 R .575 1-3 3 R .60 .603	48 16 28 .20 .534 .266 2-3 2 L .427 1-3 3 R .481 1-3 3 R .607 1-3 3 R .607 1-3 3 R .607
What Ax Spa Load On Ax	n. Basele le cacing ad les 10 20 30 40 50	e L XX a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV GNEV	44 16 24 .10 .60 .30 2-3 2 L .480 1-3 3 R .540 1-3 3 R .594 2-4 2 L .666 2-4 2 L .708 2-1 .708	44 16 24 .20 .40 4 4 L .400 4 L .400 2-4 4 R .540 1-4 4 R .616 1-4 R .680 1-4	44 16 24 .20 .50 .30 2-3 2 L .400 1-3 3 R .450 1-3 3 R .533 1-3 3 R .575 2-4 2 L .612 2-4 .612 1-4	44 16 24 .20 .534 .266 2-3 2 L .427 1-3 3 R .481 1-3 3 R .565 1-3 3 R .607 1-3 3 R .633 2-4 2-4 2-4 .633 1-445 1-455	48 16 28 .10 .40 .50 4 4 L .500 4 4 L .500 3-4 4 R .513 2-4 4 R .600 1-4 4 R .666 1-4 4 R	48 16 16 28 10 50 40 2-3 2 L 400 1-3 3 R 500 2 4 2 L 555 2-4 2 L 624 2-4 2 L 670 1-4	48 16 28 .10 .60 .30 2.3 2 1480 1-3 3 R .540 1.3 3 R .594 2-4 2 L .630 2-4 2 L .6884 2-4 2 L .720 2-4	48 16 28 .20 .40 .40 .40 .40 .40 .40 .40 .4	48 16 28 .20 .50 .50 .30 2 3 2 L .400 1-3 3 R .533 1-3 8 R .575 1-3 3 R .575 1-3 3 R .600 2-4 2 L .623 1-4	48 16 28 20 .534 .266 2-3 2 L .427 1-3 3 R .481 1-3 3 R .565 1-3 3 R .607 1-3 3 R .607
What Ax Spa Load On Ax	n. Basele le cacing ad les 10 20 30 40 50	e L XX a1 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	44 16 24 .10 .60 .30 2-3 2 L .480 1-3 3 R .540 1-3 3 R .594 2-4 2 L .660 2-4 2 L .708 2-4 2 L .708	44 16 24 .20 .40 4 4 L .400 2-4 4 R .453 2-4 4 R .540 1-4 4 R .616 1-4 R .680 1-4 4 R	44 16 24 .20 .50 .50 .30 2-3 2 L .400 1-3 3 R .450 1-3 3 R .553 1 2 L .612 2 L .612 2 L .643 1-4 4 R	44 16 24 .20 .534 .20 .534 .21 .22 .23 .24 .427 1-3 .3 .8 .481 1-3 .3 .8 .607 1-3 .8 .603 .8 .633 .2 .4 .638	48 16 28 .10 .40 .50 4 4 L .500 3-4 4 R .513 2-4 4 R .600 1-4 4 R .720 1-4 4 R	48 16 16 28 .10 .50 .40 2-3 2 L .400 1-3 3 R .500 2 4 2 L .555 2-4 2 L .624 2-4 2 L .670 1-4 4 R	48 16 28 .10 .60 .30 2.3 2 L .480 1-3 3 R .540 1.3 3 R .594 2-4 2 L .630 2-4 2 L .720 2-4 2 L	48 16 28 .20 .40 .40 .40 .40 .40 .40 .40 .4	48 16 28 .20 .50 .50 .30 2 3 2 L .400 1-3 3 R .450 1-3 3 R .575 1-3 3 R .600 2-4 2 L .623 1-4 1 L	48 16 28 20 .534 2-3 2 L .427 1-3 3 R .481 1-3 3 R .565 1-3 3 R .607 1-3 3 R .633 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1
What Ax Spa Load On Ax	10 Baselee accing and less 10 20 30 40 50 60	e L XX a1 a2 BI GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	44 16 24 .10 .60 .30 2-3 2 L .480 1-3 3 R .540 1-3 3 R .594 2-4 2 L .660 2-4 2 L .708 2-4 2 L .740 2-4 2 L .740 2-4 2 L .740 2-4 2 L .780 2-4	44 16 24 20 40 40 4 4 4 L 400 4 4 4 L 400 2-4 4 R 8 540 1-4 4 R 680 1-4 4 R 680 1-4	44 16 24 .20 .50 .30 2-3 2 L .400 1-3 3 R .450 1-3 3 R .533 1-3 R .575 2-4 2 L .612 2-4 2 L .643 1-4 R .728	44 16 24 .20 .534 .265 2-3 2 L .427 1-3 3 R .481 1-3 3 R .565 1-3 3 R .603 2-4 2 L .658 1-4	48 16 28 10 40 50 4 4 L 500 4 4 L 500 3-4 4 R 604 1-4 4 R 720 1-4 4	48 16 16 18 19 19 10 10 10 10 10 10 10 10 10 10 10 10 10	48 16 28 .10 .60 .30 2 .3 2 L .480 1-3 3 R .540 2 -4 2 L .630 2-4 2 L .720 2-4 2 L .720 2-4 2 L .765	48 16 28 20 40 4 4 4 4 4 4 4 4 4 4 4 4 4	48 16 28 .20 .50 .30 2 - 3 2 L .400 13 3 R .450 13 3 R .533 13 3 R .575 13 3 R .600 24 2 L .623 1-4	48 16 28 20 534 266 2-3 2 1 427 1-3 3 8 8 .565 1-3 3 8 .607 1-3 3 8 .633 1-3 3 8 .720 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1-3
White Axx Spart Loss On Ax	10 20 30 40 50 60 80	e L XX a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	44 16 24 .10 .60 .30 2-3 2 L .480 1-3 8 .540 1-3 3 R .594 2-4 2 L .708 2-4 2 L .740 2-4 2 L .740 2-4 2 L .780 2-4 2 L .780 2-4 2 L .780	44 16 24 .20 .40 4 4 L .400 4 L .400 2-4 4 R .453 2-4 4 R .540 1-4 4 R .616 1-4 R .680 1-4 4 4 1-4 1-4 1-4 1-4 1-4 1-	44 16 24 .20 .50 .30 2-3 2 L .400 1-3 3 R .450 1-3 3 R .573 2 L .612 2 L .612 2 L .643 1-4 4 R .728	44 16 24 .20 .534 .226 .23 .24 .256 .23 .256 .427 1-3 .3 .481 1-3 .3 .8 .565 1-3 .8 .607 1-3 .8 .633 .2 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4	48 16 28 .10 .40 .50 4 4 L .500 4 4 L .500 3-4 4 R .513 2-4 4 R .600 1-4 4 R .720 1-4 4 R .790	48 16 16 28 10 50 40 2-3 2 L 400 1-3 3 R 500 2 4 2 L 555 2-4 2 L 624 2-4 4 4 753 1-4 4	48 16 28 .10 .60 .30 2.3 2 L .480 1-3 8 .540 1 3 8 .594 2-4 2 L .630 2-4 2 L .720 2-4 2 L .765 2-4 2 L .765	48 16 28 .20 .40 .40 .40 .40 .40 .40 .40 .4	48 16 28 .20 .50 .50 .30 2 3 2 L .400 1-3 3 R .533 1-3 8 R .533 1-3 8 R .575 1-3 3 R .600 2-4 2 L .623 1-4 1 L .708	48 16 28 20 .534 266 2-3 2 L .427 1-3 3 R .565 1-3 3 R .607 1-3 3 R .633 1-4 1.2 1.2 1.2 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3
White Axx Spart Loss On Ax	10 Baselee accing and less 10 20 30 40 50 60	e L XX a1 a2 BI GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	44 16 24 .10 .60 .30 2-3 2 L .480 1-3 3 R .540 1-3 3 R .594 2-4 2 L .660 2-4 2 L .708 2-4 2 L .740 2-4 2 L .740 2-4 2 L .740 2-4 2 L .780 2-4	44 16 24 20 40 40 4 4 4 L 400 4 4 4 L 400 2-4 4 R 8 540 1-4 4 R 680 1-4 4 R 680 1-4	44 16 24 .20 .50 .30 2-3 2 L .400 1-3 3 R .450 1-3 3 R .533 1-3 R .575 2-4 2 L .612 2-4 2 L .643 1-4 R .728	44 16 24 .20 .534 .265 2-3 2 L .427 1-3 3 R .481 1-3 3 R .665 1-3 3 R .665 1-4 1 .733 1-4	48 16 28 10 40 .50 4 4 L .500 4 4 L .500 3-4 4 R .513 2-4 4 R .664 1-4 4 R .720 1-4 4 R .790 1-4	48 16 16 18 19 19 10 10 10 10 10 10 10 10 10 10 10 10 10	48 16 28 .10 .60 .30 2 .3 2 L .480 1-3 3 R .540 2 -4 2 L .630 2-4 2 L .720 2-4 2 L .720 2-4 2 L .765	48 16 28 20 40 4 4 4 4 4 4 4 4 4 4 4 4 4	48 16 28 20 .50 .50 .30 2 - 3 2 L .400 13 3 R .450 .1-3 3 R .533 1-3 8 .575 1-3 3 R .600 2-4 2 L .623 1-4 1 L .708	48 16 28 20 534 266 2-3 2 1 427 1-3 3 8 8 .565 1-3 3 8 .607 1-3 3 8 .633 1-3 3 8 .720 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1-3

TABLE 7.7

CONTROLLING CONDITIONS AND MAXIMUM SHEARS IN SIMPLE SPANS PRODUCED BY THE TYPE 3-S2 TRUCKS WEIGHING ONE KIP EACH



One hundred and twelve variations in the Type 3-S2 truck are given in this table. Each truck number, from 1 to 112, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight on each axle.

	ck N		1	2	3	4	5	6	7	8	9	10
Wh.	Bas	e L	28	28	28	28	28	28	28	32	32	32
Axl		X	8	8	8	8	8	8	8	8	8	8
	cing	X′	12	12	12	12	12	12	12	16	16	16
	Load a		.10	.10	.10	.10	.20	.20	.20	.10	.10	.10
-Axle	ee.	a 2 a 3	.30 .60	.40 .50	.45 .45	.50 .40	.30 .50	.40 .40	.50 .30	.30 .60	.40 .50	.45 $.45$
1121	-	G	4-5	4-5	4-5	2-3	4.5	4-5	2-3	4-5	4-5	4-5
- 1		Ň	4	4	4-5	2	4	4-3	2	4-5	4-3	4-3
- 1	10	\mathbf{E}	Ĺ	\mathbf{L}	\mathbf{L}	\mathbf{L}	L	\mathbf{L}	\mathbf{L}	Ĺ	Ĺ	L
-		V	.480	.400	.360	.400	.400	.320	.400	.480	.400	.360
1		G	$^{2-5}$	$^{2-5}$	$^{2-5}$	$^{2-5}$	$2 \cdot \cdot 5$	1 - 3	1 - 3	$^{4-5}$	4-5	1-3
	0.0	N	5	5	2	2	5	3	3	4	4	3
	20	E	$^{ m R}_{.570}$	R .490	$_{.450}^{ m L}$	$_{.490}^{ m L}$	$^{ m R}_{.480}$	R .440	R .530	$_{,540}^{ m L}$	$_{,450}^{ m L}$	$^{ m R}_{.445}$
-		Ġ	1. 5	1-5	1-5	2-5	1-5	1-5	13	2-5	2-5	2-5
		N	1· 5 5	1-5 5	1-5 5	2-5	1ə 5	1-5 5	3	2-5 5	2-5 5	2-3
1	30	Ë	Ř	Ř	Ř	$\tilde{ m R}$	Ř	Ř	Ř	Ř	Ř	Ĺ
		$\bar{\mathbf{v}}$.687	.633	.607	.626	.600	.547	.587	.640	.573	.540
-		G	1-5	1-5	15	2-5	1 -5	1-5	1-5	1-5	1-5	1-5
ابد		N	5	5	5	2	5	5	1	5	5	5
9	40	E	R	R	R	L	R	R	L	R	R	R
Span-Feet		V	.765	.725	.705	.695	.700	.660	.680	.725	.675	.650
E		G	1-5	1-5	15	1-5	1.5	1-5	1-5	1-5	1.5	1-5
Ď.	50	N E	5 R	5 R	5 R	5 R	5 R	5 R	1 L	5 R	$^{5}_{\rm R}$	5 R
31	90	v	.812	.780	.764	.748	.760	.728	.744	.780	.740	.720
-		G	15	15	1 5	1-5	1-5	1-5	1-5	1-5	1-5	1-5
İ		N	5	5	5	5	5	5	1	5	5	5
	60	E	Ř	R	R	Ŕ	Ř	R	Ĺ	Ř	Ř	\mathbf{R}
		V	.843	.817	.803	.790	.800	.773	.787	.817	.783	.767
- 1		G	15	15	1-5	1 5	1-5	1-5	1 5	1-5	15	1-5
ļ		N	5	5	_5	_5	5	5	1	5	5	5
1	80	$_{ m v}^{ m E}$	R .883	R .863	$^{ m R}_{.853}$	$^{ m R}_{.843}$	R .850	$^{ m R}_{.830}$	$_{.840}^{ m L}$	$^{ m R}_{.863}$	R .838	$_{.825}^{ m R}$
-			1-5	1-5	1-5	1-5	1-5	1-5	1.5	1-5	15	1-5
		G N	1ə 5	1∵5 5	1-5 5	1-5 5	1ə 5	1-5 5	1. ə 1	1-5 5	1~-ə 5	15 5
	100	Ë	Ř	Ř	Ř	Ř	Ř	Ř	Ĺ	Ř	Ř	Ř
		v	.906	.890	.882	.874	.880	.864	.872	.890	.870	.860

All dimensions are in feet and shears are in kips.

a1, a2, and a3 Represent the ratio of gross vehicle weight on axles.

G -Axle group causing maximum shear, thus, 1-3 means axles 1, 2, and 3.

E-End of span at which critical axle is placed.

V Maximum shear.

62 METHOD OF CONVERTING HEAVY MOTOR VEHICLE LOADS

Truck No.	62			МЕТНО									
Wh. Base L. 32 32 32 32 36 36 36 36						10	1.4	15	1.0	177	10		
Axis													
On Axies al. 500 300 40 500 300 40 455 500 300 40 Result GR 2-3 4-5 4-5 2.3 4-5 1-5 4-5 4-6 4-7 4-7 4-7 4-7 4-8 4-8 4-8 4 4 3 3 4 4 3 3 4 4 3 3 4 4 3 3 4 4 3 3 4 4 3 3 4 4 3 3 4 4 3 4 <			X X'				8	8	8	8	8	8	8
N	On		\mathbf{a}_2	.50	.30	.40	.50	.30	.40	.45	.50	.30	.40
N	AX	les											
S		10	N E	$_{\rm L}^2$	$^4_{ m L}$	$^4_{ m L}$	$^2_{ m L}$	$^4_{ m L}$	$^4_{f L}$	$^4_{ m L}$	$^2_{ m L}$	$^4_{ m L}$	$_{ m L}^4$
N													
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$			N	3	4	3	3	4	4	3	3	4	3
Second S		20	v	.490	.450	.440	.530	.540	.450	.445	.490	.450	.440
30 E L R R R R R R R R R													
## A	-	30	\mathbf{E}	\mathbf{L}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{L}	$^{\mathrm{R}}$	\mathbf{R}	R
\$\begin{array}{c c c c c c c c c c c c c c c c c c c													
No. 1	eet	40	\mathbf{E}	L	\mathbf{R}	L	\mathbf{L}	\mathbf{R}	\mathbf{R}	\mathbf{L}	\mathbf{L}	\mathbf{R}	L
No. 1	H-H												
No. 1	Spa	50	N		5	1	1	5	5	5	2	5	1
			V	.704	.720	.680	.720	.748	.700	.676	.672	.680	.648
V 7.50 7.67 7.83 7.67 7.90 7.50 7.50 7.30 7.10 7.33 7.70 7.30 7.10 7.33 7.70 7.30 7.10 7.33 7.70 7.30 7.10 7.33 7.70 7.30 7.10 7.33 7.70 7.30 7.10 7.33 7.70 7.30 7.10 7.33 7.70 7.5			N								5		
Record R		60											
So E			G	1-5	1-5	1-5		1-5	1-5	1-5	1-5	1-5	1-5
Truck No. 21 22 23 24 25 26 27 28 29 30		80			$^{5}_{ m R}$	$\mathbf{\overset{1}{L}}$			$_{\rm R}^{5}$	$^{5}_{ m R}$	$^{5}_{ m R}$		$^{1}_{ m L}$
100 N 5			v		.825		***	.843		.798	.783	.800	
V				5							5		
Wh. Base L 36 40 40 40 40 40 40 40 44 44 Axie X 8	1	100											
Axle													
Spacing X' 20				21	22		24	25	26	27	28	29	30
On az .50 .30 .40 .45 .50 .30 .40 .50 .30 .40 .30 .60 .50 Axles az .30 .60 .50 .45 .40 .50 .40 .30 .60 .50 N 2 4 4 4 2 4 4 2 4 4 2 4 4 2 4 4 2 4 4 2 4 4 2 4 4 2 4 4 2 4 4 2 4 4 2 4 4 2 4 4 2 4 4 2 4 4 2 4 4 2 4 4 2 4 4 2 4 4 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	W	ı. Bas	e L	36	40	40	40	40	40	40	40	44	44
Axles	Wi	ı. Bas le	e L X	36 8 20	40 8	40 8 24	40 8	40 8	40 8	40 8	40 8	44 8	44 8 28
N	Ax Sp:	le le acing ad	e L X X' a ₁	36 8 20 .20	8 24 .10	40 8 24 .10	8 24 .10	8 24 .10	40 8 24 .20	40 8 24 .20	40 8 24 .20	8 28 .10	8 28 .10
10 E	Ax Sp Los On	i. Bas le acing ad	e L X X' a ₁ a ₂ a ₃	36 8 20 .20 .50 .30	8 24 .10 .30 .60	40 8 24 .10 .40 .50	40 8 24 .10 .45 .45	8 24 .10 .50 .40	40 8 24 .20 .30 .50	40 8 24 .20 .40 .40	40 8 24 .20 .50 .30	8 28 .10 .30 .60	8 28 .10 .40 .50
C	Ax Sp Los On	i. Bas le acing ad	e L X X' a ₁ a ₂ a ₃ G	36 8 20 .20 .50 .30 2–3	40 8 24 .10 .30 .60 4–5	40 8 24 .10 .40 .50	40 8 24 .10 .45 .45 .45	8 24 .10 .50 .40 2 -3	40 8 24 .20 .30 .50	40 8 24 .20 .40 .40 .40	40 8 24 .20 .50 .30 2-3	8 28 .10 .30 .60 4-5	44 8 28 .10 .40 .50 4-5
20 E R	Ax Sp Los On	le le acing ad	e L X X' a ₁ a ₂ a ₃ G N E	36 8 20 .20 .50 .30 2-3 2 IJ	40 8 24 .10 .30 .60 4–5 4 L	40 8 24 .10 .40 .50 4-5 4 L	40 8 24 .10 .45 .45 4-5 4	40 8 24 .10 .50 .40 2 -3 2 L	40 8 24 .20 .30 .50 4–5 4	40 8 24 .20 .40 .40 4-5 4 L	40 8 24 .20 .50 .30 2-3 2 L	44 8 28 .10 .30 .60 4–5 4 L	44 8 28 .10 .40 .50 4-5 4 L
V .530 .540 .450 .445 .490 .450 .440 .530 .540 .450 R 1-3 3-5 3-5 1-3 1-3 3-5 1-3 1-3 4-5 4-5 N 3 5 5 5 3 3 5 44 4 V .587 .570 .480 .480 .527 .476 .493 .587 .560 .467 G 1-5 1-5 1-5 1-5 2-5 1-5 1-5 1-3 2-5 2-5 2-5 A0 E L R R R L R	Ax Sp Los On	le le acing ad	e L X X' a ₁ a ₂ a ₃ G N E V	36 8 20 .20 .50 .30 2-3 2 1, .400 1-3	40 8 24 .10 .30 .60 4-5 4 L .480	40 8 24 .10 .40 .50 4-5 4 L .400	40 8 24 .10 .45 .45 4-5 4 L .360	40 8 24 .10 .50 .40 2 -3 2 L .400 1-3	40 8 24 .20 .30 .50 4-5 4 I.	40 8 24 .20 .40 .40 4-5 4 L .320	40 8 24 .20 .50 .30 2-3 2 L .400	8 28 .10 .30 .60 4-5 4 L .480	44 8 28 .10 .40 .50 4-5 4 L .400 4-5
N	Ax Sp Los On	le acing ad les	a ₁ a ₂ a ₃ G N E V	36 8 20 .20 .50 .30 2-3 2 I .400 1-3 3	40 8 24 .10 .30 .60 4–5 4 .480 4–5 4	40 8 24 .10 .40 .50 4-5 4 L .400 4-5 4	40 8 24 .10 .45 .45 4-5 4 L .360 1-3 3	40 8 24 .10 .50 .40 2 -3 2 L .400 1-3 3	40 8 24 .20 .30 .50 4–5 4 1 .400 4–5 4	40 8 24 .20 .40 .40 4-5 4 L .320 1-3 3	40 8 24 .20 .50 .30 2-3 2 L .400 1-3 3	44 8 28 .10 .30 .60 4–5 4 L .480 4–5 4	44 8 28 .10 .40 .50 4-5 4 L .400 4-5 4
\begin{array}{c c c c c c c c c c c c c c c c c c c	Ax Sp Los On	le acing ad les	e L X X, a ₁ a ₂ a ₂ G N E V	36 8 20 .50 .50 .30 2-3 2 L .400 1-3 3 R	40 8 24 .10 .30 .60 4-5 4 L .480 4-5 4 L .540	40 8 24 .10 .40 .50 4-5 4 L .400 4-5 4 L .400	40 8 24 .10 .45 .45 4 -5 4 L .360 1-3 8 R	40 8 24 .10 .50 .40 2 -3 2 L .400 1-3 3 R .490	40 8 24 .20 .30 .50 4–5 4 L .400 4–5 4 L .450	40 8 24 .20 .40 .40 4-5 4 L .320 1-3 3 R .440	40 8 24 .20 .50 .30 2-3 2 L .400 1-3 3 R .530	44 8 28 .10 .30 .60 4-5 4 L .480 4-5 4 L .540	44 8 28 .10 .40 .50 4-5 4 L .400 4-5 4 L .400
56 40 N 1 5 5 5 2 5 1 3 5 5 5 2 5 1 3 5 5 5 8 L R	Ax Sp Los On	le acing ad les 10 20	e L X X' a1 a2 a2 G N E V G N E V	36 8 20 .20 .50 .30 2-3 2 I. .400 1-3 3 R .530	40 8 24 .10 .30 .60 4–5 4 L .480 4–5 4 L .540 3–5 5	40 8 24 .10 .40 .50 4-5 4 L .400 4-5 4 L .450 3-5 5	40 8 24 .10 .45 .45 .45 4 L .360 1–3 R .445 1–3	8 24 .10 .50 .40 2-3 2 L .400 1-3 3 R .490 1-3	40 8 24 .20 .30 .50 4–5 4 I. .400 4–5 L. .450 3–5 5	40 8 24 .20 .40 .40 .40 4–5 4 L .320 1–3 3 R .440 1–3	40 8 24 .20 .50 .30 2-3 L .400 1-3 3 R .530 1-3	44 8 28 .10 .30 .60 4–5 4 L .480 4–5 4 L .540 4–5 4	8 28 .10 .40 .50 4-5 4 L .400 4-5 4 L .450 4-5 4 L .450 4-5 4-5 4-5 4-5 4-5 4-5 4-5 4-5 4-5 4-5
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Ax Sp Los On	le acing ad les 10 20	A1 A2 A2 GNEV GNEV GNE	36 8 20 .20 .50 .30 2-3 2 1, .400 1-3 3 R .530 1-3 3 R	40 8 24 .10 .30 .60 4–5 4 L .480 4–5 4 L .540 3–5 5 R	40 8 24 .10 .40 .50 4 L .400 4-5 4 L .450 3-5 R	40 8 24 .10 .45 .45 .45 4 L .360 1–3 3 R .445 1–3 3 R	8 24 .10 .50 .40 .2 -3 .2 .1 .400 .1-3 .3 .8 .490 .1-3 .3 .8	40 8 24 .20 .30 .50 4-5 4 L .400 4-5 4 L .450 8-5 R	40 8 24 .20 .40 .40 4 L .320 1-3 3 R .440 1-3 3 R	8 24 .20 .50 .30 2-3 2 L .400 1-3 3 R .530	8 28 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 4-5 4 L	44 8 28 .10 .40 .50 4-5 4 L .400 4-5 4 L .450 4-5 4 L .450
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Ax Sp Los On	le acing ad les 10 20	a1 a2 a3 G N E V G N E V G N E V	36 8 20 .20 .50 .30 2-3 2 L .400 1-3 3 R .530 1-3 8 R.550	40 8 24 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 3-5 5-7 R .570 1-5	40 8 24 .10 .40 .50 4-5 4 L .400 4-5 4 L .450 3-5 8 .480 1-5	40 8 24 .10 .45 .45 .45 .45 .45 .45 .45 .45	40 8 24 .10 .50 .40 2-3 2 L .400 1-3 3 R .490 1-3 3 8 .527	40 8 24 .20 .30 .50 4-5 4 L .400 4-5 4 L .450 3-5 5 R .476 1-5	40 8 24 .20 .40 .40 .40 .4-5 4 L .320 1-3 3 R .440 1-3 3 R .49 .40 .40 .40 .40 .40 .40 .40 .40	40 8 24 .20 .50 .30 .30 2-3 2 .400 1-3 3 R .530 1-3 8 .587 1-3	44 8 28 .10 .30 .60 4-5 4 L .540 4-5 4 L .540 2-5	44 8 28 10 40 .50 4-5 4 L .400 4-5 4 L .450 4-5 4 L .450 4-6 4-5 4-5 4-5 4-5 4-5 4-6 4-6 4-7 4-7 4-7 4-7 4-7 4-7 4-7 4-7
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Wil Axx Spp Loo On Axx	le acing ad les 10 20 30	e L	36 8 20 .20 .50 .30 2-3 2 L .400 1-3 3 R .530 1-3 8 R .587	40 8 24 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 3-5 R .570 1-5 R	40 8 24 .10 .40 .50 4-5 4 L .400 4-5 4 L .450 3-5 5 R .480 1-5 8 R	40 8 24 .10 .45 .45 .45 .45 .45 .45 .45 .45	40 8 24 .10 .50 .40 2 -3 2 L .400 1-3 3 R .490 1-3 3 R .527 2-5 2 L	40 8 24 .20 .30 .50 4-5 4 .1 .400 4-5 L .45 .5 .5 .5 .5 .5 .5 .5 .5 .5	40 8 24 .20 .40 .40 .40 .40 .40 .40 .40 .4	40 8 24 .20 .50 .30 2-3 2 L .400 1-3 8 .530 1-3 3 R .587 1-3 3 R	44 8 28 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 4-5 4 L .560 2-5 5 R	44 8 28 .10 .40 .50 4-5 4 L .450 4-5 4 L .450 4-5 4 L .467 2 · 5 R
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Wil Axx Spp Loo On Axx	le acing ad les 10 20 30	e L	36 8 20 .20 .50 .30 2-3 2 1 .400 1-3 3 R .530 1-3 8 .587 1-5 1 L	40 8 24 .10 .30 .60 4-5 4 L .540 3-5 5 R .570 1-5 5 R .645	40 8 24 .10 .50 .50 .50 .50 .50 .50 .50 .5	40 8 24 .10 .45 .45 .45 .45 .45 .45 .45 .45	40 8 24 .10 .50 .40 2-3 2 L .400 1-3 3 R .490 1-3 3 8 .527 2-5 2 L .575	40 8 24 .20 .30 .50 4-5 4 L .400 4-5 4 L .450 3-5 5 R .476 1-5 5 R .476 1-5 8 .476	40 8 24 .20 .40 .40 .40 .4-5 4 L .320 1-3 3 R .440 1-3 3 R .440 1-5 1 1 1 1 1 1 1 1 1 1 1 1 1	40 8 24 .20 .30 .30 2-3 2 L .400 1-3 3 R .530 1-3 3 8 .587 1-3 3 8 .596 .5	44 8 28 28 .10 .60 .60 4-5 4 L .480 4-5 4 L .540 4-5 4 L .540 2-5 8 8 8 8 8 8 8 8 8 8 8 8 8	44 8 28 10 .40 .50 4-5 4 L .400 4-5 4 L .450 4-5 4 L .450 4-5 8 .450 .550
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Wil Axx Spp Loo On Axx	le acing ad les 10 20 30 40	e L	36 8 20 .20 .50 .30 2-3 2 L .400 1-3 3 R .530 1-3 3 R .587 1-5 1 L	40 8 24 .10 .30 .60 4-5 4 L .480 4-5 5 R .570 1-5 5 R .645 1-5 5 1-5 5 8	40 8 24 .10 .40 .50 4-5 4 L .400 4-5 4 L .450 3 · 5 5 R .480 1-5 8 .480 .48	40 8 24 .10 .45 .45 .45 .45 .45 .45 .45 .45	40 8 24 .10 .50 .40 2 -3 2 L .400 1-3 3 R .490 1-3 3 R .527 2-5 2 L .575 2-5 2	40 8 24 .20 .30 .50 4-5 4 .400 4-5 4 .45 .45 .476 1-5 5 R .550 1-5 5 8	40 8 24 .20 .40 .40 .40 .40 .40 .40 .40 .4	8 242050302-3 2 L4003 8 R5373 8 R5873 8 R5155873 8 R5155873 8 R5155873 8 R5155873 8 R515	44 8 28 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 4-5 6 2-5 7 8 .615 1-5 5	44 8 28 20 40 50 4-5 4 L 400 4-5 4 L 400 4-5 4 L 405 4-5 4 L 405 4-5 4-5 4-5 4-5 4-5 4-5 4-5 4-
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Wil Axx Spp Loo On Axx	le acing ad les 10 20 30 40	a1 a2 a2 GNEVGNEVGNEVGNEEVGNEEV	36 8 20 .20 .50 .30 2-3 2 L .400 1-3 8 .530 1-3 8 .587 1-5 1 L	40 8 24 .10 .60 .60 .60 .60 .60 .60 .60 .6	40 8 24 .10 .50 4-5 4 L .400 4-5 4 L .450 3-5 8 R .480 1-5 8 R .575 1-5 8 R	40 8 24 .10 .45 .45 .45 .45 .45 .45 .45 .45	40 8 24 .10 .50 .40 2 · 3 2 L .400 1-3 3 R .490 1-3 3 R .527 2-5 2 L .575 2 L	40 8 24 .20 .30 .50 4-5 4 L .400 4-5 4 L .450 3-5 5 R .476 1-5 5 R .550	40 8 24 .20 .40 .40 4-5 4 L .320 1-3 3 R .440 1-3 3 R .493 1-5 1 .520 1-5 1 .520 1-5	40 8 24 .20 .50 .30 2-3 2 L .400 1-3 3 R .530 1-3 3 R .587 1-3 3 R .587 1-5 1 L	44 8 28 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 4-5 4 L .540 2-5 8 R .615 1-5 8	44 8 28 .10 .40 .50 4-5 4 L .400 4-5 4 L .450 4-5 4 L .450 4-5 5 8 8 8 8 8 8 8 8 8 8 8 8 8
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Wil Axx Spp Loo On Axx	le acing ad les 10 20 30 40	e L XX X' a1 a2 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	36 8 20 .20 .50 .30 2-3 2 L .400 1-3 3 R .530 1-3 3 R .587 1-5 1 L .620 1-5	40 8 24 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 3-5 5 R .570 1-5 5 R .645 1-5 8 .645 1-5 1-5 1-5 1-5 1-5 1-5 1-5 1-	40 8 24 .10 .40 .50 4-5 4 L .400 4-5 4 L .450 3-5 5 R .480 1-5 5 R .575 1-5 5 R .575 1-5 8 .660 1-5	40 8 24 .10 .45 .45 .45 .45 .45 .45 .45 .45	40 8 8 24 .10 .50 .40 2 -3 2 L .400 1-3 3 R .490 1-3 3 R .527 2-5 2 L .575 2 L .575	40 8 24 .20 .30 .50 4-5 4 L .400 4-5 5 R .476 1-5 5 R .550 1-5 8 .476 1-5 .476 1-5 .476 1-5 .476 1-5 .476 1-5 .476 1-5 .476 1-5 .476 1-5 .476 1-5 .476 1-5 .476 1-5 .476 1-5 .476 1-5 .476 1-5 .476 1-5 .476 1-5 .476 1-5 .476 1-5 .476 .476 1-5 .476	40 8 24 .20 .40 .40 .40 .40 .40 .40 .40 .4	40 8 24 .20 .50 .30 2-3 2 L .400 1-3 8 R .530 1-3 3 R .587 1-3 3 R .615 1-5 1 L	44 8 28 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 4-5 6 8 .615 1-5 .684 .684 .684	44 8 28 20 40 50 4-5 4 L 400 4-5 4 L 400 4-5 4 L 405 4-5 4 L 405 4-5 4 L 405 4-5 4-5 4-5 4-5 4-5 4-5 4-5 4-
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Wil Axx Spp Loo On Axx	n. Bas le acing and ales 10 20 30 40	e L XX a1 a2 a2 G NE V	36 8 20 .20 .50 .30 2-3 2 L .400 1-3 3 R .530 1-3 3 R .587 1-5 1 L .620 1-5 1 L	40 8 24 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 1-5 5 R .570 1-5 5 R .615 1-5 8 .716 1-5 8 R	40 8 24 .10 .40 .50 4-5 4 L .400 4-5 4 L .450 3-5 5 R .480 1-5 5 R .575 1-5 5 R	40 8 24 .10 .45 .45 .45 .45 .45 .45 .45 .45	40 8 24 .10 .50 .40 2 -3 2 1 .400 1-3 3 R .490 1-3 3 R .527 2-5 2 1 .640 2 .640 1 .640	40 8 24 .20 .30 .50 4-5 4 L .400 4-5 4 L .450 3-5 5 R .476 1-5 5 8 .50 1-5 8 .60 .60 1-5 8 .60 .60 .60 .60 .60 .60 .60 .60	40 8 24 .20 .40 .40 .40 .40 .40 .40 .40 .4	40 8 24 .20 .50 .50 .20 .30 2-3 2 L .400 1-3 3 R .587 1-3 3 R .587 1-5 1 L .672 1-5 1 L	44 8 28 .10 .30 .60 4-5 4 L .540 4-5 4 L .560 2-5 5 R .615 1-5 5 R .684 1-5 8	44 8 28 20 40 50 4-5 4 L 400 4-5 4 L 450 4-5 4 L 467 2 · 5 5 R 620 1 · 5 8
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Wil Axx Spp Loo On Axx	n. Bas le acing and ales 10 20 30 40	e L X X A1 A2 A2 G N E V G N E V G N E V G N E V G N E V C G N E C C R E C C R E C C R E C	36 8 20 .20 .50 .30 2-3 2 1 .400 1-3 3 R .530 1-3 8 .587 1-5 1 L .620 1-5 1 L .696	40 8 24 .10 .60 .60 .60 .60 .60 .60 .60 .6	40 8 24 .10 .40 .50 .50 .50 .50 .50 .50 .50 .5	40 8 24 .10 .45 .45 .45 .45 .45 .45 .45 .445 .445 .445 .445 .5 .6 .6 .6 .6 .6 .6 .6 .6 .6 .6	40 8 24 .10 .50 .40 2-3 2 1 .400 1-3 3 R .490 1-3 8 R .527 2 L .575 2 L .683	40 8 24 .20 .30 .50 4-5 4 L .450 3-5 5 R .476 1-5 5 R .550 1-5 5 R .640 1-5 5 R .700	40 8 24 .20 .40 .40 4-5 4 L .320 1-3 3 R .440 1-3 1-5 1 L .520 1-5 1 L .616 1-5 1 L	40 8 24 .20 .30 .30 2-3 2 L .400 1-3 3 R .530 1-3 3 R .540 1-3 3 R .551 1-3 3 1-3 1-3 1-3 1-3 1-3 1-3	44 8 28 .10 .60 .60 .60 .60 .60 .60 .60 .6	44 8 28 .10 .40 .50 .50 .50 .50 .50 .50 .50 .5
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Wil Axx Spp Loo On Axx	10	e L XX a1 a2 a2 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	36 8 20 .20 .50 .30 2-3 2 L .400 1-3 3 R .530 1-3 3 R .587 1-5 1 L .620 1-5 1 L .747 1-5	40 8 24 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 1-5 5 R .645 1-5 5 R .716 1-5 5 R .716 1-5 8 .716 1-5 8 .716 .716	40 8 24 .10 .40 .50 4-5 4 L .400 4-5 4 L .450 3-5 5 R .480 1-5 5 R .575 1-5 5 R .660 1-5 R .717 1-5 5 8 .717 1-5 5 8 .717 1-5 1-5 8 .717 1-5 8	40 8 24 .10 .45 .45 .45 .45 .45 .45 .45 .45	40 8 24 .10 .50 .40 2-3 2 L .400 1-3 3 R .490 1-3 3 R .527 2-5 2 L .506 2 L .406 1-3 3 1-3 1-3 1-3 1-3 1-3 1-3	40 8 24 .20 .30 .50 4-5 4 L .400 4-5 4 L .450 1-5 5 R .476 1-5 5 R .550 1-5 8 .476 1-5 8 .50 1-5 8 .40 .40 .40 .40 .40 .40 .40 .40	40 8 24 .20 .40 .40 4-5 4 L .320 1-3 3 R .440 1-3 3 R .493 1-5 1 L .520 1-5 1 L .680 1-5 1	40 8 24 .20 .50 .50 .50 .2-3 .2 .400 1-3 .8 .530 1-3 .8 .587 1-3 .8 .615 1-5 1 .672 1-5 1 .727 1-5 1	44 8 28 .10 .30 .60 4-5 4 L .540 4-5 4 L .560 2-5 8 R .615 1-5 8 R .737 1-5 5 8	44 8 28 28 10 40 50 4-5 4 L 400 4-5 4 L 45 4 L 467 2 · 5 5 R 620 1 · 5 8 683 1 · 5 8
100 E L R R R R R L L R R	Wil Axx Spp Loo On Axx	10	e L XX a1 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNE	36 8 20 .20 .50 .30 .30 .30 .30 .30 .30 .400 .530 .530 .587 .58	40 8 24 .10 .30 .60 4-5 4 L .480 4-5 8 .570 1-5 5 R .716 1-5 5 R .716 1-5 5 R .716 1-5 8 R .716 1-5 8 8 8 8 8 8 8 8 8 8 8 8 8	40 8 24 .10 .50 .4-5 4 L .400 4-5 4 L .450 3-5 5 R .480 1-5 5 R .575 1-5 5 R .717 1-5 8 .717	40 8 24 .10 .45 .45 .45 .45 .45 .45 .45 .45	40 8 24 .10 .50 .40 2 -3 2 L .400 1-3 3 R .490 1-3 3 R .527 2-5 2 L .575 2 L .640 2 .640 1-3 3 1 .640 1-3 3 1 .640 1-3 1 .640 1-3 1 .640 1-3 1 .640 .640 1 .640 .640 1 .640 1 .640 1 .640 1 .640 1 .640 1 .640 1 .640 1 .640 1 .640 1 .640 1 .640 1 .640 1 .640 1 .64	40 8 24 .20 .30 .50 4-5 4 .400 4-5 .450 3-5 5 R .476 1-5 5 R .640 1-5 8 .700 1-5 8 .700	40 8 24 .20 .40 .40 .40 .40 .40 .40 .40 .4	40 8 24 .20 .50 .30 2-3 2 L .400 1-3 3 R .530 1-3 3 R .587 1-3 3 R .587 1-5 1 L .672 1-5 1 L .727 1-5 1 L	8 28 .10 .30 .60 .4-5 4 L .480 4-5 4 L .540 4-5 8 R .615 1-5 5 R .684 1-5 5 R .737 1 5 5 R	44 8 28 10 40 4-5 4 L 400 4-5 4 L 450 4-5 4 L 467 2 5 8 8 8 1-5 8 8 8 1-5 8 8 1-5 1-5 1-5 1-5 1-5 1-5 1-5 1-5
	Wil Axx Spp Loo On Axx	10	e L XX a1 a2 a2 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	36 8 20 .50 .30 .2-3 2 .400 1-3 3 R .530 1-3 3 R .587 1-5 1 L .620 1-5 1 .747 1-5 1 .747	40 8 24 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 1-5 5 R .570 1-5 5 R .716 1-5 8 .763 1-5 8	40 8 24 .10 .40 .50 4-5 4 L .400 4-5 4 L .450 3-5 5 R .480 1-5 5 R .575 1-5 5 R .717 1-5 R .717 1-5 R .717	40 8 24 .10 .45 .45 .45 .45 .45 .45 .45 .45	40 8 24 .10 .50 .40 2 -3 2 L .400 1-3 3 R .490 1-3 3 R .527 2-5 2 L .575 2-1 .683 1-5 R .753 1-5	40 8 24 .20 .30 .50 4-5 4 L .400 4-5 4 L .450 1-5 5 R .476 1-5 5 R .500 1-5 8 .700 1-5 8 .775 1-5 1-5 1-5 1-5 1-5 1-5 1-5 1-	40 8 24 .20 .40 .40 .40 .40 .40 .40 .40 .4	40 8 24 .20 .50 .50 .20 .50 .50 .20 .400 1-3 .8 .587 1-3 .8 .587 1-3 .8 .615 1-5 1 .727 1-5 1 .727 1-5 1 .729 1-5 1-5 1-5 1-5 1-5 1-5 1-5 1-5	44 8 28 .10 .30 .60 .60 .60 .4-5 .4 L .540 .4-5 .4 L .560 2-5 .6 .6 .6 .6 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7	44 8 28 10 40 50 4-5 4 L 400 4-5 4 L 45 4 L 467 2 · 5 5 R 620 1 · 5 R 683 1 · 5 R 683 1 · 5 R
	Wil Axx Spp Loo On Axx	10	e L XX, a1 a2 a2 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNE	36 8 20 .20 .50 .30 2-3 2 L .400 1-3 3 R .530 1-3 3 R .587 1-5 1 L .620 1-5 1 L .747 1-5 1 L .810	40 8 24 .10 .30 .60 4-5 4 L .480 4-5 5 R .570 1-5 5 R .716 1-5 5 R .716 1-5 5 R .716 1-5 5 R .716 1-5 R .716 1-5 R .716 .716 .716 .716 .716 .716 .716 .717 .717 .717 .717 .717 .718	40 8 24 .10 .40 .50 .4-5 4 L .400 4-5 4 L .450 3-5 5 R .480 1-5 5 R .660 1-5 5 R .717 1-5 5 R	40 8 24 .10 .45 .45 .45 .45 .45 .45 .45 .45	40 8 24 .10 .50 .40 2 -3 2 L .400 1-3 3 R .527 2-5 2 L .527 2-5 2 L .640 2-5 2 L .640 2-5 2-5 2-5 2-7 .640 2-7 .683 1-5 .883 1-5	40 8 24 .20 .30 .50 4-5 4 L .400 4-5 4 L .450 3-5 5 R .476 1-5 5 R .640 1-5 8 .770 1-5 8 R	40 8 8 24 .20 .40 .40 .40 .40 .40 .40 .40 .4	40 8 8 24 .20 .50 .50 .50 2-3 2 L .400 1-3 8 R .587 1-3 3 R .587 1-5 1 L .672 1-5 1 L .727 1-5 1 L .795 1-5 1 L .795	8 28 .10 .30 .60 .4-5 4 L .480 4-5 4 L .560 2-5 5 R .684 1-5 5 R .737 1 .5 5 R .803 1-5 5 R	28 28 20 40 40 40 4-5 4 L 400 4-5 4 L 467 2 5 8 8 620 1-5 8 683 1 5 8 8 8 1 5 8 8 8 8 8 8 8 8 8 8 8 8 8

	BLE		Continue									
Tr	uck N n. Bas	0.	31 44	32 44	33	34 44	35 44	36 28	37 28	38	39	40
Ax	le	$\bar{\mathbf{x}}$	8	8	8	8	8	12	12	28 12	28 12	$\frac{28}{12}$
	acing	<u>X'</u>	$\frac{28}{10}$.28	28	28	.10	88	8	8	88
Lo: On		\mathbf{a}_1 \mathbf{a}_2	.45	.50	.30	.20 .40	$.20 \\ .50$.30	.10 .40	.10 .45	.10 .50	.20 .30
Ax	les	$\frac{\mathbf{a_3}}{\mathbf{G}}$	45	2 3	.50 4-5	4 5	.30 2-3	.60 4-5	.50 45	.45 4-5	2-3	.50 4-5
	10	N	4	2 3 2 L	4	4	2 L	4	4	4	2	4
	10	$_{ m V}^{ m E}$	$_{.360}^{ m L}$.400	L .400	L .320	.400	L .480	.400	$_{.360}^{ m L}$	L .400	$_{.400}^{ m L}$
		G N	1-3	1-3 3	4-5	1-3	1-3	2 5	2-5	2.5	2-5	2-5
	20	Ê	3 R	\mathbf{R}	$^{4}_{\mathbf{L}}$	${f R}^3$	3 R	$^{5}_{ m R}$	$\overset{5}{\mathrm{R}}$	$^2_{ m L}$	$^2_{ m L}$	$\overset{5}{\mathrm{R}}$
		$\frac{V}{G}$.445	-490 1-3	4 5	.440 13	$\frac{.530}{1-3}$	$-\frac{.630}{1.5}$.570	.540	.570	.540
		N	3	3	4	3	3	5	1~5 5	$^{1-5}_{5}$	$^{2-5}_2$	$^{1-5}_{5}$
	30	E V	R .480	R .527	$_{.467}^{ m L}$	$^{ m R}_{.493}$	$^{ m R}_{.587}$	$^{ m R}_{.727}$	$^{ m R}_{.687}$	R .667	$_{.680}^{ m L}$	$_{.640}^{ m R}$
		G	1-3	1-3	2 -5	1-3	1 3	1-5	1-5	1-5	1.5	15
ا <u>د</u>	40	N E	$^3_{ m R}$	$^3_{ m R}$	5 R	$^3_{ m R}$	$^3_{ m R}$	$^{5}_{ m R}$	5 R	Б R	$^{5}_{ m R}$	Б R
F.		V	.498	.545	.520	.520	.615	.795	.765	.750	.735	.730
Span-Fect		G N	$_{5}^{1-5}$	$\frac{2}{2}$	$_{5}^{1-5}$	$^{1-5}_{1}$	1 5 1	$^{1-5}_{5}$	1-5 5	1–5 5	1-5 5	1-5 5
Ω :	50	E	R	L .608	R .600	L .584	L	.836	\mathbf{R}	R	\mathbf{R}	R
ĺ		G	.588 1-5	2.5	1 5	1 -5	.648 1-5	1-5	.812 1-5	.800 1-5	.788 1-5	$\frac{.784}{1-5}$
	60	N	5 R	$^2_{ m L}$	$\overset{5}{\text{R}}$	$_{\mathbf{L}}^{1}$	$^{ m l}_{ m L}$	5 R	Ř R	5 R	5	5
	60	$_{ m V}^{ m E}$.657	.657	.667	.653	.707	.86 3	.843	.833	$^{ m R}_{.823}$	$^{ m R}_{.820}$
		G	1-5 5	1-5 1	1-5 5	1-5 1	1-5	1-5 5	1–5 5	1-5	1-5	1-5
	80	N E	R	L	\mathbf{R}	\mathbf{L}	$^{1}_{ m L}$	\mathbf{R}	\mathbf{R}	5 R	$\overset{5}{\mathrm{R}}$	${f R}^5$
		-V G	$-\frac{.743}{1-5}$.728 1-5	.750 1–5	.740 1-5	.780 15	.898	.883 1-5	.875 1-5	.868 1-5	$\frac{.865}{1-5}$
		N	5	1	5	1	1	5	5	5	5	5 R
	100	E V	R .794	L .782	R .800	$_{.792}^{ m L}$	$_{.824}^{ m L}$	R .918	R .906	$_{.900}^{\mathbf{R}}$	$^{ m R}_{.894}$.892
Tro	ick N		41	42	43	44	45	46	47	48	49	50
	ick No	e L	41 28	42 28	43 32	4 4 32	45 32	46 32	47 32	48 32	49 32	50 36
Wh	ı. Bası le	e L X	28 12	28 12	32 12	32 12	32 12	32 12	32 12	32 12	32 12	36 12
Wh	i. Base le icing	e L	28	28 12 8 .20	32 12 12 .10	32 12 12 .10	32	32	32 12 12 .20	32 12 12 .20	32	36
Wh Ax Spr Lor	n. Base le neing ad	e l. X X' a ₁ a ₂	28 12 8 .20 40	28 12 8 .20 .50	32 12 12 .10 .30	32 12 12 .10 .40	32 12 12 .10 .45	32 12 12 .10 .50	32 12 12 .20 .30	32 12 12 12 .20 40	32 12 12 .20 .50	36 12 16 .10 .30
Wh Ax Spa Log	n. Base le neing ad	e L X X' a ₁ a ₂ a ₃	28 12 8 .20 40 40 4-5	28 12 8 .20 .50 .30	32 12 12 .10 .30 .60	32 12 12 .10 .40 .50	32 12 12 .10 .45 .45	32 12 12 .10 .50 .40	32 12 12 .20 .30 .50	32 12 12 .20 40 .40 4-5	32 12 12 .20 .50 .30	36 12 16 .10 .30 .60 4-5
Wh Ax Spr Lor	n. Base le icing id	X X' A1 A2 A3 G	28 12 8 .20 40 40 40	28 12 8 .20 .50 .30	32 12 12 .10 .30 .60 4-5 4	32 12 12 .10 .40 .50 4-5	32 12 12 .10 .45 .45 .45	32 12 12 .10 .50 .40 2-3 2	32 12 12 .20 .30 .50 4-5	32 12 12 .20 40 .40 .40	32 12 12 .20 .50 .30 2-3 2	36 12 16 .10 .30 .60 4-5
Wh Ax Spr Lor	n. Base le neing ad	e L X X' a ₁ a ₂ a ₃ G N E V	28 12 8 .20 40 40 4-5 4 L	28 12 8 .20 .50 .30 2-3 2 L .400	32 12 12 .10 .30 .60 4-5 4 L	32 12 12 .10 .40 .50 4-5 4 I.	32 12 12 .10 .45 .45 4 -5 4 1 .360	32 12 12 .10 .50 .40 2-3 2 L	32 12 12 .20 .30 .50 4-5 4 L	32 12 12 .20 40 .40 4 -5 4 I. .320	32 12 12 .20 .50 .30 2-3 2 L	36 12 16 .10 .30 .60 4-5 4 L
Wh Ax Spr Lor	le le acing ad less	e L X X, a ₁ a ₂ a ₃ G N E V	28 12 8 .20 40 40 4-5 4 L .320 2-5 2	28 12 8 .20 .50 .30 2-3 2 .400 2-5 2	32 12 12 .10 .30 .60 4-5 4 L .480 2-5 5	32 12 12 .10 .40 .50 4-5 4 I. .400 2-5	32 12 12 .10 .45 .45 .45 4—5 4 L .360 2—5 2	32 12 12 .10 .50 .40 2-3 2 L .400 2-5 2	32 12 12 .20 .30 .50 4-5 4 L .400 2-5 5	32 12 12 .20 40 .40 4-5 4 I .320 2-5 2	32 12 12 .20 .50 .30 2-3 2	36 12 16 .10 .30 .60 4-5 4 L .480 4-5
Wh Ax Spr Lor	n. Base le icing id	e L X X' a ₁ a ₂ a ₃ G N E V G N E	28 12 8 .20 40 40 4-5 4 L .320 2-5 L	28 12 8 .20 .50 .30 2 .400 2-5 L	32 12 12 10 .30 .60 4-5 4 L .480 2-5 R	32 12 12 .10 .40 .50 4 - 5 4 I. .400 2-5 R	32 12 12 .10 .45 .45 4 L .360 2-5 L	32 12 12 .10 .50 .40 2-3 2 L .400 2-5 2 L	32 12 12 .20 .30 .50 4-5 4 L .400 2-5 R	32 12 12 .20 40 .40 4 -5 4 L .320 2-5 2	32 12 12 .20 .50 .30 2 - 3 2 L .400 1-3 3	36 12 16 .10 .30 .60 4-5 4 L .480 4-5
Wh Ax Spr Lor	le le acing ad less	E L X X X' a1 a2 a3 G N E V G N E V G	28 12 8 .20 40 40 4-5 4 L .320 2-5 2 L .480 1-5	28 12 8 .20 .50 .30 2.3 1.400 2.5 2 L .540 2.5	32 12 12 10 .30 .60 4-5 4 L .480 2-5 5 R .570	32 12 12 .10 .40 .50 4 .5 4 I. .400 2-5 5 R .490 2-5	32 12 12 .10 .45 .45 .45 4 L .360 2–5 2 I .450	32 12 12 .10 .50 .40 2-3 2 L .400 2-5 2 L	32 12 12 .20 .30 .50 4-5 4 L .400 2-5 5 R .480	32 12 12 20 40 .40 4-5 4 I. .320 2-5 2 L.	32 12 12 20 .50 .30 2-3 2 L .400 1-3 3 R .490 2-5	36 12 16 .10 .30 .60 4-5 4 L .480 4-5 4 I .540 2 5
Wh Ax Spr Lor	n. Base le icing ad ios 10	a ₁ a ₂ a ₃ G N E V G N E V G N	28 12 8 .20 40 40 4-5 4 L .320 2-5 2 L .480 1-5 5	28 12 8 .20 .50 .30 2 3 L .400 2-5 L .540 2-5	32 12 12 10 .30 .60 4-5 4 4 480 2-5 5 R .570 2-5	32 12 12 10 .40 .50 4 5 4 1 .400 2-5 R .490 2-5 5	32 12 12 .10 .45 .45 .45 4 L .360 2–5 2 I .450	32 12 12 .10 .50 .40 2-3 2 L .400 2-5 2 L	32 12 12 20 .30 .50 4-5 4 L .400 2-5 R .480 2-5 5	32 12 12 20 40 .40 4-5 4 I. .320 2-5 2 L.	32 12 12 .20 .50 .50 .30 2-3 2 L .400 1-3 8 .490 2-5 2	36 12 16 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 2 5 8
Wh Ax Spr Lor	le le acing ad less	a ₁ a ₂ a ₃ G N E V G N E V C N E V C N E V	28 12 8 .20 40 40 4 -5 4 L .320 2 -5 2 L .480 1 -5 5 R .600	28 12 8 .20 .50 .30 2 1 4.00 2-5 2 L .540 2-5 2 L .540 .50 .50 .50 .50 .50 .50 .50 .50 .50 .5	32 12 12 10 .30 .60 4-5 4 L .480 2-5 5 R R .680	32 12 12 .10 .40 .50 4-5 4 L .400 2-5 8 R .490 2-5 5 R	32 12 12 .10 .45 .45 .45 4 L .360 2–5 2 L .450 2–5 2 1 .450	32 12 12 .10 .50 .40 2-3 2 L .400 2-5 2 L .490 2-5 2 L .626	32 12 12 .30 .50 4-5 4 L .400 2-5 R .480 2-5 5 R .586	32 12 12 .20 40 .40 4-5 4 L .320 2-5 2 L .400 2-5 2 L .534	32 12 12 .50 .50 .30 2 3 2 L .400 1-3 3 R 490 2-5 2 L	36 12 16 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 2 5 R .640
Wr Ax Specific Log On Ax	n. Base le icing ad ios 10	a ₁ a ₂ a ₃ G N E V G N E V G N E V G	28 12 8 20 40 40 4 4 5 4 L 320 2-5 2 L 480 1-5 8 600 1 · 5	28 12 8 8 .20 .50 .30 2 L .400 2-5 2 L .540 2-5 2 L .626 1-5	32 12 12 .10 .30 .60 4-5 4 4 4. .480 2-5 5 R .570 2-6 5 R .680 1-5 5	32 12 12 .10 .40 .50 4 -5 4 I. .400 2-5 5 R .490 2-5 R .626	32 12 12 12 .10 .45 .45 .45 4 -2-5 2 1 .450 2-5 2 1 .600 1 5	32 12 12 .10 .50 .40 2-3 2 L .400 2-5 2 L .490 2-5 2 L .626 2-5 2	32 12 12 .20 .30 .50 .50 4–5 4 L .400 2–5 5 R .480 2–5 R .586	32 12 12 20 40 40 4-5 4 L 320 2-5 2 L 400 2-5 2 L 534 1-5	32 12 12 .20 .50 .30 2 .30 2 .400 1-3 3 8 .490 2-5 2 L	36 12 16 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 2 5 R .640 1-5
Wr Ax Specific Log On Ax	n. Base le icing ad ios 10	a ₁ a ₂ a ₃ G N E V R E V R	28 12 8 .20 40 40 4 –5 4 L .320 2 –5 2 L .480 1 –5 8 .600 1 –5 8 R	28 12 8 .20 .50 .30 .30 .30 .400 2-5 .540 2-5 .626 1-5 .626	32 12 12 .10 .30 .60 4-5 4 L .480 2-5 5 R .570 2-6 5 R .680 1-5 8	32 12 12 .10 .40 .50 4-5 4 L .400 2-5 8 R .490 2-5 R .626 1-5 8	32 12 12 12 .10 .45 .45 4-5 4 L 1. .360 2-5 2 L .450 2-5 2 1. .600 1.5 8	32 12 12 .10 .50 .40 2-3 2 L .400 2-5 2 L .626 2-5 2 L .626	32 12 12 .20 .30 .50 4-5 4 L .400 2-5 5 R .480 2-5 5 R .586 1-5 5 R	32 12 12 20 40 .40 .40 4-5 4 L .320 2-5 2 L .400 2-5 2 L .534 1-5 8	32 12 12 .20 .50 .30 2 · 3 2 L .400 1-3 3 R .490 2-5 2 L .586 2-5 2 L	36 12 16 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 2 5 8 R
Wr Ax Specific Log On Ax	1. Rase leacing addies 10 20	A X X X A 1 A 2 A 3 A 3 A 5 A 5 A 5 A 5 A 5 A 5 A 5 A 5	28 12 8 .20 40 40 4-5 4 L .320 2-5 2 L .480 1-5 8 .600 1 .5 8 .700	28 12 8 .20 .50 .30 2 L .400 2-5 2 L .540 2-5 2 L .626 1-5 6R .670 1-5	32 12 12 .10 .30 .60 4-5 4 4 4. 480 2-5 5 R .570 2-5 5 R .680 1-5 R .755	32 12 12 .10 .40 .50 4-5 4 L .400 2-5 5 R .490 2-5 5 R .626 1-5 7 R .715	32 12 12 .10 .45 .45 4-5 4 L .360 2-5 2 L .450 2-5 2 1 .605 8	32 112 .10 .50 .40 2-3 2 L .400 2-5 2 L .490 2-5 2 L .695	32 12 12 20 30 .50 4-5 4 L .400 2-5 5 R .480 2-5 5 R .586 1-5 8	32 12 12 .20 40 .40 .4-5 4 L .320 2-5 2 L .400 2-5 2 L .534 1-5 8 R .640 .640 .640 .640 .640 .640 .640 .640	32 12 12 .20 .50 .30 2 3 2 L .400 1-3 3 R .490 2-5 2 L .586 2-5 2 L	36 12 16 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 2 5 R .640 1-5 8 .640 1-5 8 .640
Wr Ax Specific Log On Ax	1. Rasele icing ad ios 10 20 30 40	C L X X X A 1 A 2 A 2 A 3 A 3 A 4 A 4 A 4 A 4 A 4 A 4 A 4 A 4	28 12 8 .20 40 40 4-5 4 L .320 2-5 2 L .480 1-5 5 R .600 1-5 5 R .700	28 12 8 .20 .50 .30 2 L .400 2-5 2 L .540 2-5 2 L .626 1-5 6R .670 1-5	32 12 .10 .30 .60 4-5 4 L .480 2-5 5 R .570 2-5 R .680 1-5 8 .755 1-5 5	32 12 10 .40 .50 4-5 4 L .400 2-5 8 R .490 2-5 8 R .626 1-5 5 7 15 15 15 15 15 15 15 15 15 15 15 15 15	32 12 12 12 .10 .45 .45 4-5 4 L 1. .360 2-5 2 L .450 2-5 2 5 8 605 1 5 5	32 12 .10 .50 .40 2-3 2 L .400 2-5 2 L .490 2-5 2 L .695 1-5 5	32 12 12 20 30 .50 4-5 4 L .400 2-5 5 R .480 2-5 5 R .586 1-5 8	32 12 12 .20 40 .40 .4-5 4 L .320 2-5 2 L .400 2-5 2 L .534 1-5 8 R .640 .640 .640 .640 .640 .640 .640 .640	32 12 12 .20 .50 .30 2 · 3 2 L .400 1-3 8 R .490 2-5 2 L .586 2-5 2 L .640 1-5 1	36 12 16 .10 .30 .60 4-5 4 L .480 4-5 5 7 8 .640 1-5 8 .715 1-5 5
Wh Ax Spr Lor	1. Rase leacing addies 10 20	ELXXX' a1 a2 a3 GNEVGNEEVGNEEVGNEEVGNEEVGNEEVGNEEVGNEEV	28 12 8 .20 40 40 40 40 40 40 40 40 40 4	28 12 8 .20 .30 2 .30 2 .400 2-5 2 .540 2-5 2 .540 2-5 2 .626 1-5 6 R	32 12 12 .10 .30 .60 4 -5 4 L .480 2-5 5 R .570 2-5 5 R .680 1-5 R .755 1-5 R	32 12 12 .10 .40 .50 .50 4 -5 4 L .400 2-5 5 R .490 2-5 5 R .626 1-5 7 R .712	32 12 .10 .45 .45 .45 .45 .45 .45 .45 .2 .1 .360 .2-5 .2 .1 .600 .1 .5 .600 .1 .5 .600 .1 .5 .600 .600 .600 .600 .600 .600 .600	32 12 12 .10 .50 .40 .40 2-3 2 L .400 2-5 2 L .490 2-5 2 L .626 2-5 2 L .626 1-5	32 12 12 20 .30 .50 4-5 4 L .400 2-5 5 R .480 2-5 5 R .586 1-5 6 8 .680 1-5 5 R	32 12 .20 40 4-5 4 L .320 2-5 2 L .400 2-5 2 L .534 1-5 5 R .640	32 12 12 .20 .50 .30 2 .30 2 .400 1-3 3 R .490 2-5 2 L .586 2-5 2 L	36 12 16 .10 .30 .60 4-5 4 L .480 4-5 4 I. .540 2 5 8 .640 1-5 7 8 .715 1-5
Wr Ax Specific Log On Ax	1. Rasele icing ad ios 10 20 30 40	C L X X X X A A A A A A A A A A A A A A A	28 12 8 .20 40 40 4-5 4 L .320 2-5 2 L .480 1-5 5 R .600 1 5 R .700 1 5 R .760 1-5	28 12 8 .20 .30 2 .30 2 .400 2-5 2 .540 2-5 2 .626 1-5 5 R .736 .736	32 12 .10 .30 .60 .4-5 4 L .480 2-5 5 R .680 1-5 8 .755 1-5 8 .755 1-5 8 .804 .804	32 12 12 .10 .40 .50 .50 4 -5 4 L .400 2-5 5 R .490 2-5 5 R .626 1-5 7 R .712	32 12 12 .10 .45 .45 .45 .45 .2-5 .2 .1 .450 .2-5 .2 .1 .600 .5 .695 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7	32 12 .10 .50 .40 2-3 2 L .400 2-5 2 L .490 2-5 2 L .695 1-5 8 .740 1-5	32 12 .20 .30 .50 4-5 4 L .400 2-5 8 R .586 1-5 8 .680 1-5 8 .744 1-5	32 12 .20 .40 .40 .320 2-5 2 L.0320 2-5 2 L.0524 1-5 8 .640 1-5 8 R.712	32 12 12 .20 .50 .30 2 3 2 L .400 1-3 3 R .490 2-5 2 L .586 2-5 2 L .640 1-5	36 12 16 .10 .30 .60 .4-5 4 L .480 2 5 5 R .640 2 5 8 .640 1-5 8 .715 1-5 8 .715 1-5 1-5 1-5 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7
Wr Ax Specific Log On Ax	1. Rasele icing ad ios 10 20 30 40	C L X X X X A A A A A A A A A A A A A A A	28 12 8 .20 40 40 40 4-5 4 L .320 2-5 2 L .480 1-5 5 R .700 1-5 5 R .760 1-5 5 R .760 1-5 5 R	28 12 8 .20 .50 .30 .21 .400 2-5 .540 2-5 .540 1-5 .626 1-5 .670 1-5 .736 1-5 .736	32 12 12 .10 .30 .60 4-5 4 L .480 2-5 R .570 2-6 5 R .680 1-5 R .755 1-5 R .765 1-5 R	32 12 10 40 .50 4-5 4 L .400 2-5 5 R .490 2-5 5 R .626 1-5 5 R .715 1-5 5 R .7172	32 12 .10 .45 .45 .45 .45 .45 .45 .45 .45	32 12 .10 .50 .40 2-3 2 L .400 2-5 2 L .490 2-5 2 L .490 2-5 2 L .490 2-5 2 L .490 2-5 2 L .490 2-5 2 L .490 2-5 2 .400 2-5 2 .400 2-5 2 .400 2-5 2 .400 2-5 2 .400 2-5 2 .400 2-5 2-5 2 .400 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	32 12 12 20 .30 .50 4-5 4 L .400 2-5 8 .480 2-5 5 8 .586 1-5 5 8 .680 1-5 8 .744 1-5 8	32 12 12 .20 40 .40 .40 .40 .40 .40 .40 .40	32 12 .20 .50 .30 .2 · 3 2 .400 1-3 3 R .490 2 · 5 2 L .586 2 · 5 2 L .640 1-5 1 L .680 1-5 1 L	36 12 16 .10 .30 .60 4-5 4 L .480 2-5 5 R .715 5 R .715 5 R .72 1-5 R
Wr Ax Specific Log On Ax	10 20 30 40 50	C L XX A1 A2 A3 GNE V GNE V GNE V GNE V GNE V CONE CONE CONE CONE CONE CONE CONE CONE	28 12 8 .20 40 40 4-5 4 L .320 2-5 2 L .480 1-5 5 R .600 1 5 5 R .700 1 5 5 R .760 1 5 8 .760 1 5 8 .760 1 5 8 .760	28 12 8 .20 .50 .30 2-3 2 L .400 2-5 2 L .626 1-5 5 R .670 1-5 5 R .786	32 12 .10 .30 .60 4-5 4 L .480 2-5 5 R .670 2-6 5 R .680 1-5 8 R755 1-5 R R755	32 12 12 .10 .40 .40 .55 .4 .400 2-5 .5 .8 .626 .1-5 .5 .8 .715 .715 .715 .72 .772	32 12 12 .10 .45 .45 .45 .45 .2-5 .2 .1 .600 .2-5 .2 .1 .605 .1 .5 .695 .7 .7 .7 .7 .7	32 12 .10 .50 .40 2-3 2 L .400 2-5 2 .490 2-5 2 L .626 2-5 2 L .695 1-5 5 R .783	32 12 .20 .30 .30 .4–5 4 L .400 2–5 5 R .580 1–5 5 R .580 1–5 5 R .680 1–5 8 .744 1–5 8 .850 .850 .8	32 12 .20 .40 .40 .320 .320 .320 .2-5 .2 .400 .2-5 .5 .8 .640 .75 .760	32 12 12 .20 .50 .50 .30 2 3 2 L .400 1-3 3 R .499 2-5 2 L .586 2-5 2 L .640 1-5 1 L .630 1-5 1 L .733	36 12 16 .10 .30 .60 .4-5 4 L .480 2 5 5 R .640 1-5 5 R .715 1-5 5 R .715 1-5 8 .715 5 R .715 8 .715
Wr Ax Specific Log On Ax	10 20 30 40 50 60	a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	28 12 8 .20 40 40 40 4-5 4 L .320 2-5 2 L 480 1-5 5 R .700 1 5 R .760 1-5 8 R .800 1-5 8 R .800	28 12 8 .20 .50 .30 2-3 .400 2-5 .540 2-5 .626 1-5 .626 1-5 .780 1-5 .780 1-5 .780	32 12 .10 .30 .60 4-5 4 L .480 2-5 5 R .680 1-5 8 R755 1-5 R .804 1-5 R R837	32 12 .10 .40 .50 .4-5 .400 2-5 5 R .626 1-5 5 R .715 1-5 5 R .715 1-5 5 R .715 1-5 8 .715 1-5 8 .715 1-5 8 .715 .715 8 .715 .715 8 .715	32 12 .10 .45 .45 .45 .45 .45 .45 .45 .2-5 .2 .450 .2-5 .2 .450 .2-5 .8 .695 .7 .8 .7 .8 .7 .8 .7 .8 .8 .7 .7 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	32 12 .10 .50 .40 2-3 2 L .400 2-5 2 L .490 2-5 2 L .695 1-5 5 R .783 1-5 5	32 12 .20 .30 .50 4-5 4 L .400 2-5 R .580 2-5 5 R .580 1-5 R .680 1-5 R .787 1-5 5 R	32 12 .20 .40 .40 .320 .320 .2-5 .2 .400 .2-5 .2 .534 .1-5 .8 .640 .7-5 .8 .7-60 .7-60 .7-60 .7-5 .7-5 .7-60 .7-5 .7-5 .7-60 .7-5 .7-5 .7-5 .7-5 .7-6 .7-6 .7-6 .7-6 .7-6 .7-6 .7-6 .7-6 .7-6 .7-6 .7-6 .7-6 .7-6 .7-6 .7-6 .7-7	32 12 12 .20 .50 .30 .30 2 .3 2 L .400 1-3 3 R .490 2 .5 2 L .586 2 .5 1 L .680 1-5 1 L .733 1-5 1	36 12 16 .10 .30 .60 4-5 4 L .480 4-5 5 8 .640 1-5 5 R .715 1-5 8 .810 .810
Wr Ax Specific Log On Ax	10 20 30 40 50	a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV GNEEV	28 12 8 .20 40 40 4-5 4 L .320 2-5 2 L .480 1-5 5 R .600 1-5 5 R .760 1-5 5 R .800 1-5 5 R .800 1-5 5 R	28 12 8 .20 .50 .50 .30 .33 .2 .400 .2-5 .2 .540 .2-5 .2 .626 .670 .1-5 .8 .736 .736 .7380 .780 .780	32 12 .10 .30 .60 4-5 4 L .480 2-5 5 R .570 2-5 5 R .680 1-5 5 R .755 1-5 5 R .804 1-5 8 R .804 1-5 8 R	32 12 .10 .40 .40 .40 .400 .4	32 12 12 .10 .45 .45 .45 .45 .45 .45 .45 .45	32 12 110 .50 .40 2-3 2 L .400 2-5 2 L .490 2-5 2 L .626 2-5 2 L .626 1-5 8 .740 1-5 1-5 8 .740 1-5 8 .740 1-5 8 .740 1-5 8 .740 1-5 8 .740 1-5 8 .740 1-5 8 .740 1-5 8 .740 1-5 8 .740 1-5 8 .740 1-5 8 .740 1-5 8 .740 1-5 8 .740 1-5 8 .740 1-5 8 .740 1-5 8 .740 1-5 8 .740 1-5 8 .740 1-5	32 12 .20 .30 .50 4-5 4 L .400 2-5 5 R .586 1-5 5 R .680 1-5 5 R .744 1-5 5 R	32 12 .20 40 40 4-5 4 L .320 2-5 2 L .400 2-5 2 L .534 1-5 5 R .640 1-5 5 R .712 1-5 5 R .712 1-5 8 .712 .712 1-5 8 .712 1-5 8 .712 1-5 8 .712 1-5 8 .712	32 12 12 .20 .50 .50 .30 2 .3 2 .L .400 1-3 3 .R .490 2-5 2 .L .586 2-5 1 .L .680 1-5 1 .L .733 1-5 1 .L	36 12 16 .10 .30 .60 4-5 4 L .480 4-5 5 8 .640 1-5 5 R .772 1-5 8 .772 1-5 8 .810 1-5 8 .810
Wr Ax Specific Log On Ax	10 20 30 40 50 60	a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	28 12 8 .20 40 40 4-5 4 L .320 2-5 2 L .480 1-5 5 R .600 1 5 8 .700 1 5 R .800 1-5 8 R .800 1-5 1-5 8 R .800	28 12 8 .20 .50 .30 2-3 2 L .400 2-5 2 L .540 2-5 8 .670 1-5 8 .780 1-5 8 R .780 1-5 8 R .835 1-5	32 12 12 .10 .30 .60 4-5 4 L .480 2-5 5 R .680 1-5 8 .755 R .755 R .837 1-5 8 .837	32 12 .10 .40 .40 .400 .400 .400 .2-5 .8 .490 .2-5 .8 .626 .626 .715 .715 .715 .772 .772 .772 .810 .858 .858 .858 .858 .858	32 12 12 .10 .45 .45 .45 .45 .45 .45 .2-5 .2 .450 .2-5 .2 .450 .2-5 .8 .695 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7	32 112 .10 .50 .40 2-3 2 L .400 2-5 2 L .490 2-5 2 L .695 1-5 R .783 1-5 R .783 1-5	32 12 .20 .30 .50 4-5 4 L .400 2-5 R .480 2-5 5 R .586 1-5 5 R .680 1-5 5 R .787 1-5 5 8 .787	32 112 .20 .40 .40 .4-5 .4 .1 .320 .2-5 .2 .400 .2-5 .2 .534 .1-5 .8 .640 .1-5 .8 .760 .1-5 .8 .820 .1-5	32 12 12 .20 .50 .30 2 3 2 L .400 1-3 3 R .499 2-5 2 L .586 2-5 1 L .640 1-5 1 L .733 1-5 1 L .800 1-5	36 12 16 .10 .30 .60 .4-5 4 L .480 2 5 5 R .640 1-5 5 R .715 1-5 5 R .715 1-5 8 .810 .810
Wr Ax Specific Log On Ax	10 20 30 40 50 60	a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV CON	28 12 8 .20 40 40 40 4-5 4 L .320 2-5 2 L 480 1-5 5 R .600 1-5 R .760 1-5 R .850	28 12 8 .20 .50 .30 .30 2 1 .400 2-5 2 1 .540 2-5 2 1 .626 1-5 8 .670 1-5 8 .736 1-5 8 .786 1-5 8 .788 .788	32 12 .10 .30 .60 .60 .4 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5	32 12 12 10 40 45 4 4 5 4 4 1 400 2-5 5 8 490 2-5 5 8 626 1-5 5 8 772 1-5 5 8 772 1-5 8 8 772 1-5 8 8 772 1-5 8 8 772 1-5 8 8 8 8 8 8 8 8 8 8 8 8 8	32 12 10 45 45 4 4-5 4 1 360 2-5 2 1 600 1 5 5 8 8 756 1-5 8 756 1-5 8 756 1-5 8 756 1-5 8 756 1-5 8 8 756 1-5 8 8 8 8 8 8 8 8 8 8 8 8 8	32 12 .10 .50 .40 2-3 2 L .400 2-5 2 2 L .626 2-5 2-5 2 L .626 2-5 740 1-5 5 R .740 1-5 5 R .783 .795	32 12 12 12 12 20 30 50 4-5 4 L 400 2-5 5 R .480 2-5 5 R .586 1-5 5 R .680 1-5 5 R .744 1-5 8 .744 1-5 8 .744 1-5 8 .745 .745 8 .745 .745 8 .745 8 .745 8 .745 8 .745 8 .745 8 .745 8	32 12 .20 40 .40 .40 .40 .5 4 L .320 2-5 2 L .400 2-5 2 L .534 1-5 5 R .640 1-5 5 R .712 1-5 6 R .782	32 12 12 12 .20 .50 .30 2 .3 2 L .400 1-3 3 R .490 2-5 2 L .586 2-5 1 L .680 1-5 1 L .733 1-5 1 L .800	36 12 16 .10 .30 .60 4-5 4 L .480 4-5 5 R .640 1-5 5 R .772 1-5 5 R .810 1-5 R .810

METHOD OF CONVERTING HEAVY MOTOR VEHICLE LOADS

TABLE 7.7 (Continued)

			Continue									
	uck N		51	52 36	53	54	55	56	57	58	59	60_
$\frac{\mathbf{W}}{\mathbf{A}}\mathbf{x}$	n. Bas	X		12	36 12	36 12	36 12	36 12	12	12	12	12
Sp	acing	X'	16	16	16	16	16	16	20	20	20	20
Lo: On		a 1 a 2	.10 .40	.10 .45	$.10 \\ .50$.20 .30	.20 .40	.20 .50	.10 .30	.10 .40	.10 .45	.10 $.50$
Ax	les	a:	.50	.45	.40	.50	.40	.30	.60	.50	.45	.40
		G N	$^{\mathbf{4-5}}_{4}$	$^{4-5}_{4}$	$\substack{2-3\\2}$	$^{\mathbf{4-5}}_{4}$	$^{4-5}_4$	$\frac{2-3}{2}$	$\substack{4-5\\4}$	$\substack{4-5\\4}$	$egin{array}{c} 4-5 \ 4 \end{array}$	$^{2-3}_2$
	10	$_{ m V}^{ m E}$.400	$_{.360}^{ m L}$	$\frac{1}{400}$	$_{.400}^{ m L}$	$^{ m L}_{.320}$	L .400	.480	$_{.400}^{ m L}$	$^{ m L}_{.360}$	$_{.400}^{ m L}$
		G	4 5	1-3	13	4-5	1.3	1 3	45	45	1-3	1-3
	20	$_{ m E}^{ m N}$	$^4_{ m L}$	$^3_{ m R}$	$^3_{ m R}$	$^4_{ m L}$	$^3_{ m R}$	3 R	4 L	$^{4}_{ m L}$	3	$^3_{ m R}$
		V	.450	.425	.470	.450	.400	.490	.540	.450	.425	.470
		G N	$\frac{2-5}{5}$	$^{2-5}_2$	2.5 2	$\frac{2}{5}$	$\begin{smallmatrix}2&5\\2\end{smallmatrix}$	$\frac{1}{3}$	$\begin{array}{c} 2-5 \\ 5 \end{array}$	$_{5}^{2-5}$	$egin{smallmatrix} 2 & 5 \ 2 \end{matrix}$	$^{2-5}_2$
	30	\mathbf{E}	$^{ m R}_{.573}$	$_{.540}^{\mathrm{I}}$	$_{.573}^{\mathbf{L}}$	$^{ m R}_{.546}$	$^{ m L}_{.480}$	R .560	$_{.600}^{ m R}$	$^{ m R}_{.520}$	$_{.480}^{ m L}$	$_{.520}^{ m L}$
		G	1-5	1-5	2-5	15	1 5	25	2-5	2-5	25	2-5
et.	40	N E	$\overset{5}{\mathrm{R}}$	5 R	2 L	5 R	$^{5}_{ m R}$	$^2_{ m L}$	5 R	5 R	$^2_{f L}$	$\frac{2}{L}$
Fe		V	.665	.640	.655	.630	.580	.610	.675	.615	.585	.615
Span-Feet		G N	15 5	$_{5}^{1-5}$	2 5	1 5 5	1-5 5	$^{1-5}_{1}$	1 · 5 5	1–5 5	1 5 5	$^{2-5}_2$
\mathbf{s}	50	$_{ m V}^{ m E}$	R .732	R .712	$^{ m L}_{.704}$	$_{.704}^{\mathrm{R}}$	$^{ m R}_{.664}$	L .656	R .740	R .692	$_{.668}^{ m R}$	$_{.672}^{ m L}$
		G	15	1 5	15	1-5	15	1-5	15	1-5	1-5	2-5
	60	$_{ m E}^{ m N}$	$^{5}_{ m R}$	5 R	5 R	5 R	5 R	$_{\mathbf{L}}^{1}$	5 R	5 R	$\overset{5}{\mathbf{R}}$	$_{ m L}^2$
		V	.777	.760	.743	.753	.720	.713	.783	.743	.723	.710
		\mathbf{G} \mathbf{N}	1 -5 5	$_{5}^{1-5}$	1–5 5	1–5 5	$^{1-5}_{5}$	$_{1}^{1-5}$	$\begin{smallmatrix}1&5\\&5\end{smallmatrix}$	$^{1-5}_{5}$	$^{1-5}_{5}$	1–5 5
į	80	$_{ m V}^{ m E}$	$^{ m R}_{.833}$	$^{ m R}_{.820}$	$^{ m R}_{.808}$	R .815	R .790	$^{ m L}_{.785}$.838	R .808	R .793	.778
		G	1-5	1-5	1.5	1 5	1 5	1-5	1-5	1 5	1-5	1-5
	100	N E	$^{5}_{ m R}$	$^{5}_{ m R}$	5 R	$^{5}_{ m R}$	$^{5}_{ m R}$	$^{1}_{ m L}$	${f R}^5$	5 R	$^{5}_{ m R}$	$^{5}_{ m R}$
		<u>v</u>	.866	.856	.846	.852	.832	.828	.870	.846	.834	.822
	uck N		61	62	63	64	65	66	67	68	69	70
W	ı. Bas	e L	40	62 40 12	63 40 12	64 44 12	65 44 12	66 44 12	67 44 12	44	44	44
Ax Spa	n. Bas le acing	e L X X'	12 20	12 20	40 12 20	12 24	12 24	12 24	12 24	12 24	12 24	12 24
Ax Spa Loa On	n. Base le acing ad	X X' a ₁ a ₂	12 20 .20 .30	12 20 .20 .40	40 12 20 .20 .50	12 24 .10 .30	12 24 .10 .40	12 24 .10 .45	12 24 .10 .50	12 24 .20 .30	12 24 .20 .40	12 24 .20 .50
Wh Ax Spa Loa	n. Base le acing ad	e L X X' a ₁ a ₂ a ₃	.20 .20 .30 .50	12 20 .20 .40 .40	40 12 20 .20 .50 .30	12 24 .10 .30 .60	12 24 .10 .40 .50	12 24 .10 .45 .45	.10 .50 .40	44 12 24 .20 .30 .50	12 24 .20 .40 .40	12 24 .20 .50 .30
Ax Spa Loa On	n. Base le acing ad les	e L X X' a ₁ a ₂ a ₃ G N	.20 .20 .30 .50 .4–5	12 20 .20 .40 .40 4-5	40 12 20 .20 .50 .30 2 3	44 12 24 .10 .30 .60 4-5	12 24 .10 .40 .50	44 12 24 .10 .45 .45	.10 .50 .40 2-3 2	44 12 24 .20 .30 .50 4 5	44 12 24 .20 .40 .40 .40	12 24 .20 .50 .30 2-3 2
Ax Spa Loa On	n. Base le acing ad	e L X X' a ₁ a ₂ a ₃ G	12 20 .20 .30 .50 4-5	12 20 .20 .40 .40 4-5	40 12 20 .20 .50 .30 2 3	12 24 .10 .30 .60 4 5 4 L	12 24 .10 .40 .50	12 24 .10 .45 .45	12 24 .10 .50 .40	44 12 24 .20 .30 .50	44 12 24 .20 .40 .40 4-5	.20 .50 .30 .2-3
Ax Spa Loa On	n. Base le acing ad les	e L X X, a ₁ a ₂ a ₃ G N E V	40 12 20 .20 .30 .50 4-5 4 L .400 4-5	40 12 20 .20 .40 .40 4-5 4 L .320 1-3	40 12 20 .20 .50 .30 2 3 2 1 .400 1 3	44 12 24 .10 .30 .60 4 5 4 L .480	44 12 24 .10 .40 .50 4 5 4 L .400 4 5	44 12 24 .10 .45 .45 4 5 4 L .360	44 12 24 .10 .50 .40 2-3 2 L .400	44 12 24 .20 .30 .50 4 5 4 L .400 4 5	44 12 24 .20 .40 .40 4-5 4 L .320	12 24 .20 .50 .30 2-3 2 L .400
Ax Spa Loa On	n. Base le acing ad les	e L X X' a1 a2 a3 G N E V G N E	40 12 20 .20 .30 .50 4-5 4 L .400 4-5 4 L	40 12 20 .20 .40 .40 4-5 4 L .320 1-3 R	40 12 20 .20 .50 .30 2 I .400 1 3 R	44 12 24 .10 .30 .60 4 L .480 4-5 4 L	44 12 24 .10 .40 .50 4 5 4 L .400 4 5 4 L	44 12 24 .10 .45 .45 4 L .360 1-3 3 R	44 12 24 .10 .50 .40 2-3 2 L .400 1-3 3 R	44 12 24 .20 .30 .50 4 5 4 L .400 4 5 4 L	44 12 24 .20 .40 .40 4-5 4 L .320 1 3 R	12 24 .20 .50 .30 2-3 2 L .400 1-3 3 R
Ax Spa Loa On	n. Basele acing ad les	at at at at at at at at at at at at at a	40 12 20 .20 .30 .50 4-5 4 I .400 4-5	40 12 20 .20 .40 .40 4-5 4 L .320 1-3 3	40 12 20 .50 .30 2 3 2 1 .400 1 3 3 R .490 1-3	44 12 24 .10 .30 .60 4 5 4 L .480 4-5 4	12 24 .10 .40 .50 4 5 4 L .400 4 5 4	44 12 24 .10 .45 .45 4 5 4 L .360 1-3	44 12 24 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 1-3	44 12 24 .20 .30 .50 4 5 4 L .400 4 5	44 12 24 .20 .40 .40 4-5 4 L .320 13 3	44 12 24 .20 .50 .30 2-3 2 L .400 1-3 3
Ax Spa Loa On	n. Bassile acing ad les	a1 a2 a3 G N E V G N E V G N E V	40 12 20 .20 .30 .50 4-5 4 L .400 4-5 4 L .450 2-5 5	40 12 20 .20 .40 .40 4-5 4 L .320 1-3 3 R .400 1-3	40 12 20 .20 .50 .30 2 3 2 L .400 1 3 R .490 1-3 3	44 12 24 .10 .30 .60 4 5 4 L .480 4-5 4 L .540 3-5 5	44 12 24 .10 .40 .50 4 5 4 L .400 4 5 4 L .450 3-5	44 12 24 .10 .45 .45 .45 4 L .360 1-3 8 .425 1-3	44 12 24 .10 .50 .40 2-3 2 L .400 1-3 8 .470 1-3 3	44 12 24 .20 .30 .50 4 5 4 L .400 4 5 L .450 3-5 5	44 12 24 .20 .40 .40 4 -5 4 L .320 1 3 8 .400 1-3	24 12 24 20 .50 .30 2-3 2 L .400 1-3 3 R .490 1-3 3
Ax Spa Loa On	n. Basele acing ad les	a1 a2 a3 G N E V G N E V C C C C C C C C C C C C C C C C C C	40 12 20 .20 .30 .50 4-5 4 I. .400 4-5 4 I. .450 2.5 5 R .506	40 12 20 .20 .40 .40 4–5 4 L .320 1–3 3 R .400 1–3 3 R	40 12 20 .20 .50 .30 2 1 .400 1 3 8 .490 1-3 3 R .560	44 12 24 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 3-5 5 R	44 12 24 .10 .40 .50 4 5 4 L .40 4 5 4 L .450 3-5 5 R .480	12 24 .10 .45 .45 .45 4 .1 .360 1-3 3 R .425 1-3 8 R .426	44 12 24 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 1-3 3 R .513	44 12 24 .20 .30 .50 4 5 4 L .40 4 5 4 L .450 3-5 5 8	44 12 24 .20 .40 .40 4-5 4 L .320 1 3 8 R 400 1-3 3 R	24 12 24 .20 .50 .30 2-3 2 L .400 1-3 3 R .490 1-3 3 R
Ax Spa Loa On	n. Bassile acing ad les	a1 a2 a2 BE V G N E V G R E R E V G R E R E V G R E R E R E R E R E R E R E R E R E R	40 12 20 .30 .50 4-5 4 L .400 4-3 4 L .450 2 5 R .506	40 12 20 .40 .40 .40 .4-5 4 L .320 1-3 3 R .400 1-3 3 R .467	40 12 20 .20 .50 .30 2 3 2 1 .400 1 3 8 .490 1-3 8 .560 1 3	44 12 24 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 3-5 8 8 .570 2-5	44 12 24 .10 .40 .50 4 5 4 L .400 4 5 4 L .450 3-5 5 R R480	44 12 24 10 .45 .45 4 5 4 1 1.360 1-3 3 R .425 1-3 8 R.426	44 12 24 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 1-3 3 R .513	44 12 24 .20 .30 .50 4 5 4 L .400 4 5 4 L .450 3-5 8 R 476 2-5	12 24 24 20 .40 .40 4-5 4 L .320 1 3 R .400 1-3 2 R	24 12 24 .50 .50 .30 2-3 2 L .400 1-3 8 R .560 1-3
Write Axx Spart Loo On Ax	n. Bassile acing ad les	a1 a2 a2 GNEV GNEV GNEV GNEEV	40 12 20 .20 .30 .50 4-5 4 L .400 4-5 4 L .45 2 5 5 R	40 12 20 .20 .40 .40 .40 .41 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40	40 12 20 .20 .50 .30 2 3 2 1 .400 1 3 .8 .490 1-3 .8 .560 1 3 .8	44 12 24 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 3-5 8 R .570 2-5 5 R	44 12 24 .10 .40 .50 4 5 4 L .400 4 5 4 L .450 3-5 5 R	10 .45 .45 .45 .45 .45 .45 .4 .4 .360 1-3 .3 .R .425 .1-3 .3 .R .425 .2 .5 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2	10 10 10 10 10 10 10 10 10 10	44 12 24 .20 .30 .50 4 5 4 L .400 4 5 4 L .45 3-5 5 R 4-76 2-5 5 R	12 24 24 20 .40 .40 .40 .40 .40 .40 .40 .40 .40 .4	124 24 220 .50 .30 2 1 .400 1-3 3 R .490 1-3 3 R .560 1-3 3 R
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Write Axx Spart Loo On Ax	n. Basele acing ad les 10 20 30	B L X X X 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	40 12 20 .20 .30 .50 4-5 4 L .400 4-5 4 L .450 2 5 8 8 .506 2-5 5 R .580 1 5	40 12 20 .40 .40 .40 .41 .42 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40	40 12 20 .20 .50 .30 2 3 2 L .400 1 3 .8 .490 1-3 .8 .560 1 3 .8 .595 1 -595	44 12 24 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 3-5 5 R .570 2-5 5 R .645	44 12 24 .10 .40 .50 4 5 4 L .400 4 5 4 L .450 3-5 5 R .575 1 5	10 .45 .45 .45 .45 .45 .45 .4 .5 4 .1 .360 1-3 3 .R .425 1-3 3 .R .425 2-5 2 .L .540 1 .5	10 10 10 10 10 10 10 10 10 10	44 12 24 .20 .30 .50 .50 4 5 4 L .400 4 5 4 L .450 3-5 5 R .476 2-5 5 R .550	1 2 4 4 12 2 4 2 4 2 4 2 4 2 4 2 4 2 4 2	12 24 20 .50 .30 .30 2-3 2 L .400 1-3 3 R .490 1-3 3 R .560 1-3 3 8 .595
Ax Spa Loa On	n. Bassale acing ad les 10 20 30	9 L XX X a1 a2 a2 A3 G N E V G N E V G N E V G N E V V G N E V V C R E V V C R E V V C R E V V C R E V V C R E V V C R E V V C R E V V C R E V V C R E V V C R E V V C R E V C R E V C R E V C R E V	40 12 20 .20 .30 .30 .50 4-5 4 L .400 4-5 8 .506 2-5 R .506 2-5 R .580 1-5 R .580 1-5 R .580 1-5 R .580	40 12 20 .20 .40 .40 4-5 4 L .320 1-3 3 R .400 1-3 3 R .467 2-5 5 L .520 1-5 8 .616	40 12 20 .20 .50 .50 .30 2 3 2 1 .400 1 3 3 R .490 1-3 3 R .566 1 3 R .595 1-5 1 L .632	44 12 24 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 3-5 5 R .570 2-5 R .645 1-5 R	44 12 24 .10 .40 .50 4 5 4 L .400 4 5 4 L .450 3-5 5 R .575 1 5 8 R .652	44 12 24 .10 .45 .45 .45 4 1 .360 1-3 8 .425 1-3 8 .425 1-5 2 L .540 1 -5 8 .45 1 -5 8 .45 1 -5 1 -5 1 -5 1 -5 1 -5 1 -5 1 -5 1 -	44 12 24 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 1-3 3 R .513 2-5 2 L .555 2-5 2 L .565 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-	44 12 24 .20 .30 .50 4 5 4 L .400 4 5 4 L .450 3-5 5 R .476 2-5 R .550 1.55 8 R .550	120 .40 .40 .40 .40 .40 .40 .40 .4	12 24 20 .50 .30 2-3 2 L .400 1-3 3 R .560 1-3 3 R .560 1-3 3 R .560
Write Axx Spart Loo On Ax	n. Basele acing ad les 10 20 30	9 L XX X a1 a2 a2 A3 G N E V G N E V G N E V G N E V V G N E V V C R E V V C R E V V C R E V V C R E V V C R E V V C R E V V C R E V V C R E V V C R E V V C R E V V C R E V C R E V C R E V C R E V	40 12 20 .30 .50 4-5 4 L .400 4-5 4 L .459 2 5 5 R .506 2-5 5 R .580 1 5 8 6 8 6 8 6 8 6 8 7 8 8 8 8 8 8 8 8 8 9 8 9 8 9 8 9	40 12 20 .40 .40 .40 .41 .42 .40 .40 .40 .40 .40 .40 .40 .40 .40 .40	40 12 20 .20 .50 .30 2 3 2 I400 1 3 3 R .490 1 -3 3 R .560 1 3 8 R .595 1 L .632 1 -5	44 12 24 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 3-5 5 R .570 2-5 R .645 1-5 R	44 12 24 .10 .40 .50 4 5 4 L .400 4 5 4 L .450 3-5 5 R .575 1 5 8 R .652	10 44 12 24 10 45 45 45 45 45 41 360 1 3 R 425 1 3 R 425 1 5 540 1 5 5 R 624 1 5	44 12 24 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 1-3 3 R .513 2-5 2 L .555 2-5 2 L .565 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-	44 12 24 .20 .30 .30 .50 4 5 4 L .400 3-5 5 R .476 2-5 5 R .550 1 5 8	12 24 24 24 20 .40 .40 .40 .40 .40 .4 .5 4 L .320 1 3 3 R .400 1-3 3 R .500 1 5 5 R .568 1 .568 1 .55	12 24 20 .50 .30 2-3 2 L .400 1-3 3 R .560 1-3 3 R .595 1-3 3 R .595
Write Axx Spart Loo On Ax	n. Basele acing ad les 10 20 30	9 L X X A1 A2 A2 A3 GN EV EV GN EV GN EV EV GN EV EV EV GN EV EV EV EV EV EV EV EV EV E	40 12 20 .20 .30 .50 4-5 4 L .400 4-5 4 L .450 2 5 5 R .506 2-5 5 R .580 1 5 8 6 64 1 5 8 R .586 1 5 8 R .586 1 5 8 R .586 8 R .58	40 12 20 .20 .40 .40 .40 .41 .320 1-3 3 R .400 1-3 3 R .467 2-5 2 1 .520 1-5 5 R R 616 1-5 5 R	40 12 20 .20 .50 .50 .30 .30 2 3 2 L .400 1 3 3 R .490 1 -3 3 R .566 1 3 R .595 1 L L L L L L L L L L L L L L L L L L L	44 12 24 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 3-5 5 R .570 2-5 5 R .045 1-5 8 R .045 1-5 1-5 1-5 1-5 1-5 1-5 1-5 1-5 1-5 1-	44 12 24 .10 .40 .50 4 5 4 L .400 4 5 4 L .450 3 - 5 8 R .480 2 5 5 R .575 1 5 R R.575 1 5 R	44 12 24 .10 .45 .45 .45 .45 .4 .1 .360 1-3 .8 .425 1-3 .8 .425 2 .2 .5 40 .1 .5 .6 .6 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7	44 12 24 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 1-3 3 R .513 2-5 2 L .555 2-5 2 L .566 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	44 12 24 .20 .30 .50 4 5 4 L .400 4 5 4 L .450 3-5 5 R .476 2-5 5 R .580 .590 1 5 8 R	120 .40 .40 .40 .40 .40 .40 .45 .4 .40 .1-3 .3 .8 .400 .1-3 .3 .8 .467 .1-3 .3 .8 .50 .1 .5 .5 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	12 24 20 .50 .30 .30 2-3 2 L .400 1-3 3 R .560 1-3 3 R .595 1-3 8 .616 1-5 1 L
Write Axx Spart Loo On Ax	n. Basile accing ad less 10 20 30 40 50	9 L X X A1 A2 A3 A3 C N E V C N C N E V C N C N C N C N C N C N C N C	40 12 20 .20 .30 .30 .50 4-5 4 L .400 4-5 5 R .506 2-5 8 .580 1-5 8 R .664 1-5 8 .720	40 12 20 .20 .40 .40 .41 .42 .42 .43 .40 .43 .40 .43 .40 .40 .43 .46 .46 .5 .5 .8 .616 .5 .8 .680 .1 .5	40 12 20 .20 .50 .50 .30 2 3 2 1 .400 1 3 3 R .490 1 -3 3 R .560 1 1 L .632 1 -5 1 L .693 1 5	44 12 24 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 3-5 5 R .570 2-5 8 .645 1-5 8 .708 1-5 8 .708	44 12 24 .10 .40 .50 4 5 4 L .400 4 5 5 R .480 2 5 8 R .575 1 5 8 R .652 1 5 8 R	12 12 14 10 15 15 16 17 18 18 18 18 18 18 18 18 18 18	44 12 24 .10 .50 .40 2-3 2 L .400 1-3 3 R .513 2-5 2 L .575 2-5 2 L .640 2-8 2 L .640 1-8 3 1-8 .640 1-80 .640 1-80 .640 1-80 .640 1-80 .640 1-80 .640 1-80 .640 1-80 .640 1-80 .640 1-80 .640 1-80 .640 1-80 .640 1-80 .640 .6	44 12 24 .20 .30 .30 4 5 4 L .400 4 5 4 L .450 3-5 5 R .476 2-5 5 R .550 1-5 5 R .624 1 5 8 .624 1 5 8 .687 1 5	124 124 120 140 140 140 140 140 151 151 155 155 155 155 155 155 155 15	12 24 20 .50 .50 2-3 2 L .400 1-3 3 R .560 1-3 3 R .566 1-3 3 R .595 1-3 1 1-5 1 1 1-5 1 1 1-5 1 1 1-5 1 1 1 1 1
Write Axx Spart Loo On Ax	n. Basile accing accing and less 10 20 30 40 50 60	9 L XX a1 a2 a3 GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V	40 12 20 .20 .30 .50 .50 4-5 4 L .400 4-5 4 L .450 2 5 5 R .506 2-5 5 R .580 1 5 5 R .664 1 5 8 .720	40 12 20 .20 .40 .40 .41 .320 1-3 3 R .400 1-3 3 R .407 2-5 2 L .520 1-5 5 R R 680 1-5 5	40 12 20 .20 .50 .50 .30 2 3 2 L .400 1 3 3 R .490 1 -3 3 R .560 1 -3 1 L L L L L L L L L L L L L L L L L L L	44 12 24 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 3-5 5 R .570 2-5 5 R .757 1-5 8 .757	44 12 24 .10 .40 .50 4 5 4 L .400 4 5 4 L .450 2 5 5 R .575 1 5 R R.575 5 R R.575 1 5 R R.710	10 .45 .45 .45 .45 .45 .45 .45 .45	44 12 24 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 1-3 3 R .513 2-5 2 L .575 2-1 .683 1 5 5	44 12 24 .20 .30 .50 4 5 4 L .400 4 5 4 L .450 3-5 5 R .476 2-5 5 R .550 1 5 8 R .687 1 5	120 .40 .40 .40 .40 .40 .40 .40 .45 .4 .40 .1-3 .3 .8 .400 .1-3 .3 .8 .467 .1-3 .3 .8 .500 .1 .5 .5 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	12 24 20 .50 .30 2-3 2 L .400 1-3 3 R .560 1-3 3 R .595 1-3 1 .595 1-5 1 L .673
Write Axx Spart Loo On Ax	n. Basile accing ad less 10 20 30 40 50	9 L XX a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV GNEV CNE	40 12 20 .20 .30 .30 .4-5 4 L .400 4-5 5 R .506 2-5 R .506 1-5 R .664 1-5 R .790	40 12 20 .20 .40 .40 .41 .320 1-3 3 R .400 1-3 3 R .467 2-5 5 R .616 1-5 5 R .680 1-5 R .760	40 12 20 .20 .50 .50 2 3 2 1 .400 1 3 3 R .490 1-3 3 R .560 1 3 R .595 1 -5 1 L .632 1 -5 1 L .693 1 5 1 L .770	44 12 24 .10 .30 .60 4-5 4 L .480 4-5 8 L .540 3-5 5 R .570 2-5 5 R .708 1-5 8 .708 1-5 .708 1-5 8	44 12 24 .10 .40 .50 4 5 4 L .400 4 5 5 R .480 2 - 5 5 R .575 5 R .652 1 5 7 R .710 1 - 5 8 R .710	12 24 .10 .45 .45 .45 .45 .45 .41 .360 1-3 .8 .425 .1-3 .8 .425 .1-3 .8 .467 .2-5 .2 .L .540 .1 5 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	10 3 44 12 24 1.10 1.50 1.40 1.3 3 R 1.513 1.55 2 L 1.640 1.55 R 1.748 1.57 8 R 1.748 1.748 1.57 8 R 1.748 1.57 8 R 1.748 1.57 8 R 1.748 1.57 8 R 1.748 1.57 8 R 1.748 1.57 8 R 1.748 1.57 8 R 1.748 1.57 8 R 1.748 1.57	44 12 24 .20 .30 .50 4 5 4 L .400 4 5 4 L .450 3-5 5 R .476 2-5 5 R .550 1-5 5 R .624 1 5 8 R .624 1 5 8 R .625 8 R .626 1 5 8 R .627 8 R .628	1 2 4 4 4 12 2 4 20 40 40 40 40 40 40 40 40 40 40 40 40 40 40 13 3 R 400 1-3 3 R 467 1 3 R 568 568 1 5 R 568 1 5 R 640 1 5 R 640 1 5 R 647	12 24 20 .50 .50 .30 2-3 2 L .400 1-3 3 R .560 1-3 3 R .595 1-3 3 R .616 1-5 1 L .673
Write Axx Spart Loo On Ax	n. Basile accing accing and less 10 20 30 40 50 60	B L X X X A 1 A 2 A 2 A 2 A 2 A 2 A 2 A 2 A 2 A 2	40 12 20 .20 .30 .30 .50 4-5 4 L .400 4-5 5 R .506 2-5 5 R .664 1-5 8 .720 1-5 5 R	40 12 20 .20 .40 .40 4-5 4 L .320 1-3 3 R .400 1-3 3 R .467 2-5 5 R .616 1-5 5 R .680 1-5 5 R	40 12 20 .20 .50 .50 .30 2 3 2 L .400 1 3 8 R .490 1-3 8 R .560 1 3 8 R .595 1-5 1 L .632 1-5 1 L .693 1 5 1 L	44 12 24 .10 .30 .60 4 · 5 4 L .480 4 - 5 4 L .540 3 - 5 5 R .570 2 - 5 5 R .708 1 - 5 8 .708 1 - 5 8 .708 1 - 5 8 .708	44 12 24 .10 .40 .50 4 5 4 L .400 4 5 7 8 .480 2 5 5 8 .480 2 5 5 8 .575 1 5 8 .652 1 5 8 .710 1 5 8 .783 1 5 8 .783 1 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	10 44 112 24 10 45 4 5 4 5 4 1 360 1 3 R 425 1 3 R 425 1 3 R 467 2 5 62 4 1 5 5 R 624 1 5 5 R 687 1 5 5 R 687 1 5 5 5 R 687 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	44 12 24 .10 .50 .40 2-3 2 L .400 1-3 3 R .513 2-5 2 L .575 2-5 2 L .640 2-5 2 L .575 2-5 2 L .640 2-5 2 1 .640 2-7 2 1 .640 2-7 2 1 .640 2-7 2 1 .640 2-7 2 1 .640 2-7 2 1 .640 2-7 2 1 .640 2-7 2 1 .640 2-7 2 1 .640 2 .640 .640 2 .640 .640 2 .640 .640 .640 .640 .640 .640 .640 .640 .640 .64	44 12 24 .20 .30 .30 4 5 4 L .400 4 5 4 L .450 3-5 5 R .476 2-5 5 R .624 1 5 8 R .624 1 5 8 R .625 8 R .626 1 5 8 R .626 8 R .626 8 R .637 .637 8 R .637 8 124 124 120 140 140 140 145 14 15 180 180 180 180 180 180 180 180 180 180	12 24 20 .50 .30 2-3 2 L .400 1-3 3 R .560 1-3 3 R .595 1-3 2 L .400 1-3 1-3 1-5 1-5 1 1-5 1 1-5 1 1 1-5 1 1 1 1 1 1	
Write Axx Spart Loo On Ax	n. Basile accing accing and less 10 20 30 40 50 60	9 L XX a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV GNEV CNE	40 12 20 .20 .30 .50 .50 4-5 4 L .400 4-5 4 L .450 2 5 5 R .506 2-5 5 R .580 1 5 5 R .720 1-5 8 R .790 1 5	40 12 20 .20 .40 .40 .40 .41 .320 1-3 3 R .400 1-3 3 R .467 2-5 2 1 .520 1-5 5 R 616 1-5 5 R .680 1-5 R 7 60 1-5	40 12 20 .20 .50 .50 .30 2 3 2 L .400 1 3 8 R .490 1 -3 3 R .560 1 -3 1 L L 632 1 -5 1 L .693 1 5 1 L .770	44 12 24 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 3-5 5 R .570 2-5 5 R .645 1-5 5 R .757 1-5 8 .757 1-	44 12 24 .10 .40 .50 4 5 4 L .400 4 5 4 L .450 2 5 5 R .575 1 5 8 R.575 5 R R.710 1-5 R	10 .45 .45 .45 .45 .45 .45 .45 .45	44 12 24 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 1-3 3 R .513 2-5 2 L .5683 1-5 5 R .4748 1-5	44 12 24 .20 .30 .50 4 5 4 L .400 4 5 4 L .450 3-5 5 R .476 2-5 5 R .550 1 5 R .687 1 5 R .687 1 5 R .687 1 5 R	1 2 4 4 4 12 2 4 20 40 40 40 40 40 40 1 3 3 R 400 1 -3 3 R 467 1 -5 5 R 640 5 5 R 640 5 5 R 640 5 5 R 640 1 5 5 R 630 1 5 5 R 630 1 5 5 R 630 640 1 5 5 R 630 640 1 5 5 5 R 630 640 1 5 5 5 R 630 640 1 5 5 5 R 630 640 1 5 5 5 R 630 640 1 5 5 5 R 630 640 1 5 5 5 R 630 640 1 5 5 5 R 630 640 1 5 5 5 R 630 640 1 5 5 5 R 630 640 1 5 5 5 5 R 630 640 1 5 5 5 5 R 630 640 1 5 5 5 5 R 630 640 1 5 5 5 5 R 630 640 1 5 5 5 5 5 R 630 640 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	12 24 20 .50 .50 .30 2-3 2 L .400 1-3 3 R .560 1-3 3 R .595 1-3 3 R .616 1-5 1 L .673

TAD	RI.F	77 /	Continue	4)	E	QUIVAL	ENT LO	ADS				65
	k No		71	72	73	74		76	77	78	79	80
	Base	-	48	48	48	48	48	48	48	36	36	36
Axle		X X	12 28	12	12	12 23	12	12 23	12 28	16	16	16
Spac Loac		a ₁	,10		.10	.10	.28	.20	.20	.10	.10	.10
On		\mathbf{a}_2	.30	.40	.45	.50	.30	.40	.50	.30	.40	.45
Axle	<i>a</i> s	G G	4 5	.50 4-5		$-\frac{.40}{23}$.50 4 · 5	4.5	$\frac{.30}{2-3}$.50 4 5	4-5
	10	N	4	4	4	2	4	4	$\stackrel{2}{ ext{L}}$	4	4	4 L
	10	$_{ m V}^{ m E}$	$_{.480}^{ m L}$	$^{ m L}_{.400}$	$^{ m L}_{.360}$	$_{.400}^{ m L}$	$_{.400}^{\mathrm{L}}$	$^{ m L}_{.320}$.400	$_{.480}^{ m L}$	$_{.400}^{ m L}$.360
-		G	4-5	4-5	1 3	1-3	4-5	1-3	1-3	2_5	2 5	2-5
	20	N E	$^4_{ m L}$	4 L	$^3_{ m R}$	$^3_{ m R}$	$^4_{ m L}$	3 R	3 R	$\overset{5}{\mathrm{R}}$	5 R	$^2_{ m L}$
		V	.540	.450	.425	.470	.450	.400	.490	.570	.490	.450
		G N	$^{4-5}_4$	$^{4-5}_4$	1-3 3	$_{3}^{1-3}$	$^{4-5}_4$	$_{3}^{1-3}$	$^{1-3}_{3}$	2 5 5	$^{2}_{5}^{5}$	$_{2}^{-5}$
	30	E V	.560	$_{.467}^{ m L}$	R .467	R .513	$^{\mathrm{L}}_{.467}$	$^{ m R}_{.467}$	$^{ m R}_{.560}$	$^{ m R}_{.680}$	$_{.626}^{ m R}$	$_{.600}^{ m L}$
-		G	2-5	2-5	2-5	2 5	2-5	1-3	1-3	1-5	1 5	1-5
8	40	N E	5 R	$^{5}_{ m R}$	$_{ m L}^2$	$^2_{ m L}$	5 R	3 R	3 R	$^{5}_{ m R}$	$^{5}_{ m R}$	$^{5}_{ m R}$
ŏ	40	V	.615	.535	.495	.535	.520	.500	.595	.745	.705	.685
Span-Feet		G	1-5	1_5	15	2 5	1-5	1-5	1-3	1 - 5	1_5	1-5
ž	50	$_{ m E}^{ m N}$	5 R	$\overset{5}{\mathbf{R}}$	$\overset{5}{\mathrm{R}}$	Ĺ	5 R	$^{1}_{\mathbf{L}}$	$^3_{ m R}$	5 R	$^{5}_{ m R}$	$^{5}_{ m R}$
]_		V	.676	.612	580	.608	.584 1-5	.520		.796	764 1-5	.748 1-5
ļ		G N E	15 5	$_{5}^{1-5}$	$^{1-5}_{5}$	$\substack{2-5\\2}$	5	15 1	1- 5 1	$^{1-5}_{5}$	5	5
	60	$_{ m V}^{ m E}$	R .730	$^{ m R}_{.677}$	$^{ m R}_{.650}$	$^{\mathrm{L}}_{.657}$	$_{.653}^{ m R}$	L .600	$_{.653}^{ m L}$	$_{.830}^{ m R}$	$^{ m R}_{.803}$	R .790
		G	1-5	1-5	1-5	1-5	1 5	1-5	1-5	1-5	1-5	1-5
	80	N E	5 R	ă R	5 R	$^{5}_{ m R}$	5 R	$^{1}_{ m L}$	$^{ m I}_{ m L}$	5 R	$^{5}_{ m R}$	5 R
-	00	V	.798	.758	.738	.718	.740	.700	.740	.873	.853	.843
		G	1-5	1_5	1_5	1-5	1-5	1-5	1-5	1-5	1.5	1-5
	100	N E	$_{\mathbf{R}}^{5}$	$\overset{5}{\mathbf{R}}$	5 R	$\overset{5}{\mathbf{R}}$	$^{5}_{\rm R}$	$^{1}_{ m L}$	$^1_{f L}$	$^{5}_{ m R}$	$^{5}_{ m R}$	$\overset{5}{\mathbf{R}}$
		V	.838	.806	.790	.774	.792	.760	.792	.898	.882	.874
	k N		81	82	83	84 36	85	86	87	88	89	90
wn. Axle	Base	Y X		$-\frac{36}{16}$	- 36 16	16	16	<u>40</u> 	16	16	40 16	16
Spac	cing	χ̈́,	12	12	12	12	16	16	16	16	16	16
Loac On	d	\mathbf{a}_1	.10 .50	.20 .30	.20 .40	.20 .50	$.10 \\ .30$.10 $.40$.10 .45	.10 .50	.20 .30	$.20 \\ .40$
Axle	es	as	.40	.50	.40	.30	.60	.50	.45	.40	.50	40
		G N	$\frac{2}{2}$ 3	$^{4-5}_{4}$	4: 5 -4	$\frac{2-3}{2}$	$^{4-5}_{4}$	$^{4-5}_{4}$	45 4	$^{2-3}_{2}$	$^{4-5}_4$	4-5 4
	10	\mathbf{E}	L	L	L	L	L	L	L	L	\mathbf{L}	\mathbf{L}
		G	$\frac{.400}{2-5}$	2-5	320 	2 5	4-5	.400 4-5	$\frac{.360}{4-5}$.400 1-3	.400 4-5	.320
		N	2	5	2	2	4	4	4	3	4	4
	20	E V	L .490	R .480	.400	$_{.480}^{ m L}$	$_{.540}^{ m L}$	$_{.450}^{ m L}$	$^{ m L}_{.405}$	R .450	$_{.450}^{ m L}$	$_{.360}$
-		G	2-5	2-5	2.5	2-5	2-5	2-5	2-5	2 5	2-5	2-5
1	30	N E	$^2_{ m L}$	${f r}$	2 L	2 L	5 R	5 R	2 I.	$^2_{ m L}$	$^{5}_{ m R}$	$^2_{ m L}$
		V	.626	.586	.534	.586	.640	.573	.540	.573	.546	.480
		G N	$\frac{2}{2}$	$^{1-5}_{5}$	1. 5 5	$\frac{2}{2}$ 5	$^{2-5}_{5}$	25 5	$_{2}^{-5}$	$^{2-5}_{2}$	$^{2-5}_{5}$	$^{2-5}_{2}$
Feet	40	E	L .695	$_{.660}^{ m R}$	R .620	$_{.640}^{ m L}$	$^{ m R}_{.705}$	$_{.655}^{ m R}$	$_{.630}^{\mathbf{L}}$	$_{.655}^{ m L}$	R .610	.560
4		G	2-5	1-5	1-5	2.5	1-5	1-5		2 5	15	1-5
Spar	-0	N	2	5	5	2 5 2	5	1-5 5 R	1-5 5	2	1-5 5	1-5 5 R
"	50	$_{ m v}^{ m E}$	$^{ m L}_{.736}$	R .728	R .696	L .672	$^{ m R}_{.764}$	$\frac{R}{.724}$	$^{ m R}_{.704}$	L .704	$^{ m R}_{.688}$	$^{ m R}_{.648}$
		G	1-5	1-5	1_5	1-5	1_5	1-5	1-5	1-5	15	1 . 5
	60	N E	$\overset{5}{\mathbf{R}}$	5 R	$^{5}_{ m R}$	5 R	5 R	5 R	$\overset{5}{\mathbf{R}}$	5 R	$\overset{5}{\mathrm{R}}$	${}^{5}_{ m R}$
_		V	.777	.773	.747	.720	.803	.770		.737	.740	.707
1		G N	1~5 5	$^{1-5}_{5}$	1∵5 5	1 -5 5	$_{5}^{1-5}$	1-5 5	15 5	$\begin{smallmatrix}1&5\\&5\end{smallmatrix}$	$1\cdot 5$ 5	1–5 5
	80	E V	\mathbf{R}	R	R	R	R	R .828	R	R ,803	R	\mathbf{R}
			.833	.830	.810	.790	.853		.815		.805	.780
_			15	15	1.5	1-5	1 –5	1-5	15	1.5	1-5	15
	100	G N E	15 5 R	1-5 5 R	1 5 5 R	1-5 5 R	1.–5 5 R	1–5 5 R	15 5 R	1 5 5 R	1-5 5 R	1-5 5 R

TABLE 7.7 (Continued)

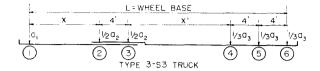
	BLE		Continue			0 '		0.2		00		100
	ick No		$-\frac{91}{40}$	92	93	94	95 44	96	97	98	99 48	$-\frac{100}{48}$
Ax		X X,	16 16	16 20	16 20	16 20	16 20	16 20	16 20	16 20	16 24	16 24
Lo		a 1	.20	.10	.10	.10	.10	.20	.20	.20	.10	.10
Ax	les	8.2 8.3	.50 .30	.30 .60	.40 .50	.45	.50 .40	.30 .50	.40 .40	.50 .30	.30 .60	.40 .50
		G N	$\begin{array}{c} 2-3 \\ 2 \end{array}$	$\begin{array}{c} 4-5 \\ 4 \end{array}$	$^{4-5}$	4-5 4	$\begin{array}{c}2-3\\2\\\mathbf{L}\end{array}$	45 4	$^{4-5}_4$	2-3 2 L	4-5 4	4-5 4
	10	$_{ m V}^{ m E}$	$_{.400}^{ m L}$	$_{.480}^{ m L}$	L .400	$^{ m L}_{360}$	$^{ m L}_{.400}$	$^{ m L}_{.400}$	$^{ m L}_{.320}$.400	$_{.480}^{ m L}$	上 .400
		G N	1-3 3	45 4	4-5 4	4-5 4	1-3	45 4	4-5 4	1-3 3	4-5 4	4-5 4
ĺ	20	E V	R .450	$_{.540}^{ m L}$	$\stackrel{f L}{ m L}$	$ m \dot{L}$ $ m .405$	R .450	$^{ m L}_{.450}$.360	R .450	Ĺ .540	L .450
ļ		G	2-5	2-5	25	2-5	2 5	25	1-3	13	3-5	3-5
	30	N E V	$\overset{2}{\mathbf{L}}\\.546$	5 R .600	5 R .520	$\overset{2}{\overset{L}{\text{L}}}_{.480}$	$^{2}_{ m L}$	5 R .506	$^{3}_{\mathrm{R}}_{.440}$	3 R .533	5 R .570	5 R .480
		G	2-5	2 5	2 5	2-5	2 5	2-5	2-5	25	2-5	2-5
eet.	40	N E	$^2_{ m L}$	$^{5}_{ m R}$	$^{5}_{ m R}$	2 L	$_{ m L}^2$	$\overset{5}{\mathrm{R}}$	$^2_{ m L}$	$_{\rm L}^2$	$^{5}_{ m R}$	$_{\rm R}^{5}$
n-Fe		V G	$\frac{.610}{2-5}$.675 1-5	.615 15	.585 1-5	.615 2-5		.520 1-5	.580 2-5	$\frac{.645}{1-5}$	<u>.575</u> 1-5
Span-Feet	50	N E	2 L	5 R	5 R	5 R	$^{2}_{ m L}$	5 R	5 R	2 L	5 R	5 R
		V	.648	.732	.684	.660	.672	.648	.600	.624	700	.644
		G N	$\frac{2}{2}$ $\frac{5}{2}$	$_{5}^{1-5}$	15 _5	1-5 5	$\begin{array}{c} 2-5 \\ 2 \end{array}$	1-5 5	1-5 5	25 2	1- 5 5	1-5 5
	60	E V	$_{.674}^{ m L}$.777	.737	R .717	.710	.707	R .667	L .654	R .750	.70 3
		G N	1∵5 5	$^{1-5}_{5}$	15 5	1-5 5	1-5 5	1-5 5	$^{1-5}_{5}$	$^{1-5}_{1}$	1 5 5	1 -5 5
	80	$_{ m V}^{ m E}$	$^{ m L}_{.755}$	$^{ m R}_{.833}$	$^{ m R}_{.803}$	R .788	R .773	$^{ m R}_{.780}$	$^{ m R}_{.750}$	L .730	R .813	.778
		G N	$^{1-5}_{5}$	$^{1-5}_{5}$	15 5	1-5 5	1-5 5	1-5 5	1-5 5	1-5 1	1-5 5	1 - 5 5
	100	E V	$_{.804}^{ m L}$	$^{ m R}_{.866}$	R .842	.830	R .818	R .824	Ř .800	Ĺ .784	R .850	Ř .822
Tri	ick No	Э,	101	102	103	104	105	106	107	108	109	110
W	. Base	e L	48	48	48	48	48	52	52	52	52	52
Wh Ax Spa	. Base le icing	L X X'	48 16 24	48 16 24	48 16 24	48 16 24	48 16 24	52 16 28	52 16 28	52 16 28	52 16 28	52 16 28
Wh Ax Spa Loa On	i. Base le icing id	X X X' a ₁ a ₂	48 16 24 .10 .45	48 16 24 .10 .50	16 24 .20 .30	48 16 24 .20 .40	48 16 24 .20 .50	52 16 28 .10 .30	52 16 28 .10 .40	52 16 28 .10 .45	52 16 28 .10 .50	52 16 28 .20 .30
Wh Ax Spa Loa	i. Base le icing id	2 L X X' a1	48 16 24 .10	48 16 24 .10 .50 .40	16 24 .20	48 16 24 .20	48 16 24 .20 .50 .30 2-3	52 16 28 .10	52 16 28 .10	52 16 28 .10	52 16 28 10 .50 .40 2-3	52 16 28 .20
Wh Ax Spa Loa On	i. Base le icing id	X X' a ₁ a ₂ a ₃	48 16 24 .10 .45 .45	48 16 24 .10 .50 .40	.20 .30 .50	48 16 24 .20 .40 .40	48 16 24 .20 .50 .30	52 16 28 .10 .30 .60	52 16 28 .10 .40 .50	52 16 28 .10 .45 .45	52 16 28 10 .50 .40 2-3 2	52 16 28 .20 .30 .50
Wh Ax Spa Loa On	le le le le le le le le le le le le le l	a ₁ a ₂ a ₃ G N E V	48 16 24 .10 .45 .45 4 5 4 L	48 16 24 .10 .50 .40 2-3 2 1, .400	48 16 24 .20 .30 .50 4–5 4 L	16 24 .20 .40 .40 4-5 4 L .320	48 16 24 .20 .50 .30 2-3 2 L	52 16 28 .10 .30 .60 4-5 4 L	52 16 28 .10 .40 .50 4-5 4 I	52 16 28 .10 .45 .45 4 -5 4 L 360	52 16 28 10 50 40 2-3 2 L	52 16 28 .20 .30 .50 4-5 4 L
Wh Ax Spa Loa On	a. Base le acing ad les	X X X' a1 a2 a3 G N E V	48 16 24 .10 .45 .45 4 5 4 1 .360 4-5 4	48 16 24 .10 .50 .40 2-3 2 I .400 1-3 3	48 16 24 .20 .30 .50 4-5 4 L .400 4-5 4	48 16 24 .20 .40 .40 4-5 4 L .320 4-5 4	48 16 24 .20 .50 .30 2-3 2 1 .400 1-3 3	52 16 28 .10 .30 .60 4-5 4 L .480 4-5 4	52 16 28 .10 .40 .50 4-5 4 .400 4-5	52 16 28 .10 .45 .45 .45 4 L 360 4 5	52 16 28 .10 .50 .40 2-3 2 L .400	52 16 28 .20 .30 .50 4-5 4 .400 4-5 4
Wh Ax Spa Loa On	le le le le le le le le le le le le le l	a1 a2 a3 G N E V G N E V	48 16 24 .10 .45 .45 4 L .360 4-5 4 L .405	48 16 24 .10 .50 .40 2-3 2 I. .400 1 3 3 R	48 16 24 .20 .30 .50 4-5 4 L .400 4-5 4 L .450	48 16 24 .20 .40 .40 4-5 4 L .320 4-5 4 L	48 16 24 .20 .50 .30 2-3 2 L .400 1-3 3 R .450	52 16 28 .10 .30 .60 4-5 4 L .480 4-5 4 L .540	52 16 28 .10 .40 .50 4-5 4 I. .400 4-5 4 L. .450	52 16 28 .10 .45 .45 4 L 360 4 5 4 1 .405	52 16 28 10 50 .40 2-3 2 L .400 1-3 3 R .450	52 16 28 .20 .30 .50 4-5 4 L .400 4-5 4 L .450
Wh Ax Spa Loa On	l. Base le acing ad les 10	X X X' a1 a2 a3 G N E V G N E V	48 16 24 .10 .45 .45 .45 4 L .360 4-5 4 L .405	48 16 24 .10 .50 .40 2-3 2 1, .400 1 3 R .450 1-3 3	48 16 24 .20 .30 .50 4–5 4 L .400 4–5 4 L .450 3–5 5	48 16 24 .20 .40 .40 .40 4 L .320 4-5 4 L .360 1-3 3	48 16 24 .20 .50 .30 2-3 2 L .400 1-3 3 R .450 1-3 3	52 16 28 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 4-5	52 16 28 .10 .40 .50 4-5 4 1 .400 4-5 4 L .450 4-5 4-5	52 16 28 .10 .45 .45 .45 4–5 4 L 360 4 5 4 L .405	52 16 28 10 .50 .40 2-3 2 L .400 1-3 3 R .450 1-3 3	52 16 28 20 .30 .50 4-5 4 L .400 4-5 4 L .450 4-5 4
Wh Ax Spa Loa On	a. Base le acing ad les	X X X A 1 A 2 A 3 G N E V G N E V G N E V C G N E V	48 16 24 .10 .45 .45 .45 .4 .1 .360 4-5 4 .4 .405 1-3 3 R .453	48 16 24 .10 .50 .40 2-3 2 1, .400 1 3 8 .450 1-3 3 R .500	48 16 24 .20 .30 .50 4–5 4 .40 4–5 4 .450 3–5 5 R .476	48 16 24 .20 .40 .40 4-5 4 L .320 4-5 4 L .360 1-3 3 R .440	48 16 24 .20 .50 .30 2-3 2 L .400 1-3 3 R .450 1-3 3 R	52 16 28 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 4-5 4 L .560	52 16 28 .10 .40 .50 4–5 4 I. .400 4–5 4 L. .450 4–5 4 L. .450 4–6 4–7 L. .460 .400	52 16 28 .10 .45 .45 .45 4 .40 4 5 4 5 .40 .40 .40 .40 .40 .40 .40 .40	52 16 28 10 .50 .40 2-3 2 L .40 1-3 3 R .450 1-3 3 R .50	52 16 28 20 .30 .50 4-5 4 L .400 4-5 4 L .450 4-5 4 L .450
WITAX Specification of the control o	l. Base le acing ad les 10	AT A S A S A S A S A S A S A S A S A S A	48 16 24 .10 .45 .45 .45 .45 .45 .40 .40 .45 .40 .45 .40 .45 .45 .45 .45 .45 .45 .45 .45	48 16 24 .10 .50 .40 .40 .40 .400 .3 .400 .3 .8 .450 .1-3 .8 .8 .8 .9 .9 .9 .9 .9 .9 .9 .9 .9 .9	48 16 24 .20 .30 .50 .50 4-5 4 L .400 4-5 4 L .450 3-5 8 R .476 2-5 5	48 16 24 .20 .40 .40 .40 4-5 4 L .320 4-5 4 L .360 1-3 3 R .440 2 5 2 5	48 16 24 .20 .50 .50 2-3 2 L .400 1-3 3 H .533 1 3 3 1 3	52 16 28 .10 .30 .60 .60 4-5 4 L .480 4-5 4 L .540 4-5 4 L .540 2-5 5	52 16 28 .10 .40 .50 4-5 4 1. .400 4-5 4 L. .450 4-5 4 L. .467 2-5	52 16 28 .10 .45 .45 4 L .405 1 3 .8 .453 2-5	52 16 28 10 .50 .40 2-3 2 L .400 1-3 3 R .450 1-3 3 R .500 2-3 2-3 2-3 2-3 3 8 .400 1-3 3 8 .400 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1-3	52 16 28 .20 .30 .50 4-5 4 L .400 4-5 4 L .450 4-5 4 L .450 -5 4 L .50 .50 .50 .50 .50 .50 .50 .50
WITAX Specification of the control o	l. Base le acing ad les 10	A L X X Y A 1 A 2 A 3 A 3 B C Y C G N E V C G N E V C G N E V C G N E V C G N E V C G N E C Y C G N E C Y C G C T C T C T C T C T C T C T C T C T	48 16 24 .10 .45 .45 .45 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4	48 16 24 10 .50 .40 2-3 2 1 .400 1 3 3 R .450 1 3 3 R .500	48 16 24 .20 .30 .50 4-5 4 L .400 4-5 4 L .450 3-5 R .476 2-5	48 16 24 .20 .40 .40 .40 .40 .40 .40 .40 .4	48 16 24 .20 .50 .30 2-3 2 L .400 1-3 3 R .450 1-3 3 1 3	52 16 28 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 4-5 4 L .560	52 16 28 .10 .40 .50 4-5 4 1 .400 4-5 4 1 .450 4-5 4 1 .456 4-5 4-5 4-6 4-6 4-7 4-7 4-7 4-7 4-7 4-7 4-7 4-7	52 16 28 .10 .45 .45 .45 4 .40 4 5 4 5 .40 .40 .40 .40 .40 .40 .40 .40	52 16 28 10 .50 .40 2-3 2 L .400 1-3 3 R .450 1-3 3 R .50 .400 1-5 1-5 1-5 1-5 1-5 1-5 1-5 1-5	52 16 28 20 30 50 4-5 4 4 400 4-5 4 L 450 4-5 4 L 450 4-5 4 L 450 4-5 4-5 4-5 4-5 4-5 4-5 4-5 4-5
WITAX Specification of the control o	les 10 20	2 L X X X / a1 a2 a3 a3 G N E V G G N E V G G N E V G G N E V G G N E V G G N E V G G N E V G G N E C V G C	48 16 24 .10 .45 .45 .45 .45 .45 .40 .40 .40 .40 .40 .40 .40 .40	48 16 24 .10 .50 .40 2-3 2 1, .400 1-3 3 R .450 2-5 2-5 2-5	48 16 24 .20 .30 .50 4-5 4 L .400 4-5 4 L .450 3-5 8 .476 2-5 8 .50 .50 .50 .50 .50 .50 .50 .50	48 16 24 20 .40 .40 .40 .40 .40 .40 .40 .4	48 16 24 20 .50 .30 2-3 2 L .400 1-3 3 R .533 1 3 8 .533 1 3 .533	52 16 28 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 4-5 4 L .560 2-5 R .615	52 16 28 .10 .40 .50 4-5 4 1 .400 4-5 4 L .450 4-5 4 L .467 2-5 R .58 .58 .58 .59 .59 .59 .59 .59 .59 .59 .59	52 16 28 .10 .45 .45 .45 .45 .40 .40 .40 .13 .13 .140 .13 .140	52 16 28 .10 .50 .40 2-3 2 L .400 1-3 3 R .450 1-3 3 R .500 2-5 2 L .50 .50 .50 .50 .50 .50 .50 .50	52 16 28 20 30 30 4-5 4 L 400 4-5 4 L 450 4-5 4 L 467 2-5 R 520 30 4-5 4 54 54 54 54 54 54 54 54 54
Wh Ax Spa Loa On	les 10 20	A L X X X A I A I A I A I A I A I A I A I A	48 16 24 .10 .45 .45 .45 .45 .45 .40 .40 .40 .40 .40 .40 .40 .40	48 16 24 .10 .50 .40 2-3 2 1 .400 1 3 3 R .450 1-3 3 R .500 2 5 2 L .575 2 L .575 2 L .575	48 16 24 .20 .30 .50 .50 .50 .50 .50 .60 .60 .60 .60 .60 .60 .60 .6	48 16 24 20 .40 .40 .40 .40 .40 .40 .40 .4	48 16 24 .20 .50 .30 2-3 2 L .400 1-3 3 R .533 1 3 R .575 2-5 2 L	52 16 28 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 4-5 4 L .540 2-5 5 R	52 16 28 .10 .40 .50 4-5 4 1 .400 4-5 4 L .450 4-5 4 L .467 2-5 R .535 .535 .545	52 16 28 .10 .45 .45 .45 .40 .40 .13 .R .40 .40 .13 .R .45 .40 .45 .44 .40 .45 .45 .45 .45 .45 .45 .45 .45	52 16 28 10 .50 .40 2-3 2 L .400 1-3 3 R .450 1-3 3 R .500 2-5 2 L .50 2 L .40 1-3 2 1-3 2 1-4 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1-3	52 16 28 .20 .30 .50 4-5 4 L .400 4-5 4 L .450 4-5 4 L .467 2-5 8 R .50
WITAX Specification of the control o	le Basele acing ad les 10 20 30 40	E L X X a1 a2 a3 G N E V G N E V G N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G C G C G C G C G C G C G C G C G C	48 16 24 10 .45 .45 .45 .45 .45 .4 L .360 4-5 4 L .405 1-3 3 R .45 2-5 2 L .540 1-5 1-5 1-5 1-5 1-5 1-5 1-5 1-5	48 16 24 .10 .50 .40 2-3 2 1 .400 1 3 3 R .450 1-3 3 R .500 2 5 2 L .575 2 L .575 2 L .575	48 16 24 .20 .30 .50 4-5 4 L .400 4-5 4 .45 .55 .55 .55 .55 .68 .68	48 16 24 .20 .40 .40 .40 .40 .40 .40 .320 .320 .360 .38 .8 .440 .25 .25 .25 .25 .360 .3	48 16 24 .20 .50 .50 .30 .30 .31 .400 1-3 3 R .460 1-3 3 R .575 2 L .600 2-5	52 16 28 30 .30 .60 4-5 4 L .480 4-5 4 L .540 2-5 5 R .615 2-5 5 R .615	52 16 28 .10 .40 .50 4-5 4 1. .400 4-5 4 L .450 4-5 4 L .450 4-5 8 .535 2-5 5 R .608	52 16 28 .10 .45 .45 .45 .45 .4 .45 .4 .405 .1 .405 .1 .405 .2 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4	52 16 28 10 .50 .40 2-3 2 L .400 1-3 3 R .500 2-5 2 L .535 2-5 2 L .608 2-5	52 16 28 20 30 30 4-5 4 L 400 4-5 4 L 450 4-5 4 L 467 2-5 8 8 5 8 8 8 8 8 8 8 8 8 8 8 8 8
WITAX Specification of the control o	le Basele acing ad les 10 20 30 40	2 L	48 16 24 10 .45 .45 .45 .45 .45 .45 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4	48 16 24 .10 .50 .40 .50 .40 1.3 3 R .450 1.3 3 R .500 2.5 2 L .575 2.5 2 L 640 2.5 2 L	48 16 24 220 30 .50 4-5 4 L .400 4-5 4 L .450 3-5 5 R .550 1-5 5 R .608 1-5 8 8 8 1-5 8 8 8 8 8 8 8 8 8 8 8 8 8	48 16 24 .20 .40 .40 .40 .40 .40 .40 .320 4-5 4 L .360 1-3 3 R .440 2 5 2 L .480 1-5 5 R .552 1-5 8	48 16 24 .20 .50 .30 .30 2-3 2 L .400 1-3 3 R .533 1 3 8 .533 1 3 8 .575 2-5 2 L .600 2-5 2 L .600 2-5 2 L .600 1-6 2 1 1 1 1 1 1 1 1 1 1 1 1 1	52 16 28 30 .60 .60 .60 .60 .60 .60 .60 .6	52 16 28 .10 .40 .50 4-5 4 I. .400 4-5 4 L. .450 4-5 4 L. .467 2-5 5 R. .585 .59	52 16 28 .10 .45 .45 .45 .45 .40 .45 .40 .40 .40 .40 .40 .40 .40 .40	52 16 28 10 .50 .40 2-3 2 L .400 1-3 3 R .450 1-3 3 R .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 2 2 2 2 2 2 2 2 2 2 2 2	52 16 28 20 30 30 4-5 4 L 400 4-5 4 L 450 4-5 8 1 2-5 5 8 8 8 8 8 8 8 8 8 8 8 8 8
WITAX Specification of the control o	i. Bassele leading ad les 10 20 30 40 50	E L X X a1 a2 a3 G N E V G N E V G N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G C G C G C G C G C G C G C G C G C	48 16 24 .10 .45 .45 .45 .45 .45 .45 .405 .1-3 .3 R .453 .2-5 .5 R .616 .616 .68 .68 .68 .68	48 16 24 .10 .50 .40 .2-3 2 I .400 1.3 3 R .500 2.5 2 L .575 2-5 2 L .640 2-5 2 L .683 1-5	48 16 24 .20 .30 .50 4-5 4 L .400 4-5 5 R .476 2-5 5 R .608 1-5 5 R .673	48 16 24 20 .40 .40 .40 .40 .40 .40 .40 .4	48 16 24 .20 .50 .50 .50 .50 .50 .50 .50 .50 .50 .5	52 16 28 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 4-5 4 L .560 2-5 8 .615 2-15 8 .672 1-6 7 8 .672 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7	52 16 28 .10 .40 .50 4-5 4 1. .400 4-5 4 L. .450 4-5 8 2-5 8 8 .608 1-5 8 .608	52 16 28 .10 .45 .45 .45 .45 .4 .405 .1 .8 .405 .1 .8 .45 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4	52 16 28 .10 .50 .40 2-3 2 L .400 1-3 3 R .450 1-3 3 R .500 2-5 2 L .608 2-5 2 L .608 2-5 2 L .608 2-5 2 L .608 2-5 2 L .608 2-5 2 2 2 2 2 2 2 2 2 2 2 2 2	52 16 28 .20 .30 .50 4-5 4 L .400 4-5 4 L .450 4-5 5 8 .520 2-5 5 R .576 1-5 8 .640
WITAX Specification of the control o	i. Bassele leading ad les 10 20 30 40 50	A L X X X X X X X X X X X X X X X X X X	48 16 24 .10 .45 .45 .45 .45 .45 .40 .40 .40 .40 .40 .40 .40 .40	48 16 24 .10 .50 .40 2-3 2 1 .400 1 3 8 .450 1-3 3 R .500 2 5 2 L .575 2-5 2 L .640 2-5 2 L .683 1-5 5 R	48 16 24 .20 .30 .30 .4-5 4 L .400 4-5 4 L .450 3-5 5 R .550 1 5 6 R .608 1-5 5 R .613 1 5 5 R	48 16 24 .20 .40 .40 .40 .40 .40 .40 .40 .4	48 16 24 .20 .50 .50 .30 .30 .30 .30 .30 .30 .30 .30 .30 .3	52 16 28 .10 .30 .30 .4-5 4 L .480 4-5 4 L .540 4-5 4 L .540 2-5 5 R .615 2-5 5 R .672 1-5 R .723 1-6 8 R	52 16 28 .10 .40 4-5 4 1. .400 4-5 4 4. .450 4-5 4. 4. 4. 4. 4. 4. 5. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8	52 16 28 .10 .45 .45 .45 .45 .40 .40 .75 .87 .405 .75 .75 .75 .75 .75 .75 .75 .7	52 16 10 .50 .40 2-3 2 L .400 1-3 3 R 500 2-5 2 L .535 2-5 2 L .608 2-5 2 L .608 2-5 2 L .608 2-5 2 L .608 2-5 2 L .608 2-5 2 L .608 2-5 2-5 2 L .608 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	52 16 28 .20 .30 .30 4-5 4 L .400 4-5 4 L .450 4-5 8 .576 1-5 R .576 1-5 R .640 1-5 R
WITAX Specification of the control o	1. Basele le encing ad les 10 20 30 40 50 60	Z L X X X A1 A2 A3 A3 G NEV G NEV G NEV G NEV G NEV G NEV C NE V G NE V	48 16 24 .10 .45 .45 .45 .45 .45 .40 .40 .40 .40 .40 .40 .40 .40	48 16 24 .10 .50 .40 .400 1-3 3 R .450 1-3 3 R .500 2 5 2 L .575 2-5 2 L .640 2-5 2 L .683 1-5 8 R .743	48 16 24 .20 .30 .50 .50 .50 .50 .50 .50 .50 .60 .50 .60 .60 .60 .60 .60 .60 .60 .6	48 16 24 20 40 40 40 40 40 40 40 40 40 4	48 16 24 20 .50 .50 .30 2-3 2 L .400 1-3 3 R .533 1 3 R .575 2 L .600 2-5 2 L .634 1-5 1 1 .715	52 16 28 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 4-5 8 .540 2-5 8 .615 7 8 .672 1-5 8 .793	52 16 28 .10 .40 .50 4-5 4 1400 4-5 4 L .450 4-5 8 .535 5 R .608 1-5 8 .608 1-5 8 R .6753	52 16 28 .10 .45 .45 .45 .45 .405 .13 .13 .1405 .13 .1405 .1405 .1405 .1576	52 16 28 .10 .50 .40 .40 1-3 3 R .450 1-3 3 R .500 2-5 2 L .535 2-5 2 L .608 2-5 2 L .500 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	52 16 28 .20 .30 .50 .50 .50 .50 .50 .50 .50 .5
WITAX Specification of the control o	1. Basele le accing ad les 10 20 30 40 50 60 80	Z L X X a1 a2 GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V	48 16 24 .10 .45 .45 .45 .45 .45 .40 .40 .40 .40 .40 .40 .40 .40	48 16 24 .10 .50 .40 .40 .40 .40 .3 2 .1 .400 .3 3 R .500 .575 .2 .575 .2 .575 .2 .640 .683 .1 .5 R .743 .55	48 16 24 .20 .30 .30 .4-5 4 L .400 4-5 4 L .450 3-5 5 R .476 2-5 5 R .608 1-5 R .608 1-5 F R .608 1-5 T R .613 1-5 T R .755	48 16 24 20 .40 .40 .40 .40 .40 .40 .40 .4	48 16 24 .20 .50 .50 .30 2-3 2 L .400 1-3 3 R .533 1 3 R .5533 1 .575 2-5 2 L .600 2-5 1 .634 1-5 1 1.715 1-5 1	52 16 28 .10 .30 .60 4-5 4 L .480 4-5 4 L .540 4-5 4 L .560 2-5 5 R .672 1-5 5 R .723 1-5 8 .793 1-5 8	52 16 28 .10 .40 .40 4-5 4 1. .400 4-5 4 4. .450 4-5 4. .467 2-5 8. 8. 8. 8. 8. 8. 8. 8. 8. 8.	52 16 28 .10 .45 .45 .45 .45 .40 .45 .40 .40 .40 .40 .40 .40 .40 .40	52 16 10 .50 .40 2-3 2 L .400 1-3 3 R 500 2-5 2 L .608 2-5 2 L .608 2-5 2 L .608 2-5 2 L .607 2-5 2 L .607	52 16 28 .20 .30 .50 4-5 4 L .400 4-5 4 L .450 4-5 8 .576 1-5 8 .576 .577 .576 .577 .577 .577 .5776 .5776 .5776 .5776 .5776 .5776 .5776 .5776 .5776
WI Ax Spa Los On Ax	1. Basele le encing ad les 10 20 30 40 50 60	Z L X X X A1 A2 A3 A3 G NEV G NEV G NEV G NEV G NEV G NEV C NE V G NE V	48 16 24 10 45 45 45 45 45 46 45 46 47 48 49 40 40 40 40 40 40 40 40 40 40	48 16 24 .10 .50 .40 .50 .40 1-3 3 R .450 2-5 2 L .575 2-5 2 L .683 1-5 8 .743 1-5	48 16 24 .20 .30 .50 4-5 4 L .400 4-5 4 L .450 3-5 8 .476 2-5 5 R .550 1 5 8 .673 1 5 8 .755 1 1-5	48 16 24 20 .40 .40 .40 .40 .40 .40 .320 4-5 4 L .360 1-3 3 R .440 2 5 2 L .480 1-5 R .55 2 R .627 1-5 R .720 R .720 R .720 R .720 R .720 R .720 R .720 .720 R .720	48 16 24 20 .50 .30 2-3 2 L .400 1-3 3 R .450 1-3 3 R .533 1 3 R .575 2-5 2 L .600 2-5 2 L .634 1-5 1 1.5 7.15	52 16 28 30 .60 .60 .60 .60 .60 .60 .60 .6	52 16 28 .10 .40 .50 4-5 4 1400 4-5 4 L .450 4-5 8 .535 2-5 8 .635 1-5 8 .670 1-5 8 7 5 8 7 1-5 8 7 1-5 8 7 1-5	52 16 28 .10 .45 .45 .45 .45 .40 .45 .40 .40 .40 .40 .40 .40 .40 .40	52 16 28 10 .50 .40 2-3 2 L .400 1-3 3 R .450 1-3 3 R .500 2-5 2 L .535 2-5 2 L .657 2-5 2 L .737 .748 .749	52 16 28 .20 .30 .50 4-5 4 L .400 4-5 4 L .450 4-5 5 R .520 2-5 5 R .540 1-5 8 .520 1-5 8 .640 8 .640 1-5 8 .640 1-5 8 .640 1-5 8 .640 1-5 8 .640 1-5 8 .640 1-5 8 .640 1-5 8 .640 1-5 8 .640 1-5 8 1-5 8 .640 1-5 8 .640 1-5 8 .640 1-5 8 .640 1-5 8 1-5 8 1-5 8 1-5 8 1-5 8 1-5 8 1-5 8 1-5 8 1-5 8

TABLE 7.7 (Cor	atinued)	
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Truck No	· ·	111	112	
Wh. Base		52	52	
Axle	X X	16	16	
Spacing	_X′	28	28	
Load	aı	.20	.20	
On Axles	a_2	.40 .40	.50 $.30$	
1		4-5		
1	G N E	4	2 3	
10	\mathbf{E}	$_{ m L}^4$	\mathbf{L}	
	V	.320	.400	
	G	4-5	1-3	
20	N E	4 L	$^3_{ m R}$	
20	v	.360	.450	
	G	1 -3	1.3	
1	G N E V	3 R	1 · 3 3 R .533	
30	E	R	R	
		.440	.533	
	G	1 ·3 3 R	13	
40	N E V	Ř	${ m R}$	
Span-Feet	ũ	.480	.575	
Ė	G	25	1 3	444
pa	G N E	_2	_3	
v2 20	\mathbf{v}	$\bar{\mathbf{L}}$	\mathbf{R}	
		.512 1-5	600 1 3	
	G N	1-5 5	3	
60	N E	Ř	Ř	
	\mathbf{v}	.587	.617	
	G N E	1 - 5	1-5	
	N	$_{ m R}^{5}$	$_{ m L}^{1}$	
80	V	.690	.700	
	G	1.5	1-5	
1	Ň	ั้ธ์	1	
100	N E	$\overset{5}{\mathrm{R}}$	L	
	$\bar{\mathbf{v}}$.752	.760	The state of the s

TABLE 7.8

CONTROLLING CONDITIONS AND MAXIMUM SHEARS IN SIMPLE SPANS
PRODUCED BY THE TYPE 3-S3 TRUCKS WEIGHING ONE KIP EACH



One hundred and five variations in the Type 3-S3 truck are given in this table. Each truck number, from 1 to 105, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight on each axle.

Truck	, No	·.	1	2	3	4	5	6	7	8	9	10
Wh. I	3ase	· L	32	32	32	32	32	32	32	36	36	36
Axle Spaci	ng	X X'	8 12	8 12	8 12	8 12	8 12	8 12	8 12	8 16	8 16	8
Load On Axles		a ₁ a ₂ a ₃	.10 .30 .60	.10 .36 .54	.10 .40 .50	.10 .50 .40	.20 .30 .50	.20 .40 .40	.20 .50 .30	.10 .30 .60	.10 .36 .54	.10 .40 .50
	10	G N E V	4-6 4 L 360	4-6 4 I. .324	2-3 2 L .320	2-3 2 L .400	4-6 4 L .300	2-3 2 L .320	2-3 2 L .400	4-6 4 L .360	4-6 4 L .324	2-3 2 L .320
	20	G N E V	4-6 4 L .480	4-6 4 L .432	4-6 4 L .400	1-3 3 R .490	4-6 4 L .400	1-3 3 R .440	1-3 3 R .530	4-6 4 L .480	4-6 4 L .432	4-6 4 L .400
:	30	G N E V	2-6 6 R .600	2-6 6 R .564	26 6 R .540	2-6 2 L .600	2 6 6 R .514	2-6 2 L .507	1-3 3 R .587	2-6 6 R .560	2-6 6 R .516	2-6 6 R .487
Feet	40	G N E V	1–6 6 R .695	1-6 6 R .668	1-6 6 R .650	2-6 2 L .675	1 6 6 R .625	1-6 1 L .620	1-6 1 L .665	1 -6 6 R .655	1-6 6 R .622	1-6 6 R .600
Span-Feet	50	G N E V	1-6 6 R .756	$^{1-6}_{\ \ R}_{\ .734}$	1-6 6 R .720	2-6 2 L .720	1 6 6 R .700	1-6 1 L .696	$^{1-6}_{\ \ L}_{\ \ .732}$	16 6 R .724	1-6 6 R .698	1-6 6 R .680
	60	G N E V	1-6 6 R .797	1-6 6 R .779	1-6 6 R .767	2 -6 2 L .750	1-6 6 R .750	1-6 1 L .747	1-6 1 L .777	1-6 6 R .770	1-6 6 R .748	1-6 6 R .734
8	80	G N E V	1–6 6 R .848	1-6 6 R .834	1-6 6 R .825	1-6 6 R .802	1-6 6 R .813	1 -6 1 L .810	1 6 1 L .833	1 6 6 R .828	1-6 6 R .811	1-6 6 R .800
10	00	G N E V	1–6 6 R .878	1-6 6 R .867	1-6 6 R .860	1-6 6 R .842	1-6 6 R .850	1-6 1 L .848	1-6 1 L .866	1- 6 6 R .862	1-6 6 R .849	1-6 6 R .840

a1, a2, and a3-Represent the ratio of gross vehicle weight on axles.

G-Axle group causing maximum shear, thus, 1-3 means axles 1, 2, and 3.

N-Number of critical axle under which maximum shear occurs.

E-End of span at which critical axle is placed.

V--Maximum shear.

TABLE	7.8	(Continued)	•

			Continue	(d)								
True Wh.			11 36	12 36	13 36	14 36	15 40	16 40	17 40	18 40	19	20
Axle		X	8	8	8	8	- 8	8	8	8	40 8	40 8
Spac Load		X'	.10	.20	.20	.20	.10	.10	.10	.10	.20	.20
On		\mathbf{a}_{2}	.50	.30	.40	.50	.30	.36	.40	.50	.30	.40
Axle	<u> </u>	G G	40 2_3	$\frac{.50}{4-6}$.30 2-3	.60 4 6	.54 4-6	$\frac{.50}{2-3}$	2-3	.50 4-6	$\frac{.40}{2-3}$
	10	N E	$^2_{ m L}$	4 L	$^2_{ m L}$	$^2_{ m L}$	4 L	4 L	$^2_{ m L}$	$^{2}_{\mathbf{L}}$	4 L	$^{2}_{ m L}$
		V	.400	.300	.320	.400	.360	.324	.320	.400	.300	.320
		G N	$_{3}^{1-3}$	4-6 4	$1 \cdot 3$	1~3 3	$^{4-6}_{4}$	$^{4-6}_{4}$	$^{\mathbf{4-6}}_{4}$	$^{1-3}_3$	$^{\mathbf{4-6}}_{4}$	$^{1-3}_{3}$
	20	E	Ř ,490	L .400	Ř .440	\mathbf{R}	L	L	L ,400	\mathbf{R}	$\stackrel{f L}{1}$	R
-		G	2-6	26	1-3	.530 1-3	3-6	3-6	3-6	.490 1-3	3-6	13
	30	N E	$_{ m L}^2$	$^{6}_{ m R}$	$^3_{ m R}$	$\overset{3}{\mathbf{R}}$	$^6_{ m R}$	$^{6}_{ m R}$	$^{6}_{ m R}$	$\frac{3}{R}$	$^{6}_{ m R}$	$^3_{ m R}$
_	-	V	.547	.474	.493	.587	.530	.480	.447	.527	.443	.493
		G N	26 2	$^{1}_{6}$	1 -6 1	$^{1-6}_{1}$	26 6	$^{2-6}_{6}$	$^{1-6}_{6}$	$_{2}^{-6}$	$_{6}^{1-6}$	1 6 1
eer	40	E	L .635	Р .575	L .580	L .635	R .615	Ř ,576	Ř .550	$ar{ ext{L}}$	R ,525	$_{.540}^{ m L}$
Span-r eet		G	2-6	1-6	1-6	1-6	1 6	1-6	1-6	26	1-6	1 6
Spa	50	N E	$^2_{ m L}$	$^{6}_{\mathbf{R}}$	$^1_{\mathbf{L}}$	$^{1}_{\mathbf{L}}$	$_{\mathbf{R}}^{6}$	$^{6}_{\mathbf{R}}$	$^{6}_{ m R}$	$^2_{ m L}$	$^{6}_{ m R}$	$^{1}_{ m L}$
· _		V	.688	.660	.664	.708	.692	.661	.640	.656	.620	.632
		G N	$^{2-6}$	$\frac{1\cdot 6}{6}$	1-6 1	$^{1-6}_{1}$	$_{6}^{1-6}$	16 6	$^{1-6}_{6}$	$_{2}^{-6}$	1∵ 6 6	$^{1-6}_{1}$
	60	E	$ar{ extbf{L}}$.724	Ř .717	$\hat{\mathbf{L}}$.720	Ĺ .757	R .743	Ř .717	R .700	$_{.697}^{ m L}$	R .684	$_{.694}^{ m L}$
		G	1-6	1 6	1 6	1-6	1-6	1-6	1-6	1-6	16	1-6
	80	N E	1 L	$_{\mathbf{R}}^{6}$	$^{1}_{\mathbf{L}}$	$^{1}_{\mathbf{L}}$	6 R	$^6_{ m R}$	$^{6}_{\mathbf{R}}$	$^{1}_{ m L}$	$^{6}_{\mathbf{R}}$	1 L
_		V	.778	.788	.790	.818	.808	.788	.775	.758	.763	.770
		G N	$_{1}^{-6}$	$^{1-6}_{6}$	$^{1-6}_{1}$	$\begin{array}{c} 1 \cdot 6 \\ 1 \end{array}$	$_{6}^{1-6}$	$^{1-6}_{6}$	$^{1-6}_{6}$	1-6 1	$^{1}_{6}^{6}$	I. 6 1
1	100	E	L .822	R .830	$_{.832}^{ m L}$	L .854	R .846	$^{ m R}_{.832}$	$^{ m R}_{.820}$	$^{1}_{.806}$	R .810	$^{ m L}_{.816}$
		· ·					*					
Truc Wh.			21 40	22	23	44	25 44	26 44	27 44	28	29 48	30 48
Axle		X X	8	8		8	8	- 8	8	8	8	8
Spac Load				.10	.10	24	.10		.20	.20	.10	.10
On		\mathbf{a}_1	.50	.30	.36	.40	.50	.30	.40	.50	.30	.36
Axle	s	G G	.30 2 -3	$-\frac{.60}{4-6}$.54 4-6	$-\frac{.50}{2}$ -	$\frac{.40}{2 \ 3}$	$\frac{.50}{4-6}$	2-3	.30 2-3	4-6	$\frac{.54}{4-6}$
	10	Ň E	2 L	4 L	$^4_{ m L}$	$^{2}_{ m L}$	$^{2}_{ m L}$	4 L	$^{2}_{ m L}$	$^{2}_{ m L}$	4 L	4 L
_	10	V	.400	.360	.324	.320	.400	.300	.320	.400	.360	.324
		G N	$_3^{1-3}$	4 ·6 4	4-6 4	$^{4-6}_{4}$	$_{3}^{1-3}$	$^{4-6}_{4}$	$_3^{1-3}$	$^{1-3}_3$	$^{4-6}_{4}$	46 4
	20	E V	R .530	$_{.480}^{\hat{ ext{L}}}$	1. .432	L .400	R .490	$ m_{L}^{L}$	R .440	$ m_{.530}$	$_{.480}^{ m L}$	$_{.432}^{ m L}$
		- <u>v</u>	1-3	4-6	4-6	1-3	1-3	46	1-3	1-3	4 6	4-6
	30	N E	$^3_{ m R}$	4 L	$^4_{ m L}$	$^3_{ m R}$	$^3_{ m R}$	4 L	$^3_{ m R}$	$^3_{ m R}$	$^{4}_{ m L}$	$^4_{ m L}$
		v	.587	.520	.468	.434	.527	.433	.493	.587	.520	.468
		$_{\mathbf{N}}^{\mathrm{G}}$	$^{1-3}_{3}$	$^{2-6}_{6}$	$^{2-6}_{6}$	26 6	$_{2}^{-6}$	$^{2-6}_{6}$	$^{1-3}_{3}$	1-3 3	$^{2-6}_{6}$	2-6
£	40	E	$^{\rm R}_{.615}$	R .585	R .540	R .510	$_{.555}^{\mathbf{L}}$	$_{.495}^{ m R}$	R .520	R .615	R .555	$^{ m R}_{.504}$
· —						1-6	2-6	16	1-6	1-6	16	16
Ė		G	1-6	1-6	16	1-0						
opan-	50	N	1	6	6	6	2	6	1 L	Į L	6 R.	6 R
opan.	50	N E V	1 L .684	6 R .660	6 R .624	6 R .600	2 L .624	6 R .580	L .600	.660	.628	R .587
opan-	50	N E V G	1 L .684 1-6	6 R .660	6 R .624 1-6	6 R .600	2 L .624	$\frac{6}{R}$.580	$\frac{L}{1-6}$.660 1-6	R	R
	50 60	N E V G N E	1 L .684 1-6 1 L	6 R .660 1-6 6 R	6 R .624 1–6 6 R	6 R .600 1-6 6 R	2 L .624 2-6 2 L	6 R .580 1-6 6 R	1-6 1 L	1-6 1 L	R .628 16 6 R	1-6 6 R
		N E V G N E V	1 L .684 1-6 1	6 R .660 1-6 6	6 R .624 1–6 6 R .687	6 R .600 1-6 6	$\begin{array}{c} 2 \\ L \\ .624 \\ \hline 2-6 \\ 2 \end{array}$	$^{6}_{ ext{R}}_{ ext{.580}}$	$\frac{1}{1-6}$	$\frac{1}{.660}$ $\frac{1-6}{1}$	R .628 16 6 R .690	R .587 1-6 6 R .656 1-6
	60	NEV GNEV GN	1 L .684 1-6 1 L .737 1-6	6 R .660 1-6 6 R .717 1-6 6	6 R .624 1-6 6 R .687 16	6 R .600 1-6 6 R .667 1-6 6	2 L .624 2 L .670 1-6	6 R .580 1-6 6 R .650	L .600 1-6 1 L .667 1-6	L .660 1-6 1 L .717 1 6	R .628 16 6 R .690 1-6 6	R .587 1-6 6 R .656 1-6 6
		N E V G N E V G N E V	1 L .684 1-6 1 L .787 1-6 1 L .803	6 R .660 1-6 6 R .717 1-6 6 R .788	6 R .624 1-6 6 R .687 16 6 R .765	6 R .600 1-6 6 R .667 1-6 6 R .750	2 L .624 2-6 2 L .670 1-6 1 L	6 R .580 1-6 6 R .650 1-6 6 R .738	L .600 1-6 1 L .667 1-6 1 L .750	L .660 1-6 1 L .717 1 6 1 L .788	R .628 1-6 6 R .690 1-6 6 R .768	R .587 1-6 6 R .656 1-6 6 R .742
	60	NEV GNEV GNEV G	1 L .684 1-6 1 L .737 1-6 1 L .803	6 R .660 1-6 6 R .717 1-6 6 R .788	6 R .624 1-6 6 R .687 1-6 6 R .765	6 R .600 1-6 6 R .667 1-6 6 R .750	2 L .624 2-6 2 L .670 1-6 1 L .738	6 R .580 1-6 6 R .650 1-6 6 R .738	L .600 1-6 1 L .667 1-6 1 L .750	L .660 1-6 1 L .717 1 6 1 L .788	R .628 1-6 6 R .690 1-6 6 R .768	R .587 1-6 6 R .656 1-6 6 R .742
-	60	N E V G N E V G N E V	1 L .684 1-6 1 L .787 1-6 1 L .803	6 R .660 1-6 6 R .717 1-6 6 R .788	6 R .624 1-6 6 R .687 16 6 R .765	6 R .600 1-6 6 R .667 1-6 6 R .750	2 L .624 2-6 2 L .670 1-6 1 L	6 R .580 1-6 6 R .650 1-6 6 R .738	L .600 1-6 1 L .667 1-6 1 L .750	L .660 1-6 1 L .717 1 6 1 L .788	R .628 1-6 6 R .690 1-6 6 R .768	R .587 1-6 6 R .656 1-6 6 R .742

TABLE 7.8 (Continued)

	BLE		Continue		9.0	9.4	0.5	9.0	.,	20	20	40
	ck No Base		31 48	32 48	33 48	34 48	35 48	36 36	$\frac{37}{36}$	38	39 36	36
Ax		X	8	8	8	- 40	8	12	12	12	12	12
	cing	X'	28	28	28	28	28	12	12	12	12	16
Loa		aı	.10	.10	.20	.20	.20	.10	.10	.10	.10	.20
Qn		\mathbf{a}_2	.40	.50	.30	.40	.50	.30	.36	.40	.50	.30
Ax	les	a ₃	50 	2 3	.50	.40 2-3	.30	.60	.54 4-6	2 3		
- 1		G N		$\frac{2}{2}$	$\frac{4-6}{4}$	4-3 2	$\frac{2}{2}$	$^{4-6}$	46 4	2	$\frac{2-3}{2}$	4
ĺ	10	\mathbf{E}	2 L	L	L	$\frac{2}{\mathbf{L}}$	$_{ m L}$	L	L	L	L	L
		V	.320	.400	.300	.320	.400	.360	.324	.320	.400	.300
		G N	4 - 6 4	$^{1-3}_{3}$	4 -6 4	1–3 3	$^{1-3}_3$	46 4	$\frac{4}{4}$ 6	4-6 4	$\frac{2}{2}$	4-6 4
	20	E	Ι.,	R	L	\mathbf{R}	\mathbf{R}	$_{ m L}$	1.	\mathbf{L}	${f L}$	L
		V	.400	.490	.400	.440	.530	.480	.432	.400	.474	.400
ĺ		G N	$^{1-3}_{3}$	$\frac{1}{3}$	4-6 4	$\frac{1}{3}$	13	$_{6}^{2-6}$	2 6 6	2 6 6	$^{2}_{2}^{6}$	26 6
ļ	30	\mathbf{E}	R	R	$_{ m L}$	\mathbf{R}	R	R	\mathbf{R}	$^{\mathrm{R}}$	\mathbf{L}	\mathbf{R}
į		V	.434	.527	.433	.493	.587	.600	.564	.540	.600	.514
		G	$_{6}^{2-6}$	$^{1-3}_{3}$	2 6 6	13 3	$\frac{1}{3}$	$^{1}_{6}$	$^{1}_{6}$	1 6 6	$_{2}^{2-6}$	1 6 6
et	40	$_{ m E}^{ m N}$	Ř	$\ddot{\mathbf{R}}$	Ř	Ř	$^{ m R}$	R	Ř	Ř	Ĺ	\mathbf{R}
표		_v	.470	.545	.465	.520	.615	.685	.658	.640	.675	.605
Span-Feet		G	1-6 6	$\frac{2}{2}6$	1-6 6	1-6 1	1 6	$_{6}^{1-6}$	1-6 6	$\frac{1}{6}$	$_2^{-6}$	$^{1-6}_{6}$
Sp	50	$_{ m E}^{ m N}$	$\overset{\mathrm{o}}{\mathbf{R}}$	Ĺ	Ř.	Ĺ	$^{1}_{\mathbf{L}}$	$\overset{\mathrm{o}}{\mathbf{R}}$	R	Ř	Ĺ	$\ddot{\mathbf{R}}$
-		V	.560	.592	.540	.568	.636	.748	.726	.712	.720	.684
Ì		G	1 6	2 6	1-6	1 6	1 -6	1 -6	1 6	1,6	2-6	1-6
ļ	60	N E	$\overset{6}{\mathbf{R}}$	$^2_{ m L}$	$\overset{6}{\mathbf{R}}$	$^{1}_{ m L}$	1 L	$^6_{ m R}$	$^6_{ m R}$	$^{6}_{ m R}$	$^2_{ m L}$	$^{6}_{ m R}$
		$\overline{\mathbf{v}}$.634	.644	.617	.640	.697	.790	.772	.760	.750	.737
		G	1-6	1-6	1 6	1 6	16	1 6	1 6	1 6	1 6	$^{1-6}$
- 1	80	N E	$^{6}_{ m R}$	$^{1}_{ m L}$	$^6_{f R}$	$^{1}_{ m L}$	$^{1}_{\mathbf{L}}$	$^{6}_{\rm R}$	6 R	6 R	6 R	$^{6}_{ m R}$
- 1		v	.725	.718	.713	.730	.773	.843	.829	.820	.797	.803
		G	16	16	1-6	1-6	1 6	1-6	1-6	1 6	1-6	1.6
	100	N E	6 R	$^{1}_{\mathbf{L}}$	$^{6}_{ m R}$	$^{1}_{ m L}$	1 L	$^{6}_{ m R}$	6 R	$^{6}_{ m R}$	$^{6}_{ m R}$	$^{6}_{ m R}$
1	100	v	.780	.774	.770	.784	.818	.874	.863	.856	.838	.842
Tre	sele No	`	41	49	43	4.4	45	46	47	13	40	50
	ick No		41	42 36	43	44	45	46	47	48	49	50
W	. Base	e L	36	36	43 40 12	44 40 12	45 40 12	40	47 40 12	40	49 40 12	50 44 12
Wi Ax	. Base		36 12 12	36 12 12	12 16	40 12 16	12 16	12 16	12 16	$\frac{40}{12}$	12 16	12 20
Wh Ax Spa Loa	n. Base le acing ad	X X' a ₁	36 12 12 12	36 12 12 .20	12 16 .10	12 16 .10	12 16 .10	12 16 .10	12 16 .20	12 16 .20	12 16 .20	12 20 .10
Wr Ax Spa Loa On	le le icing ad	X X' a ₁ a ₂	36 12 12 .20 .40	36 12 12 .20 .50	12 16 .10 .30	40 12 16	12 16	12 16	12 16 .20 .30	12 16 .20 .40	12 16	12 20 .10 .30
Wh Ax Spa Loa	le le icing ad	X X' a ₁	36 12 12 .20 .40 .40 -2-3	36 12 12 .20 .50 .30	12 16 .10 .30 .60 4-6	40 12 16 .10 .36 .54 4-6	40 12 16 .10 .40 .50	12 16 .10 .50 .40	12 16 .20	12 16 .20 .40 .40	12 16 .20 .50 .30	12 20 .10
Wr Ax Spa Loa On	le le icing ad les	X X' X' a ₁ a ₂ a ₃ G	36 12 12 .20 .40 .40 -2-3 2	36 12 12 .20 .50 .30 2–3 2	12 16 .10 .30 .60 4-6 4	12 16 .10 .36 .54 4-6	40 12 16 .10 .40 .50	12 16 .10 .50 .40	12 16 .20 .30 .50 4-6 4	12 16 .20 .40 .40 .2-3	12 16 .20 .50 .30	12 20 .10 .30 .60 4-6
Wr Ax Spa Loa On	le le icing ad	a ₁ a ₂ a ₃ G N E	36 12 12 .20 .40 .40 .2-3 2 L	36 12 12 .20 .50 .30 2–3 2 L	40 12 16 .10 .30 .60 4-6 4 L	40 12 16 .10 .36 .54 4 4 L	40 12 16 .10 .40 .50 2-3 2 L	12 16 .10 .50 .40 2-3 2 L	12 16 .20 .30 .50 4-6 4 L	12 16 .20 .40 .40 2-3 2 L	10 112 16 .20 .50 .30 2-3 2 L	12 20 .10 .30 .60 4-6 4 L
Wr Ax Spa Loa On	le le icing ad les	X X' X' a ₁ a ₂ a ₃ G	36 12 12 .20 .40 .40 2-3 2 L .320	36 12 12 .20 .50 .30 2-3 2 L .400	12 16 .10 .30 .60 4-6 4	40 12 16 .10 .36 .54 4 -6 4 L .324 4-6	40 12 16 .10 .40 .50	40 12 16 .10 .50 .40 2-3 2 L .400	12 16 .20 .30 .50 4-6 4	10 12 16 .20 .40 .40 2-3 2 L .320 1-3	40 12 16 .20 .50 .30 2-3 2 L .400	12 20 .10 .30 .60 4-6
Wr Ax Spa Loa On	n. Base le acing ad les	A L X X' A1 A2 A3 G N E V G N	36 12 12 20 40 40 2-3 2 L 320 1-3 3	36 12 12 .20 .50 .30 2–3 2 L .400 1–3 3	40 12 16 .10 .30 .60 4-6 4 L .360 4-6 4	40 12 16 .10 .36 .54 4 -6 4 L .324 4-6 4	40 12 16 .10 .40 .50 2-3 2 L .320 4-6 4	40 12 16 .10 .50 .40 2-3 2 L .400 1-3	40 12 16 .20 .30 .50 4-6 4 L .300 4-6 4	40 12 16 .20 .40 .40 2-3 2 L .320 1-3	40 12 16 .20 .50 .30 2-3 2 L .400	44 12 20 .10 .30 .60 4-6 4 L .360 4-6 4
Wr Ax Spa Loa On	le le icing ad les	A L X X' A1 A2 A3 G N E V G N E	36 12 12 .20 .40 .40 .2-3 2 L .320 1-3 3 R	36 12 12 .20 .50 .30 2-3 2 L .400 1-3 3 R	40 12 16 .10 .30 .60 4-6 4 L .360 4-6 4	40 12 16 .10 .36 .54 4 4 L .324 4-6 4 L	40 12 16 .10 .40 .50 2-3 2 L .320 4-6 4 L	40 12 16 .10 .50 .40 2-3 2 L .400 1-3 R	40 12 16 .20 .30 .50 4-6 4 J .300 4-6 4 L	10 12 16 .20 .40 .40 .2-3 2 L .320 1-3 R	40 12 16 .20 .50 .30 2-3 2 L .400 1 3 8	44 12 20 .10 .30 .60 4-6 4 L .360 4-6 4 L
Wr Ax Spa Loa On	n. Base le acing ad les	X X' a1 a2 a3 G N E V	36 12 12 20 .40 .40 2-3 2 L .320 1-3 8 .400 2-6	36 12 12 .20 .50 .30 2–3 2 L .400 1–3 3	40 12 16 .10 .30 .60 4-6 4 L .360 4-6 4	40 12 16 .10 .36 .54 4-6 4 L .324 4-6 4 L .432	40 12 16 .10 .40 .50 2-3 2 L .320 4-6 4	40 12 16 .10 .50 .40 2-3 2 .400 1-3 3 R .470	40 12 16 .20 .30 .50 4-6 4 L .300 4-6 4	40 12 16 20 .40 .40 2-3 2 L .320 1-3 3 R .400 1-3	40 12 16 .20 .50 .30 2-3 2 L .400	44 12 20 .10 .30 .60 4-6 4 L .360 4-6 4 L .480
Wr Ax Spa Loa On	n. Base le le icing ad les 10	X X X' a ₁ a ₂ a ₃ G N E V G N E V	36 12 12 20 .40 .40 2-3 2 L .320 1-3 8 .400 2-6 2	36 12 12 12 .50 .50 .30 2–3 2 L .400 1–3 3 R .490 2–6	40 12 16 .10 .30 .60 4-6 4 L .360 4-6 4 L .480 2-6 6	40 12 16 .10 .36 .54 4-6 4 L .324 4-6 4 L .432 2-6 6	40 12 16 .10 .40 .50 2-3 2 1 .320 4-6 4 1 .400 2-6 6	40 12 16 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 2-6	40 12 16 .20 .30 .50 4-6 4 L .300 4-6 4 L .400 2-6 6	40 12 16 .20 .40 .40 .40 2-3 2 L .320 1-3 3 R .400 1-3	40 12 16 .20 .50 .30 2-3 2 L .400 1.3 8 .490 1-3 3	44 12 20 .10 .30 .60 4-6 4 L .360 4-6 4 L .480 3-6 6
Wr Ax Spa Loa On	n. Base le acing ad les	X X X' a ₁ a ₂ a ₃ G N E V G N E V	36 12 12 20 40 40 2-3 2 L 320 1-3 3 8 400 2-6 2 L	36 12 12 20 .50 .30 2 L .400 1–3 3 R .490 2–6 2 L	40 12 16 .10 .30 .60 4 L .360 4-6 4 L .480 2-6 6 R	12 16 .10 .36 .54 4-6 4 L .324 4-6 4 L .432 2-6 6 R	12 16 .10 .40 .50 2-3 2 L .320 4-6 4 L .400 2-6 6 R	12 16 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 2-6 2	40 12 16 .20 .30 .50 4-6 4 I. .300 4-6 4 L. .400 2-6 6 R	40 12 16 .20 .40 .40 .40 2-3 2 L .320 1-3 3 R .400 1-3	12 16 .20 .50 .30 2-3 2 L .400 1-3 3 R .490 1-3 3 R	12 20 .10 .30 .60 4-6 4 L .360 4-6 4 L .480 3-6 6
Wr Ax Spa Loa On	n. Base le le icing ad les 10	A L X X Y A 1 A 2 A 3 A 3 B C V C G N E V C C G N E V C C C C C C C C C C C C C C C C C C	36 12 12 20 40 40 2-3 2 L 320 1-3 8 R 400 2-6 2 L 507	36 12 12 .50 .50 .30 2 -8 2 1, .400 1-3 3 R 490 2-6 2 L	12 16 .10 .30 .60 4-6 4 L .360 4-6 4 L .480 2 - 6 6 R	12 16 .10 .36 .54 4 -6 4 L .324 4-6 4 L .432 2-6 6 R	40 12 16 .10 .40 .50 2-3 2 1 .320 4-6 4 1 .400 2-6 6 R .487	12 16 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 2-6 2 L	12 16 .20 .30 .50 4-6 4 L .300 4-6 4 L .400 2-6 6 R	40 12 16 .20 .40 .40 .40 2-3 2 L .320 1-3 3 R .400 1-3 3 R .407	40 12 16 .20 .50 .30 2 2 L .400 1.3 3 R .490 1-3 3 R	12 20 .10 .30 .60 4-6 4 L .360 4-6 4 L .480 3-6 6 R
Wir Axx Spart Los On Ax	le le le le le le le le le le le le le l	A L X X' A1 A2 A3 G NEV GNEV GNEV GNEV GNEV	36 12 12 20 40 40 2-3 2 L 320 1-3 3 R 400 2-6 2 L 507	36 12 12 .20 .50 .30 2-3 2 L .400 1-3 3 R 490 2-6 2 L .567	40 12 16 .10 .30 .60 4-6 4 L .360 4-6 4 L .480 2-6 6 R .560 2-6 6	40 12 16 .10 .36 .54 4-6 4 L .324 4-6 4 L .432 2-6 R .516 2-6	40 12 16 .10 .40 .50 2-3 2 L .320 4-6 4 L .400 2-6 6 R .487 1-6 6	12 16 .10 .50 .40 2-3 2 1,400 1-3 3 R .470 2-6 2 L .547	12 16 20 .30 .50 4-6 4 L .300 4-6 4 L .400 2-6 R .474 1-6 6	40 12 16 20 .40 .40 .40 2-3 2 L .320 1-3 3 R .400 1-3 8 R .467 2-6	40 12 16 20 .50 .30 2-3 2 L .400 1 3 3 R .490 1-3 3 R .56	12 20 .10 .30 .60 4-6 4 L .360 4-6 4 L .480 3-6 R .530 2-6
Wir Axx Spart Los On Ax	n. Base le le icing ad les 10	a1 a2 a3 G N E V G N E V G N E V G N E V E V E G N E V E V E G N E V E V E C M E V E C M E V E C M E E C M E E V E C M E E V E C M E E V E C M E E V E C M E E V E C M E E V E C M E E V E C M E E V E C M E E V E C M E E V E C M E E C M E E V E C M E E V E C M E E V E C M E E V E C M E E V E C M E E V E C M E E V E C M E E V E C M E E V E C M E E V E C M E E E C M E E E C M E E E E C M E E E E	36 12 12 12 20 40 40 40 2-3 2 L 320 1-3 3 R 400 2-6 2 L 507 2-6 2 L	36 12 12 12 20 .50 .30 2–3 2 L .400 1–3 3 R .490 2–6 2 L .567 2–6 2 L	40 12 16 .10 .30 .60 4-6 4 L .360 4-6 4 L .480 2-6 6 R	40 12 16 .10 .36 .54 4-6 4 L .324 4-6 4 L .432 2-6 6 R 8 .516 2-6 6 R	40 12 16 .10 .40 .50 2-3 2 L .320 4-6 4 L .400 2-6 6 R 1-6 R	10 11 16 110 10 10 10 10 10 10 10 10 10 10 10 10	40 12 16 .20 .30 .50 4-6 4 L .300 4-6 4 L .402 6 R R474 1-6 6 R	40 12 16 .20 .40 .40 .40 .40 .2-3 2 L .320 1-3 3 R .400 1-3 3 R .467 2-6 2 L	40 12 16 20 50 30 2-3 2 L 400 1-3 3 R 490 1-3 3 R 490 2-6 2 L	44 12 20 .10 .30 .60 4-6 4 L .360 4-6 4 L .480 3-6 6 R R
Wir Axx Spart Los On Ax	le le le le le le le le le le le le le l	E L X X X X A 1 A 2 A 2 A 3 A 3 B E V G N E V G N E V G N E V C G N E V V G N E V V C G N E V C G N E V V C G N E V V C G N E V V C G N E V V C G N E V C C G N E V C C C C C C C C C C C C C C C C C C	36 12 12 12 20 40 40 2-3 2 L 320 1-3 3 R 400 2-6 2 L 507 2-6 2 L .580	36 12 12 12 20 .50 .30 2–3 2 L .400 1–3 3 R .490 2–6 2 L .567 2–6 2 L	40 12 16 .10 .30 .60 4-6 4 L .360 4-6 4 L .480 2-6 R .560 2-6 6 R .560	40 12 16 .10 .36 .54 4-6 4 L .324 4-6 4 L .432 2-6 6 R .516 2-6 6 R .612	40 12 16 .10 .40 .50 2-3 2 L .320 4-6 4 L .400 2-6 R .487 1-6 6 R .590	12 16 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 2-6 2 L .547 .547 .547 .547 .547 .547 .547 .547	40 12 16 .20 .30 .50 4-6 4 L .300 4-6 4 L .400 2-6 6 R 474 1-6 8 R .555	10 12 16 16 16 16 16 16 16 16 16 16 16 16 16	40 12 16 .20 .50 .30 2-3 2 L .400 1-3 8 R .490 1-3 3 R .560 2-6 2 L .595	44 12 20 .10 .30 .60 4-6 4 L .480 3-6 6 R .530 2-6 6 R
Wir Ax Spa Loo On Ax	le le le le le le le le le le le le le l	E L X X X A1 A2 A3 G N E V E V G N E V E V E V E V E V E V E V E V E V E	36 12 12 12 20 40 40 40 2-3 2 L 320 1-3 3 R 400 2-6 2 L 5507 2-6 2 L 580 1-6 6	36 12 12 12 20 .50 .30 2-3 2 L .400 1-3 3 R .490 2-6 2 L .567 2-6 2 L .625 1-6	40 12 16 .10 .30 .60 4-6 4 L .360 4-6 6 R .560 2-6 6 R .645 1-6 1-6 1-6 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7	40 12 16 .10 .36 .54 4-6 4 L .324 4-6 6 R R.516 2-6 6 R .516 2-6 6 R .612	40 12 16 .10 .40 .50 2-3 2 1. .320 4-6 4 1. .40 2-6 6 R R-7 1-6 6 R S-90 1-6 6	10 11 16 10 50 .40 2-3 2 L .400 1-3 3 R .470 2-6 2 L .547 2-6 2 L .547 2-6 2 L .547 2-6 2-6 2-6 2-6 2-6 2-6 2-6 2-6 2-6 2-6	10 12 16 20 30 30 4-6 4 1 1 300 4-6 4 4 1 4 1 4 1 1 4 1 1 4 6 8 8 8 7 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8	10 12 16 16 16 16 16 16 16 16 16 16 16 16 16	40 12 16 .20 .50 .30 2-3 2 L .400 1-3 8 R .490 1-3 3 R .560 2-6 2 L .595 1-6 1	10 30 30 30 4-6 4 L 360 3-6 R R 615 1-6 6
Wr Ax Spa Loa On	le le le le le le le le le le le le le l	a L X X Y A A A A A A A A A A A A A A A A A	36 12 20 40 2-3 2 1 320 1-3 3 R 400 2-6 2 L .507 2-6 2 L	36 12 12 .20 .50 .50 .30 2-3 2 L .400 1-3 3 R .490 2-6 2 L .567 2-6 2 L .625 1-6 1 L	40 12 16 .10 .30 .60 4-6 4 L .360 4-6 4 L .480 2-6 6 R .560 2-6 6 R .560	40 12 16 .10 .36 .54 4-6 4 L .324 4-6 4 L .432 2-6 6 R .516 2-6 6 R 6 R 1-6 8	40 12 16 .10 .40 .50 2-3 2 L .320 4-6 4 L .400 2-6 6 R .487 1-6 R .590	10 10 10 10 10 10 10 10 10 10 10 10 10 1	40 12 16 .20 .30 .50 4-6 4 L .300 4-6 4 L .400 2-6 6 R .474 1-6 8 R .5555 1-6 6 R	10 12 16 16 16 16 16 16 16 16 16 16 16 16 16	10 10 11 16 12 10 10 10 10 10 10 10 10 10 10 10 10 10	44 12 20 .10 .30 .60 4-6 4 L .360 4-6 4 L .480 3-6 6 R .530 2-6 6 R .615 1-6 6
Wir Axx Spart Los On Ax	le le le le le le le le le le le le le l	a1 A2 A3 A3 A3 A3 A4 A4 A4 A4 A4 A4 A4 A4 A4 A4 A4 A4 A4	36 12 12 20 40 40 2-3 2 L 320 1-3 3 R 400 2-6 2 L 507 2-6 6 R 6 R 648	36 12 12 .20 .50 .50 2-3 2 L .400 1-3 3 R 490 2-6 2 L .567 2-6 2 L .625 1-6 1 L .668	40 12 16 .10 .30 .60 4-6 4 L .360 4-6 4 L .480 2-6 6 R .560 2-6 6 R .560 1-6 6 R .716	40 12 16 .10 .36 4-6 4 L .324 4-6 4 L .432 2-6 6 R .516 2-6 R .612 1-6 6 R	40 12 16 .10 .40 .50 2-3 2 1 .320 4-6 4 1 .400 2-6 6 R .487 1-6 6 R .590 1-6 6 R	40 12 16 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 2-6 2 L .547 2-6 2 L .547 2-6 2 L .547 2-6 2 L .547 2-6 2 L .547 2-6 2 L .547 2-6 2 L .547 2-6 2 L .547 2-6 2 L .547 2-6 2 L .547 2-6 2 L .547 2-6 2 L .547 2-6 2-6 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	40 12 16 .20 .30 .50 4-6 4 L .300 4-6 4 L .400 2-6 6 R .474 1-6 8 R .555 5-55 1-6 6 R	40 12 16 .20 .40 .40 2-3 2 L .320 1-3 3 R .400 1-3 3 R .467 2-6 2 L .540 1-6 1 L .600	40 12 16 .20 .50 .30 2-3 2 L .400 1-3 3 R .490 1-3 3 R .560 2-6 2 L .50 .50 .50 .50 .50 .50 .50 .50	44 12 20 .10 .30 .60 4-6 4 L .360 4-6 4 L .480 3-6 6 R .530 2-6 6 R .615 1-6 6 R
Wir Ax Spa Loo On Ax	le le le le le le le le le le le le le l	a1 A2 A3 A3 A3 A3 A4 A4 A4 A4 A4 A4 A4 A4 A4 A4 A4 A4 A4	36 12 12 12 20 40 40 40 2-3 2 L 320 1-3 3 R 400 2-6 2 L 5507 2-6 2 L 580 1-6 6 R 8 8 648	36 12 12 12 12 20 .50 .30 2-3 2 L .400 1-3 3 R .490 2-6 2 L .567 2-6 2 L .5625 1-6 1-6 1-6 1-6	40 12 16 .10 .30 .60 4-6 4 L .360 4-6 6 R .560 2-6 6 R .645 1-6 8 R .716	40 12 16 .10 .36 .54 4-6 4 L .324 4-6 6 R .516 2-6 6 R .516 2-6 6 R .612 1-6 6 R	40 12 16 .10 .40 .50 2-3 2 I320 4-6 4 I400 2-6 6 R .487 1-6 6 R .590 1-6 6 R .591 1-6 6 R .591	40 12 16 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 2-6 2 L .547 2-6 2 L .635 2 6 1 6 8 2 6 1 6 8 2 6 6 8 2 6 6 8 8 8 8 8 8 8 8 8 8 8	40 12 16 .20 .30 .50 4-6 4 L .300 4-6 6 R .474 1-6 6 R .555 1-6 6 R .555 1-6 6 R	10 12 16 16 16 16 16 16 16 16 16 16 16 16 16	40 12 16 20 50 30 2-3 2 L 400 1-3 3 R 490 1-3 3 R 490 2-6 2 L 595 1-6 1 L 44 1-6	44 12 20 .10 .30 .60 4-6 4 L .360 4-6 4 L .480 3-6 6 R .530 2-6 6 R .615 1-6 6 R .615
Wir Axx Spart Los On Ax	le le le le le le le le le le le le le l	a L X X X A A A A A A A A A A A A A A A A	36 12 12 12 20 40 40 40 2-3 2 L 320 1-3 3 R 400 2-6 2 L 507 2-6 2 L 580 1-6 6 R 648 1-6 5 R	36 12 .20 .50 .50 .30 .30 .30 .3 2 .4 .400 1-3 3 R .490 2-6 2 L .567 2-6 1 .625 1-6 1 .668 1-6 1 L	40 12 16 .10 .30 .60 4-6 4 L .360 4-6 6 R .560 2-6 6 R .560 2-6 6 R .716 1-6 6 R	40 12 16 .10 .36 .54 4-6 4 L .324 4-6 4 L .432 2-6 6 R .516 2-6 6 R .612 1-6 6 R	40 12 16 .10 .40 .50 2-3 2 1 .320 4-6 4 1 .400 2-6 6 R .487 1-6 6 R .590 1-6 6 R .672 1-6 6 R	40 12 16 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 2-6 2 L .547 2-6 2 L .638 2-6 2 L L L L L L L L L L L L L L L L L L	40 12 16 .20 .30 .50 4-6 4 L .300 4-6 4 L .400 2-6 6 R .474 1-6 6 R .555 1-6 6 R .54 .55 1-6 6 8 .55 1-6 6 8 .55 1-6 6 8 .55 1-6 6 8 .55 1-6 6 8 .55 1-6 6 8 .55 1-6 6 8 .55 1-6 6 8 .55 1-6 6 8 .65 1-7 .65 1-7 .65 1-7 .65 1-7 .65 1-7 .65 1-7 .65 1-7 .65 .65 .65 .65 .65 .65 .65 .65	10 12 16 16 16 16 16 16 16 16 16 16 16 16 16	40 12 16 .20 .50 .30 2-3 2 L .400 1-3 3 R .490 1-3 3 R .560 2-6 2 L .560 1-6 1 .644 1-6 1 L	44 12 20 .10 .30 .60 4-6 4 L .360 4-6 4 L .480 .530 2-6 6 R .530 2-6 6 R .51-6 6 R .61-6 6 R
Wir Axx Spart Los On Ax	n. Base le neing ad les 10 20 30 40 50	a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV	36 12 12 12 20 40 40 40 2-3 2 L 320 1-3 3 R 400 2-6 2 L 5507 2-6 2 L 580 1-6 6 R 8 R 706	36 12 12 12 12 20 .50 .30 2-3 2 L .400 1-3 3 R .490 2-6 2 L .567 2-6 2 L .625 1-6 1 L .625 1-6 1 L .723	40 12 16 .10 .30 .60 4-6 4 L .360 4-6 6 R .560 2-6 6 R .645 1-6 6 R .716	40 12 16 .10 .36 .54 4-6 4 L .324 4-6 6 R .516 2-6 6 R .612 1-6 6 R .69 .612 1-6 6 R .741	40 12 16 .10 .40 .50 2-3 2 I320 4-6 4 I40 2-6 6 R .487 1-6 6 R .590 1-6 6 R .672 1-6 6 R .727	40 112 16 110 150 140 2-3 2 L 400 1-3 3 R 470 2-6 2 L .547 2-6 2 L .635 2 6 2 L .685 2 L .685 2 L .685 2 L .685 2 L .685 2 L .685 2 L .685 2 L .685 2 L .685 2 L .685 2 L .685	40 12 16 .20 .30 .50 4-6 4 L .300 4-6 6 R .474 1-6 6 8 .555 1-6 6 6 6 6 8 .70 .70 .70 .70 .70 .70 .70 .70	10 12 16 16 16 16 16 16 16 16 16 16 16 16 16	40 12 16 20 50 30 2-3 2 L 400 1-3 8 R 490 1-3 3 R 560 2-6 2 L 595 1-6 1 L 644 1-6 1 L 1 703	44 12 20 .10 .30 .60 4-6 4 L .360 4-6 6 R .530 2-6 6 R .615 1-6 6 R .684 1-6 R
Wir Axx Spart Los On Ax	n. Base le neing ad les 10 20 30 40 50	a L XX X' a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV GNEV	36 12 12 20 40 40 2-3 2 L 320 1-3 3 R 400 2-6 2 L 507 2-6 6 R 648 1-6 6 R 706 1-6	36 12 .20 .50 .50 .30 2-3 2 L .400 1-3 3 R .490 2-6 2 L .567 2-6 1 L .668 1-6 1 L .723 1-6	40 112 16 10 .30 .60 4-6 4 L .360 4-6 4 L .480 2-6 6 R .560 2-6 6 R .716 1-6 6 R .716 1-6 1-6 1-6 1-6 1-6 1-6 1-6 1-6 1-6 1	40 12 16 .10 .36 4-6 4 L .324 4-6 4 L .432 2-6 6 R .516 2-6 6 R .612 1-6 6 R .690 1-6 R	40 12 16 .10 .40 .50 2-3 2 1 .320 4-6 4 1 .400 2-6 6 R .487 1-6 6 R .590 1-6 6 R .590 1-6 6 8 .590 1-6 6 8 .590 1-6 6 8 .590 1-6 6 8 .590 1-6 8 .790 1-6 8 .790 1-6 8 .790 1-6 8 .790 1-6 8 .790 1-6 8 .790 1-70 1-	40 12 16 .10 .50 .40 2-3 2 L .400 1-3 3 R 470 2-6 2 L .547 2-6 2 L .635 2-6 2 L .688 2-6 2 L .724 2-6	10 12 16 .20 .30 .50 4-6 4 L .300 4-6 4 L .400 2-6 6 R .474 1-6 6 R .555 1-6 6 R .644 1-6 R .704 1-6 R	10 12 16 16 16 16 16 16 16 16 16 16 16 16 16	40 12 16 .20 .50 .30 2-3 2 L .400 1-3 3 R .490 1-3 3 R .560 2-6 2 L .595 1-6 1 L .505 1-1 .505	44 12 20 .10 .30 .60 4-6 4 L .360 4-6 4 L .480 3-6 6 R .530 2-6 6 R .615 1-6 6 R .684 1-6 R
Wir Axx Spart Los On Ax	n. Base le neing ad les 10 20 30 40 50	a L XX a 1 A 2 A 3 B G G G N E V G G G N E V G G G G G G G G G G G G	36 12 20 40 40 40 2-3 2 L 320 1-3 3 R 400 2-6 2 L 5507 2-6 6 R 648 1-6 6 R 706 R 706 R	36 12 .20 .50 .50 .30 .2-3 2 L .400 1-3 3 R .490 2-6 2 L .567 2-6 1 L .625 1-6 1 L .723 1-6 1 L .723	40	40 12 16 .10 .36 .54 4-6 4 L .324 4-6 4 L .432 2-6 6 R .516 6 R .612 1-6 6 R .690 1-6 R .741 1-6 R	40 12 16 .10 .40 .50 2-3 2 L .320 4-6 4 L .400 2-6 6 R .487 1-6 6 R .590 1-6 6 R .590 1-6 6 R .590 1-6 8 .590 1-700	10 10 10 10 10 10 10 10 10 10 10 10 10 1	40 12 16 .20 .30 .50 4-6 4 L .300 4-6 6 R .474 1-6 6 R .644 1-6 6 R .704 1-6 6 R	10 10 10 10 10 10 10 10 10 10 10 10 10 1	10 10 10 10 10 10 10 10 10 10 10 10 10 1	44 12 20 .10 .30 .60 .60 4-6 4 L L.360 4-6 4 L.480 3-6 6 R.530 2-6 6 R.615 1-6 6 R.684 1-6 R.737 1-6 6 R.737
Wir Axx Spart Los On Ax	10 20 30 40 50 60 60 60 60 60 60 60 60 60 60 60 60 60	a L X X X X A A A A A A A A A A A A A A A	36 12 12 20 40 40 40 2-3 2 L 320 1-3 3 R 400 2-6 2 L 507 2-6 6 R 648 1-6 8 R 788	36 12 12 12 .20 .50 .50 2-3 2 L .400 1-3 3 R 490 2-6 2 L .5667 2-6 1 L .625 1-6 1 L .793	40 12 16 .10 .30 .60 4-6 4 L .360 4-6 4 L .480 2-6 6 R .560 2-6 6 R .716 1-6 6 R .716 1-6 6 R .78 .78	40 12 16 .10 .36 .54 4-6 4 L .324 4-6 6 R .516 2-6 6 R .612 1-6 6 R .690 1-6 6 R .741 1 6 R .806	40 12 16 .10 .40 .50 2-3 2 1320 4-6 4 1400 2-6 6 R .487 1-6 6 R .590 1-6 6 R .727 1-6 6 R .727	40 12 16 .10 .50 .40 2-3 2 L .400 1-3 3 R 470 2-6 2 L .547 2-6 2 L .635 2-6 2 L .688 2-6 2 L .724 2-6 L .724 L .768	40 12 16 .20 .30 .50 4-6 4 L .300 4-6 6 R .474 1-6 6 R .555 1-6 6 R .704 1-6 R .704	40 12 16 .20 .40 .40 2-3 2 L .320 1-3 3 R .400 1-3 3 R .467 2-6 2 L .540 1-6 1 L .600 1-6 1 L .750	40 12 16 .20 .50 .30 2-3 2 L .400 1-3 3 R .490 1-3 3 R .560 2-6 2 L .595 1-6 1 L .595 1-6 1 L .778	44 12 20 .10 .30 .60 4-6 4 L .360 4-6 4 L .480 3-6 6 R .530 2-6 6 R .615 1-6 6 R .737 1-6 6 R .737
Wir Ax Spa Loo On Ax	10 20 30 40 50 60 60 60 60 60 60 60 60 60 60 60 60 60	al al al al al al al al al al al al al a	36 12 12 12 20 40 40 40 2-3 2 L 320 1-3 3 R 400 2-6 2 L 507 2-6 2 L 580 1-6 6 R 648 1-6 6 R 706 1-6 R 780 1-6	36 12 12 12 12 12 10 50 30 30 2-3 2 L 400 1-3 3 R 490 2-6 2 L .5667 2-6 2 L .625 1-6 1 L .723 1-6 1 L .793	40 12 16 .10 .30 .60 4-6 4 L .360 4-6 6 R .560 2-6 6 R .645 1-6 6 R .716 1-6 6 R .763 1-6 6 R .823	40 12 16 .10 .36 .54 4-6 4 L .324 4-6 6 R .516 2-6 6 R .612 1-6 6 R .741 1-6 R .80 .80 .80 .80 .80	40 12 16 .10 .40 .50 2-3 2 1320 4-6 4 L .400 2-6 6 R .487 1-6 6 R .590 1-6 6 R .727 1-6 6 R .727	40 12 16 .10 .50 .40 2-3 2 L .400 1-3 R .470 2-6 2 L .547 2-6 2 L .638 2-6 2 L .724 2-6 2 L .724 1 -63 1 -6	40 12 16 .20 .30 .50 4-6 4 L .300 4-6 6 R .474 1-6 6 R .555 1-6 6 R .704 1-6 R .704 1-6 R .718	10 12 16 16 16 16 16 16 16 16 16 16 16 16 16	40 12 16 .20 .50 .30 2-3 2 L .400 1-3 8 R .490 1-3 8 .560 2-6 2 L .595 1-6 1 L .40. 1-6 1 L .703 1-6 1 L .778	44 12 20 .10 .30 .60 4-6 4 L .360 4-6 R .530 2-6 6 R .615 1-6 6 R .737 1-6 6 R .737
Wir Ax Spa Loo On Ax	10 20 20 40 60 80 80	a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	36 12 12 20 40 40 2-3 2 L 320 1-3 3 R 400 2-6 2 L 507 2-6 6 R 648 1-6 6 R 706 R 706 R 780 1-6 6 R 780	36 12 .20 .50 .50 .30 .2-3 2 L .400 1-3 3 R .490 2-6 2 L .567 2-6 1 L .668 1-6 1 L .723 1-6 1 L .793 1-6 1	40 12 16 .10 .30 .60 4-6 4 L .360 4-6 4 L .480 2-6 6 R .560 2-6 6 R .716 1-6 6 R .716 1-6 6 R .72 .763 1-6 6 R .823 1-6 6	40 12 16 .10 .36 .54 4-6 4 L .324 4-6 6 R .516 6 R .690 1-6 R .741 1-6 R .806 1-6 R .806	40 12 16 .10 .40 .50 2-3 2 L .320 4-6 4 L .400 2-6 6 R .487 1-6 6 R .590 1-6 6 R .727 1-6 6 R .725 1-6 6 R .725	10 10 10 10 10 10 10 10 10 10 10 10 10 1	10 10 10 10 10 10 10 10 10 10 10 10 10 1	10 10 10 10 10 10 10 10 10 10 10 10 10 1	10 10 10 10 10 10 10 10 10 10 10 10 10 1	10 30 360 4-6 4 L 360 4-6 4 L 360 4-6 6 R 530 2-6 6 R R.615 1-6 6 R R.737 1-6 6 R R.737 1-6 6 R R.803 1-6 6 R
Wir Axx Spart Los On Ax	10 20 30 40 50 60 60 60 60 60 60 60 60 60 60 60 60 60	al al al al al al al al al al al al al a	36 12 12 12 20 40 40 40 2-3 2 L 320 1-3 3 R 400 2-6 2 L 507 2-6 2 L 580 1-6 6 R 648 1-6 6 R 706 1-6 R 780 1-6	36 12 12 12 12 12 10 50 30 30 2-3 2 L 400 1-3 3 R 490 2-6 2 L .5667 2-6 2 L .625 1-6 1 L .723 1-6 1 L .793	40 12 16 .10 .30 .60 4-6 4 L .360 4-6 6 R .560 2-6 6 R .645 1-6 6 R .716 1-6 6 R .763 1-6 6 R .823	40 12 16 .10 .36 .54 4-6 4 L .324 4-6 6 R .516 2-6 6 R .612 1-6 6 R .741 1-6 R .80 .80 .80 .80 .80	40 12 16 .10 .40 .50 2-3 2 1320 4-6 4 L .400 2-6 6 R .487 1-6 6 R .590 1-6 6 R .727 1-6 6 R .727	40 12 16 .10 .50 .40 2-3 2 L .400 1-3 R .470 2-6 2 L .547 2-6 2 L .638 2-6 2 L .724 2-6 2 L .724 1 -63 1 -6	40 12 16 .20 .30 .50 4-6 4 L .300 4-6 6 R .474 1-6 6 R .555 1-6 6 R .704 1-6 R .704 1-6 R .718	10 12 16 16 16 16 16 16 16 16 16 16 16 16 16	40 12 16 .20 .50 .30 2-3 2 L .400 1-3 8 R .490 1-3 8 .560 2-6 2 L .595 1-6 1 L .40. 1-6 1 L .703 1-6 1 L .778	44 12 20 .10 .30 .60 4-6 4 L .360 4-6 R .530 2-6 6 R .615 1-6 6 R .737 1-6 6 R .737

TABLE 7.8	(Continued)
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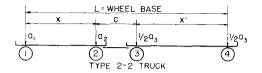
TAB												
	ck N Bas		51 44	52 44	53	54 44	55 44	56 44	48		59 48	<u>60</u> 48
Axle			12	12	12	12	12	12	12	12	12	12
Spac	cing	X X'	20	20	20	20	20	20	24	24	24	24
Loac On	d	a ₁	.10 .36	.10 .40	.10 .50	.20 .30	.20 $.40$.20	.10 .30	.10 .36	.10 .40	.10 .50
Axle	98	aı	.54	.50	.40	.50	.40	.30	.60	.54	.50	.40
-		G N	$^{\mathbf{4-6}}_{4}$	23 2	$^{2-3}_2$	$^{4-6}_{4}$	$\frac{2-3}{2}$	2-3	$^{4-6}_{4}$	4-6 4	2-3	$\overset{2-3}{2}$
	10	E V	L .324	$^{ m L}_{.320}$.400	$^{ m L}_{ m ,300}$.320	.400	$^{ m L}_{360}$	$_{.324}^{ m L}$	$_{.320}^{\mathbf{L}}$	L .400
-		Ġ	4-6	4-6	1-3	4-6	1-3	1-3	4-6	4-6	4-6	1-3
	20	N E	4 L	4 L	$^3_{ m R}$	4 L	$_{\rm R}^3$	$^3_{ m R}$	4 L	4 L	4 L	3 R
	20	v	.432	.400	.470	.400	.400	.490	.480	.432	.400	.470
		G	3-6	3-6	1-3	3-6	1-3	1-3 3	4-6	4-6	4 6	1 -3
ļ	30	N E	$^{6}_{ m R}$	$\overset{6}{\mathbf{R}}$	$^3_{ m R}$	$^{6}_{ m R}$	$^3_{ m R}$	\mathbf{R}	4 L	$^{4}_{ m L}$	4 L	$\overset{3}{\mathrm{R}}$
-		<u>v</u>	.480	.446	.514	.443	.467	.560	.520	.468	.433	$\frac{.514}{2}$
در		$_{\mathbf{N}}^{\mathbf{G}}$	2 · 6 6	2-6 6	$\frac{2-6}{2}$	2 - 6 6	$^{2-6}_{2}$	13 3	$_{6}^{2-6}$	$^{2-6}_{6}$	$\frac{2-6}{6}$	2-6 2
Span-Feet	40	$_{ m V}^{ m E}$	$^{ m R}_{.576}$	$^{ m R}_{.549}$	$_{.595}$	$_{.525}^{ m R}$	$_{.500}^{ m L}$	$^{ m R}_{.595}$	$^{ m R}_{.585}$	$^{ m R}_{.540}$	R .509	$\frac{L}{.555}$
-		G	1 6	16	2-6	1-6	16	1-6	16	1-6	1. 6	2-6
Da	50	N E	6	6 R	$^2_{ m L}$	6 R	1	1 L	6 R	6 R	6	L L
1	อบ	v	$_{.653}^{\mathbf{R}}$.631	.656	.603	1. .568	.620	.652	.616	R .591	.624
		G	1-6	1-6	2-6	1.6	1-6	1-6	1.6	1-6	1-6	2-6
	60	N E	$^{6}_{ m R}$	$\overset{6}{\mathbf{R}}$	$_{ m L}^2$	$\overset{6}{\mathrm{R}}$	$_{\mathbf{L}}^{1}$	$^{1}_{ m L}$	$^{6}_{ m R}$	$\overset{6}{\mathbf{R}}$	6 R	$^2_{ m L}$
-		<u>V</u>	.711	.693	.697	.669	.640	.683	.710	.680	.659	.670
		G N	$\begin{smallmatrix}1-6\\6\end{smallmatrix}$	$^{1-6}_{6}$	$^{2-6}_{2}$	$^{1-6}_{6}$	$^{1-6}_{1}$	$^{1-6}_{1}$	$_{6}^{1-6}$	1-6 6	1 6 6	$^{2-6}_{\mathbf{L}}$
	80	$_{ m V}^{ m E}$	R .783	R .770	.748	R .752	$^{ m L}$	I. .763	R .783	R .760	R .745	$_{.728}^{\mathbf{L}}$
-		$-\dot{\overline{G}}$	1 6	1-6	1-6	1-6	1-6	1 6	16	1-6	1 6	1 - 6
i.	100	N E	6 R	$_{\rm R}^{6}$	6 R	$^{6}_{ m R}$	1 L	$^1_{ m L}$	6 R	6 R	6 R	6 R
	100	v	.826	.816	.790	.802	.784	.810	.826	.808	.796	.766
 Fruc	k No).	61	62	63	64	65	66	67	68	69	70
	Base		48	48	48	52	52	52	52	52	52	52
Axle Spac		Х,	12 24	12 24	12 24	12 28	$\frac{12}{28}$	12 28	12 28	12 28	12 28	12 28
oad		aı	.20	.20	.20	.10	.10	.10	.10	.20	.20	.20
On Axle	es	\mathbf{a}_2	.30	.40	.50	.30	36	.40	.50	.30	.40	.50
			.50	.40	- 517	.60	.54	.50	.40	.50	.40	
		G	.50 4-6	.40 2-3	2-3	4-6	.54 4 6	2 3	2 3	.50 4- 6	2 3	2 3
	10	N	4 -6 4	2-3 2	2-3 2	4-6 4	4 6	2 3	2 3	4- 6 4	2 3 2	2 3
1-	10	N E V	4-6 4 L .300	2-3 2 L .320	2-3 2 L .400	4-6 4 L .360	4 6 4 1, .324	2 3 2 L .320	2 3 2 L .400	4- 6 4 L .300	2 3 2 L .320	2 3 2 L .400
	10	N E V	4-6 4 I. .300 4-6	2-3 2 L .320 1-3	2 - 3 2 L .400	4-6 4 L .360 4-6	4 6 4 1 .324 4-6	2 3 2 L .320 4-6	2 3 L .400 1 3	4- 6 4 L .300 4- 6	2 3 2 L .320	2 3 L .400 1 3
	10	N E V G N E	4-6 L .300 4-6 4 L	2-3 2 L .320 1-3 3 R	2 · 3 2 L .400 1-3 3 R	4-6 L .360 4-6 L	4 6 4 1 .324 4-6 4 L	2 3 2 L .320 4-6 4 L	2 3 2 L .400 1 3 R	4· 6 4 L .300 4· 6 4 L	2 3 2 L .320 1-3 3 R	2 3 L .400 1 3 R
	•	N E V G N E V	4-6 L .300 4-6 4 L .400	2-3 2 1 .320 1-3 3 R .400	2 - 3 2 L .400 1-3 3 R .490	4-6 L .360 4-6 L .480	4 6 1 .324 4-6 4 L .432	2 3 L .320 4-6 4 L .400	2 3 2 1, .400 1 3 3 R .470	4· 6 4 L .300 4· 6 4 L .400	2 3 L .320 I3 3 R .400	2 3 2 L .400 1 3 8 R .490
	20	NEV GNEV GN	4-6 4 1,300 4-6 4 1,400 4-6	2-3 2 L .320 1-3 3 R .400 1-3 3	2 · 3 2 L .400 1-3 3 R .490 1-3 3	4-6 4 L .360 4-6 4 L .480 4-6 4	4 6 4 1, 324 4-6 4 1, 432 4 6 4	2 3 2 L .320 4-6 4 L .400 4 6 4	2 3 2 L .400 1 3 3 R .470 1 3	4 · 6 4 L .300 4 · 6 4 L .400 4 · 6 4	2 3 2 L .320 I3 3 R .400	2 3 2 L .400 1 3 8 R .490
	•	N E V G N E V	4-6 4 1, 300 4-6 4 1, 400 4-6	2-3 2 L .320 1-3 3 R .400	2 - 3 2 L .400 1-3 3 R .490	4-6 4 L .360 4-6 4 L .480 4-6	4 6 4 1, 324 4-6 4 1, 432	2 3 2 L .320 4-6 4 L .400 4 6	2 3 2 1, .400 1 3 3 R .470	4-6 4 1 300 4-6 4 1 -400 4-6	2 3 2 L .320 I3 3 R .400	2 3 2 L .400 1 3 8 .490
	20	N E V G N E V G N E V	4-6 4 I. .300 4-6 4 I. .400 4-6 4 I. .433	2-3 2 1. .320 1-3 3 R .400 1 3 3 R .467	2 · 3 2 L .400 1 · 3 3 R .490 1 · 3 3 R .560 1 · 3	4-6 4 L .360 4 6 4 L .480 4 6 4 L .520 3 6	4 6 4 IL .324 4-6 4 IL .432 4 6 4 L .468 3-6	2 3 2 1, 320 4-6 4 1, 400 4 6 4 L, 433	2 3 1, .400 1 3 R .470 1 3 8 .470 1 3 1 3 1 3 1 4 4 4 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	4-6 4 L .300 4-6 4 L .400 4-6 4 L .433	2 3 L .320 1-3 3 R .400 1 3 3 R .467	2 3 L .400 1 3 8 .490 1 3 8 .560
-	20	NEV GNEV GNE	4-6 4 L .300 4-6 4 L .400 4-6 4 L .433 2-6 6 R	2-3 2 L .320 1-3 3 R .400 1 3 3 R .467 1-3 3 R	2 · 3 2 L .400 1 · 3 8 .490 1 · 3 8 .560 1 · 3 8	4-6 4 L 360 4-6 4 L .480 4-6 4 L .520 3-6 6 R	4 6 4 I. .324 4-6 4 I. .432 4 6 4 L. .468 3-6 6 R	2 3 2 L .320 4-6 4 L .400 4 6 4 L .433 3 6 6 R	2 3 2 L .400 1 3 8 R .470 1 3 8 R .514 1-3 3 R	4-6 4 L 300 4-6 4 L .400 4-6 4 L .433 3-6 R	2 3 2 L .320 I-3 3 R .400 1 3 8 R .467	2 3 L .400 1 3 R .490 1 3 R .560
-reet	30	NEV GNEV GNEV	4-6 4 L .300 4-6 4 L .400 4-6 4 L .433 2-6 6 R .495	2-3 2 L .320 1-3 3 R .400 1 3 3 R .467 1-3 3 R	2 - 3 2 L .400 1-3 3 R .490 1-3 3 R .560 1-3 3 R	4-6 4 L .360 4-6 4 L .480 4-6 4 L .520 3-6 6 R	4 6 4 I. .324 4-6 4 I. .432 4 6 4 L. .468 3-6 6 R. .504	2 3 2 L .320 4-6 4 L .400 4 6 4 L .433 3 6 6 R .470	2 3 2 1,400 1 3 8 R .470 1 3 8 R .514 1-3 8 R	4-6 4 L .300 4-6 4 L .400 4-6 4 L .433 3-6 6 R	2 3 2 L .320 1-3 3 R .400 1 3 8 R .467 1 3 8 R	2 3 2 L .400 1 3 8 R .490 1 3 8 R .560 1 3 R
pari-reet	30	NEV GNEV GNEV GNEV GN	4-6 4 L .300 4-6 4 1 L .400 4-6 4 1 L .433 2-6 R .495 1-6 6	2-3 2 L .320 1-3 3 R .400 1 3 8 R .467 1-3 3 R .500	2 · 3 2 L .400 1-3 3 R .490 1-3 3 R .560 1-3 3 R .560	4-6 4 L .360 4 6 4 L .480 4 6 4 L .520 3 6 R 8.555 2-6 6	4 6 4 L .324 4-6 4 L .432 4 6 4 L .468 3-6 6 R .504 2 6	2 3 2 L .320 4-6 4 L .400 4 6 4 L .433 3 6 6 R .470 2 6	2 3 2 L .400 1 3 3 R .470 1 3 8 R .514 1-3 8 R .535 2-6	4·6 4 L .300 4·6 4 L .400 4·6 4 L .433 3-6 6 R .465 2·6 6	2 3 2 L .320 I-3 3 R .400 I 3 R .467 I 3 3 R .500 I 3 S	2 3 2 L .400 1 3 8 R .490 1 3 8 .560 1 3 R .595 1 -3 3
naa J-urde	30	NEV GNEV GNEV GNE	4-6 4 L .300 4-6 4 L .400 4-6 4 L .433 2-6 6 R .495 1-6 6 R	2-3 2 1 .320 1-3 3 R .400 1 3 3 R 467 1-3 3 R .500	2 · 3 2 L .400 1 - 3 3 R .490 1 - 3 3 8 .560 1 - 3 3 8 .595 1 - 3 3 8	4-6 4 L .360 4 6 4 L .480 4 6 4 L .520 3 6 6 R .555 2-6 6 R	4 6 4 L .324 4-6 4 L .432 4 6 4 L .468 3-6 6 R .504 2 6 6 R	2 3 2 L .320 4-6 4 L .400 4 6 4 L .433 3 6 6 R .470 2 6 6 R	2 3 2 L .400 1 3 8 R .470 1 3 8 R .514 1-3 3 R .535 2-6 2 L	4· 6 4 L 300 4· 6 4 L .400 4· 6 4 L .433 3-6 6 R .465 2· 6 R	2 3 2 L 320 I - 3 8 R .400 1 3 8 R .500 I 3 8 R	2 3 2 L .400 1 3 3 R .490 1 3 8 R .560 1 3 8 R .595
Span-reet	30	NEV GNEV GNEV GNEV G	4-6 4 1, 300 4-6 4 1, 400 4-6 4-1, 433 2-6 6 R 495 1-6 R 8,563 1-6	2-3 2 1 .320 1-3 3 R .400 1 3 3 R .467 1-3 3 R .500 1-6 1 L	2 · 3 2 L .400 1-3 3 R .490 1-3 3 R .560 1-3 3 R .595 1-3 3 R	4-6 4 L .360 4 6 4 L .480 4 6 4 L .520 3 6 R 8.555 2-6 6	4 6 4 1. 324 4-6 4 L. 432 4 6 4 L. .468 3-6 6 R. .504 2 6 6 R. .504 1-6	2 3 2 L 320 4-6 4 L 400 4 6 4 L 433 3 6 6 R 470 2 6 R 555 1 6	2 3 2 L .400 1 3 R .470 1 3 8 R .514 1-3 3 R .535 2-6 2 L .592 2-6	4·6 4 L 300 4·6 4 L .400 4·6 4 L .433 3-6 6 R .465 2·6 6 R .531 1-6	2 3 2 L .320 I-3 3 R .400 I 3 R .467 I 3 3 R .500 I 3 S	2 3 2 L .400 1 3 8 R .490 1 3 8 .560 1 3 R .595 1 -3 3
Span-reet	20 30 40 50	NEV GNEV GNEV GNEV GN	4-6 4 L .300 4 6 4 L .400 4-6 4 L .433 2-6 6 R .495 1-6 6 R .563 1-6	2-3 2 1 320 1-3 3 R 400 1 3 3 R .467 1-3 3 R .500 1-6 1 L	2-3 2 L .400 1-3 3 R .490 1-3 3 R .560 1-3 3 R .595 1-3 3 R	4-6 4 L .360 4 6 4 L .480 4 6 4 L .520 3 6 6 R .555 2-6 6 R .624 1 6	4 6 4 1. .324 4-6 4 1. .432 4 6 4 L. .468 3-6 6 R. .504 2 6 6 R. .583 1-6 6	2 3 2 L 320 4-6 4 L 400 4 6 4 L 433 3 6 6 R 470 2 6 6 R 5555 1 6 6	2 3 2 1 1 400 1 3 8 470 1 3 8 R 5514 1-3 8 R 532 2-6 2 L 5592 2-6 2	4·6 4 L 300 4·6 4 L .400 4·6 4 L .433 3-6 6 R .465 2·6 6 R .531 1-6 6	2 3 2 L 320 1-3 3 R 400 1 3 3 R .467 1 1 3 3 R .560 1 3 5 R	2 3 2 L .400 1 3 R .490 1 3 R .560 1 3 R .595 1 -3 R .616 1 6
Shall reer	30	NEV GNEV GNEV GNEV G	4 -6 4 L .300 4 6 4 L .400 4 -6 4 L .433 2 -6 6 R R.563 1 -6 6 R 8 .563	2-8 2 1 .320 1-3 3 R .400 1 3 3 R .467 1-3 3 R .500 1-6 1 L .536	2 · 3 2 L .400 1-3 3 R .490 1-3 3 R .560 1-3 3 R .595 1-3 3 R	4-6 4 L .360 4 6 4 L .480 3 6 6 R .5520 3 6 6 R .5526 6 R .5526 6 R	4 6 4 1. 324 4-6 4 L. 432 4 6 4 L. .468 3-6 6 R. .504 2 6 6 R. .504 1-6	2 3 2 L 320 4-6 4 L 400 4 6 4 L 433 3 6 6 R 470 2 6 R 555 1 6	2 3 2 L .400 1 3 R .470 1 3 8 R .514 1-3 3 R .535 2-6 2 L .592 2-6	4·6 4 L 300 4·6 4 L .400 4·6 4 L .433 3-6 6 R .465 2·6 6 R .531 1-6	2 3 2 L 320 I - 3 3 R .400 I 3 3 R .467 I - 3 3 R .500 I 3 5 R .520 I - 6	2 3 2 L .400 1 3 8 R .490 1 3 8 R .560 1 3 8 R .595 1 -3 8 R .616
Oban-Leer	20 30 40 50	NEV GNEV GNEV GNEV GNEV GNEV G	4-6 4 L .3000 4-6 4 L .4000 4-6 4 L .4333 2-6 6 R .495 1-6 6 R .563 1-6 6 R	2-3 2 1 320 1-3 3 R 400 1 3 3 R .467 1-3 8 .500 1-6 1 L .536 1-6 1 L .614	2-3 2 L .400 1-3 3 R .490 1-3 3 R .560 1-3 3 R .595 1-3 3 R .616 1-663 1-6	4-6 4 L .360 4 6 4 L .480 4 6 4 L .520 3 6 6 R .555 2-6 6 R .624 1 6 R .624 1 1 6 R	4 6 4 1. .324 4-6 4 1. .432 4 6 4 L. .468 3-6 6 R. .504 2 6 6 R. .5583 1-6 6 R. .583 1-6 6 R. .583 1-6 8 R. .584 1-6 1-6 1-6 1-6 1-6 1-6 1-6 1-6	2 3 2 L 320 4-6 4 L 400 4 6 4 L 433 3 6 6 R 470 2 6 6 R 5555 1 6 6 R 626 1 6 1 6	2 3 2 L .400 1 3 8 R .470 1 3 8 R .514 1-3 8 R .52-6 2 L .592 2 -6 2 L .644 2 6	4-6 4 L .300 4-6 4 L .400 4-6 4 L .433 3-6 6 R .465 2-6 6 R .531 1-6 8 .603 1-6	2 3 2 L .320 1-3 3 R .460 1 3 3 R .467 1 3 3 R .500 1 3 5 R .520 1 6 1 L .587 1-6	2 3 2 L .400 1 3 8 R .490 1 3 8 R .560 1 3 8 R .595 1 -3 8 R .616 1 6 1 6 1 L L .643
מוֹסְמֵיוֹן דְּרָבְּבְּרָ	20 30 40 50	NEV GNEV GNEV GNEV GNEV GNE	4-6 4 L .300 d 4-6 4 L .400 d 4-6 4 L .433 2-6 6 R R.563 1-6 6 R R.563 1-6 6 R	2-3 2 1 320 1-3 3 R 400 1 3 3 R .467 1-3 3 R .500 1-6 1 L .536 1-6 1 L .614	2-3 2 L .400 1-3 3 R .490 1-3 3 R .560 1-3 3 R .595 1-3 2 R .616 1-1 L L 663	4-6 4 L .360 4 6 4 L .480 4 6 4 L .520 3 6 6 R .5555 2-6 6 R .624 1 6 R .624 1 6 R	4 6 4 1. .324 4-6 4 1. .482 4 6 4 L. .468 3-6 6 R. .504 2 6 6 R. .583 1-6 6 R.	2 3 2 L 320 4-6 4 L 400 4 6 4 L 433 3 6 6 R R 5555 1 6 6 R 626 1 6 R	2 3 2 1 1 400 1 3 3 R 470 1 3 3 R 514 1-3 3 R 7 535 2-6 2 1 1 592 2 -6 2 1 1 644 2 6 2 1 1	4·6 4 L 300 4·6 4 1. 400 4·6 4 4. 433 3-6 6 R 2·6 6 R .531 1-6 6 R .603 1-6 R	2 3 2 L 320 1-3 3 R 400 1 3 R 467 1 1 3 R 5500 1 3 R 5500 1 1 3 C 1 1 3 C 1 1 3 C 1 1 3 C 1 1 3 C 1 1 1 C 1 1 1 C 1 1 C 1 1 C 1 C 1 C 1	2 3 L .400 1 3 8 R .490 1 3 8 R .560 1 3 8 R .5616 1 -3 8 R .616 1 -4 1 L .643 1 L .643
Span-reet	20 30 40 50	NEV GNEV GNEV GNEV GNEV GNEV	4-6 4 L .3000 4-6 4 L .4000 4-6 4 L .4333 2-6 6 R .563 1-6 6 R .563 1-6 6 R .563	2-8 2 1 320 1-3 3 R 400 1 3 3 R 467 1-3 3 R 500 1-6 1 L 536 1-6 1 L 614 1-6 1 L 710	2-3 2 L .400 1-3 3 R .490 1-3 3 R .560 1-3 3 R .595 1-3 3 R .616 1-6 1 L .663 1-6 1 L .614 1-6 1 L .615 1-6 1 L .615 1-7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4-6 4 L .360 4 6 4 L .480 4 6 4 L .520 3 6 6 R .555 2-6 6 R .624 1 6 R .624 1 1 6 R .624 1 1 6 R .624 1 1 6 R .636 1 1 6 R .636 1 6 R .637 1 1 6 R .637 1 1 6 R .637 1 1 6 R .637 1 1 6 R .637 1 1 6 R .637 1 1 6 R .637 1 1 6 R .637 1 1 6 R .637 1 1 6 R .637 1 1 6 R .637 1 1 6 R .637 1 1 6 R .637 1 1 6 R .637 1 1 6 R .637 1 1 6 R .637 1 1 6 R .637 1 1 6 R .637 1 6 R .637 1 6 R .637 1 7 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1	4 6 4 1. .324 4-6 4 L. .482 4 6 4 L. .468 3-6 6 R. .504 2 6 6 R. .583 1-6 6 R. .583 1-6 6 R.	2 3 2 L 320 4-6 4 L 400 4 6 4 L 433 3 6 6 R 470 2 6 6 R 5555 1 6 R 6 6 R 6.626 1 - 6 6 R 7.720	2 3 2 1	4·6 4 L 300 4·6 4 L .400 4·6 4 L .433 3-6 6 R .465 2·6 6 R .531 1-6 6 R .60 8 R .702	2 3 2 L 320 I - 3 3 R 460 I 3 3 R 467 I - 3 3 R 500 I 3 5 R .520 I - 6 I L L .587 I - 6 I L L .587 I - 6 L L .5890	2 3 2 L .400 1 3 8 R .490 1 3 8 R .560 1 3 8 R .595 1 -3 8 R .616 1 6 1 L .643 1 6 1 L
	20 30 40 50 60	NEV GNEV GNEV GNEV GNEV GNEV GNEV GN	4-6 4 L .300 4 6 4 L .400 4-6 4 L .433 2-6 6 R .563 1-6 6 R .563 1-6 6 R .727	2-3 2 1 320 1-3 3 R 400 1 3 3 R .467 1-3 8 R .500 1-6 1 L .536 1 -6 1 L .710 1-6 1 1 -6 1 -1 1 -6 1 -1 1 -6 1 -6 1 -	2-3 2 L .400 1-3 3 R .490 1-3 3 R .560 1-3 3 R .616 1-4 L L .663 1-6 1 L .748 1 1	4-6 4 L .360 4 6 4 L .480 4 6 4 L .520 3 6 6 R .5555 2-6 6 R .624 1 6 6 R .624 1 -6 6 R	4 6 4 1. .324 4-6 4 1. .432 4 6 4 1. .468 3-6 6 R 7.504 2 6 6 R 8. .583 1-6 6 R 8. .4649 1-6 6 R 8. .737 1 6	2 3 2 L 320 4-6 4 L 400 4 6 4 L 433 3 6 6 R 8 5555 1 6 6 R 626 1-6 6 R 720 1-6 6 6 R 720 1-6 6	2 3 2 1 1 400 1 3 3 R 470 1 3 3 R 514 1-3 3 R 535 2-6 2 L 592 2 -6 2 L 707 2 6 2	4·6 4 L .300 4·6 4 L .400 4·6 4 L .433 3-6 6 R .465 2·6 6 R .531 1-6 6 R .603 11-6 6 R .702 1-6 1-6 1-6 1-6 1-6 1-6 1-6 1-6	2 3 2 1 3 2 1 1 3 3 8 4 400 1 3 3 8 8 467 1 3 3 8 8 5500 1 5 5 2 0 1 6 1 1 5 5 8 7 1 - 6 1 1 4 5 9 0 1 - 6 1 1	2 3 2 1
Span-Feet	20 30 40 50	NEV GNEV GNEV GNEV GNEV GNEV G	4-6 4 L .300 4 6 4 L .400 4-6 4 L .433 2-6 6 R .495 1-6 6 R .563 1-6 6 R .636 1-6 R .727 1-6	2-8 2 1 320 1-3 3 R 400 1 3 3 R .467 1-3 3 R .506 1 L .536 1-6 1 L .614 1-6 1 L .710 1-6	2-3 2 L .400 1-3 3 R .490 1-3 3 R .560 1-3 3 R .595 1-3 3 R .595 1-4 1-6 1 L .663 1-6 1 L .748 1 1	4-6 4 L .360 4 6 4 L .480 3 6 6 R .5520 3 6 6 R .5555 2-6 6 R .624 1 6 R .624 1 6 R .623 1 6 R	4 6 4 1, 324 4-6 4 L .482 4 6 4 L .468 3-6 6 R .504 2 6 6 R R .583 1-6 6 R .549 1-6 6 R	2 3 2 L 320 4-6 4 L 400 4 6 4 L 433 3 6 6 R 8.470 2 6 6 R 8.5555 1 6 6 R 8.626 1 6 R 7.20 1-6	2 3 2 L .400 1 3 8 R .470 1 3 8 R .514 1-3 8 R .554 2 L .5592 2-6 2 L .544 2 6 2 L .707 2 6	4-6 4 L .300 4-6 4 L .400 4-6 4 L .433 3-6 6 R .465 2-6 6 R .531 1-6 6 R .503 1-6 6 R	2 3 2 L 320 I - 3 3 R 400 I 3 3 R .467 I - 3 3 R .500 I - 6 I L .587 I - 6 1 L .690 I - 6	2 3 2 L .400 1 3 8 R .490 1 3 8 R .560 1 3 8 R .595 1 -3 8 R .616 1 6 1 L .643 1 6 1 L .733 1 6

ruc	k No		Continue 71	72	73	74	75	76	77	78	79	80
	Base		40	40	40	40	40	40	40	44	44	44
xle pac		х,	$\frac{16}{12}$	$\frac{16}{12}$	$^{16}_{12}$	$^{16}_{12}$	$^{16}_{12}$	$\frac{16}{12}$	$^{16}_{12}$	$^{16}_{16}$	$^{16}_{16}$	16 16
oad		\mathbf{a}_1	.10	.10	.10	.10	.20	.20	.20	.10	.10	.10
n Xle:	s	\mathbf{a}_3	.30 $.60$.56 $.54$.40 .50	.50 .40	.30 .50	.40 .40	.50 $.30$.30 $.60$.36 $.54$.40 .50
I	-	G	4-6	4 6	2 3	2-3	4-6	2 -3	23	46	4-6	2-
1	10	$_{ m E}^{ m N}$	4 L	$^4_{ m L}$	$^2_{ m L}$	$^2_{ m L}$	4 L	$^2_{ m L}$	$^2_{ m L}$	$^4_{ m L}$	$^4_{ m L}$	$\stackrel{2}{\mathbf{I}}$
_		V	.360	.324	.320	.400	.300	.320	.400	.360	.324	.32
		G N	4-6 4	4 6 4	4-6 4	$rac{2-4}{2}$	4 6 4	$^{2-4}_2$	$^{2-4}_{2}$	46 4	$^{4-6}_{4}$	4-
	20	\mathbf{E}	\mathbf{L}	L .432	L	L	L	L	L	L	L	.40
-		V G	2 6	2-6	2-6	$\frac{.474}{2-6}$	2-6	2-6	.470 2-6	2-6	$\frac{.432}{2-6}$	2-
	0.0	N	6	6	2	2	6	2	2	6	6	
	30	$_{ m V}^{ m E}$	R .600	R .564	L .541	$_{.600}^{\mathrm{L}}$	R .513	$_{.507}^{ m L}$	$^{ m L}_{.566}$	$^{ m R}_{.560}$	$^{ m R}_{.516}$.4
-		G	2 6	2 6	26	2 6	2 6	2-6	26	26	2 6	2
ŀ	40	N E	$^6_{ m R}$	6 R	2 L	2 L	6 R	$^2_{ m L}$	2 L	6 R	$^{6}_{ m R}$	1
_		V	.675	.648	.630	.675	.585	.580	.625	.645	.612	.5
-		G N	$^{1-6}_{6}$	1-6 6	$^{1-6}_{6}$	$\frac{2-6}{2}$	$^{1-6}_{6}$	$\frac{1-6}{6}$	$\frac{2-6}{2}$	$^{1-6}_{6}$	$\frac{1}{6}$	1
'	50	\mathbf{E}	R	R	R	\mathbf{L}	R	\mathbf{R}	L	R	R]
-		V G	$\frac{.740}{1-6}$	718	.704 16	$\frac{.720}{2.6}$	1-6	$\frac{.632}{1-6}$	2-6	.708 1 6	682 1-6	<u>.6</u> 1
-		N	6	6	6	2	6	6	2	6	6	
	60	E V	$^{ m R}_{.783}$	$^{ m R}_{.765}$	R .753	$_{.750}^{ m L}$	$^{ m R}_{.723}$	R .693	$_{.683}^{ m L}$	R .757	$^{ m R}_{.735}$.7
		G	1 6	1-6	1-6	1-6	1 6	1-6	1-6	1 6	1 6	1
	80	N E	6 R	$^{6}_{\mathbf{R}}$	6 R	6 R	6 R	6 R	1 I.	6 R	$^{6}_{ m R}$	1
		v	.838	.824	.815	.792	.792	.770	.753	.818	.801	.7
		G N	$^{1-6}_{6}$	$^{1-6}_{6}$	$^{1-6}_{6}$	16 6	1- 6 6	1-6 6	$_{1}^{1-6}$	16 6	$\begin{smallmatrix}1&6\\&6\end{smallmatrix}$	1
1	100	\mathbf{E}	\mathbf{R}	R	\mathbf{R}	R	R	R	L	R	\mathbf{R}]
			.870	.859	.852	.834	.834	.816	.802	.854	.841	.8
	k No Base		81	82	83 44	84 44	$\frac{85}{48}$	86 48	87 48	48	89 48	9 4
xle		X	16	16	16	16	16	16	16	16	16	- 4
pae	ing	Χ'	16	16	16	16	20	20	20	20	20	2
oad n	•	\mathbf{a}_1	.10 .50	$\frac{.20}{.30}$	$.20 \\ .40$.20 $.50$.10 .30	.10 .36	.10 .40	$.10 \\ .50$.20 .30	.2
xle	s	a ₃	.40	.50	.40	.30	.60	.54	.50	.40	.50	4
		G N	2-3 2	$^{4-6}_{4}$	$\frac{2}{2}^{3}$	$\frac{2}{2}$	4-6 -4	4 ·6 4	$_{2}^{2-3}$	$_{2}^{2-3}$	$^{4-6}_{4}$	2
Ì	10	\mathbf{v}	1. .400	$^{1}_{300}$	$^{ m L}_{.320}$	$_{.400}^{ m L}$	1	1. .324	$^{ m L}_{.320}$	$_{.400}^{ m L}$	$^{ m L}_{.300}$	
		G	1-3	4-6	13	13	4-6	4-6	4-6	1-3	4-6	$-\frac{3}{1}$
	0.0	N E	$^3_{\mathbf{R}}$	4 L	3 R	$^3_{ m R}$	4	4	4	3	4	
	20	V	.450	.400	.360	.450	$_{.480}^{ m L}$	$^{ m L}_{.432}$	L .400	R .450	$^{ m L}_{.400}$.3
		G	2 6	26	2 6	1-3	3-6	3-6	3-6	1-3	3-6	1
	30	N E	$^2_{f L}$	6 R	$^2_{ m L}$	$^3_{ m R}$	$^6_{ m R}$	$^6_{ m R}$	6 R	3 R	$^{6}_{ m R}$]
_		V	.547	.473	.454	.533	.530	.480	.446	.500	.443	4
		\mathbf{G} \mathbf{N}	$\frac{2-6}{2}$	$^{2-6}_{6}$	$\frac{2-6}{2}$	$\frac{2-6}{2}$	$\frac{2-6}{6}$	2 -6 6	$^{2-6}_{6}$	$\frac{2}{2}^{6}$	$^{2-6}_{6}$	2
	40	\mathbf{E}	L	\mathbf{R}	\mathbf{L}	L	\mathbf{R}	\mathbf{R}	R	L	\mathbf{R}	
		V	.635 2-6	.555 1 6	2 6	$\frac{.595}{2.6}$.615 1-6	$\frac{.576}{1-6}$.549 16	.595 2-6	.525	.5
		14	-,0	6	2	2	6	6	6	2	6	
		G N	-		L	$_{.636}^{ m L}$	R .676	$_{.645}^{ m R}$	$_{.623}^{\mathbf{R}}$	$^{ m L}_{.656}$	$^{ m R}_{.587}$.5
	50	N E	Ĺ	R .627				1-6	1-6	26	1~6	1
	50	N E V G	.688 2-6	.627 1-6	.592 1-6	2-6	1_6			20		
		N E V G N	$\begin{array}{c} L \\ .688 \\ \hline 2-6 \\ 2 \end{array}$.627 1-6 6		26 2	6	6	6	2	6	
	50	N E V G N E V	L .688 2-6 2 L .724	.627 1 -6 6 R .690	1-6 6 R .653	2 -6 2 L .663		6 R .704		$\overset{2}{\overset{\text{L}}{\text{L}}}_{.697}$		
		N E V G N E V	1. .688 2-6 2 1. .724 2-6	.627 1-6 6 R .690 1-6	.592 1-6 6 R .653	2 -6 2 L .663 1-6	6 R .730	6 R .704 1-6	$\frac{^{6}_{ m R}}{^{1-6}}$	2 L .697	6 R .656	.6
4		NEV GNEV GNE	L .688 2-6 2 L .724 2-6 2 L	.627 1-6 6 R .690 1-6 6 R	.592 1-6 6 R .653 1-6 6	2 -6 2 L .663 1-6 1 L	6 R .730 1 -6 6 R	6 R .704 1-6 6 R	6 R .686 1-6 6 R	$\begin{array}{c} 2 \\ L \\ .697 \\ \hline 2 \cdot 6 \\ 2 \\ L \end{array}$	6 R .656 1-6 6 R	.6
	60	N E V G N E V G N E V	2 -688 2-6 2 1, -724 2-6 2 1, -768	.627 1-6 6 R .690 1-6 6 R .767	.592 1-6 6 R .653 1-6 6 R .740	2 -6 2 L .663 1-6 1 L	6 R .730 16 6 R .798	6 R .704 1-6 6 R .778	6 R .686 1-6 6 R .765	2 L .697 2 6 2 L .748	6 R .656 1-6 6 R .742	.6 1 .7
	60	NEV GNEV GNE	L .688 2-6 2 L .724 2-6 2 L	.627 1-6 6 R .690 1-6 6 R	.592 1 - 6 6 R .653 1 - 6 6	2 -6 2 L .663 1-6 1 L	6 R .730 1 -6 6 R	6 R .704 1-6 6 R	6 R .686 1-6 6 R	$\begin{array}{c} 2 \\ L \\ .697 \\ \hline 2 \cdot 6 \\ 2 \\ L \end{array}$	6 R .656 1-6 6 R	.6

	*** **	. .	, a	•	E	QUIVAL	ENT LC	ADS				73
	uck N		(Continue 91	92	93	94	95	96	97	98	99	100
	ı. Bas		48	52	52	52	52	52	52	52	56	56
Ax	le.	X X,	16	16	16	16	16	16	16	16	16	16
Log	acing	a ₁	.20	.10		.10	.10	.20	.20	.20	.10	.10
On		\mathbf{a}_2	.50	.30	.36	.40	.50	.30	.40	.50	.30	.36
Ax	les	G G	30 3	4-6	.54 4-6	$\frac{.50}{2-3}$.40 2-3	$\frac{.50}{4-6}$.40 2-3	.30 2-3	.60 4–6	.54 46
		N	2	4	4	2	2	4	2 L	2	4	4
	10	E V	$^{ m L}_{.400}$.360	$^{ m L}_{.324}$	$_{.320}^{ m L}$	$_{.400}^{ m L}$	$_{.300}^{\mathbf{L}}$.320	L .400	$^{ m L}_{.360}$	$^{ m L}_{.324}$
		G	1-3	4-6	4 6	4-6	1-3	4-6	1-3	1-3	4-6	4-6
	0.0	N E	$^3_{ m R}$	4	$^4_{ m L}$	4	$^3_{ m R}$	4	$^3_{ m R}$	3	$^{4}_{\rm L}$	4
İ	20	$\ddot{\mathbf{v}}$.450	$^{ m L}_{.480}$.432	$^{ m L}_{.400}$.450	$_{.400}^{ m L}$.360	R .450	.480	$^{\mathrm{I}_{2}}_{.432}$
		G	13	4 6	4-6	4-6	1-3	4-6	1-3	1-3	4-6	4-6
ı	30	$_{ m E}^{ m N}$	3 R	4 L	$^4_{ m L}$	$^4_{ m L}$	$^3_{ m R}$	$^4_{ m L}$	$^3_{ m R}$	$^3_{ m R}$	$^4_{ m L}$	$^4_{ m L}$
		V	.533	.520	.468	.434	.500	.434	.440	.533	.520	.468
		G N	1 3	$\frac{2}{6}$	$\frac{2}{6}$	$\frac{2-6}{6}$	2-6	$^{2-6}_{6}$	$^{1-3}_3$	$^{1-3}_{3}$	$_6^{3-6}$	$_{6}^{3-6}$
eet	40	\mathbf{E}	\mathbf{R}	R	R	\mathbf{R}	$^2_{ m L}$	R	R	\mathbf{R}	\mathbf{R}	\mathbf{R}
Span-Feet		G	$\frac{.575}{2.6}$	$\frac{.585}{2.6}$	$\frac{.540}{2.6}$	2-6	$\frac{.555}{2-6}$	$\frac{.494}{2-6}$.480 2-6	.575 1-3	$\frac{.555}{2-6}$	$\frac{.504}{2-6}$
par		N	2	6	6	6	2 L	2-6 6	2	1-3 3	6	2-6 6
20	50	$_{ m V}^{ m E}$	$_{.612}^{ m L}$	R .648	$_{.612}^{ m R}$	R ,587	$_{.624}^{\mathrm{I}_{J}}$	$^{ m R}_{.556}$	$^{ m L}_{.528}$	R .600	R .624	$^{ m R}_{.583}$
		G	2 6	16	1-6	16	2-6	1-6	2-6	2-6	1-6	1-6
	•	N	2	6	6	6	2	6	2	2	6	6
	60	$_{ m V}^{ m E}$	$_{.643}^{\mathrm{L}}$	$^{ m R}_{.703}$	R ,673	$^{ m R}_{,653}$	$_{.670}^{ m L}$	R .623	$_{.574}^{ m L}$	$_{.623}^{\mathbf{L}}$	R .677	$^{ m R}_{.643}$
		G	16	1-6	16	1-6	2-6	1-6	1-6	1-6	1-6	16
İ	80	N E	$^{ m l}_{ m L}$	$^{6}_{ m R}$	6 R	6 R	$^2_{ m L}$	$^6_{f R}$	$^{6}_{\mathbf{R}}$	$egin{array}{c} 1 \ L \end{array}$	$^{6}_{ m R}$	$^{6}_{ m R}$
		V	.723	.778	755	.740	.728	.717	.680	.708	.758	.732
		G N	1-6	1.6	1-6	16	2-6	1-6	1-6	1-6	1-6	1-6
İ	100	\mathbf{E}	$^{ m l}_{ m L}$	$^{6}_{ m R}$	$^{6}_{ m R}$	$^{6}_{\rm R}$	$^2_{f L}$	$^{6}_{ m R}$	$^6_{f R}$	$^{1}_{\mathbf{L}}$	$\overset{6}{\mathbf{R}}$	$^{6}_{ m R}$
		V	.778	.822	.804	.792	.847	.774	.744	.766	.806	.786
	uck N		101	102	103	104	105					
	ı. Bas		56	56	56	56	56					
Ax Sp:	le acing	Х,	$\frac{16}{28}$	16 28	$\frac{16}{28}$	$\frac{16}{28}$	$\frac{16}{28}$					
Lo	ad	a ₁	,10	.10	.20	.20	.20					
$\mathbf{A}_{\mathbf{X}}$		a ₂	.40 .50	.50 .40	.30 .50	.40 .40	.50 .30					
1	-	- G	2-3	2-3	4 6	2. 3	23					
	10	N E	$^2_{ m L}$	2 L	$^4_{ m L}$	$^2_{f L}$	$^2_{f L}$					
1	10	v	.320	.400	.300	.320	.400					
- 1		G	4-6	1-3	4-6	1-3	13					
	20	$_{ m E}^{ m N}$	$^4_{ m L}$	$^3_{ m R}$	$^{4}_{ m L}$	\mathbf{R}^3	3 R					
		V	.400	.450	.400	.360	.450					
i		G N	4 6 4	$\frac{1}{3}$	4-6 4	1 · 3 3	13 3					
	30	\mathbf{E}	\mathbf{L}	R	\mathbf{L}	R	R					
ļ		V	.433	.500	.433	.440	533 1-3					
- 1		G	3-6	1_3	3-6	1-3						
يد		G N	3-6 6	1-3 3	3-6 6	1-3 -3	3					
Feet	40	N E	$^{6}_{ m R}$	$^3_{ m R}$	$^{6}_{ m R}$	3 R	$^3_{ m R}$					
in-Feet	40	N E V	6 R .470 2 6	3 R .525 2-6	R .465 2-6	3	3 R .575 1-3					
Span-Feet		N E V G N	$\frac{ {\overset{6}{\underset{.470}{R}}}_{.470}^{6} }{ {\overset{2}{\underset{6}{\overset{6}{}}}}_{6}^{6} }$	$\begin{array}{c} 3 \\ R \\ .525 \\ \hline 2-6 \\ 2 \end{array}$	6 R .465 2-6 6	3 R .480 1-3 3	3 R .575 1-3 3					
Span-Feet	50	S S S S S S S S S S S S S S S S S S S	6 R .470 2 6	3 R .525 2-6	R .465 2-6	$\frac{\overset{3}{\text{R}}}{\overset{480}{1-3}}$	3 R .575 1-3					
Span-Feet		N E V G N E V	6 R .470 2 6 6 R .555	3 R .525 2-6 2 L .592 2-6	6 R .465 2-6 6 R .531	3 R .480 1-3 3 R .504	3 R .575 1-3 3 R .600	·				
Span-Feet		NEV GNEV GNE	6 R .470 2 6 6 R .555	3 R .525 2-6 2 L .592	6 R .465 2-6 6 R .531 1-6 6 R	3 R .480 1-3 3 R .504	3 R .575 1-3 3 R .600 1-3 3 R					
Span-Feet	50	G N E V G N E V	6 R .470 2 6 6 R .555 1-6 6 R	3 R .525 2-6 2 L .592 2-6 2-6 2 L .644	6 R .465 2-6 6 R .531 1-6 6 R .589	3 R .480 1-3 3 R .504 2-6 2 L	3 R .575 1-3 3 R .600 1-3 3 R .617					
Span-Feet	50	S S S S S S S S S S S S S S S S S S S	6 R .470 2 6 6 R .555 1-6 6 R .619	3 R .525 2-6 2 L .592 2-6 2 L .644 2-6	6 R .465 2-6 6 R .531 1-6 6 R .589	3 R .480 1-3 3 R .504 2-6 2 L .547 1-6	3 R .575 1-3 3 R .600 1-3 3 R .617					
Span-Feet	50	NEV GNEV GNE	6 R .470 2 6 6 R .555 1-6 6 R .619 1-6 R	3 R .525 2 -6 2 L .592 2 -6 2 L .644 2 6 4	6 R .465 2-6 6 R .531 1-6 6 R .589 1-6 6 R	3 R .480 1-3 3 R .504 2-6 2 L .547 1-6	3 R .575 1-3 3 R .600 1-3 3 R .617 1-6 1 L					
Span-Feet	50	NEV GNEV GNEV	6 R .470 2 6 6 R .555 1-6 6 R .619 1-6 6 R .715	3 R .525 2 L .592 2 2 L .644 2 6 2 L	6 R .465 2-6 6 R .531 1-6 6 R .589 1-6 6 R	3 R .480 1-3 3 R .504 2-6 2 L .547 1-6 1 L	3 R .575 I-3 3 R .600 I-3 3 R .617 I-6 1 L					
Span-Feet	60	NEV GNEV GNEV GNEV GN	6 R .470 2 6 6 R .555 1 -6 6 R .715 1 -6 6 6	3 R .525 2 -6 2 L .592 2 -6 2 L .644 2 -6 2 L .707 2 -6 2	6 R .465 2-6 6 R .531 1-6 6 R .589 1-6 6 R	3 R .480 1-3 3 R .504 2-6 2 L .547 1-6 1 L .650	3 R .575 1-3 3 R .600 1-3 3 R .617 1-6 1 L .693 1-6					
Span-Feet	50	NEV GNEV GNEV G	6 R	3 R .525 2-6 2 L .592 2-6 2 L .644 2-6 2 L .707 2-6	6 R .465 2-6 6 R .531 1-6 6 R .589 1-6 6 R	3 R .480 1-3 3 R .504 2-6 2 L .547 1-6 1 L .650	3 R .575 1-3 3 R .600 1-3 3 R .617 1-6 1 L .693					

TABLE 7.9

CONTROLLING CONDITIONS AND MAXIMUM SHEARS IN SIMPLE SPANS
PRODUCED BY THE TYPE 2-2 TRUCKS WEIGHING ONE KIP EACH



One hundred and forty-four variations in the Type 2-2 truck are given in this table. Each truck number, from 1 to 144, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight on each axle.

Truck	No.	1	2	3	4	5	6	7	8	9	10
Wh. Ba	ase L	28	28	28	28	28	28	32	32	32	32
Axle	X	12	12	12	12	12	12	12	12	12	12
Spacin		8	8	8	8	8	8	12	12	12	12
Hitch	C	- 8	8	8	8	- 8	88	8	8	- 8	8
Load	\mathbf{a}_1	.10	.10	.10	.20	.20	.20	.10	.10	.10	.20
On Axles	\mathbf{a}_2	.20	.30	.40	.20	.30	.40	.20	.30	.40	.20
Axtes	a ₃	.70	.60	.50	.60	.50	.40		.60	.50	.60
-	G N	$_{3}^{-4}$	$^{2-3}_2$	2-3	$_{3-4}^{3-4}$	$rac{2}{2}$	2-3	2-3 3	2-3	$\frac{2-3}{2}$	2-3 3
10		Ĭ.	Ĺ	Ĺ	L	Ĭ.	$_{ m L}^2$	Ř	$^2_{ m L}$	Ĺ	Ř
1 1	v	$.4\overline{20}$.360	.450	.360	.350	.440	.390	$.3\overline{60}$.450	.340
	G	2-4	2-4	2-4	2-4	2-4	2.4	2 4	2-4	2 4	2-3
1	N	4	2	2	4	2	2	4	2	2	_3
20) E V	R	L	L	R	L	L	R	L	L	R
		.600	.540	.600	.520	.500	.560	.490	.480	.550	.420
į	G N	14 4	1-4 4	$^{2-4}_2$	1-4	$\frac{2-4}{2}$	$\frac{2-4}{2}$	24 4	$\frac{2\cdot 4}{2}$	$\frac{2}{2}$	$\frac{2-4}{4}$
36	0 E	Ř	Ř	Ĺ	Ř	Ĺ	Ĺ	$^{4}_{ m R}$,	Ĺ	Ĺ	Ř
	v	.707	.667	$.7\overline{0}0$.627	.600	.640	.627	.620	.667	.547
	G	1-4	14	2-4	1-4	14	2 4	1 4	2-4	2-4	14
. ا د	N	4	4	2	4	4	2	4	2	2	4
3 40	v E	R .780	$^{ m R}_{.750}$	L .750	$^{ m R}_{.720}$	R -690	$_{.680}^{ m L}$	$^{ m R}_{.715}$	L .690	$^{ m L}_{.725}$	$^{ m R}_{.650}$
Span-Feet	- v	1 4	1-4	2-4	1-4	1 4	1-4	1-4	1-4	2-4	1-4
E	N	4	4	2-4	4	4	4	1-4 4	$\frac{1-4}{4}$	2-4	4
2 50		Ř	Ř	Ĺ	Ř	Ř	Ř	Ř	Ř	Ĺ	Ř
	\mathbf{v}	.824	.800	.780	.776	.752	.728	.772	.744	.760	.720
-	G	1.4	1-4	1-4	1-4	1-4	14	1-4	1 -4	2-4	1-4
	N	4	4	4	4	4	4	4	4	2	4
60	v E	$^{ m R}_{.853}$	R .833	R .813	R .813	R .793	$^{ m R}_{.773}$	810	R -787	.783	R .767
	G	1-4	1-4	1-4	1-4	1.4	1-4	1 4	14	1-4	1-4
	N	4	4	4	4	4	4	4	4	4	4
8		Ŕ	Ř	${f R}$	R	Ŕ	Ŕ	Ŕ	Ŕ	Ŕ	Ŕ
-	v	.890	.875	.860	.860	.845	.830	.858	.840	.823	.825
	G	14.	1-4	1-4	1-4	1-4	1-4	14	1-4	1-4	1-4
1	N	4	4	4	4	4	4	4	4	4	4
10	${f 0}$ ${f E}$ ${f V}$	R .912	$_{.900}^{ m R}$	R .888	R. .888	$^{ m R}_{.876}$	$^{ m R}_{.864}$	$^{ m R}_{.886}$.872	$^{ m R}_{.858}$	$^{ m R}_{.860}$
	v	.912	.900	.088	.888	.876	.664	.686	.872	.608	.000

a1, a2, and a3-Represent the ratio of gross vehicle weight on axles.

G--Axle group causing maximum shear, thus, 1-3 means axles 1, 2, and 3.

N-Number of critical axle under which maximum shear occurs.

E-End of span at which critical axle is placed.

V-Maximum shear.

		Continue									
Truck Wh. Ba		11 32	12 32	36	36	15 36	16 36	17 36	18 36	19	20 40
Axle	X	12	12	12	12	12	12	12	12	12	12
Spacin Hitch	g X'	$\frac{12}{8}$	12	<u>16</u> 8	<u>16</u>	- 16 8	16	16 8	$\frac{16}{8}$	8	20 8
Load	aı	.20	.20	.10	.10	.10	.20	.20	.20	.10	.10
$\begin{array}{c} \mathrm{On} \\ \mathrm{Axles} \end{array}$	a ₂ a ₃	.30 .50	.40 .40	.20 .70	.30 .60	.40 .50	.20 .60	.30 .50	$.40 \\ .40$.20 .70	.30 .60
	G	2 3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	23	2-3
10		$^2_{ m L}$	$^2_{ m L}$	$^3_{ m R}$	$^2_{ m L}$	$^2_{ m L}$	$^3_{ m R}$	$^2_{\mathbf{L}}$	$^2_{ m L}$	$^3_{f R}$	$_{\mathbf{L}}^{2}$
	V	.350 2-3	.440	.390	.360	.450	$\frac{.340}{2-3}$	2-3	.440	.390	$\frac{.360}{2-3}$
	G N	2	$\frac{2-3}{2}$	$\frac{2-3}{3}$	$\frac{2-3}{2}$	$rac{2\cdot 3}{2}$	3	2	$\substack{2-3\\2}$	$\frac{2-3}{3}$	2
20	0 E V	$_{.450}^{ m L}$	$_{.520}^{ m L}$	$^{ m R}_{.470}$	$_{.480}^{ m L}$	$_{.550}^{ m L}$	$^{ m R}_{.420}$	L .450	$_{.520}^{ m L}$	$^{ m R}_{.470}$	$_{.480}^{ m L}$
	G	2-4	2-4	2-4	2 -4	2-4	1-3	1-3	2-4	1-3	1-3
30	0 E	2 L	$^2_{ m L}$	$^{4}_{ m R}$	$^2_{ m L}$	$^2_{ m L}$	$^3_{ m R}$	$^3_{ m R}$	$^2_{f L}$	R R	$^{3}_{\rm R}$
	- V G	$\frac{.567}{2 \cdot 4}$	613 2-4	$\frac{.553}{1-4}$	$\frac{.580}{24}$	633 	$-\frac{.513}{1-4}$	2-4	$\frac{.587}{2-4}$.530	.553
٠.	N	2	2	4	2	2	4	2	2	2	2
eg 40) E V	$_{.625}^{\mathbf{L}}$	$_{.660}^{ m L}$	$_{.650}^{ m R}$	$_{.660}^{ m L}$.700	$^{ m R}_{.580}$	$_{.600}^{ m L}$	$_{.640}^{ m L}$	$_{.585}^{ m L}$	$^{ m L}_{.630}$
Span-Feet	G	1 4	1-4	1-4	2-4	24	1-4	1-4	1 -4	1 4	2-4
od 50		$^4_{ m R}$	$^{1}_{\mathbf{L}}$	${f R}^4$	$^2_{ m L}$	$^2_{ m L}$	$^{4}_{ m R}$	$^{ m I}_{ m L}$	$^{1}_{ m L}$	$^4_{ m R}$	$^2_{ m L}$
		1 4	.696	.720	.708 2-4	$\frac{.740}{2}$ -	664	.648 1- 4	.680 1-4	1.4	2-4
	G N	4	$^{1-4}_{1}$	$^{1-4}_{4}$	2	2	14 4	1	1	4	$\overset{2-4}{\overset{2}{}{}{}{}{}{}{$
60	V E	$^{ m R}_{.743}$	$_{.747}^{\mathbf{L}}$	$^{ m R}_{.767}$	$_{.740}^{\mathrm{L}}$	$^{ m L}_{.767}$	$^{ m R}_{.720}$	$_{.707}^{ m L}$	$^{ m L}_{.733}$	R .723	$^{ m L}_{.720}$
	G	14	1-4	1-4	1-4	2- 4	1-4	1-4	1-4	1-4	1-4
80		$^4_{\rm R}$	1 L	$^4_{ m R}$	$^4_{ m R}$	2 L	$^4_{ m R}$	$^{1}_{ m L}$	$^{1}_{ m L}$	$^4_{ m R}$	$^4_{ m R}$
	V	.808	.810	.825		.820	.790	.780	.800	.793	.770
+	G N	$1 \frac{4}{4}$	$\frac{1-4}{1}$	1-4 4	1-4 4	$\frac{1-4}{4}$	14 4	14 1	14 1	14 4	$^{1-4}_{4}$
100) E V	$rac{\mathbf{R}}{.846}$	L .848	$_{.860}^{ m R}$	R .844	$_{.828}^{ m R}$	$_{.832}^{ m R}$	$^{ m L}_{.824}$	$^{ m L}_{.840}$	$_{.834}^{ m R}$	$^{ m R}_{.816}$
-											
Truck l	No.	21	22	23	24	25	26	27	28	29	30
Truck l		21_ 40	22 40	23	24	25 32	26 32	27 32	28 32	29 32	30 32
Wh. Ba	ase L X	40 12	40 12	40 12	40 12	32 12	32 12	32 12	32 12	32 12	32 12
Wh. Ba	ase L X	40	40	40	40	32	32	32	32	32	32
Wh. Ba Axle Spacing Hitch Load	x g X' C a ₁	40 12 20 8 .10	40 12 20 8 .20	40 12 20 8 .20	40 12 20 8 .20	32 12 8 12 .10	32 12 8 12 .10	32 12 8 12 .10	32 12 8 12 .20	32 12 8 12 .20	32 12 8 12 .20
Wh. Ba Axle Spacing Hitch	X g X' C a ₁ a ₂ a ₃	40 12 20 8 .10 .40 .50	40 12 20 8 .20 .20 .60	40 12 20 8 .20 .30 .50	40 12 20 8 .20 .40 .40	32 12 8 12 .10 .20 .70	32 12 8 12 .10 .30 .60	32 12 8 12 .10 .40 .50	32 12 8 12 .20 .20 .60	32 12 8 12 .20 .30 .50	32 12 8 12 .20 .40 .40
Wh. Ba Axle Spacing Hitch Load On	X X X C C a1 a2 a3 G	40 12 20 8 .10 .40 .50 2-3	40 12 20 8 .20 .20 .60 2-3	40 12 20 8 .20 .30 .50 2-3	40 12 20 8 .20 .40 .40	32 12 8 12 .10 .20 .70 3-4	32 12 8 12 .10 .30 .60 3-4	32 12 8 12 .10 .40 .50	32 12 8 12 .20 .20 .60 3 4	32 12 8 12 .20 .30 .50	32 12 8 12 .20 .40 .40
Wh. Ba Axle Spacing Hitch Load On	x X X X C C a1 a2 a3 G N O E	40 12 20 8 .10 .40 .50 2-3 2	40 12 20 8 .20 .20 .60 2-3 3 R	40 12 20 8 .20 .30 .50 2-3 2 L	40 12 20 8 .20 .40 .40 2-3 2 L	32 12 8 12 .10 .20 .70 3–4 3 L	32 12 8 12 .10 .30 .60 3–4 3 L	32 12 8 12 .10 .40 .50 2 2 L	32 12 8 12 .20 .20 .60 3 4 3 L	32 12 8 12 .20 .30 .50 2 2 L	32 12 8 12 .20 .40 .40 .2 2 R
Wh. Ba Axle Spacing Hitch Load On Axles	X X X X C A1 A2 A3 G N	40 12 20 8 .10 .40 .50 2-3 2 1 .450 2-3	40 12 20 8 .20 .20 .60 2-3 3 R .340 2-3	40 12 20 8 .20 .30 .50 2-3 2 L .350 2-3	40 12 20 8 .20 .40 .40 2-3 2 L .440 2-3	32 12 8 12 .10 .20 .70 3–4 3 L .420 2–4	32 12 8 12 .10 .30 .60 3-4	32 12 8 12 .10 .40 .50 2 2 L .400 2-4	32 12 8 12 .20 .20 .60 3 4	32 12 8 12 .20 .30 .50 2 2 L .300 2-4	32 12 8 12 .20 .40 .40 2 2 R .400 2-4
Wh. Ba Axle Spacing Hitch Load On Axles	X X X X C a1 a2 a3 G N E V G N	40 12 20 8 .10 .40 .50 2-3 2 1 .450 2-3 2	40 12 20 8 .20 .20 .60 2-3 3 R .340 2-3 3	40 12 20 8 .20 .30 .50 2–3 2 1 .350 2–3 2	40 12 20 8 .20 .40 .40 2-3 2 L .440 2-3 2	32 12 8 12 .10 .20 .70 3-4 3 L .420 2-4	32 12 8 12 .10 .30 .60 3-4 3 L .360 2-4	32 12 8 12 .10 .40 .50 2 2 L .400 2-4	32 12 8 12 .20 .20 .60 3 4 3 I. .360 2-4	32 12 8 12 .20 .30 .50 2 2 L .300 2-4 2	32 12 8 12 .20 .40 .40 2 2 R .400 2-4
Wh. Ba Axle Spacing Hitch Load On Axles	X X X' C C a1 a2 a3 G N V C G N V C C C V V C C C C C C C C C C C C C	40 12 20 8 .10 .40 .50 2-3 2 I. .450 2-3 2 L. .550	40 12 20 8 .20 .20 .60 2-3 3 R .340 2-3 3 R	40 12 20 8 .20 .30 .50 2-3 2 L .350 2-3 2 L .450	40 12 20 8 .20 .40 .40 2-3 2 L .440 2-3 2 L .520	32 12 8 12 .10 .20 .70 3-4 3 L .420 2-4 4 R	32 12 8 12 .10 .30 .60 3-4 3 L .360 2-4 4 R	32 12 8 12 .10 .40 .50 2 2 L .400 2-4 2 L .500	32 12 8 12 .20 .20 .60 3 4 3 1 .360 2-4 4 8	32 12 8 12 .20 .30 .50 2 2 L .300 2-4 2 L	32 12 8 12 .20 .40 .40 2 2 R .400 2–4 2 I
Wh. Ba Axle Spacing Hitch Load On Axles	X X X	40 12 20 8 .10 .40 .50 2-3 2 1, .450 2-3 2 L .550 2-3 2	40 12 20 8 .20 .60 2-3 3 R .340 2-3 3 R .420 1-3	40 12 20 8 .20 .30 .50 2 L .350 2 L .450 1-3	40 12 20 8 .20 .40 .40 2-3 2 L .440 2-3 2 L .520 2-4	32 12 8 12 .10 .20 .70 3-4 3 L .420 2-4 4 R .560 2-4	32 12 8 12 .10 .30 .60 3-4 3 L .360 2-4 4 R .480 2-4	32 12 8 12 .10 .40 .50 2 2 L .400 2-4 2 L .500 2-4	32 12 8 12 .20 .20 .60 3 4 3 1 .360 2-4 4 R,480 2-4	32 12 8 12 .20 .30 .50 2 2 L .300 2-4 2 L .400	32 12 8 12 20 40 40 2 2 R 400 2-4 2 1 480 2-4
Wh. Ba Axle Spacing Hitch Load On Axles	See L	40 12 20 8 .10 .40 .50 2-3 2 I .450 2-3 2 L .550 2-4 2 L	40 12 20 8 .20 .20 .60 2-3 3 R .420 1-3 3 R	40 12 20 8 .20 .30 .50 2-3 2 L .350 2-3 2 L .450 1-3 3 R	40 12 20 8 .20 .40 .40 .2-3 2 L .520 2-4 2	32 12 8 12 .10 .20 .70 3-4 3 L .420 2-4 4 R .560	32 12 8 12 .10 .30 .60 3-4 3 L .360 2-4 4 R .480 2-4 4 R	32 12 8 12 .10 .40 .50 2 2 L 400 2-4 2 L .500	32 12 8 12 .20 .20 .60 3 4 3 I. 3 I. 4 8 4 8 .480 2 -4 4 R	32 12 8 12 .20 .30 .50 2 2 L 300 2-4 2 L .400 2-4 2 L	32 12 8 12 .20 .40 .40 2 2 2 R .400 2-4 2 1 .480 2-4 2 L
Wh. Ba Axle Spacing Hitch Load On Axles	X X X g X' C a1 a2 a3 G N C C C C C C C C C	40 12 20 8 .10 .40 .50 2-3 2 I. .450 2-3 2 L. .550 2-3 2 L. .550 2-3 2 4 4 2-3 2 4 4 4 4 4 4 4 4 4 4 4 4 4	8 .20 .20 .60 2-3 R .340 2-3 R .420 1-3 3	40 12 20 8 .20 .30 .50 2-3 2 L .350 2-3 2 L .450	40 12 20 8 .20 .40 .40 2-3 2 L .440 2-3 2 L .520 2-4 4-4 2-3 2 4-4 4-4 4-4 4-4 2-3 2 4-4 4-4 4-4 4-4 4-4 4-4 4-4	32 12 8 12 .10 .20 .70 3-4 3 L .420 2-4 4 R .560	32 12 8 12 .10 .30 .60 3–4 3 L .360 2–4 4 R .480 2–4	32 12 8 12 .10 .40 .50 2 2 L .400 2-4 2 L .500 2-4	32 12 8 12 .20 .60 3 4 3 L .360 2-4 4 R .480 2-4	32 12 8 12 .20 .30 .50 2 2 L .300 2-4 2 L .400	32 12 8 12 20 .40 .40 2 2 R .400 2-4 2 1 .48 2 2 1 .48 .40 .40 .40 .40 .40 .40 .40 .40
Wh. Ba Axle Spacing Hitch Load On Axles	ase L X X X C a1 a2 a3 N E V G N C G N C G N C G N C G N C G N C G N C G N C G N C G N C G N C G N C G N C G N C G N C G N C G N N C G N N C G N N N C G N N N N N N N N N N N N	40 12 20 8 .10 .40 .50 2-3 2 1 .450 2-3 2 L .600 2-4 2 L .600	40 12 20 8 .20 .20 .60 2-3 R .340 2-3 3 R .420 1-3 3 R .513 1-3 3	40 12 20 8 .20 .30 .50 2-3 2 L .350 2-3 2 L .450 1-3 3 R .537 1-3	40 12 20 8 .20 .40 .40 2-8 2 L .440 2-3 2 L .520 2-4 2 L .560 2-4 2	32 12 8 12 .10 .20 .70 3-4 3 L .420 2-4 4 R .673 1-4	32 12 8 12 .10 .30 .60 3-4 3 L .360 2-4 4 R .480 2-4 4 R .620	32 12 8 12 .10 .50 2 2 2 L .400 2-4 2 L .500 2-4 2 L .634 1-4	32 12 8 12 .20 .20 .60 3 4 3 L .360 2-4 4 R 480 2-4 4 R 586	32 12 8 12 .20 .30 .50 2 2 2 L .300 2-4 2 L .400 2-4 2 L .533 1 4	32 12 8 12 20 .40 .40 2 2 R .400 2-4 2 1 .48 2 2 1 .48 .40 .40 .40 .40 .40 .40 .40 .40
Wh. Ba Axle Spacing Hitch Load On Axles	Section Sect	40 12 20 8 .10 .40 .50 2-3 2 1 .450 2-3 2 L .550 2-4 2 .60 2 4 2 L .60 2 -4 2 -4 2 -4 2 -4 2 -4 3 -4 4 -	40 12 20 8 .20 .20 .60 2-3 3 R .340 2-3 3 R .420 1-3 3 R	40 12 20 8 .20 .50 2–3 2 L .350 2–3 2 L .450 1–3 3 R .53 1–3 8 8	40 12 20 8 .20 .40 .40 2-8 2 L .440 2-3 2 L .520 2-4	32 12 8 12 .10 .20 .70 .3–4 3 L .420 2–4 4 R .560 4 R .673 1–4	32 12 8 12 .10 .30 .60 3-4 3 L .360 2-4 4 R .480 2-4 4 R .620	32 12 8 12 .10 .40 .50 2 2 L .400 2-4 2 L .500 2-4 2 L .500 2-4 2 L .500 1-40	32 12 8 12 .20 .20 .20 .60 3 4 3 L .360 2-4 4 R .480 4 2-4 4 R .586	32 12 8 12 .30 .50 2 2 2 L .300 .50 2 2 2 L .400 2-4 2 L .51 300 30 30 2-4 2 L .400 30 30 30 30 30 30 40 40 40 40 40 40 40 40 40 40 40 40 40	32 12 8 12 .20 .40 .40 2 2 R .400 2-4 .2 I. .480 2-4 2 I. .586 2-4 2 I. .586 1.586
Wh. Ba Axle Spacing Hitch Load On Axles	Section Sect	40 12 20 8 .10 .40 .50 2-3 2 I. .450 2-3 2 L. .550 2-4 2 L. .600 2 4 2 L. .600 2 -4 2 L. .600 2 -4 2 L. .600 2 -4 .600 2 40 12 20 8 .20 .20 .60 2-3 3 R .340 2-3 3 8 .420 1-3 3 R .513 1-3 3 R	40 12 20 8 .20 .50 2–3 2 L .350 2–3 2 L .450 1–3 3 R .53 1–3 8 8	40 12 20 8 .20 .40 .40 .40 .40 .40 .40 .40 .4	32 12 8 12 .10 .20 .70 3-4 3 L .420 2-4 4 R .673 1-4 R .750	32 12 8 12 .10 .30 .60 3-4 3 L .360 2-4 4 R R.480 2-4 4 R R.620 1-4 4 R R.710	32 12 8 12 .10 .50 .2 2 L .400 2-4 2 L .500 2-4 2 L .634 1-4 8 R .670	32 12 8 12 .20 .20 .50 3 4 3 L .360 2-4 4 R .586 1-4 R .680	32 12 8 12 .20 .30 .50 2 2 2 L .300 2-4 2 L .400 2-4 2 L .533 1 4 4 R .640 1-4	32 12 8 12 .20 .40 .40 2 R .400 2-4 2 I .586 2-4 2 I .586 2-4 2 I .586 1-4	
Wh. Ba Axle Spacing Hitch Load On Axles	ASE L X X C 81 A2 A3 A3 A3 A3 A4 A5 A5 A5 A5 A5 A5 A5 A5 A5	40 12 20 8 .10 .40 .50 2-3 2 1 .450 2-3 2 L .550 2-4 2 L .600 2 4 2 L .675 2-4 2 L .675	40 12 20 8 .20 .20 .60 2-3 R .340 2-3 R .420 1-3 R .513 R .514 4 R	40 12 20 8 .20 .50 2-3 2 L .350 2-3 2 L .450 1-3 3 R .587 1-3 3 R .597 1-4 1 L	40 12 20 8 .20 .40 .40 .2-3 2 L .440 2-3 2 L .520 2-4 2 L .560 2-4 1 L .620 1-4 1 L	32 12 8 12 .10 .70 3-4 4 4 8 .560 2-4 4 4 R .673 1-4 4 R	32 12 8 12 .10 .30 .60 3-4 3 1 .360 2-4 4 R .620 1-4 4 R .710	32 12 8 12 .10 .40 .50 2 2 L .400 2-4 2 L .500 2-4 2 L .634 1-4 4 R	32 12 8 12 .20 .20 .60 3 4 3 L .360 2-4 4 R .586 1-4 4 R .680	32 12 8 12 .20 .30 .50 2 2 L .300 2-4 2 L .400 2-4 2 L .533 1 4 4 R	32 12 8 12 .20 .40 .40 2 2 R .400 2–4 2 1 .586 2–4 2 1 .640 1–4
Wh. Ba Axle Spacing Hitch Load On Axles	Section Sect	40 12 20 8 .10 .40 .50 2-3 2 I450 2-3 2 L550 2-4 2 L600 2 4 2 L675 2-4 2 L720	40 12 20 8 .20 .20 .20 .60 2-3 R .340 2-3 R .420 1-3 R .513 1-4 R .5608	40 12 20 8 .20 .30 .50 2-3 2 L .350 2-3 2 L .450 1-3 3 R .537 1-3 8 .59 1-4 1 L .628	40 12 20 8 .20 .40 .40 2-8 2 L .440 2-3 2 L .520 2-4 2 L .560 2-4 1 L .664	32 12 8 12 .10 .20 .70 3–4 3 L .420 2–4 4 R .673 1–4 4 R .750 1–4 4 R .750 1–4 8 .70 .70 .70 .70 .70 .70 .70 .70	32 12 8 12 .10 .30 .60 3-4 3 L .360 2-4 4 R .620 1-4 4 R .710	32 12 8 12 .10 .50 .50 .50 .50 .50 .50 .50 .5	32 12 8 12 .20 .20 .60 3 4 3 1 .360 2-4 4 R 480 2-4 4 R R .586 1-4 R R .680 1-4 4 R R	32 12 8 12 .20 .30 .50 2 2 L .300 2-4 2 L .400 2-4 2 L .533 1 · 4 4 R .640 1-4 4 R	32 12 8 12 20 40 2 2 2 1 480 2-4 2 1 586 2-4 2 1 586 2-4 1 640 1-4 1 1 1
Wh. Ba Axle Spacing Hitch Load On Axles 20 30 40 50 50	ASSEL X X C A1 A2 A3 G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G O E V G O E V G O E V G O E V G O E V G O E V G O E V G O E V G O E V G O E V G O G O E V G O E V G O G O E V G O G O E V G O G O E V G O G O E V G O G O E V G O G O E V G O G O E V G O G O G O G O E V G O G	40 12 20 8 .10 .40 .50 2-8 2 I .450 2-3 2 L .550 2-4 2 L .600 2 4 2 L .720 2 -4 2 1 .720	40 12 20 8 .20 .20 .20 .60 2-3 3 R .340 2-3 3 R .420 1-3 3 R .513 1-4 4 R .608 1-4 4	40 12 20 8 .20 .50 2-3 2 L .350 2-3 2 L .450 1-3 3 R .587 1-3 3 R .590 1-4 1 L .628 1-4 1	40 12 20 8 .20 .40 .40 2-3 2 L .440 2-3 2 L .520 2-4 2 L .560 2-4 1 L .664 1-4 1	32 12 8 12 .10 .70 3-4 4 4 8 .673 1-4 4 8 .800 1-4 4	32 12 8 12 .10 .60 3-4 .4 .8 .620 1-4 4 R .620 1-4 4 R .710 1-4 4 R .768	32 12 8 12 .10 .40 .50 2 2 L .40 2-4 2 L .500 2-4 2 L .634 4 R .670 1-4 4 R .736	32 12 8 12 .20 .20 .60 3 4 3 1 .360 2-4 4 4 R .586 1-4 4 R .680 1-4 4 R .744 1-4	32 12 8 12 .20 .30 .50 2 2 L .300 2-4 2 L .400 2-4 2 L .533 1 4 R .640 1-4 4 R .712	32 12 8 12 .20 .40 .40 2 2 R .480 2–4 2 L .586 2–4 2 L .640 1–4 1 1
Wh. Ba Axle Spacing Hitch Load On Axles	SE L X X C 81 82 83 G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N N E V G N E N	40 12 20 8 .10 .40 .50 2-3 1 .450 2-3 2 L .5550 2-4 2 L .6600 2 4 2 L .675 2-1 2 L .720 2 -4	40 12 20 8 .20 .60 2-3 3 R .340 2-3 3 R .420 1-3 3 R .513 1-4 668 608	40 12 20 8 .20 .30 .50 2-3 2 L .450 1-3 3 R .590 1-4 1 L .628 1-4	40 112 20 8 20 40 40 2-8 2 L 40 2-3 2 L 5520 2-4 2 L 6620 1-4 1 L 664 1-4	32 12 8 12 .10 .20 .70 3–4 3 4 L .420 2–4 4 R .560 2 4 4 R .750 1–4 4 R .750 1–4 1 8.80 1 -4	32 12 8 8 12 .10 .30 .60 3-4 4 R .480 2-4 4 R R .620 1-4 4 R R .710 1-4 R R .768	32 12 8 12 .10 .40 .50 2 2 L .40 .2-4 2 L .500 2-4 2 L .634 4 R .670 1-4 4 R .736	32 12 8 12 20 .60 3 4 3 1 4 8 .480 2-4 4 4 8 .586 1-4 4 8 .680 1-4 4 7 7	32 12 8 12 .20 .30 .50 2 2 L .300 .50 2 2 L .400 2-4 2 L .53 3 1 · 4 4 R .640 1-4 4 R .712 1-4	32 12 8 12 20 40 40 2 2 R 400 2-4 2 1 L .586 2-4 2 1 L .640 1-4
Wh. Ba Axle Spacing Hitch Load On Axles 20 30 40 50 50	ASE L X X C A1 A2 A3 G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G O E V G O E V G O E V G O E V G O E V G O E V G O E V G O E V G O E V G O E V G O G O E V G O E V G O G O E V G O G O E V G O G O E V G O G O E V G O G O E V G O G O G O G O E V G O G	40 12 20 8 .10 .40 .50 2-3 2 1 .450 2-4 2 L .600 2 4 2 L .750 2-4 2 L .750 2-4 2 L .750 2-4	40 12 20 8 .20 .20 .60 2-3 R .340 2-3 R .420 1-3 R .513 1-4 4 R .608 1-4 R .673 1-4	40 12 20 8 .20 .30 .50 2-3 2 L .350 1-3 3 R .537 1-3 3 R .599 1-4 1 L .628 1-4 1 L .690 1-4	40 12 20 8 .20 .40 .40 .2-3 2 L .440 .520 .520 .1 .560 .1 .664 .1 .1 .720 .1 .1	32 12 8 12 .10 .70 3-4 4 4 8 .673 1-4 4 8 .800 1-4 4 8 .833 1-4	32 12 8 12 .10 .60 3-4 3 L .360 2-4 4 R .620 1-4 4 R .710 1-4 4 R .768 1-4 4 R .768	32 12 8 12 .10 .40 .50 2 2 L .40 .50 2-4 2 L .500 2-4 2 L .634 4 R .670 1-4 4 R .736 1-4 R .786 1-4	32 12 8 12 .20 .20 .60 3 4 3 4 4 4 4 8 .586 1-4 4 R .680 1-4 4 R .744 1-4 8 R.757	32 12 8 12 .20 .30 .50 2 2 L .300 2-4 2 L .533 1 4 R .640 1-4 4 R .712 1-4 4 R .7160 1-4	32 12 8 12 20 40 40 2 2 R 400 2-4 2 1 586 2-4 2 1 680 1-4 1 1 1 1 1 1 1
Wh. Ba Axle Spacing Hitch Load On Axles 20 30 40 50 50	ase L X X C a1 a2 a3 G N E V G N E	40 12 20 8 .10 .40 .50 2-3 2 L .450 2-4 2 L .615 2-4 2 L .720 2-4 2 L .750 2-4 2 L .7550 2-4 2 L .720 2-4 2 L .7550 2-4 2 L .7550	40 12 20 8 .20 .20 .60 2-3 R .340 2-3 R .420 1-3 R .516 1-4 4 R .608 1-4 4 R .673	40 12 20 8 .20 .30 .50 2-3 2 L .350 2-3 2 L .450 1-3 3 R R .537 1-3 8 R .5590 1-4 1 L .628 1-4 1 L .690 1-4 1 L	40 12 20 8 .20 .40 .40 .2-3 2 L .520 .2-4 2 L .660 1-4 1 L .720 1-4 1 L	32 12 8 12 .10 .70 3–4 4 4 8 .560 2–4 4 4 8 .673 1–4 4 8 .800 1–4 4 8 .800 1–4 4 8 .800 1–4 4 8 .800 1–4 8 .800 8 .800 1–4 8 .800 8 .800 1–4 8 .800 8 .800 8 .800 8	32 12 8 12 .10 .60 3-4 .1 .360 2-4 4 4 R .620 1-4 4 R .710 1-4 4 R .768 1-4 4 R .768 1-4 4 R	32 12 8 12 .10 .40 .50 2 2 L .500 2-4 2 L .500 2-4 2 1 .670 1-4 4 R .786 1-4 4 R	32 12 8 12 .20 .20 .60 3 4 3 1 .1 .360 2-4 4 R .480 2-4 4 R .586 1-4 4 R .784 1-4 4 R .784 1-4 4 R	32 12 8 12 .20 .30 .50 2 2 L .300 .50 2-4 2 L .400 2-4 2 L .533 1 -4 4 R .640 1-4 4 R .712 1-4 4 R .712 1-4 4 R .712 1-4 4 8 .716 1-4 8 .712 1-4 1-4 8 .712 8 .712	32 12 8 12 .20 .40 .40 .2 .2 .480 .2-4 .2 .1 .586 .640 1-4 1 1 .680 1-4 1 1 1 1 1 1 1 1 1 1 1 1 1
Wh. Ba Axle Spacing Hitch Load On Axles 20 30 40 60 60	ASE L X X C A1 A2 A3 G N E V	40 12 20 8 .10 .40 .50 .50 2-8 2 1 .450 2-3 2 L .550 2-4 2 L .600 2 4 2 L .720 2-4 2 L .788	40 12 20 8 .20 .20 .60 2-3 3 R .340 2-3 3 R .420 1-3 3 R .513 1-4 4 R .608 1-4 4 R .673	12 20 8	40 12 20 8 .20 .40 .40 .2-8 2 L .440 2-3 2 L .520 2-4 2 L .660 2-4 1 L .664 1-4 1 L .790	32 12 8 12 .10 .70 3-4 3 L .420 2-4 4 R .673 1-4 4 R .800 1-4 4 R .800 1-4 4 R .813 1-4 4 8 8 8 8 8 8 8 8 8 8 8 8 8	32 12 8 12 .10 .30 .60 3-4 3 L .360 2-4 4 R .620 1-4 4 R .710 1-4 4 R .768 1-4 4 R .710 1-4 4 8 .710 1-4 8 .710 1-4 1-4 8 .710 8 .710 8 .710 8 .710 8 .710 8 .710 8 .710 8 .710 8 .710 8 .710 8 .710 8 .710 .710 .710 .710 .710 .710 .710 .710 .710 .710 .71	32 12 8 12 .10 .40 .50 2 2 2 L .500 2-4 2 L .634 1-4 4 R .736 1-4 4 R .786 1-4 4 R .786 1-4 4 R .786	32 12 8 12 .20 .20 .50 3 4 3 1 .360 2-4 4 R .586 1-4 4 R .744 1-4 4 R .744 1-4 R .787 1-4 R .788	32 12 8 12 .20 .30 .50 2 2 2 L .300 2-4 2 L .400 2-4 2 L .533 1 4 4 R .640 1-4 4 R .712 1-4 4 R .712 1-4 4 R .712 1-4 8 .712 .713 .713 .714 .715 .7	32 12 8 12 20 40 40 2 2 2 2 1 480 2-4 2 1 586 2-4 1 1 1 1 1 1 1 1 1 1 1 1 1
Wh. Ba Axle Spacing Hitch Load On Axles 20 30 40 60 80	SE L X X C SI SI SI SI SI SI SI SI SI	40 12 20 8 .10 .40 .50 2-3 2 1 .450 2-4 2 L .600 2 4 2 L .720 2-4 2 L .788 2 4 2 L .788	40 12 20 8 .20 .20 .60 2-3 R .340 2-3 R .420 1-3 R .513 1-3 R .608 1-4 4 R .673 1-4 4 R .755	40 12 20 8 .20 .30 .50 2-3 2 L .350 2-3 2 L .450 1-3 3 R .537 1-3 3 R .5590 1-4 1 L .628 1-4 1 L .768 1-4 1 1 L .768	40 12 20 8 .20 .40 .40 .2-3 2 L .520 .520 .520 .640 .620 .664 .1 L .6664 .1 L .720 .790 .790	32 12 8 12 .10 .70 3–4 4 4 8 .560 2–4 4 4 8 .673 1–4 4 8 .800 1–4 4 8 .833 1–4 4 8 8.875 1–4 4	32 12 8 12 .10 .60 3-4 3 L .360 2-4 4 R .620 1-4 4 R .710 1-4 4 R .768 1-4 4 R .768 1-4 4 8 .710 1-4 8 .710 1-4 1-4 8 .710 1-4 8 .710 1-4 8 .710 1-4 8 .710 1-4 8 .710 1-4 8 .710 1-4 8 .710 1-4 8 .710 1-4 8 .710 1-4 8 .710 1-4 8 .710 1-4 8 .710 1-4 8 .710 1-4 8 .710 1-4 8 .710 1-4 8 .710 1-4 8 .710 1-4 8 .710 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	32 12 8 12 .10 .40 .50 2 2 L .500 2-4 2 L .500 2-4 2 L .634 4 R .670 1-4 4 R .786 1-4 4 R .786 1-4 4 R .786 1-4 4 8 .786 1-4 4 8 .786 1-4 4 8 .786 1-4 4 8 .786 1-4 8 8 8 8 8 8 8 8 8 8 8 8 8	32 12 8 12 .20 .20 .60 3 4 4 8 .360 2-4 4 4 R .586 1-4 4 R .680 1-4 4 R .744 1-4 4 R .744 1-4 4 R .840 1-4 4 8 .840 1-4 4 8 .850 1-4 4 8 .850 1-4 4 8 .850 1-4 8 8 .850 1-4 8 8 .850 1-4 8 8 .850 1-4 8 8 .850 1-4 8 8 .850 1-4 8 8 .850 1-4 8 8 .850 1-4 8 8 .850 1-4 8 8 .850 1-4 8 8 .850 1-4 8 8 .850 1-4 8 8 .850 1-4 8 8 .850 1-4 8 8 .850 1-4 8 8 .850 1-4 8 8 8 .850 1-4 8 8 8 .850 1-4 8 8 8 .850 1-4 8 8 8 .850 1-4 8 8 8 8 8 8 8 8 8 8 8 8 8	32 12 8 12 .20 .30 .50 2 2 L .300 .50 2 2 L .400 2-4 2 L .533 1 4 4 R .640 1-4 4 R .712 1-4 4 R .712 1-4 4 8 .712 1-4 4 8 .712 1-4 4 8 .712 1-4 4 8 .712 1-4 1-4 8 .712 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	32 12 8 12 .20 .40 .40 .40 .2 .2 .480 .480 .480 .2-4 .2 .1 .640 .680 .1-4 .1 .1 .800 .1-4 .1 .1 .800 .1-4 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1
Wh. Ba Axle Spacing Hitch Load On Axles 20 30 40 60 60	SE L X X C SI SI SI SI SI SI SI SI SI	40 12 20 8 .10 .40 .50 2-3 L .450 2-3 2 L .550 2-4 2 L .600 2 4 2 L .675 2-4 2 L .750 2-4 2 L .750 2-4 2 L .750 2-4 2 L .750 2-4 2 L .750 2-4 2 L .750	40 12 20 8 .20 .60 2-3 3 R .340 2-3 3 R .420 1-3 3 R .513 1-4 4 R .673 1-4 4 R .755 1-4	40 112 20 8 20 30 8 .20 .30 .50 2-3 2 L .350 2-3 2 L .450 1-3 3 R .537 1-3 3 R .590 1-4 1 L .628 1-4 1 L .768 1-4	40 12 20 8 20 40 40 2-8 2 L 40 2-8 2 L 5520 2-4 2 L 6620 1-4 1 L 720 1-4 1 L 790 1-4	32 12 8 12 .10 .70 3-4 1 .420 2-4 4 R .560 2-4 4 R .673 1-4 4 R .800 1-4 4 R .833 1-4 4 R .833	32 12 8 8 12 .10 .30 .60 3-4 4 1.360 2-4 4 4 8 .620 1-4 4 8 .710 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	32 12 8 12 .10 .40 .50 2 2 L .400 2-4 2 L .500 2-4 2 L .634 4 R .670 1-4 4 R .780 1-4 4 R .780 1-4 8 .780 1-4 1-4 8 .780	32 12 8 12 20 .20 .60 3 4 3 1 L .360 2-4 4 R .480 2-4 4 R .586 1-4 4 R .787 1-4 4 R .787	32 12 8 12 .30 .50 2 2 L .400 2-4 2 L .400 2-4 2 L .533 1 · 4 4 R .640 1-4 4 R .712 1-4 4 R .760 1-4 4 R .760 1-4 4 8 .760 1-4 .760 1-4 8 .760 1-4 8 .760 1-4 8 .760 1-4 8 .760 1-4 8 .760 1-4 8 .760 1-4 8 .760 1-4 8 .760 1-4 8 .760 1-4 8 .760 1-4 8 .760 1-4 8 .760 1-4 8 .760 1-4 .760 .76	32 12 8 12 20 40 40 2 2 R 400 2-4 2 1 480 2-4 2 1 640 1-4 1 1 1 1 1 1 1 1 1 1 1 1 1

76 METHOD OF CONVERTING HEAVY MOTOR VEHICLE LOADS TABLE 7.9 (Continued)

	BLE		Continued		0.0	0.1	0.5		0.7	9.0		
	ick No		31	32	33	34	35	36	37	38	39	40
_	. Base		36	36	36	36	36	36	40	40	40	40
Ax		X X′	$\frac{12}{16}$	12	12	12	12	12	12	12	12	12
	cing		12	12	12	12	12	12	16	16	16	16
Hit		C	12	12	12	12	12	12	12	12	12	12
Loa		a 1	.10	.10	.10	.20	.20	.20	.10	.10	.10	.20 .20
On Ax		\mathbf{a}_{2} \mathbf{a}_{3}	$\frac{.20}{.70}$.30 .60	.40 .50	.20 .60	.30 .50	.40 .40	.20 $.70$.30 .60	.40 .50	.60
	169	G	4	4	2	4	2	2	4	4	2	4
- 1		Ň	4	4	$\frac{2}{2}$	4	$\frac{2}{2}$	2	4	4	$\frac{2}{2}$	4
	10	Ê	Ĺ	Ĺ	Ĺ	Ĺ	Ĺ	Ĺ	Ĺ	Ĺ	$\ddot{ ext{L}}$	Ĺ
- 1		V	.350	.300	.400	.300	.300	.400	.350	.300	.400	.300
		G	34	2-3	2-3	3-4	2-3	2-3	23	2-3	23	2-3
1		N	3	$\frac{2}{2}$	2	3	2	$\frac{2}{z}$	3	$_{\rm L}^2$	2	3
	20	\mathbf{v}	$_{.490}^{ m L}$	$_{.420}^{ m L}$	L .500	I. .420	L .400	$_{.480}^{\mathbf{L}}$	$^{ m R}_{.430}$.420	$_{.500}^{ m L}$	$^{ m R}_{.380}$
		G	2-4	2-4	2-4	2 4	2 4	2 4	2-4	24	2 4	1-3
1		N	4	2-4	2	4	2	2	4	2	2	3
	30	Ë	Ŕ	Ĺ	Ĺ	Ŕ	Ĺ	Ĺ	Ŕ	L	$ ilde{ ext{L}}$	Ř
		v	.600	.540	.600	.520	.500	.560	.527	.500	.567	.460
		G	1-4	1-4	2-4	1-4	2-4	2-4	14	2-4	2-4	2-4
يد		Ň	4	4	$_{\mathbf{L}}^{2}$	4	2	2	4	$^2_{ m L}$	$_{\rm L}^2$	4
ခ်	40	$_{ m V}^{ m E}$	$^{ m R}_{.685}$	$_{.640}^{ m R}$.675	$_{.610}^{ m R}$	$_{.575}^{ m L}$	$\overline{1}_{.620}$	$_{.620}^{ m R}$.600	.650	R .540
Span-Feet		G	1-4	1-4	2 4		14	1-4	14	2-4	2 4	1-4
<u>a</u>		N	4	4	2 4	$^{1-4}_{4}$	4	1-4	4	2-4	2 4	4
S	50	$\hat{\mathbf{E}}$	Ŕ	Ŕ	Ĺ	Ŕ	Ŕ	Ĺ	$\hat{\mathbf{R}}$	$^2_{ m L}$	Ĺ	$\hat{\mathbf{R}}$
		V	.748	.712	.720	.688	.652	.664	.696	.660	.700	.632
		G	1-4	1-4	2-4	1-4	1-4	1-4	1-4	1-4	2 4	1-4
	20	N	4	4	2	4	4	1	4	4	2	4
	60	E V	R .790	$^{ m R}_{.760}$	L .750	R .740	$^{ m R}_{.710}$	$^{ m L}_{.720}$	$^{ m R}_{.747}$	R .713	.733	$_{.693}^{ m R}$
		G	14	1-4	14	1-4	14	1- 4	1-4	1.4	2 4	1-4
		Ň	4	4	4	4	4	1	4	4	2	4
	80	\mathbf{E}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	R	L	R	R	L	$^{\mathrm{R}}$
		v	.843	.820	.798	.805	.783	.790	.810	.785	.775	.770
		G	1-4	1-4	1-4	1 4	14	1-4	1-4	1-4	1-4	1-4
	100	N E	$^4_{ m R}$	$^4_{ m R}$	$^4_{ m R}$	$^{4}_{ m R}$	$^4_{ m R}$	1	4	4	4 R	$^{4}_{ m R}$
	100	\vec{v}	.874	.856	.838	.844	.826	$^{ m L}_{.832}$	R .848	R .828	.808	.816
					,000	.0				.020		
TT	1 NT	-	41	40	40	1.4	4 14	10	477		10	F 0
	uck N		41	42	43	44	45	46	47	48	49	50
W	ı. Base	e L	40	40	44	44	44	44	44	44	32	32
Wi Ax	ı. Base le	e L	40 12	40 12	44 12	44 12	12	12	44 12	44 12	32 16	32 16
Ax Sp:	ı. Bası le acing	e L X X'	40 12 16	40 12 16	12 20	12 20	12 20	12 20	12 20	12 20	32 16 8	32 16 8
Ax Sp:	n. Base le acing tch	E L X X' C	12 16 12	40 12 16 12	12 20 12	12 20 12	12 20 12	12 20 12	12 20 12	12 20 12	32 16 8	32 16 8
Ax Sp: Hit	n. Base le acing tch ad	E L X X' C a ₁	12 16 12 .20	40 12 16 12 .20	12 20 12 .10	12 20 12 .10	12 20 12 .10	12 20 12 .20	12 20 12 .20	12 20 12 .20	32 16 8 8	32 16 8 8
Ax Sp:	n. Base le acing tch ad	E L X X' C	12 16 12	40 12 16 12	12 20 12	12 20 12	12 20 12	12 20 12	12 20 12	12 20 12	32 16 8	32 16 8
Mi Ax Sp: Hit Lo.	n. Base le acing tch ad	E L X X' C a ₁ a ₂ a ₃ G	40 12 16 12 .20 .30 .50	40 12 16 12 .20 .40 .40	12 20 12 .10 .20	12 20 12 .10 .30 .60	12 20 12 .10 .40 .50	12 20 12 .20 .20 .20 .60	44 12 20 12 .20 .30 .50	44 12 20 12 .20 .40 .40	32 16 8 8 .10 .20 .70	32 16 8 8 .10 .30 .60 2-3
Mi Ax Sp: Hit Lo.	n. Base le acing tch ad les	E L X X X' C a1 a2 a3 G N	40 12 16 12 .20 .30 .50	40 12 16 12 .20 .40 .40	12 20 12 .10 .20 .70	12 20 12 .10 .30 .60	44 12 20 12 .10 .40 .50	44 12 20 12 .20 .20 .60 4 4	44 12 20 12 .20 .30 .50	44 12 20 12 .20 .40 .40	32 16 8 8 .10 .20 .70	32 16 8 8 .10 .30 .60 2–3
Mi Ax Sp: Hit Lo.	n. Base le acing tch ad	e L X X' C a ₁ a ₂ a ₃ G N E	40 12 16 12 .20 .30 .50	40 12 16 12 .20 .40 .40 .2 2	12 20 12 .10 .20 .70	12 20 12 .10 .30 .60	12 20 12 .10 .40 .50	12 20 12 .20 .20 .60 4 4 1	44 12 20 12 .20 .30 .50	12 20 12 .20 .40 .40 .40	32 16 8 8 .10 .20 .70	32 16 8 8 .10 .30 .60 2–3 2
Mi Ax Sp: Hit Lo.	n. Base le acing tch ad les	e L X X' C a ₁ a ₂ a ₃ G N E V	40 12 16 12 .20 .30 .50 2 2 1.	40 12 16 12 .20 .40 .40 .2 2 1,	44 12 20 12 .10 .20 .70 4 4 L	12 20 12 .10 .30 .60 4 L	44 12 20 12 .10 .40 .50 2 2 L	44 12 20 12 .20 .20 .60 4 11 .300	44 12 20 12 .20 .30 .50 2 2 L	44 12 20 12 .20 .40 .40 .2 2 L	32 16 8 8 .10 .20 .70 3 4 3 L	32 16 8 8 .10 .30 .60 2-3 2 L
Mi Ax Sp: Hit Lo.	n. Base le acing tch ad les	e L X X' C a ₁ a ₂ a ₃ G N E V	40 12 16 12 .20 .30 .50 2 2 1 .300 2-3	40 12 16 12 .20 .40 .40 2 2 1 .400 2-3	44 12 20 12 .10 .20 .70 4 L .350 2-3	12 20 12 .10 .30 .60 4 4 L .300 2-3	44 12 20 12 .10 .40 .50 2 L .400 2-3	44 12 20 12 .20 .60 4 4 1. .300 2-3	44 12 20 12 .20 .30 .50 2 2 L .300 2–3	44 12 20 12 .20 .40 .40 .2 2 L .400 2 3	32 16 8 8 .10 .20 .70 3 4 3 L .420 2-4	32 16 8 8 .10 .30 .60 2-3 2 L .360
Mi Ax Sp: Hit Lo.	n. Base le acing tch ad les	e L X X' C a ₁ a ₂ a ₃ G N E V	40 12 16 12 .20 .30 .50 2 2 1.	40 12 16 12 .20 .40 .40 2 2 1 .400 2-3 2 L	44 12 20 12 .10 .20 .70 4 4 L .350 2-3 R	12 20 12 .10 .30 .60 4 L	44 12 20 12 .10 .40 .50 2 2 L .400 2-3 2 L	44 12 20 12 .20 .20 .60 4 11 .300	44 12 20 12 .20 .30 .50 2 2 L	44 12 20 12 .20 .40 .40 .2 2 L	32 16 8 8 .10 .20 .70 3 4 3 L	32 16 8 8 .10 .30 .60 2-3 2 L .360 2 4 2 L
Mi Ax Sp: Hit Lo.	n. Base le acing tch ad les	e L X X' C a ₁ a ₂ a ₃ G N E V	40 12 16 12 .20 .30 .50 2 1 .300 2-3 2	40 12 16 12 .20 .40 .40 2 2 1 .400 2-3 2 L .480	44 12 20 12 .10 .20 .70 4 4 L .350 2-3 3	12 20 12 .10 .30 .60 4 4 L .300 2-3	44 12 20 12 .10 .40 .50 2 2 L .400 2-3 2	44 12 20 12 .20 .20 .60 4 4 IL .300 2-3	44 12 20 12 .20 .30 .50 2 2 L .300 2-3 2	44 12 20 12 20 .40 .40 .40 2 2 L .400 2 3	32 16 8 8 .10 .20 .70 3 4 3 L .420 2-4	32 16 8 8 .10 .30 .60 2-3 2 L .360 24
Mi Ax Sp: Hit Lo.	n. Base le acing tch ad les	e L	40 12 16 12 20 .30 .50 2 L .300 2-3 2 L .400 1-3	40 12 16 12 20 .40 .40 2 1 .400 2-3 2 1 .480 2-4	44 12 20 12 .10 .20 .70 4 L .350 2-3 3 R .430	44 12 20 12 .10 .30 .60 4 4 L .300 2-3 2 L .420 1-3	44 12 20 12 .10 .40 .50 2 L .400 2-3 2 L .500 2-3	44 12 20 12 20 .20 .60 4 4 1 2.300 2-3 3 R 380	44 12 20 12 .30 .50 2 1 .300 2-3 2 1 .400 1-3	44 12 20 12 20 .40 .40 .40 2 L .400 2 3 2 L .480 2-3	32 16 8 8 .10 .20 .70 3 4 3 L .420 2-4 4 R .600	32 16 8 8 .10 .30 .60 2-3 2 L .360 2 4 2 L .540 2-4
Mi Ax Sp: Hit Lo.	n. Bassele acing teh ad les 10	E L X X X' C a1 a2 a3 G N E V G N E V G N	40 12 16 12 .20 .30 .50 2 2 1 .300 2-3 2 1 .400 1-3 3	40 12 16 12 .20 .40 .40 2 2 1, .400 2-3 2 1, .480 2-4	44 12 20 12 .10 .20 .70 4 4 L .350 2-3 3 R .430 1-3 3	12 20 12 .10 .30 .60 4 4 L .300 2–3 2 L .420	44 12 20 12 .10 .40 .50 2 L .400 2–3 2 L .50 2–3 2 2 1 2 2 2 2 3 3 40 2 3 3 40 2 3 40 2 3 40 3 40	44 12 20 12 .20 .60 4 4 .300 2-3 3 R .380 1-3	12 20 12 .20 .30 .50 2 L .300 2-3 2 L .400	12 20 12 .20 .40 .40 .40 2 2 L .400 2 3 2 L .40 .40 2 3 2 L .40 .40 2 3 2 2 2 L .40 .40 2 3 2 4 2 4 2 5 2 6 2 6 2 7 2 7 2 8 2 7 2 7 2 8 2 7 2 7 2 8 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7	32 16 8 8 .10 .20 .70 3 4 3 L .420 2-4 4 R .600 2-4 4	32 16 8 8 .10 .30 .60 2-3 2 L .360 2 4 2 L .540 2-4
Mi Ax Sp: Hit Lo.	n. Base le acing tch ad les	E L X X X' C a1 a2 a3 G N E V G N E V G N E E V	40 12 16 12 .20 .30 .50 2 2 1 .300 2-3 2 1 .400 1-3 3 R	12 12 16 12 .20 .40 .40 .2 2 2 1 .400 2–3 2 L .480 2–4 2	44 12 20 12 10 .20 .70 4 4 L .350 2-3 3 R .430 1-3 3 R	12 20 12 .10 .30 .60 4 4 L .300 2-3 2 L .420 1-3 3 R	44 12 20 12 .10 .40 .50 2 2 L .400 2-3 2 L .500	44 12 20 .20 .20 .60 4 4 4 .300 2-3 3 R .380	44 12 20 .30 .50 2 2 L .300 2–3 2 L .400 1–3 3 R	20 12 20 .40 .40 .40 2 2 L .400 2 3 2 L .480 2-3 2 L	32 16 8 8 .10 .20 .70 3 4 3 L .420 2–4 4 R .600	32 16 8 8 .10 .30 .60 2-3 2 L .360 2 4 2 L .540 2-4 2 L
Mi Ax Sp: Hit Lo.	n. Bassele acing teh ad les 10	E L X X X' C a1 a2 a3 G N E V G N E V G N E V	40 12 16 12 20 30 50 2 1 300 2-3 2 1 400 1-3 3 R	40 12 16 12 .20 .40 .40 .40 2 2 1, .400 2-3 2 L, .480 2-4 2 L, .480 .490 .400 .4	44 12 20 12 .10 .20 .70 4 4 L .350 2-3 8 R .430 1-3 8 R	44 12 20 12 .10 .30 .60 4 4 4 L .300 2–3 L .420 1–3 3 R R	44 12 20 12 .10 .40 .50 2 2 L .400 2-3 2 L .500 2-3 2 L	44 12 20 12 .20 .20 .60 4 4 1, .300 2-3 8 R .380 13 3 R	44 12 20 12 .20 .30 .50 2 2 L .300 2–3 L .400 1–3 3 R	44 12 20 12 .20 .40 .40 .2 2 L .400 2 3 2 L .480 2 2 L .480 2 2 L .400 2 2 L .400 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	32 16 8 8 .10 .20 .70 3 4 3 L .420 2-4 4 R 600 2-4 4 R 8	32 16 8 8 .10 .30 .60 2-3 2 L .360 2 4 2 L .540 2-4 2 L .546
Ax Spe Hit Lo. On Ax	n. Bassele acing teh ad les 10	E L X X Y C a1 a2 a3 G N E V G N E V G N E V G G N E V G G N E V G G N E V G G N E V G G N E V G G N E V G G N E V G G N E V G G N E V G G N E V G G N E V G G N E V G G M E V G	40 12 16 12 .20 .30 .50 2 2 1 .300 2-3 2 1 .400 1-3 3 R	40 12 16 16 12 .20 .40 .40 2 2 L .400 2-3 2 L .480 2-4 2 L .533 2-4	44 12 20 12 .10 .20 .70 4 4 L .350 2-3 3 R .430 1-3 3 R	12 20 12 .10 .30 .60 4 4 4 L .300 2-3 2 L .420 1-3 8 8 .500 2-4	44 12 20 12 .10 .40 .50 2 2 L .400 2-3 2 L .500 2-3 2 L	44 12 20 12 .20 .20 .60 .60 4 4 4 .300 2-3 8 .380 1-3 3 .460 1-3	44 12 20 .30 .50 .50 2 2 L .300 2–3 2 L .400 1–3 8 8 470	44 12 20 12 .20 .40 .40 .40 .2 .2 .1 .400 2 3 2 L .400 2 3 2 L .400 2 3 2 L .400	32 16 8 8 .10 .20 .70 3 4 3 L .420 2-4 4 R .600 2-4 4 R .700 1-4	32 16 8 8 .10 .30 .60 2-3 2 L .360 2 4 2 2 L .540 2-4 2 L .660 2-4
Ax Spe Hit Lo. On Ax	n. Bassele acing teh ad les 10	e L	40 12 16 12 20 30 50 2 1 1 300 2-3 2 1 400 1-3 3 R 470 2 4 42 2	10 12 16 12 12 140 140 140 140 140 140 140 140 140 140	44 12 20 12 .10 .20 .70 4 4 L .350 2-3 8 R .430 1-3 8 R	44 12 20 12 .30 .60 4 4 4 L .300 2-3 2 L .420 1-3 8 R .500 2-4 2 L	44 12 20 12 .10 .40 .50 2 2 L .400 2-3 2 L .500 2-3 2 L .500 2-2 L .500 2-3 2 L .500 2-4 2 L .500 2-4 2 L .500 2-4 2 L .500 2-4 2 2-5 2 2-5 2 2-5 2 2-5 2 2-5 2 2-5 2 2-5 2 2-5 2 2-5 2 2-5 2-5	44 12 20 12 .20 .20 .60 4 4 1, .300 2-3 8 R .380 13 3 R	44 12 20 12 .20 .30 .50 2 2 L .300 2–3 2 L .400 1–3 8 R 470	44 12 20 12 .20 .40 .40 .2 2 L .400 2 3 2 L .480 2 2 L .480 2 2 L .400 2 2 L .400 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	32 16 8 8 .10 .20 .70 3 4 3 L .420 2-4 4 R 600 2-4 4 R 8	32 16 8 8 8 .10 .30 .60 2-3 L .360 2 L .540 2-4 2 L .660 1-4
Ax Spe Hit Lo. On Ax	n. Bass le acing tch ad les 10 20	e L	40 12 16 12 20 30 50 2 2 1, 300 2–3 2 1, 400 1–3 3 R 470 2 4	40 12 16 16 12 .20 .40 .40 2 2 L .400 2-3 2 L .480 2-4 2 L .533 2-4 2 L .533	44 12 20 12 .10 .20 .70 4 4 4 .350 2-3 3 R .430 1-3 3 R .490 2-4 4 4 R	44 12 20 12 .10 .30 .60 4 4 4 L .300 2-3 2 L .420 1-3 8 8 .500	44 12 20 12 .10 .40 .50 2 2 L .400 2-3 2 L .500 2-3 2 L .500 2-3 2 L	44 12 20 12 .20 .60 4 4 4 1 .300 2-3 3 R .380 1-3 3 R .460 1-3 3 8 8 .460 1-3 3 8 8 8 8 8 8 8 8 8 8 8 8 8	44 12 20 12 .20 .30 .50 2 2 1 .300 2-3 2 1 .400 1-3 3 R .470	44 12 20 12 .20 .40 .40 2 2 L .400 2 3 2 L .480 2-3 2 L .520 2-3 2 2 L	32 16 8 8 10 70 3 4 4.20 2-4 4 R.500 2-4 4 R.700	32 16 8 8 .10 .60 2-3 2 1 .360 2-3 2 4 .540 2-4 2 L .60 1-4 4 R R
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Ax Spe Hit Lo. On Ax	1. Base le accing the le accing the le accing the le accing the les and les accing the les accing the les accing the les accing the les accing the les accing the les accing the les accing the les accing the les accing the les accing the les accing the less than less	e L XY C a1 a2 a3 G N E V R E V R E V R E V R E V R E V R E V R E V R E V R E V R E V R E V R E V R E	40 12 16 12 20 30 .50 2 1 .300 .50 2 1 .300 1-3 3 R R .470 2 1 .5550 1-4 1 1 1 1 1 1 1 1 1	40 12 16 12 .20 .40 .40 .2 2 L .480 .2-4 2 L .533 .2-4 2 L .600 1-4 1 L .707 1-4 1 L .780 1-4 1 L .780	44 12 20 12 10 20 70 4 4 4 1.350 2.3 3 8 430 1.35 2.4 4 4 8 8.64 4 1.4 4 8 8.703 1.4 4 8 8 8 8 8 8 8 8 8 8 8 8 8	12 20 12 10 30 .60 4 4 4 12 2 20 12 10 .30 .60 4 4 4 12 2 2 12 10 10 10 10 10 10 10 10 10 10 10 10 10	44 112 20 112 .10 .40 .50 2 L .500 2-3 2 L .500 2-3 2 L .550 2-4 2 L .625 2-4 2 L .7177 2-4 2 L .763 2-4 2 L .763	44 12 20 12 20 .20 .60 4 4 4 .300 2-3 3 R .380 1-3 3 R .520 1-4 4 4 R .576 1-4 4 R .735 1-4 4 R	12 20 30 30	44 12 20 12 20 .40 .40 2 2 L .400 2 2 L .480 2 -3 2 L .520 2 -4 2 L .580 1 -4 1 L .632 1 -4 1 L .770 1 -4 1 L	32 16 8 8 8 10 .20 .70 3 4 4 R .600 2-4 4 R .700 1-4 4 R .770 1-4 4 R .816 1-4 4 R .847 1-4 4 R .847 1-4 4 8 .847 1-4 4 8 .847 1-4 4 8 .847 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	32 16 8 8 8 10 30 60 2-3 2 1 540 2-4 2 1 540 2-4 4 8 740 1-4 4 8 792 1-4 4 8 827 1-4 4 8 827 1-4 4 8 827 1-4 8 8 8 8 8 8 8 8 8 8 8 8 8
Will Axx Sp. Hit Lo On Axx	10. Bass le accing the hard les 10. 20. 30. 40. 60. 80. 80. 80. 80. 80. 80. 80. 80. 80. 8	e L XX C a1 a2 a2 G G NE V G NE V G S S S S S S S S S S S S S S S S S S	40 12 16 12 20 30 50 2 2 1 L 300 2-3 2 L 400 1-3 3 R 470 2 1 L 5550 1-4 1 L 608 1 4 1 L 7555 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	12 .20 .40 .40 .40 .2 .2 .40 .40 .2 .2 .40 .40 .2 .2 .480 .533 .2-4 .2 .600 .1-4 .1 .707 .707 .707 .707	12 10 10 20 12 10 20 10 4 4 4 4 13 13 13 13 14 14 15 16 16 16 16 16 16 16 16 16 16	12 12 10 30 60 4 4 4 4 4 4 4 4 4 4 4 10 30 2-3 2 L 420 1-3 8 3 8 500 2-4 2 L 570 2-4 2 L 636 2-4 2 L 636 2-4 2 L 636 2-4 2 4 2 4 2 4 2 4 4 2 4 2 4 2 4 4 4 2 4 4 4 2 4 4 4 2 4 4 4 2 4 4 4 2 4 4 4 2 4 4 4 2 4 4 4 2 4 4 4 2 4 4 4 2 4 4 4 4 4 4 4 4 4 4 4 4 4	44 112 20 112 1.10 1.40 1.50 2 2 1.40 23 2 1.500 2-3 2 1.500 2-4 2 1.680 2-4 2 1.717 2-4 2 1.763 2-4 2 1.763	12 20 20 20 20 20 60 4 4 4 4 2-3 380 1-3 3 R .380 1-3 3 R .520 1-4 4 4 R .576 1-4 4 R .647	12 20 30 .50 2 2 L .300 .50 2 2 L .400 1-3 3 R .470 1-3 3 R .540 1-4 1 L .588 1-4 1 L .5743 1-4 1 L .743 1-4 1	44 12 20 12 20 40 40 2 2 L 400 2 3 2 L 520 2 480 2 3 2 L 520 2 4 1 1 L 632 1 4 1 L 693 1 4 1 L 7770 1 4 1 1 1 1 1 1	32 16 8 8 8 .10 .20 .70 3 4 4 R .600 2-4 4 R .700 1-4 4 R .816 1-4 4 R .816 1-4 4 R .847 1-4 4 8 8.85 1-4 4 8.847	32 16 8 8 .10 .30 .60 2-3 2 L .360 2-4 2 L .540 2-4 2 L .660 1-4 4 R .740 1-4 4 R .792 1-4 4 R .827 1-4 4 8.827 1-4 8.827 1-4

					E	QUIVAL	ENT LC	DADS				77
			Continue									
	uck N		51	52	53	54	55	56	57	58	59	60
$\frac{\mathbf{w}}{\mathbf{A}\mathbf{x}}$	a. Bas	e L X	32 16	32 16	32 16	32 16	36 16	36 16	36 16	36 16	36 16	36 16
	acing	χ̈́,	8	8	8	8	12	12	12	12	12	12
	tch_	<u>C</u>	8	- 8	- 8	8	8	8	- 8	- 8	8	8
Lo On		a ₁	.10 .40	.20	.20 .30	.20 .40	.10	.10 .30	$.10 \\ .40$.20 .20	.20 .30	$.20 \\ .40$
Ax		\mathbf{a}_3	.50	.60	.50	.40	.70	.60	.50	.60	.50	.40
		G N	$\substack{2-3\\2}$	$_{3-4}^{3-4}$	$\frac{2}{2}$	$^{2-3}_2$	$\frac{2-3}{3}$	$^{2-3}_2$	$\substack{2-3\\2}$	23 3	$\substack{2-3\\2}$	$\frac{2-3}{2}$
	10	\mathbf{E}	\mathbf{L}	L	L	L	\mathbf{R}	L	L	\mathbf{R}	\mathbf{L}	L
		- V G	$\frac{.450}{2-4}$.360 2 4	2 4	2-4	390	.360 2-4	.450 2-4	.340 2-4	.350 2-4	440 2-4
		N	2	4	2	2	4	2	2	4	2 L	2
	20	E V	$_{.600}^{ m L}$	$rac{\mathbf{R}}{.520}$	$_{.500}^{ m L}$	$_{.560}^{ m L}$	$_{.490}^{ m R}$	$_{.480}^{ m L}$	$_{.550}^{ m L}$	$^{ m R}_{.420}$	$^{ m L}_{.450}$	$_{.520}^{ m L}$
		G	24	2-4	2-4	2-4	2-4	2 -4	2-4	2-4	2-4	2-4
	30	N E	$^2_{ m L}$	$^4_{ m R}$	$^2_{ m L}$	$^2_{ m L}$	$^4_{ m R}$	$^2_{ m L}$	$^2_{ m L}$	$^{4}_{ m R}$	$_{ m L}^2$	$^2_{ m L}$
	- 00	V	.700	.613	.600	.640	.627	.620	.667	.547	.567	.613
		G N	$\frac{2-4}{2}$	$^{1-4}_{4}$	$^{1-4}_{4}$	$_{2}^{-4}$	$^{1-4}_{4}$	$^{2-4}_2$	$_{2}^{-4}$	1-4	$\frac{2-4}{2}$	$_{2}^{-4}$
et	40	\mathbf{E}	$\overline{\mathbf{L}}$	$^{\mathrm{R}}$	\mathbf{R}	L	\mathbf{R}	\mathbf{L}	L	$^4_{ m R}$	\mathbf{L}	\mathbf{L}
Span-Feet		V	.750	.700	.670	.680	.705	.690	.725	.630	.625	.660
рап		G N	$\frac{2-4}{2}$	1- 4 4	$^{1-4}_{4}$	14 4	14 4	$^{1-4}_{4}$	$_{2}^{-4}$	$^{1-4}_{4}$	$^{1-4}_{4}$	$\frac{2-4}{2}$
Š	50	E	.780	$^{ m R}_{.760}$	$^{ m R}_{.736}$	R .712	$^{ m R}_{.764}$	$^{ m R}_{.736}$	$^{ m L}_{.760}$	$^{ m R}_{.704}$	R .676	$_{.688}^{ m L}$
		G	1-4	1-4	1-4	1-4	1-4	1-4	2-4	1-4	1-4	2-4
	60	N E	$^{4}_{ m R}$	$^4_{ m R}$	$^4_{ m R}$	$^4_{ m R}$	4 R	$^4_{ m R}$	$^2_{ m L}$	$^4_{ m R}$	4 R	$^2_{ m L}$
	00	Ÿ	.807	.800	.780	.760	.803	.780	.783	.753	.730	.707
		G	1.4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4
	80	N E	$^4_{ m R}$	$^{4}_{\rm R}$	$\overset{4}{\mathrm{R}}$	$\overset{4}{\mathrm{R}}$	$^4_{ m R}$	$^4_{ m R}$	$^{4}_{ m R}$	$^{4}_{ m R}$	$^4_{ m R}$	$\overset{4}{\mathrm{R}}$
		<u>v</u>	.855	.850	.835	.820	.853	.835	.818	.815	.798	.780
		G N	1 ·4 4	$^{\mathbf{1-4}}_{4}$	$^{1-4}_{4}$	$\substack{1-4\\4}$	$^{\mathbf{1-4}}_{4}$	$\substack{1-4\\4}$	14 4	$^{1-4}_{4}$	$^{1-4}$	$^{1-4}_{4}$
	100	E	$^{ m R}_{.884}$	$_{.880}^{ m R}$	$^{ m R}_{.868}$	$^{ m R}_{.856}$	$_{.882}^{ m R}$	R .868	$^{ m R}_{.854}$	$^{ m R}_{.852}$	$^{ m R}_{.838}$	$^{ m R}_{.824}$
Tr	uck N		61	62	63	64	65	66	67	68	69	70
	ı. Bas	_	40	40	40	40	40	40	44	44	44	44
Ax		X X,	16	16	16	16	16	16	16 20	16	16	16
_	acing tch		16 8	16 8	$\frac{16}{8}$	$\frac{16}{8}$	$\frac{16}{8}$	16 8	<u>-20</u>	$\frac{20}{8}$	8	20 8
Lo		a ₁	.10	.10	.10	.20	.20	.20	.10	.10	.10	.20
On Ax		a2 a3	.20 .70	.30 .60	.40 .50	.20 .60	$.30 \\ .50$.40 .40	$.20 \\ .70$.30 $.60$.40 .50	$.20 \\ .60$
	163	G	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3
	10	N E	$^3_{ m R}$	$^2_{f L}$	$^2_{f L}$	$^3_{ m R}$	$^2_{f L}$	$^2_{f L}$	$^3_{f R}$	$^2_{ m L}$	$^2_{f L}$	${f R}^3$
	10	v	.390	.360	.450	.340	.350	.440	.390	.360	.450	.340
		G N	$\frac{2-3}{3}$	2-3 2	$^{2-3}_{2}$	$^{2-3}_3$	$^{2-3}_2$	$^{2-3}_2$	$^{2-3}_{3}$	$\frac{2-3}{2}$	$\overset{2-3}{\overset{2}{\overset{2}{\overset{2}{\overset{2}{\overset{2}{\overset{2}{\overset{2}{$	$^{2-3}_{3}$
	20	\mathbf{E}	\mathbf{R}	\mathbf{L}	\mathbf{L}	\mathbf{R}	\mathbf{L}	L	R	\mathbf{L}	\mathbf{L}	\mathbf{R}
		G	2-4	.480 2-4	.550 2-4	1-3	.450 2-4	$\frac{.520}{2-4}$.470 1-3	$\frac{.480}{2-4}$	$\frac{.550}{2-4}$	$\frac{.420}{1-3}$
		N	4	2 L	2	3	2	2	3	2	2	3
	30	E V	$^{ m R}_{.553}$.580	$_{.633}^{ m L}$	$^{ m R}_{.487}$	$_{.533}^{ m L}$	$^{ m L}_{.587}$	$^{ m R}_{.517}$	$_{.540}$	$_{.600}^{\mathbf{L}}$	R .487
		G	1-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	2-4	1-3
et	40	N E	$^4_{ m R}$	$^2_{f L}$	$^2_{f L}$	$^2_{\mathbf{L}}$	$^2_{ m L}$	2 L	$^2_{ m L}$	$^2_{ m L}$	$_{ m L}^2$	$^3_{ m R}$
n-Fect	-10	v	.640	.660	.700	.560	.600	.640	.585	.630	.675	.540
an		G N	$^{1-4}_{4}$	$^{2-4}$	$rac{2}{2}$	$^{1-4}$	$^{2-4}_2$	$2\cdot 4 2$	$egin{array}{c} 1-4 \ 4 \end{array}$	$^{2-4}_2$	$\frac{2-4}{2}$	1-4 4
Spa	50	\mathbf{E}	\mathbf{R}	$^2_{ m L}$	L	R	L	L	R	\mathbf{L}	\mathbf{L}	R
		<u>v</u> _	.712 1-4	.708 2-4	$\frac{.740}{2-4}$.648 1–4	.640 1-4	.672 2-4	1 4	2-4	$\frac{.720}{2-4}$	$\frac{.592}{1-4}$
		G N	4	2	2	4	4	2	4	2	2	4
	60	$_{ m V}^{ m E}$	R .760	L .740	$^{ m L}_{.767}$	$^{ m R}_{.707}$.680	$_{.694}^{ m L}$	$^{ m R}_{.717}$	$_{.720}^{ m L}$	L .750	$^{ m R}_{.660}$
		G	1-4	1-4	2-4	1-4	1 -4	14	1-4	2-4	2-4	1-4
	1	Ñ	4	4	2	4	4 R	1 L	4 R	$^2_{ m L}$	$^2_{ m L}$	4 R
	0.0			TO	т.							IX.
	80	E V	$_{.820}^{ m R}$	$^{ m R}_{.800}$	$_{.800}^{\mathbf{L}}$	$^{ m R}_{.780}$.760	.760	.788	.765	.788	.745
	80	E V G	R .820 1-4	.800 1-4	.800 1-4	.780 1 4	.760 1-4	.760 1–4	.788 1-4	.765 1-4	.788 2-4	.745 1-4
	100	E V	R .820	.800	.800	.780	.760	.760	.788	.765	.788	.745

	ick N		Continue 71	72	73	74	75	76	77	78	79	80
	. Base		44	44	36	36	36	36	36	36	40	40
Axl Spa	le lcing	Х Х'	$\frac{16}{20}$	$\frac{16}{20}$	$^{16}_{8}$	$^{16}_{8}$	16 8	$^{16}_{8}$	$^{16}_{8}$	16 8	$\frac{16}{12}$	$\frac{16}{12}$
Hit		C	8	8	12	12	12	12	12	12	12	12
Loa On	ıd	\mathbf{a}_1 \mathbf{a}_2	.20 .30	.20 .40	.10 .20	$.10 \\ .30$.10 .40	.20 $.20$.20 .30	.20 .40	.10 .20 .70	$.10 \\ .30$
Ax.	les	a ₃	2-3		.70 3-4	$\frac{.60}{3-4}$	$\frac{.50}{2}$	3-4	3 4	.40	.70	
İ	10	N	2	2	3	3	2	3	3	2	4	4
	10	\mathbf{v}	$^{ m L}_{.350}$	$_{.440}^{ m L}$	$^{1_{L}}_{.420}$.360	$\frac{L}{400}$	$^{ m L}_{.360}$	$^{ m L}_{.300}$	$^{ m L}_{.400}$.350	.300
ľ		G N	2-3 2	$\substack{2-3\\2}$	$^{2-4}_{4}$	$^{2-4}_{4}$	24 2	$\substack{2-4\\4}$	$\frac{2-4}{2}$	$^{2-4}_{2}$	3-4 3	2-3 2
	20	E V	$_{.450}^{\mathbf{L}}$	$ m_{L}^{ m L}$	\hat{R}	R .480	$_{.500}^{ m L}$	R ,480	$ar{ ext{L}}$	$_{.480}^{ar{ ext{L}}}$	$_{.490}^{ m L}$	2 L .420
		- V	1-3	2-4	2-4	2-4	2-4	24	2-4	2-4	2-4	2 4
	30	$_{ m E}^{ m N}$	$^3_{ m R}$	$^2_{ m L}$	$^4_{ m R}$	$^{4}_{ m R}$	$^2_{ m L}$	$^4_{ m R}$	$^2_{ m L}$	2 L	$^{4}_{ m R}$	$_{\rm L}^2$
-		V	2 4	.560 2-4	$\frac{.673}{1-4}$.620	2-4	.587 1-4	.533	.586 2-4	2-4	$\frac{.540}{2-4}$
اب		G N E	2	2	4	1-4 4	2 L	4	$^{1-4}_{4}$	2	4	2
Fee	40	V	$^{ m L}_{.575}$	$_{.620}^{ m L}$	$^{ m R}_{.740}$	$^{ m R}_{.700}$.700	$_{.660}^{ m R}$	$^{ m R}_{.620}$	L .640	$_{.675}^{ m R}$.630
Span-Feet		G N	2-4 2	24 2	1 4 4	1-4 4	2-4	1· 4 4	$^{1-4}_{4}$	2-4	1-4 4	1-4 4
Sp	50	E	$_{.620}^{ ilde{ ilde{L}}}$	$_{\rm L}$	\mathbf{R}	\mathbf{R}	L	\mathbf{R}	\mathbf{R}	L	R	\mathbf{R}
		G -	2-4	.656 24	.792	$\frac{.760}{1-4}$	$\frac{.740}{1-4}$.728	.696 1-4	.672 1-4	$\frac{.740}{1-4}$.704 1-4
	60	N E	$^2_{f L}$	$^2_{ m L}$	$^{4}_{\rm R}$	$^4_{ m R}$	$^4_{ m R}$	$^4_{f R}$	$^4_{ m R}$	$^4_{ m R}$	$^4_{ m R}$	$^4_{ m R}$
		V	.650	.680	.827	.800	.773	.773	.747	.720	.783	.753
		G N E	1-4 1	$^{1-4}_{1}$	$\frac{1-4}{4}$	$^{1-4}_{4}$	14 4	$^{1-4}_{4}$	1⊶4 4	1⊷ 4 4	$^{1-4}_{4}$	14 4
	80	$_{ m V}^{ m E}$	$^{ m L}_{.728}$	$^{ m L}_{.750}$	$^{ m R}_{.870}$	$^{ m R}_{.850}$	$^{ m R}_{.830}$	$_{.830}^{ m R}$	$_{.810}^{ m R}$	$^{ m R}_{.790}$	$^{ m R}_{.838}$	$^{ m R}_{.815}$
- 1		G	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1 4	1-4	1 4
	100	N E	1 L	$\frac{1}{L}$	R R	R R	4 R	$^{4}_{ m R}$	4 R	$\overset{4}{\mathrm{R}}$	$^4_{ m R}$	$^4_{ m R}$
Tres	ick N	<u>V</u>	.782 81	.800 82	.896 83	.880	.864 85	.864 86	.848 87	.882 88	.870 89	.852 90
	. Base		40	40	40	40	44	44	44	44	44	44
Axl Spa	le icing	X X'	$\frac{16}{12}$	$\frac{16}{12}$	$\frac{16}{12}$	$\frac{16}{12}$	16 16	16 16	16 16	$\frac{16}{16}$	16 16	16 16
Hit	ch	C	12	12	12	12	12	12	12	12	12	12
Los On	ıd	a_1 a_2	.10 .40	.20 .20	.20 .30	.20 .40	$.10 \\ .20$	$.10 \\ .30$.10 $.40$.20 .20	.20 .30	.20
Ax:	les	a 3	$\frac{.50}{2}$.60	2		.70	.60	.50	.60	.50	.40
	•	G N	2	4	2	2	4	4	2 2	4	2 2	2
	10	$\overset{\mathbf{E}}{\mathbf{v}}$	$^{ m L}_{.400}$	$^{\rm L}_{.300}$	$_{.300}^{ m L}$	$^{ m L}_{.400}$	$^{ m L}_{.350}$	$^{\mathbf{L}}_{.300}$	$^{ m L}_{400}$	$^{\mathbf{L}}_{.300}$	$^{ m L}_{300}$	$_{.400}$
		G N	2-3 2	3-4 3	2-3 2	2-3 2	$^{2-3}_{3}$	$^{2-3}_{2}$	2-3	2-3	2-3	$^{2-3}_{2}$
	20	E V	L .500	$_{.420}^{ m L}$	$ m \stackrel{ar{L}}{L}$	$_{.480}^{ m L}$	R .430	Ĭ. .420	$^{2}_{ m L}$	R .380	\mathbf{L}	L .480
		G	2-4	2-4	2 4	2-4	2 4	2-4	2-4	2 4	.400 2-4	2 4
	30	N E	$^2_{f L}$	$^4_{ m R}$	$^2_{f L}$	$\overset{2}{\mathbf{L}}$	$^4_{ m R}$	$_{ m L}^2$	$^2_{f L}$	4 R	2 L	$_{ m L}^2$
		V	.600	.520	.500	.560	.527	.500	.567	.453	.467	.533
، ب		$\frac{G}{N}$	$\frac{2-4}{2}$	$^{2-4}_{4}$	$\begin{array}{ccc} 2 & 4 \\ 2 & \end{array}$	$\frac{2-4}{2}$	$^{2-4}_{\underline{4}}$	2 -4 2	2-4 2	$\begin{array}{cc} 2 & 4 \\ 4 \end{array}$	$^{2-4}_{2}$	$^{2-4}_{2}$
n-Feet	40	$_{ m V}^{ m E}$	$_{.675}^{ m L}$	$_{.590}^{ m R}$	$_{.575}^{ m L}$	$_{.620}^{\mathbf{L}}$	$_{.620}^{ m R}$	$_{600}^{\mathrm{L}}$	$_{.650}^{ m L}$	R .540	$_{.550}^{ m L}$	$_{.600}^{L}$
an-		G	2 4	14 4	1 4	2-4	14 4	2-4	2-4	1-4	2-4	2-4
Spa	50	N E	L	R	\mathbf{R}	\mathbf{L}	R	2 L	2 L	4 R	$\frac{2}{L}$	2 L
		G	.720	.672 1-4	.636 1-4	2 4	$\frac{.688}{1-4}$.660 14	2 4	.616 1-4	.600 14	$\frac{.640}{2.4}$
	60	Ň E	$\frac{2}{\mathrm{L}}$	4 R	$\overset{4}{\mathrm{R}}$	2 L	4 R	4 R	2 L	4 R	4 R	L 2
		V	.750	727	.697	.680	.740	.707	.733	.680	.647	.667
		G	1-4	$^{1-4}_{4}$	$\begin{smallmatrix}1&4\\&4\end{smallmatrix}$	$\frac{1-4}{1}$	$^{1-4}_{4}$	$\frac{1-4}{4}$	$\frac{2-4}{2}$	$^{1-4}_{4}$	$_{4}^{1-4}$	14 1
		N	4									
	80	N E	R	R	\mathbf{R}	L	$^{ m R}_{.805}$	R .780	L	R	R	I.
	80	N E V	.793 1 4	R .795 1-4	.773 1-4	$\frac{1.750}{1-4}$.805 1-4	.780 1-4	I. .775 1-4	R .760 1-4	R .735	.740 1-4
	80	N E V	R .793	R .795	R .773	.750	.805	.780	L .775	R .760	R .735	I. .740

	ick N	0.	Continue 91	92	93	94	95	96	97	98	99	100
	. Bas		48	48	48	48	48	48	36	36	36	36
Axl		X X,	16 20	16 20	16 20	16 20	16 20	16 20	20	20	20	20 8
Hit.	cing ch	C	12	12	12	12	12	12	8	8	<u>8</u> 8	- 8
Loa		aı	.10	.10	.10	.20	.20	.20	.10	.10	.10	.20
On Axl	es	\mathbf{a}_2	$.20 \\ .70$.30 $.60$.40 .50	.20 .60	.30 .50	.40 .40	.20 .70	.30 .60	.40 .50	.20 .60
		G	4	4	2	4	2	2	3 4	3-4	2-3	3-4
	10	N E	$^4_{ m L}$	4 L	2 L	$^4_{ m L}$	$^2_{f L}$	$^2_{f L}$	$^3_{ m L}$	$^3_{ m L}$	$_{ m L}^2$	$^3_{ m L}$
		V	.350	.300	.400	.300	.300	.400	.420	.360	.450	.360
ĺ		G N	$\frac{2\cdot 3}{3}$	$\frac{2}{2}$	$\frac{2-3}{2}$	$^{2-3}_{3}$	$\frac{2-3}{2}$	$^{2-3}_2$	2 4 4	$^{2-4}_2$	$^{2-4}_2$	$^{2-4}_{4}$
	20	\mathbf{E}	\mathbf{R}	L	L	\mathbf{R}	\mathbf{L}	L	\mathbf{R}	\mathbf{L}	$_{ m L}$	R
-		V G	1-3	.420 13	$\frac{.500}{2-3}$.380 1-3	2-3	2-3	2 4	.540 2-4	$\frac{.600}{2-4}$	2-4
		N	3	3	2	3	2	2	4	2	2	4
	30	$_{ m V}^{ m E}$	$^{ m R}_{.476}$	R .487	$_{.550}^{ m L}$	R .433	$\frac{1}{.450}$	$_{.520}^{ m L}$	$^{ m R}_{.700}$	$_{.660}^{ m L}$	$^{ m L}_{.700}$	R .613
-		G	2-4	2-4	2 4	13	2-4	2-4	1-4	1-4	2-4	1-4
اید	40	N	4	2	2	3	$_{\mathbf{L}}^{2}$	$^2_{ m L}$	4	4	2	4
ž	40	E V	$^{ m R}_{.565}$	$_{.570}^{ m L}$	$^{ m L}_{.625}$	R .500	.525	.580	R .760	R .730	$^{ m L}_{.750}$	$^{ m R}_{.680}$
Span-Feet		G	14	2-4	2 -4	1-4	2-4	2-4	1-4	1-4	2-4	14
ďS	50	N E	$^4_{ m R}$	$^2_{ m L}$	2 L	$^{4}_{ m R}$	$^2_{ m L}$	$^2_{f L}$	$^4_{ m R}$	$^4_{ m R}$	$^2_{ m L}$	$^{4}_{ m R}$
		V	.636	.636	.680	.560	.580	.624	.808	.784	.780	.744
Ì		G N	1 4 4	$^{2}_{2}^{4}$	$\frac{2-4}{2}$	14 4	$\frac{2-4}{2}$	$\frac{2-4}{2}$	$^{1-4}_{4}$	$^{\mathbf{1-4}}_{4}$	$^{1-4}_{4}$	$^{1-4}_{4}$
	60	\mathbf{E}	\mathbf{R}	\mathbf{L}	L	\mathbf{R}	${f L}$	2 L	\mathbf{R}	\mathbf{R}	\mathbf{R}	R
-		V G	14	.680 1-4	.717 2-4	.633	.617 1-4	.653	.840	$\frac{.820}{1-4}$	$\frac{.800}{1-4}$.787 1–4
		N	4	4	2	4	1	1	4	4	4	4
	80	$_{ m V}^{ m E}$	$^{ m R}_{.773}$	$^{ m R}_{.745}$	$^{ m L}_{.763}$	R .725	$^{ m L}_{.703}$	$_{.730}^{ m L}$	$^{ m R}_{.880}$	$^{ m R}_{.865}$	$^{ m R}_{.850}$	$_{.840}^{ m R}$
-		Ġ	1-4	1-4	2 4	1 4	1-4	1-4	14	14	1-4	1-4
	100	N E	$^4_{ m R}$	$^4_{ m R}$	$^2_{ m L}$	4 R	$^{1}_{\mathbf{L}}$	$^{1}_{ m L}$	$^4_{ m R}$	$^4_{ m R}$	$^4_{ m R}$	$^{4}_{ m R}$
	100	v	.818	.796	.790	.780	.762	.784	.904	.892	.880	.872
	ck N		101	102	103	104	105	106	107	108	109	110
	. Base	е <u>L</u> Х	36 20	20	$-\frac{40}{20}$	20	20	20	20	20	20	20
Axl Spa	e cing	Ŷ,	8	8	12	12	12	12	12	12	16	16
Hite		C	8		- 8	8	8	8	8	8	- 8	8
Loa On	d	aı aı	.20 .30	.20 .40	.10 .20	.10 .30	.10 .40	$.20 \\ .20$.20 .30	.20 .40	.10 .20	$.10 \\ .30$
Axl	es	a:	.50	.40	.70	.60	.50	.60	.50	.40	.70	.60
		G N	2-3	$^{2-3}$	2.3	2 3	23	2-3	2-3			
	10		•,							$\frac{2-3}{2}$	$\frac{2}{3}$	2-3
	10	E	2 L	$^2_{ m L}$	3 R	$^2_{f L}$	$^2_{ m L}$	\mathbf{R}^3	$^2_{f L}$	\mathbf{L}^{2}	$^3_{ m R}$	$^2_{ m L}$
-		v	L .350	2 L .440	3 R .390	2 L .360	2 I. .450	3 R .340	1. 350	$\mathbf{\overset{2}{L}}_{.440}$	3 R .390	2 L .360
-		G N	$\frac{\frac{\text{L}}{.350}}{\frac{2-4}{2}}$	$\begin{array}{c} 2 \\ L \\ .440 \\ \hline 2 & 4 \\ 2 & \end{array}$	3 R .390 2-4 4	$\begin{array}{c} 2 \\ L \\ .360 \\ \hline 2-4 \\ 2 \end{array}$	$\begin{array}{c} 2 \\ \text{L} \\ .450 \\ \hline 2-4 \\ 2 \end{array}$	3 R .340 2-4 4	2 L .350 2-4 2	$\begin{array}{c} 2 \\ \mathbf{L} \\ .440 \\ \hline 2-4 \\ 2 \end{array}$	$\begin{array}{c} 3 \\ R \\ .390 \\ \hline 2-3 \\ 3 \end{array}$	$\begin{array}{c} 2 \\ L \\ .360 \\ \hline 2-3 \\ 2 \end{array}$
-	20	G N E	$\begin{array}{c} L\\ .350\\ \hline 2-4\\ 2\\ L\end{array}$	2 L .440 2 4 2 L	3 R .390 2-4 4 R	2 L .360 2-4 2 L	2 I. .450 2-4 2 L	3 R .340 2-4 4 R	2 L .350 2-4 2 L	2 L .440 2-4 2 L	3 R .390 2-3 3 R	$\begin{array}{c} 2 \\ L \\ .360 \\ \hline 2-3 \\ 2 \\ L \end{array}$
-		G N	$\frac{\frac{\text{L}}{.350}}{\frac{2-4}{2}}$	$\begin{array}{c} 2 \\ L \\ .440 \\ \hline 2 & 4 \\ 2 & \end{array}$	3 R .390 2-4 4	2 L .360 2-4 2 L .480 2-4	2 I. .450 2-4 2 I. .550 2-4	3 R .340 2-4 4	2 L .350 2-4 2 L .450 2-4	$\begin{array}{c} 2 \\ \mathbf{L} \\ .440 \\ \hline 2-4 \\ 2 \end{array}$	$\begin{array}{c} 3 \\ R \\ .390 \\ \hline 2-3 \\ 3 \end{array}$	2 L .360 2-3 2 L .480 2-4
-	20	G N E V G N	L .350 2-4 2 L .500 2-4 2	2 L .440 2 4 2 L .560 2-4 2	3 R .390 2-4 4 R .490 2-4 4	2 L .360 2-4 2 L .480 2 4 2	2 L450 2-4 2 L550 2-4 2	3 R .340 2-4 4 R .420 2-4 4	2 L .350 2-4 2 L .450 2-4 2	2 L.440 2-4 2 L.520 2-4 2	3 R .390 2-3 3 R .470 2-4 4	2 L .360 2-3 2 L .480 2-4 2
		G N E V	L .350 2-4 2 L .500 2-4	2 L .440 2 4 2 L .560 2-4	3 R .390 2-4 4 R .490 2-4	2 L .360 2-4 2 L .480 2-4	2 I. .450 2-4 2 I. .550 2-4	3 R .340 2-4 4 R .420 2-4	2 L .350 2-4 2 L .450 2-4	2 L .440 2-4 2 L .520 2-4	3 R .390 2-3 3 R .470 2-4	2 L .360 2-3 2 L .480 2-4
	20	G N E V G N E V G	L .350 2-4 2 L .500 2-4 2 1 .600	2 L .440 2 4 2 L .560 2-4 2 L .640 2-4	3 R .390 2-4 4 R .490 2-4 4 R .627	2 L .360 2-4 2 L .480 2 4 2 L .620	2 L .450 2-4 2 L .550 2-4 2 L .667	3 R .340 2· 4 4 R .420 2·-4 4 R .547	2 L .350 2-4 2 L .450 2-4 2 1, .567 2-4	2 L .440 2-4 2 L .520 2-4 2 L .613	3 R .390 2-3 3 R .470 2-4 4 R .553	2 L .360 2-3 2 L .480 2-4 2 L .580
et	20	G N E V G N E V G	L .350 2-4 2 L .500 2-4 2 I .600 2-4	2 L .440 2 4 2 L .560 2-4 2 L .640 2-4 2	3 R .390 2-4 4 R .490 2-4 4 R .627 1-4	2 L .360 2-4 L .480 2-4 2 L .620 2-4	2 L .450 2-4 2 L .550 2-4 2 L .667 2-4 2	3 R .340 2-4 4 R .420 2-4 4 R .547 1-4	2 .350 2-4 2 1, .450 2-4 2 1, .567 2-4 2	2 L.440 2-4 2 L.520 2-4 2 I. .613 2-4 2	3 R .390 2-3 3 R .470 2-4 4 R .553 2-4 4	2 L .360 2-3 2 L .480 2-4 2 L .580 2-4
-Feet	20	G NEV G NEV G NEV	L .350 2-4 2 L .500 2-4 2 L .600 2 4 2 L .600	2 L.440 2 4 2 L.560 2 4 2 I.640 2 - 4 2 I.680	3 R .390 2-4 4 R .490 2-4 4 R .627 1-4 R .695	2 L .360 2-4 2 L .480 2-4 2 L .620 2-4 1 L	2 L450 2-4 2 L550 2-4 2 L667 2-4 2 L725	3 R .340 2-4 4 R .420 2-4 4 R .547 1-4 4 R	2 L .350 2-4 2 L .450 2-4 2 1 .567 2-4 2 1 .625	2 L.440 2-4 2 L.520 2-4 2 I.613 2-4 2 L.660	3 R .390 2-3 3 R .470 2-4 4 R .553 2-4 R .640	2 L .360 2-3 2 L .480 2-4 2 L .580 2-4 2 L
an-Feet	20	GNEV GNEV GNEV G	L .350 2-4 2 L .500 2-4 2 I500 2-4 2 I650 1 4	2 L .440 2 4 2 L .560 2 - 4 2 L .640 2 - 4 2 L .680 2 - 4	3 R 390 2-4 4 R 490 2-4 4 R .627 1-4 4 R .695	2 L .360 2-4 2 L .480 2 4 2 L .620 2 4 2 L .620 2 4	2 L.450 2-4 2 L.550 2-4 2 L.667 2-4 2 L.725	3 R .340 2-4 4 R .420 2-4 4 R .547 1-4 4 R .610	2 L .350 2-4 2 L .450 2-4 2 I .567 2-4 2 1 .625 2-4	2 L .440 2-4 2 L .520 2-4 2 I .613 2-4 2 L .650 2-4	3 R .390 2-3 3 R .470 2-4 4 R .553 2-4 4 R .640	2 L .360 2-3 2 L .480 2-4 2 L .580 2-4 2 L .660
Span-reet	20	GNEV GNEV GNEV GNE	L .350 2-4 2 L .500 2-4 2 L .600 2 4 2 I .650 1 4 R	2 .440 2 4 2 L .560 2-4 2 L .640 2-4 2 L .680 2-4	3 R .390 2 · 4 4 R .490 2 · 4 4 R .627 1 · 4 4 R .695 1 · 4 4 R	2 L .360 2-4 2 L .480 2 4 2 L .620 2 4 2 L .690 2 4 2 L	2 .450 2-4 2 L .550 2-4 2 L .667 2-4 2 L .725 2-4 2 L	3 .340 2·4 4 R .420 2·4 4 R .547 1-4 4 R .610	2 .350 2-4 2 L .450 2-4 2 1 .567 2-4 2 1 .625 2-4 2 L	2 .440 2-4 2 L .520 2-4 2 1 .613 2-4 2 L .660 2-4 2 L	3 .390 2-3 3 R .470 2-4 4 R .553 2-4 4 R .640 1-4 4 R	2 L .360 2-3 2 L .480 2-4 2 L .580 2-4 2 L .660 2 4 2
Span-Feet	20 30 40	GNEV GNEV GNEV GNEV	L .3500 2-4 2 L .500 2-4 2 I600 2 4 2 I650 1 4 4 R .720	2 L .440 2 4 2 L .560 2 -4 2 L .640 2 -4 2 L .680 2 -4 2 L .704	3 R.390 2 · 4 4 R.490 2 · 4 R.627 1 · 4 4 R.695 1 · 4 4 R.756	2 1.360 2-4 2 L .480 2 4 2 L .620 2 4 2 L .690 2 4 2 L .732	2 L .450 2-4 2 L .550 2-4 2 L .667 2-4 2 L .725 2-4 2 L .725 2-4 2 L .760	3 R.340 2-4 4 R.420 2-4 4 R.547 1-4 4 R.610 1-4 4 R.688	2 L .350 2-4 2 L .450 2-4 2 1 .567 2-4 2 1 .625 2-4 2 1 .625	2 .440 2-4 2 L .520 2-4 2 L .613 2-4 2 L .660 2-4 2 L	3 R .390 2-3 3 R .470 2-4 4 R .553 2-4 4 R .640 1-4 4 R .704	2 L .360 2-3 2 L .480 2-4 2 L .580 2-4 2 L .660 2.4 2 L
Span-Feet	20 30 40 50	V GNEV GNEV GNEV GN	L .350 2-4 2 L .500 2-4 2 L .600 1 4 4 R .720 1 4 4	$\begin{array}{c} 2\\ L\\ .440\\ \hline \\ 2.4\\ 2\\ L\\ .560\\ \hline \\ 2-4\\ 2\\ L\\ .640\\ \hline \\ 2-4\\ 2\\ L\\ .680\\ \hline \\ 2-4\\ 2\\ L\\ .704\\ \hline \\ 1-4\\ 4\end{array}$	3 R .390 2-4 4 R .490 2 4 R .627 1-4 4 R .695 1-4 4 4 R .756 1-4 4 4 R .756 1-4 4	2 L .366 2-4 2 L .480 2 4 2 L .620 2 4 2 L .732 1-4 4	2 L .450 2-4 2 L .550 2-4 2 L .667 2-4 2 L .725 2-4 2 L .760 2-4 2 L .760 2-4 2	3 R .340 2-4 4 R R .420 2-4 4 R .547 1-4 4 R .610 1-4 A R .688 1-4 4	2 L .350 2-4 2 L .450 2-4 2 1 .567 2-4 2 1 .625 2-4 2 L .660 1-4	2 L .440 2-4 2 L .520 2-4 2 L .613 2-4 2 L .660 2-4 2 L .680 2-4	3 R .390 2-3 3 R .470 2-4 4 R .5553 2-4 4 R .640 1-4 4 R .704	2 L .360 2-3 2 L .480 2-4 2 L .580 2-4 2 L .660 2.4 2 L .708 2-4
Span-Feet	20 30 40	V GNEV GNEV GNEV GNE	L .350 2-4 2 L .500 2-4 2 L .600 2-4 2 L .600 1 4 4 R R	2 L .440 2 4 2 L .560 2 -4 2 L .640 2 -4 2 L .680 2 -4 2 L .704 4 R	3 R .390 2 · 4 4 R .490 2 · 4 4 R .627 1 · 4 4 R .7556 1 · 4 4 R R .7556	2 L .360 2-4 L .480 2 4 2 L .620 2 4 2 L .690 2 4 2 L .732 1-4 4 R	$\begin{array}{c} 2\\ L\\ .450\\ \hline 2-4\\ 2\\ L\\ .550\\ \hline 2-4\\ 2\\ L\\ .667\\ \hline 2-4\\ 2\\ L\\ .725\\ \hline 2-4\\ 2\\ L\\ .760\\ \hline 2-4\\ 2\\ L\\ .760\\ \hline \end{array}$	3 R .340 2 · 4 4 R .420 2 · 4 4 R .547 1 · -4 4 R .610 1 · -4 4 R .688 1 · -4 4 R R	2 L .350 2-4 2 L .450 2-4 2 L .567 2-4 2 L .660 1-4 4 R	2 L.440 2-4 2 L.520 2-4 2 L.6613 2-4 2 L.666 2-4 2 L.688 2-4 2 L.688	3 R .390 2-3 3 R .470 2-4 4 R .553 2-4 4 R .640 1-4 R .704 1-4 4 R	2 L .360 2-3 2 L .480 2-4 2 L .580 2-4 2 L .660 2-4 2 L .708
Span-Feet	20 30 40 50	V GNEV GNEV GNEV GNEV	L .350 2-4 2 L .500 2-4 2 L .600 2 4 2 L .655 1 4 4 R R .720 1 1 4 4 R R .767	2 L .440 2 4 2 L .560 2 -4 2 L .640 2 -4 2 L .680 2 -4 2 L .704 4 R .747	3 R .390 2-4 4 R .490 2-4 4 R .627 1-4 4 R .695 1-4 4 R .756 1-4 4 R .756 1-4 7 R .756 1-7 R .757 1	2 L .360 2-4 2 L .480 2 4 2 L .620 2 4 2 L .690 2 4 4 2 L .732 1-4 4 R .773	2 L .450 2-4 2 L .550 2-4 2 L .725 2-4 2 L .766 2 -4 2 L .760 2-4 2 L .760 2-4 2 L .760 2-4 2 L .788	3 R R.340 2-4 4 R R.420 2-4 4 R R.610 1-4 4 R R.610 1-4 4 R R.688 1-4 4 R R.740	2 L .350 2-4 2 L .450 2-4 2 1. .567 2-4 2 1. .625 2-4 2 4. .625 1-4 4 4 8 R .717	2 L .440 2-4 2 L .520 2-4 2 L .613 2-4 2 L .660 2-4 2 L .688 2-4 2 L .707	3 R .390 2-3 3 R .470 2-4 4 R .5553 2-4 4 R .640 1-4 4 R .704 1-4 4 R .705 R	2 L .360 2-3 2 L .480 2-4 2 L .580 2-4 2 L .660 2 4 2 L .708 2-4 2 L .740
Span-Feet	20 30 40 50	V GNEV GNEV GNEV GNEV GN	L .350 2-4 2 L .500 2-4 2 L .600 .600 .600 1 4 4 R R .720 1 4 4 R R .767 1-4 4	2 L .440 2 4 2 L .560 2 -4 2 L .640 2 -4 2 L .680 2 -4 4 4 R .747 1 4 4	3 R .390 2 4 4 R .490 2 4 4 R .627 1-4 4 R .7556 1-4 4 R .797 1-4 4 4 R .797	2 L .360 2-4 2 L .48 2 4 2 L .620 2 4 2 L .690 2 4 2 L .732 1-4 4 R .773	2 L .450 2-4 2 L .550 2-4 2 L .5667 2-4 2 L .725 2-4 2 L .783 2-4 2 L .783	3 R .340 2 · 4 4 R .420 2 · 4 4 R .547 1 · -4 4 R .610 1 · -4 4 R .6888 1 · -4 4 R R .740 1 · -4 4 4 R .740 1 · -4 4 4 R .740 1 · -4 4 4 4 R .740 1 · -4 4 4 8 .740 1 · -4 4 4 8 .740 1 · -4 4 4 8 .740 1 · -4 4 4 8 .740 1 · -4 4 4 8 .740 1 · -4 4 4 8 .740 1 · -4 4 4 8 .740 1 · -4 4 4 8 .740 1 · -4 4 4 8 .740 1 · -4 4 4 4 8 .740 1 · -4 4 4 8 .740 1 · -4 4 4 8 .740 1 · -4 4 4 8 .740 1 · -4 4 4 8 .740 1 · -4 4 4 8 .740 1 · -4 4 4 8 .740 1 · -4 4 4 8 .740 1 · -4 4 4 8 .740 1 · -4 4 4 8 .740 1 · -4 4 4 8 .740 1 · -4 4 4 8 .740 1 · -4 4 8 .740	2 L .350 2-4 2 1 .450 2-4 2 1 .567 2-4 2 1 .625 2-4 2 4 8 .717 1-4 4	2 L.440 2-4 2 L.520 2-4 2 L.6613 2-4 2 L.666 2-4 2 L.707 1-4	3 R .390 2-3 R .470 2-4 4 R .553 2-4 4 R .640 1-4 4 R .704 1-4 4 R .753 1-4 4	2 L .360 2-3 2 L .480 2-4 2 L .580 2-4 2 L .660 2 .4 2 L .740 2 L .740
Span-Feet	20 30 40 50	G NEV G NEV G NEV G NEV G NE	L .350 2-4 2 L .500 2-4 2 L .650 1 4 4 R .767 1-4 4 R	2 L .440 2 4 2 L .560 2 -4 2 L .640 2 -4 2 L .680 2 -4 4 2 L .680 2 -4 2 L .704 1 -4 4 R .747 1 4 4 R	3 R .390 2 -4 4 R .490 2 4 4 R .627 1 -4 4 R .796 1 -4 4 R .797 1 -4 4 R .797	2 L .366 2-4 2 L .486 2 4 2 L .620 2 4 2 L .732 1-4 4 R 7773 1-4 4 R	2 L .450 2-4 2 L .550 2-4 2 L .725 2-4 2 L .725 2-4 2 L .783 2-4 2 L .783 2-4 2 L .783 2-4 2 L .783	3 R R.340 2-4 4 R R.420 2-4 4 R R.547 1-4 4 R R.610 1-4 4 R R.688 1-4 4 R R.740	2 L .350 2-4 2 L .450 2-4 2 L .567 2-4 2 L .625 2-4 2 L .625 1-4 4 R R	2 L .440	3 R .390 2-3 3 R .470 2-4 4 R .5553 2-4 4 R .640 1-4 4 R .7053 1-4 4 R	2 L .360 2-3 2 L .480 2-4 2 L .580 2-4 2 2 L .660 2.4 2 2 L .704 2 1 L .740 1-4 4 R
Span-Feet	20 30 40 50	GNEV GNEV GNEV GNEV GNEV G	L .3500 2-4 2 L .5000 2-4 2 L .6000 2 4 2 L .6550 1 4 4 R R .720 1 1 4 4 R R .767 1-4 R R .825 1-4	2 L .440 2 4 2 L .560 2-4 2 L .680 2-4 2 L .680 2-4 4 4 R .747 1 4 4 R .810 810 1-4	3 R .390 2 · 4 4 R .490 2 · 4 4 R .627 1 · 4 4 R .695 1 · 4 4 R .756 1 · 4 4 R .797 1 · 4 4 R .848 .848 1 · 4	2 L .360 2-4 2 L .620 2 4 2 L .690 2 4 2 L .732 1-4 4 R R .830 1-4	2 L .450 2-4 2 L .550 2-4 2 L .5667 2-4 2 L .725 2-4 2 L .783 2-4 2 L .783 2-4 2 L .783 1-4	3 R .340 2 · 4 4 R .420 2 · 4 4 R .610 1 - 4 4 R .740 1 - 4 4 R .740 1 - 4 4 R .805 1 - 4	2 L .350 2-4 2 4 L .450 2-4 2 1 .567 2-4 2 1 .625 2-4 2 4 R .717 1-4 4 R .718 1-4	2 L .440 2-4 2 L .520 2-4 2 L .6613 2-4 2 2 L .688 2-4 2 L .707 1-4 4 R R .770	3 R R.390 2-3 R 470 2-4 4 R R.553 2-4 4 R .640 1-4 4 R .704 1-4 4 R .753 1-4 8 R .815	2 L .360 2-3 2 L .480 2-4 2 L .580 2-4 2 L .660 2.4 2 L .708 2-4 2 L .740 1-4 4 R R R R R R R R R R R R R R R R R R
Span-Feet	20 30 40 50	GNEV GNEV GNEV GNEV GNEV	L .350 2-4 2 L .500 2-4 2 L .600 1 4 4 R .720 1 -4 4 R .767 1-4 4 R .825	2 L .440 2 4 2 1	3 R .390 2 -4 4 R .49 .49	2 L .360 2-4 2 L .480 2 4 2 L .620 2 4 2 L .532 1-4 4 R R .732 1-4 4 R R .836	2 L .450 2-4 2 L .550 2-4 2 L .667 2-4 2 L .720 2-4 2 L .720 2-4 2 L .760 2-4 2 L .7813	3 R R.340 2 · 4 4 R R.420 2 · 4 4 R R.547 1 · -4 4 R R.688 1 · -4 4 R R.740 1 · -4 4 R R.740 1 · -4 4 R R.740	2 L .350 2-4 2 L .450 2-4 2 L .567 2-4 2 L .660 1-4 4 R R .717 1-4 4 R R .788	2 L .440 2-4 2 L .520 L .613 2-4 2 L .6688 2-4 2 L .707 1-4 4 R .770	3 R .390 2-3 3 R .470 2-4 4 R .553 2-4 4 R .640 1-4 4 R .704 1-4 4 R .753 1-4 4 R .753	2 L .360 2-3 2 L .480 2-4 2 1 L .580 2-4 2 2 L .708 2-4 2 2 L .740 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

TABLE 7.9 (Continued)

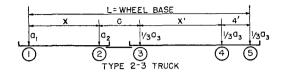
			Continue	d)								
	ick No		111	112	113	114	115	116	117	118	119	120
	ı. Base		44	44	44	44	48	48	48	48	48	48
Ax		Х Х′	20 16	$\begin{array}{c} 20 \\ 16 \end{array}$	$\frac{20}{16}$	20 16	20 20	20 20	20 20	20 20	$\frac{20}{20}$	20 20
Hit	acing	C	8	8	8	8	8	8	8	8	8	8
Loa		a :	.10	.20	.20	.20	.10	.10	.10	.20	.20	
On		\mathbf{a}_2	.40	.20	.30	.40	.20	.30	.40	.20	.30	.40
Ax	les	ag	.50	.60	.50	.40	70	.60	.50	.60	.50	.40
		G	$\substack{2-3\\2}$	$\substack{2-3\\3}$	$\substack{\mathbf{2-3}\\2}$	$\substack{2-3\\2}$	$_{3}^{2-3}$	$^{2-3}_2$	$\frac{2}{2}$	2-3	$\frac{2-3}{2}$	$^{2-3}_2$
	10	N E	Ĺ	Ř	Ĺ	Ĺ	Ř	Ĺ	Ĺ	$^3_{ m R}$	Ĺ	Ĺ
İ		v	.450	.340	.350	.440	.390	.360	.450	.340	.350	.440
		G	2-3	2-3	2-3	2-3	2-3	2 3	2-3	2-3	2-3	2-3
-	20	N E	$^2_{ m L}$	$^3_{ m R}$	$^2_{f L}$	$_{ m L}^2$	3 R	$^2_{ m L}$	$^2_{ m L}$	$^3_{\mathbf{R}}$	$^2_{ m L}$	$_{ m L}^2$
1	20	v	.550	.420	.450	$.5\overline{20}$.470	.480	.550	.420	.450	.520
- 1		G	2 -4	2-4	2 -4	2 -4	1 3	2-4	2-4	1-3	2-4	$^{2-4}$
i	30	N	$^2_{f L}$	$^2_{ m L}$	$^2_{f L}$	$^2_{\mathbf{L}}$	3 R	$^2_{ m L}$	$^2_{\mathbf{L}}$	3 R	$_{ m L}^2$	$^2_{ m L}$
1	30	$_{\mathbf{V}}^{\mathbf{E}}$.633	.480	.533	.587	.503	.540	.600	.460	.500	.560
- 1		G	2-4	2-4	24	2-4	2-4	2 4	2-4	2-4	2-4	2-4
ايد		N	2	$\frac{2}{r}$	2	2	2	2	2	2	2	$_{\mathbf{L}}^{2}$
F.	40	$_{\mathbf{V}}^{\mathbf{E}}$	$^{ m L}_{.700}$	$_{.560}^{\mathrm{L}}$.600	$_{.640}^{ m L}$	L .585	$_{.630}^{ m L}$	$^{ m L}_{.675}$	$_{.530}^{ m L}$	$_{.575}^{ m L}$.620
Span-Feet		G	2-4	1-4	2-4	2-4	1-4	2-4	24	24	2-4	2-4
pop		N	2	4	2	2	4	2	2	2	2	2
٠,	50	E V	$_{.740}^{\mathbf{L}}$	$_{.632}^{\mathbf{R}}$	L .640	$^{ m L}_{.672}$	$_{.652}^{ m R}$	$_{f .684}^{f L}$	$^{ m L}_{.720}$	$^{ m L}_{.584}$	$_{.620}^{ m L}$	$^{ m L}_{.656}$
		G	2-4	1 4	2 4	2-4	1-4	2-4	2 4	14	2-4	2-4
		N	2	4	2	2	4	2	2	4	2	2
	60	\mathbf{v}	L .767	$_{.693}^{ m R}$.667	L .694	$^{ m R}_{.710}$	$_{.720}^{ m L}$	$_{.750}^{L}$	$^{ m R}_{.647}$	$_{.650}^{ m L}$	$_{.680}^{ m L}$
		G	2-4	1-4	1 4	1 4	1 4	2-4	2.4	1-4	1-4	1-4
		Ň	2	4	4	4	4	2	2	4	4	1
	80	\mathbf{E}	L	\mathbf{R}	R	R	R	L	L	R	R	L
į		<u>v</u> _	.800_	.770 1-4	$\frac{.750}{1-4}$.730	.783	.765	.788	.735	.713	
		G N	1 4 4	4	$^{1-4}_{4}$	14 4	$_{4}^{1-4}$	1- 4 4	$^{2-4}_2$	$\begin{array}{c} 1 & 4 \\ 4 \end{array}$	$^{1-4}_{4}$	1-4 1
	100	\mathbf{E}	\mathbf{R}	\mathbf{R}	${f R}$	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{L}	R	\mathbf{R}	L
		v	.820	.816	800	.784	.826	.808	.810	788	.770	.768
Tr	uck N	0.	121	122	123	124	125	126	127	128	129	130
	uck N		121 40	122 40	123 40	124 40	125 40	126 40	127 44	128 44	129 44	130
Wh Ax	n. Bas- le	e L X	40 20	40 20	40 20	40 20	40 20	$-\frac{40}{20}$	20	20	20	20
Wi Ax Sp:	n. Bas le acing	e L X X'	40 20 8	40 20 8	40 20 8	40 20 8	40 20 8	$\frac{40}{20}$	20 12	20 12	20 12	20 12
Wi Ax Sp:	n. Bas le acing tch	e L X X' C	20 8 12	40 20 8 12	40 20 8 12	40 20 8 12	40 20 8 12	20 8 12	20 12 12	20 12 12	20 12 12	20 12 12
Mi Ax Sp: Hit Lo	n. Basele le acing tch ad	e L X X' C a ₁	40 20 8 12 .10	40 20 8 12 .10	40 20 8 12 .10	40 20 8 12 .20	40 20 8 12 .20	12 .20	20 12 12 .10	20 12 12 .10	20 12 12 .10	20 12 12 .20
Wi Ax Sp:	n. Bas- le acing tch ad	e L X X' C	20 8 12	40 20 8 12 .10 .30 .60	40 20 8 12 .10 .40 .50	40 20 8 12 .20 .20 .60	40 20 8 12 .20 .30 .50	20 8 12 .20 .40 .40	20 12 12	20 12 12	12 12 12 .10 .40 .50	20 12 12
Wi Ax Sp: Hit Lo On	n. Bas- le acing tch ad	e L X X' C a ₁ a ₂ a ₃ G	20 8 12 .10 .20 .70	40 20 8 12 .10 .30 .60	40 20 8 12 .10 .40 .50	20 8 12 .20 .20 .60 3-4	40 20 8 12 .20 .30 .50	20 8 12 .20 .40 .40	12 12 12 .10 .20 .70	20 12 12 12 .10 .30 .60	44 20 12 12 .10 .40 .50	20 12 12 .20 .20 .20 .60
Wi Ax Sp: Hit Lo On	n. Basele acing tch ad	E L X X' C a ₁ a ₂ a ₃ G	40 20 8 12 .10 .20 .70 3-4 3	40 20 8 12 .10 .30 .60 3-4	40 20 8 12 .10 .40 .50	40 20 8 12 .20 .20 .60 3–4	40 20 8 12 .20 .30 .50	40 20 8 12 .20 .40 .40	12 12 12 .10 .20 .70	44 20 12 12 .10 .30 .60	44 20 12 12 .10 .40 .50	20 12 12 12 .20 .20 .60 4 4
Wi Ax Sp: Hit Lo On	n. Bas- le acing tch ad	e L X X' C a ₁ a ₂ a ₃ G	20 8 12 .10 .20 .70	40 20 8 12 .10 .30 .60	40 20 8 12 .10 .40 .50 2 1,	20 8 12 .20 .20 .60 3-4	40 20 8 12 .20 .30 .50 2 1 .300	20 8 12 .20 .40 .40	12 12 12 .10 .20 .70	20 12 12 12 .10 .30 .60 4 L	44 20 12 12 .10 .40 .50 2 2 L	20 12 12 .20 .20 .20 .60
Wi Ax Sp: Hit Lo On	n. Basele acing tch ad	e L X X' C a ₁ a ₂ a ₃ G N E V	40 20 8 12 10 20 .70 3-4 3 11 .420	40 20 8 12 .10 .30 .60 3-4 3 1 .360 2-4	40 20 8 12 .10 .40 .50 2 1. .400 2-4	40 20 8 12 .20 .20 .60 3–4 3 L .360 2–4	40 20 8 12 .20 .30 .50 2 1 .300 2 4	40 20 8 12 .20 .40 .40 2 1 .400 2-4	44 20 12 12 .10 .20 .70 4 4 L .350	44 20 12 12 .10 .30 .60 4 4 L .300 2-3	44 20 12 12 .10 .40 .50 2 2 L .400 2-3	20 12 12 .20 .20 .60 4 4 L .300
Wi Ax Sp: Hit Lo On	n. Baselle acing tch ad les	e L X X' C a1 a2 a3 G N E V	40 20 8 12 .10 .20 .70 3–4 3 1 .420 2–4	40 20 8 12 .10 .30 .60 3-4 3 L .360 2-4	40 20 8 12 .10 .40 .50 2 1 .400 2-4 2	40 20 8 12 .20 .60 3–4 3 1 .360 2–4	40 20 8 12 20 30 .50 2 1 .300 2-4 2	40 20 8 12 .20 .40 .40 2 2 I .400 2-4	44 20 12 12 .10 .20 .70 4 4 L .350 3-4	44 20 12 12 .10 .30 .60 4 4 L .300 2-3	44 20 12 12 .10 .40 .50 2 2 L .400 2-3 2	44 20 12 12 .20 .20 .60 4 4 L .300 3-4
Wi Ax Sp: Hit Lo On	n. Basele acing tch ad	e L X X' C a ₁ a ₂ a ₃ G N E V	40 20 8 12 10 20 .70 3-4 3 11 .420	40 20 8 12 .10 .30 .60 3-4 3 1 .360 2-4	40 20 8 12 .10 .40 .50 2 1. .400 2-4	40 20 8 12 .20 .20 .60 3–4 3 L .360 2–4	40 20 8 12 .20 .30 .50 2 1 .300 2 4	40 20 8 12 .20 .40 .40 2 1 .400 2-4	44 20 12 12 .10 .20 .70 4 4 L .350	44 20 12 12 .10 .30 .60 4 4 L .300 2-3	44 20 12 12 .10 .40 .50 2 2 L .400 2-3	20 12 12 .20 .20 .60 4 4 L .300
Wi Ax Sp: Hit Lo On	n. Baselle acing tch ad les	e L X X' C a1 a2 a3 G N E V G N E V	40 20 8 112 .10 .20 .70 3-4 3 1 .420 2-4 4 R .560 2-4	40 20 8 12 .10 .30 .60 3 4 1 .360 2-4 4 R .480 2-4	40 20 8 12 .10 .40 .50 2 1 .400 2-4 2 L .500 2-4	40 20 8 12 .20 .20 .60 3-4 3 L .360 2-4 4 R .480 2-4	40 20 8 12 20 .30 .50 2 1 .300 2-4 2 L.400 2-4	40 20 8 12 .20 .40 .40 2 I .400 2-4 2 L .480 2-4	44 20 12 12 .10 .20 .70 4 4 L .350 3-4 3 1 .490	44 20 12 12 .10 .30 .60 4 4 L .300 2-3 2 L .420	44 20 12 12 .10 .40 .50 2 L .400 2-3 2 L .500 2-4	44 20 12 12 .20 .20 .60 4 4 L .300 3-4 3 L .420
Wi Ax Sp: Hit Lo On	n. Baselle acing teh ad les 10	e L X X Y C a1 a2 a3 G N E V G N E V G N	40 20 8 12 .10 .20 .70 3-4 3 L .420 2-4 4 R .560 2-4	40 20 8 12 .10 .30 .60 3-4 3 L .360 2-4 4 R .480	20 8 12 .10 .40 .50 2 2 L .400 2-4 2 L .500 2-4 2	40 20 8 12 .20 .60 3-4 3 L .360 2-4 4 R .480 2-4	40 20 8 12 .20 .30 .50 2 1 .300 2 4 2 L .400 2-4 2	20 8 12 .20 .40 .40 2 1 .400 2-4 2 L .480 2-4 2	44 20 12 12 .10 .20 .70 4 L .350 3-4 3 1 L .490 2-4	44 20 12 12 .10 .30 .60 4 4 L .300 2-3 2 L .420	20 12 12 .10 .40 .50 2 2 L .400 2-8 2 L .50 2-8 2 L .50 2-8 2 2 2 2 2 2 2 2 2 2 2 2 3 2 3 2 3 2 3	44 20 12 12 .20 .60 4 L .300 3-4 3 L .420 2-4
Wi Ax Sp: Hit Lo On	n. Baselle acing tch ad les	e L X X' C a1 a2 a3 G N E V G N E V	40 20 8 112 .10 .20 .70 3-4 3 1 .420 2-4 4 R .560 2-4	40 20 8 12 .10 .30 .60 3 4 1 .360 2-4 4 R .480 2-4	40 20 8 12 .10 .40 .50 2 1 .400 2-4 2 L .500 2-4	40 20 8 12 .20 .20 .60 3-4 3 L .360 2-4 4 R .480 2-4	40 20 8 12 20 .30 .50 2 1 .300 2-4 2 L.400 2-4	40 20 8 12 .20 .40 .40 2 I .400 2-4 2 L .480 2-4	44 20 12 12 .10 .20 .70 4 4 L .350 3-4 3 1 .490	44 20 12 12 .10 .30 .60 4 4 L .300 2-3 2 L .420	44 20 12 12 .10 .40 .50 2 L .400 2–3 2 L .500 2–4	44 20 12 12 .20 .20 .60 4 4 L .300 3-4 3 L .420 2-4 4 R
Wi Ax Sp: Hit Lo On	n. Baselle acing teh ad les 10	E L X X' C a1 a2 a3 G N E V G N E V C G N E V	40 20 8 12 .10 .20 .70 3-4 3 1 .420 2-4 4 R .560 2-4 4 R	40 20 8 12 .10 .30 .60 3-4 3 L .360 2-4 4 R .480 2-4 4 R	40 20 8 12 .10 .40 .50 2 1 .400 2-4 2 1 .500 2-4 2 1 .500 2-4 2 1 .500 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-4	40 20 8 12 .20 .60 3-4 3 1, .360 2-4 4 R R.480 2-4 4 R	40 20 8 12 20 .30 .50 2 2 1 .300 2-4 2 L.400 2-4 2 L.400	40 20 8 12 .20 .40 .40 2 1 .400 2-4 2 1 .480 2-4 2 1 .586 2 4	44 20 12 12 10 .20 .70 .70 4 4 4 L .350 3-4 3 1 L .490 2-4 4 R	44 20 12 12 .10 .30 .60 4 4 L .300 2-3 L .420 2-4 2 L .540	44 20 12 12 .10 .40 .50 2 2 L .400 2–3 2 L .500 2–4 2 L	44 20 12 12 .20 .60 4 L .300 3-4 3 L .420 2-4
Wilax Spp Hit Lo On Ax	n. Bas- le acing tch ad les 10 20 30	E L X X' C a1 a2 a3 GN EE V GN EE V GN EV GN EV GN EE V GN EE	40 20 8 12 .10 .20 .70 3–4 3 1, .420 2–4 4 R .560 2–4 4 R .673 1–4	40 20 8 12 .10 .30 .60 3-4 3 1 .360 2-4 4 R .480 2-4 4 R .620	40 20 8 12 .10 .40 .50 2 2 1 .400 2-4 2 L .500 2-4 2 L .634 2-4 2	40 20 8 12 .20 .20 .60 3–4 3 1 .360 2–4 4 R R .587 1–4	40 20 8 12 .20 .30 .50 2 2 1 .300 2-4 2 L .400 2-4 2 L .533 1-4	40 20 8 12 .20 .40 .40 2 2 1, .400 2-4 2 1, .480 2-4 2 1, .586 2-4 2	44 20 12 12 .10 .20 .70 4 4 4 L .350 3-4 3 L 490 2-4 4 R .600 2-4	44 20 12 12 .10 .30 .60 4 4 L .300 2-3 L .420 2-4 2 L .540	44 20 12 12 .10 .40 .50 2 2 2 L .400 2-3 2 L .500 2-4 2 L .600 2-4 2	44 20 12 .20 .20 .60 -4 4 4 L .300 3-4 3 L .420 2-4 4 R .520
Wilax Spp Hit Lo On Ax	n. Baselle acing teh ad les 10	E L XX' C a1 a2 a3 G NEV G NEV G NEV G NE	40 20 8 12 10 20 20 3-4 3 11 420 2-4 4 R .560 2-4 4 R .673 1-4 4 R	40 20 8 12 .10 .60 3-4 3 1 1.360 2-4 4 R .480 2-4 4 R .620 1-4 4 R	40 20 8 12 .10 .40 .50 2 2 1, 400 2-4 2 1, .500 2-4 2 1, .634 2-4 2 1, .634	40 20 8 12 20 .20 .60 3-4 3 14 .360 2-4 4 R .480 2-4 4 R .587	40 20 8 12 20 30 .50 2 2 1 1 .400 2-4 2 1 .400 2-4 2 1 .51 30 30 30 30 2 2 1 .50 30 30 30 30 30 30 30 30 30 30 30 30 30	40 20 8 12 20 40 40 2 2 1 40 2-4 2 1 480 2-4 2 1 586 2 4 2	44 20 12 12 10 20 20 70 4 4 1 1 350 3-4 3 1 490 2-4 4 R	44 20 12 12 10 .30 .60 4 4 4 1 .300 2-3 2 1 .420 2-4 2 1 .540	44 20 12 12 .10 .40 .50 2 2 L .400 2-8 2 L .500 2-4 2 L .600 2-4 2 L	44 20 12 12 .20 .60 4 L .300 3-4 3 L .420 2-4 R R 520
Wilax Spp Hit Lo On Ax	n. Bas- le acing tch ad les 10 20 30	e L X X Y C a1 a2 a3 G N E V G N E V G N E V V G N E V V C Y V C Y C Y C Y C Y C Y C Y C Y C	40 20 8 12 10 20 3-4 3 1 4 4 8 560 2-4 4 R 673 1-4 4 R 8,730	40 20 8 12 .10 .30 .60 3-4 3 L .360 2-4 4 R .480 2-4 4 R .620	40 20 8 12 .10 .40 .50 2 2 1 .400 2-4 2 1 .500 2-4 2 1 .500 2-4 2 1 .500 2-4 2 1 .500 2-4 2 1 .500 2-4 2-5 2-5 2-6 2-6 2-6 2-6 2-6 2-6 2-6 2-6 2-6 2-6	40 20 8 12 .20 .60 3-4 3 1 L .360 2-4 4 R .480 2-4 4 R .587 1-4 4 R	40 20 8 12 20 .50 2 2 1 1.300 2-4 2 1.400 2-4 2 1.533 1-4 4 R R.600	40 20 8 12 .20 .40 .40 2 2 L .400 2-4 2 L .480 2-4 2 L .586 2-4 2 L .586	44 20 12 12 .10 .20 .70 4 4 4 1 .350 3-4 3 1 .490 2-4 4 R .600 2-4 4 R	44 20 12 12 .10 .30 .60 4 4 L .300 2-3 2 L .420 2-4 2 L .540 2-4 2 L .540 2-4 2 L	44 20 12 12 .10 .40 .50 2 2 2 L .400 2-3 2 L .500 2-4 2 L .600 2-4 2 L .600 2-4 2 L .600 2-4 2 L .600 2-4 2 L .600 2-4 2 L .600 2-4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	44 20 12 .20 .20 .60 4 4 L .300 3-4 3 L .420 2-4 4 R .520
Mi Axx Sport Loon Axx Him Loon Axx	n. Bas- le acing tech ad les 10 20 30 40	e L X X C C a1 a2 a3 G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V C C C M E V C C C M E V C C C C C C C C C C C C C C C C C C	40 20 8 12 10 20 3-4 3 11 420 2-4 4 R .560 2-4 4 R .673 1-4 4 R .730	40 20 8 12 .10 .30 .60 3-4 3 L .360 2-4 4 R .480 2-4 4 R .620 1-4 4 R .690	40 20 8 12 .10 .40 .50 2 2 1 .40 2-4 2 1 .500 2-4 2 1 .634 2-4 2 1 .700 2-4 2	40 20 8 12 20 .20 .60 3-4 3 1 1,360 2-4 4 R .587 1-4 4 R .640	40 20 8 12 20 .30 .50 2 2 1 .300 2-4 2 L.400 2-4 2 L.533 1-4 4 R.600	40 20 8 12 20 40 40 2 1 1 480 2-4 2 1 480 2-4 2 1 586 2-4 2 1 1,640 2-4 2	44 20 12 12 10 20 .70 4 4 1 1.350 3-4 3 1,490 2-4 4 R 600 2-4 4 R 675 1-4	44 20 12 12 .10 .30 .60 4 4 4 .1 .300 2-3 2 1 .420 2-4 2 1 .540 2-4 2 1 .540 30 1-1 1-1 1-1 1-1 1-1 1-1 1-1 1-1 1-1 1-	44 20 12 12 .10 .40 .50 2 2 L .400 2-3 2 L .500 2-4 2 L .600 2-4 2 L .675 2	44 20 12 20 .60 4 4 L .300 3-4 3 L .420 2-4 4 R .520 2-4 4 R .590
Wilax Spp Hit Lo On Ax	n. Bas- le acing tch ad les 10 20 30	e L X X Y C a1 a2 a2 a2 a3 G N E V G N	40 20 8 12 .10 .20 .70 3–4 3 .1 .4 .20 2–4 4 R .673 1–4 4 R R	40 20 8 12 .10 .30 .60 3-4 3 L .360 2-4 4 R R .620 1-4 4 R .690	40 20 8 12 .10 .40 .50 2 2 1 .40 .50 2 2 1 .500 2-4 2 1 .500 2-4 2 1 .700 2-4 2 1 .700	40 20 8 12 .20 .60 3-4 3 L .360 2-4 4 R R.587 1-4 4 R R.640	40 20 8 12 .20 .30 .50 2 2 1 .300 2-4 2 1 .400 2-4 2 L, .553 3 1-4 4 R	20 40 20 40 40 21 40 22 40 24 2 480 2-4 2 1 586 2 4 2 1 640 2-4 2 1 1 1 1 1 1 1 1 1 1 1 1 1	44 20 12 12 .10 .20 .70 4 4 4 .350 3-4 3 1 .490 2-4 4 R .675 1-4 4 R	44 20 12 12 .10 .30 .60 4 4 4 L .300 2-3 2 L .420 2-4 2 L .540 2-4 2 L .630 1-4 4 4	44 20 12 12 .10 .40 .50 2 2 L .400 2-3 2 L .500 2-4 2 L .600 2-4 2 L .675	44 20 12 .20 .20 .60 4 4 4 L .300 3-4 3 L .420 2-4 4 R .520 2-4 4 R R
Mi Axx Sport Loon Axx Him Loon Axx	n. Bas- le acing tech ad les 10 20 30 40	e L	40 20 8 12 .10 .20 .70 3–4 3 1. .420 2–4 4 R .673 1–4 4 R .730 1–4 4 R .730	40 20 8 12 .10 .30 .60 3-4 3 1 .360 2-4 4 R .480 2-4 4 R .620 1-4 4 R .690 1-4 4 R	40 20 8 12 .10 .40 .50 2 2 1 .400 2-4 2 L .500 2-4 2 L .503 2-4 2 L .500 2-4 2 L .500 2-4 2 L .500 2-4 .500	40 20 8 12 .20 .60 3–4 3 1 .360 2–4 4 R .480 2–4 4 R .587 1–4 4 R .640 1–4 4 R	40 20 8 12 .20 .30 .50 2 1 .300 2-4 2 .40 2-4 2 2 4 .860 1-4 4 R .680	20 40 20 40 40 21 400 2-4 2 1, 480 2-4 2 1, 586 2 4 1, 640 2 1, 480 480 480 480 480 480 480 480	44 20 12 12 .10 .20 .70 4 4 4 L .350 3-4 3 1 .490 2-4 4 R .600 2-4 4 R .675 1-4 4 4 R .732	20 12 10 .30 .60 4 4 4 L .300 2-3 2 L .420 2-4 2 L .540 2-4 2 L .630 1-4 4 4 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	44 20 12 12 .10 .40 .50 2 2 L .400 2-3 2 L .500 2-4 2 L .600 2-4 2 L .600 2-4 2 L .500 2-4 2 L .500 2-4 .500 .500 2-4 .500	20 12 .20 .20 .60 -4 4 4 4 L .300 3-4 3 L 420 2-4 4 R .520 2-4 4 R .590 1-4 4 R
Mi Axx Sport Loon Axx Him Loon Axx	n. Bas. le acing tch add les 10 20 30 40 50	e L	40 20 8 12 .10 .20 .70 3-4 3 1 4.20 2-4 4 R.673 1-4 4 R.730 1-4 4 R.730	40 20 8 12 .10 .30 .60 3-4 3 L .360 2-4 4 R R .620 1-4 4 R R.090 1-4 4 R R.752	40 20 8 12 .10 .40 .50 2 2 1 .400 2-4 2 1 .500 2-4 2 1 .700 2-4 2 1 .740 2-4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	40 20 8 12 .20 .60 3-4 3 1 L .360 2-4 4 R R.587 1-4 4 R R.640 1-4 4 R R.712	40 20 8 12 .20 .30 .50 2 2 1 .300 2-4 2 L.400 2-4 2 L.533 1-4 4 R.600 1-4 4 R.680	20 40 20 40 40 20 40 20 40 20 40 20 40 20 40 20 40 40 20 40 40 40 40 40 40 40 40 40 4	44 20 12 12 .10 .20 .70 4 4 4 4 1 .350 3-4 3 1 .490 2-4 4 R .675 1-4 4 R .732	44 20 12 12 .10 .30 .60 4 4 4 L .300 2-3 2 L .420 2-4 2 L .540 2-4 2 L .630 1-4 4 8 .696	44 20 12 12 .10 .40 .50 2 2 L .400 2-3 2 L .500 2-4 2 L .600 2-4 2 L .675	44 20 12 .20 .20 .60 4 4 4 L .300 3-4 3 L 420 2-4 4 R 8.590 1-4 4 R 8.656 1-4
Mi Axx Sport Loon Axx Him Loon Axx	n. Bas- le acing tech ad les 10 20 30 40	e L XX C a1 a2 a3 G NE V G S S S S S S S S S S S S S S S S S S	40 20 8 12 10 20 3-4 3 11 420 2-4 4 R .560 2-4 4 R .673 1-4 4 R .730 1-4 4 R .730	40 20 8 12 .10 .30 .60 3-4 3 L .360 2-4 4 R .480 2-4 4 R .620 1-4 4 R .752 1-4 4 R	40 20 8 12 10 .40 .50 2 1 .40 .50 2 1 .40 .500 2 4 2 1 .500 2 4 2 1 .700 2 4 2 1 .700 2 4 2 1 .740 2 4 2 1 .740	40 20 8 12 20 .20 .60 3-4 4 R .480 2-4 4 R .587 1-4 4 R .640 1-4 R R712	40 20 8 12 20 .50 2 2 1 .300 2-4 2 L .400 2-4 2 L .533 1-4 4 R .680 1-4 R	40 20 8 12 20 40 40 2 2 1 40 2-4 2 1 480 2-4 2 1 586 2 4 2 1 640 2 1 1 640 2 1 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8	44 20 12 12 10 .20 .70 4 4 1 .350 3-4 3 1 .490 2-4 4 R .600 2-4 4 R .732 1-4 4 R	44 20 12 12 .10 .30 .60 4 4 4 .1 .300 2-3 2 1 .420 2-4 2 1 .540 2-4 2 1 .630 1-4 4 4 8.696 1-4 4 8.696 1-4 4 8.696	44 20 12 12 .10 .40 .50 2 2 L .400 2-8 2 L .500 2-4 2 L .600 2-4 2 L .675 2 2 L .675 2 L .675 2 L .675 2 L .675 2 L .675 2 L .675 2 L .675 2 L .675 2 L .675 2 L .675 2 L .675 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	44 20 12 12 .20 .60 4 L .300 3-4 3 L .420 2-4 4 R .520 2-4 4 R .590 1-4 R .656 1-4 4 R
Mi Axx Sport Loon Axx Him Loon Axx	n. Bas. le acing tch add les 10 20 30 40 50	e L XX X C a1 a2 a3 G N E V G N E V G N E V G N E V C O N E N E V C O N E D E N E N E N E N E N E N E N E N E	40 20 8 12 10 20 3-4 14 4 2-4 4 R 560 2-4 4 4 R .673 1-4 4 R .730 1-4 4 R .784	40 20 8 12 .10 .30 .60 3-4 3 L .360 2-4 4 R .480 2-4 4 R .620 1-4 4 R R .793	40 20 8 12 .10 .40 .50 2 1 .40 .50 2 1 .400 2-4 2 L .500 2-4 2 L .700 2-4 2 L .740 2-4 2 L .746 2 L .746	40 20 8 12 20 20 60 3-4 3 L 360 2-4 4 R 4 R 587 1-4 4 R 712 1-4 4 R 7160	40 20 8 12 20 .50 2 2 1 .300 2-4 2 1 .400 2-4 2 4 R 600 1-4 4 R 68 .600	40 20 8 12 .20 .40 .40 2 2 L .400 2-4 2 L .480 2-4 2 L .586 2 4 2 L .640 2-4 2 L .640 2-4 2 1 L .640 2-4 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	44 20 12 12 .10 .20 .70 4 4 4 1 .350 3-4 3 1 .490 2-4 4 R R.600 2-4 4 R R.775	44 20 12 12 .10 .30 .60 4 4 4 L .300 2-3 2 L .420 2-4 2 L .540 2-4 2 L .630 1-4 4 4 R .630 1-4 4 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	44 20 12 12 10 .50 2 2 2 L .500 2-4 2 L .600 2-4 2 L .675 2-4 2 L .775 2-4 2 L .775 2-4 2 L .775 2-4 2 L .775 2-4 2 L .775 2-4 2 L .775 2-4 2 L .775 2-4 2 L .775 2-4 2 L .775 2-4 2 L .775 2-4 2 L .775 2-4 2 L .775 2-4 2 L .775 2-4 2 L .775 2-4 2 L .775 2-4 2 L .775 2-4 2 L .775 2-4 2 L .775 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-4	44 20 12 .20 .60 4 4 4 L .300 3-4 3 1 L .420 2-4 4 R R .590 1-4 4 R R.666 1-4 4 R
Mi Axx Sport Loon Axx Him Loon Axx	n. Bas. le acing tch add les 10 20 30 40 50	e L	40 20 8 12 .10 .20 .70 3-4 3 1, .420 2-4 4 R .560 2-4 4 R R730 1-4 4 R R730 1-4 4 R R734 1-4 4 R784 1-4	40 20 8 12 .10 .60 3-4 3 L .360 2-4 4 R .620 1-4 4 R .690 1-4 4 R .752 1-4 4 R .793 1-4	40 20 8 12 .10 .40 .50 2 2 1 .400 2-4 2 1 .500 2-4 2 1 .700 2-4 2 1 .740 2-4 2 1 .740 2-4 2 1 .767 1-4	40 20 8 12 .20 .60 3-4 3 1 L .360 2-4 4 R R.587 1-4 4 R R.712 1-4 4 R R.712	40 20 8 12 .20 .30 .50 2 2 1 .300 2–4 2 L .400 2–4 2 L .533 1–4 4 R .680 1–4 4 R .680 1–4 1–4 1–4 1–4 1–4 1–4 1–4 1–4	20 40 20 40 20 40 20 40 20 40 20 40 20 40 20 40 20 40 20 40 20 40 20 40 20 40 20 40 20 40 40 40 40 40 40 40 40 40 40 40 40 40	44 20 12 12 .10 .20 .70 4 4 4 4 1 .350 3-4 3 1 .490 2-4 4 R .675 1-4 4 R .773 2 1-4 4 R .773 1-4 1-4 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7	44 20 12 10 30 .60 4 4 4 4 L .300 2-3 2 L .540 2-4 2 L .630 1-4 4 8 .696 1-4 4 8 .696 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	44 20 12 12 .10 .40 .50 2 2 2 L .400 2-4 2 L .600 2-4 2 L .675 2-4 2 L .675 2-4 2 L .675 2-4 2 1 .600 2-4 2 1 .600 2-4 2 1 .600 2-4 2 1 .600 2-4 2-4 2 1 .600 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-4	44 20 12 .20 .20 .60 4 4 4 4 L .300 3-4 3 L 420 2-4 4 R .520 2-4 4 R R.590 1-4 4 R R.590
Mi Axx Sport Loon Axx Him Loon Axx	n. Bas. le acing tch add les 10 20 30 40 50	e L	40 20 8 12 .10 .20 .70 3-4 4 R .560 2-4 4 R .673 1-4 4 R R.730 1-4 4 R R.784 1-4 4 R R.784 1-4	40 20 8 12 .10 .30 .60 3-4 3 L .360 2-4 4 R .480 2-4 4 R .620 1-4 4 R .752 1-4 4 R .793 1-4 4 R	40 20 8 12 .10 .40 .50 2 2 L .40 .20 2 L .500 2-4 2 L .500 2-4 2 L .700 2-4 2 L .740 2-4 2 L .740 2-4 2 L .740 2-4 2 L .767 1-4 4 R	40 20 8 12 .20 .60 3-4 3 L .360 2-4 4 R .480 2-4 4 R .587 1-4 4 R .712 4 R .712 1-4 4 R .760 1-4 4 R	20 30 .50 2 2 2 1 2 1 300 .50 2 2 2 2 1 400 2-4 2 1 533 1-4 4 R R R R R R R R R R R R R R R R R R	20 .40 .20 .40 .20 .20 .20 .20 .20 .20 .20 .20 .20 .2	44 20 12 .10 .20 .70 4 4 4 4 .350 2-4 4 R .675 1-4 4 R .732 1-4 4 R .777 1-4 4 R	20 12 12 10 30 60 4 4 4 4 1 2 30 2-3 2 1 420 2-4 2 2 4 2 1 630 1-4 4 8 696 1-4 4 8 747 1-4 4 8 747 1-4 4 8	44 20 12 12 .10 .40 .50 2 2 2 2 L .500 2-4 2 L .600 2-4 2 L .675 2-4 2 L .720 2-4 2 1 .720 2-4 4 4 4 4 4 4 4 4 4 4 4 4 4	44 20 12 .20 .60 4 4 4 4 L .30 .60 3-4 3 L .420 2-4 4 R .590 1-4 4 R .656 1-4 4 R .713 1-4 4 R
Mi Axx Sport Loon Axx Him Loon Axx	10 and 10	e L XX C a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV GNEV CNEV GNEV	40 20 8 12 .10 .20 .70 3–4 3 1, .420 2–4 4 R .673 1–4 4 R .730 1–4 4 R .784 1–4 4 R .784 1–4 4 R .784 1–4 8 .795 1–4 1–4 1–4 1–4 1–4 1–4 1–4 1–4	40 20 8 12 .10 .60 3-4 3 L .360 2-4 4 R .620 1-4 4 R .690 1-4 4 R .752 1-4 4 R .752 1-4 4 R .848	40 20 8 12 .10 .40 .50 2 2 1 .400 2-4 2 L .500 2-4 2 L .740 2 -4 2 L .740 2 -4 2 L .740 2 -4 2 L	40 20 8 12 .20 .20 .60 3-4 3 1 .360 2-4 4 R 8 .587 1-4 4 R .712 1-4 4 R 7 7 1-4 4 R 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	40 20 8 12 20 30 .50 2 2 1, .300 2-4 2 L .533 1-4 4 R 600 1-4 4 R 733 1-4 4 R .880	20 40 20 40 20 40 20 40 20 40 20 40 20 40 20 40 20 40 20 40 20 40 20 40 20 40 20 40 20 40 40 40 40 40 40 40 40 40 40 40 40 40	44 20 12 .10 .20 .70 .70 .4 4 4 4 .350 2-4 4 R .600 2-4 4 R .675 1-4 4 R .732 1-4 4 R .732 1-4 4 R R.732	20 12 12 .10 .60 4 4 4 4 4 2 1 .300 2-3 2 1 .420 2-4 2 1 .540 2-4 2 1 .630 1-4 4 4 8 .696 1-4 4 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	44 20 12 12 .10 .40 .50 2 2 2 .400 2-4 2 L .600 2-4 2 L .600 2-4 2 L .675 2-4 2 L .675 1-4 4 4 4 4 4 4 4 4 4 4 4 4 4	44 20 12 .20 .60 -4 4 4 4 L .300 3-4 3 L 420 2-4 4 R .520 2-4 4 R .590 1-4 4 R .656 1-4 4 R .713 1-4 4 R R .713
Mi Axx Sport Loon Axx Him Loon Axx	10 and 10	e L	40 20 8 12 10 20 3-4 4 14 20 2-4 4 R 673 1-4 4 R 730 1-4 4 R R .784 1-4 4 R R.784 1-4 4 R R.784 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-	40 20 8 12 .10 .30 .60 3-4 3 L .360 2-4 4 R .480 2-4 4 R .620 1-4 4 R .752 1-4 4 R .793 1-4 4 R .800 1-4 8 .800 1-4 .800 .80	40 20 8 12 .10 .40 .50 2 1 .400 2-4 2 1 .500 2-4 2 1 .634 2-4 2 1 .700 2-4 2 1 .740 2-4 4 8 .825 1-4	40 20 8 12 20 .20 .60 3-4 3 1, .360 2-4 4 R .480 2-4 4 R .587 1-4 4 R .712 1-4 4 R .7160 1-4 4 R .820 1-4	40 20 8 12 20 .50 2 2 1 .300 2-4 2 1 .400 2-4 2 1 .533 1-4 4 R R.600 1-4 4 R R.733 1-4 4 R R.733	40 20 8 12 20 40 40 2 1 40 2 2 1 480 2-4 2 1 586 2 4 2 1 640 2-4 2 1 640 2-4 2 1 1 640 2 1 1 640 1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	44 20 12 12 .10 .20 .70 4 4 4 1 .350 2-4 4 R .600 2-4 4 R .732 1-4 4 R .732 1-4 4 R .732 1-4 8 R .777	44 20 12 10 30 .60 4 4 4 4 1.300 2-3 2 1.420 2-4 2 1.540 30 1-4 4 8 8 1.630 1.747 1	44 20 12 12 10 .40 .50 2 2 L .400 2-3 2 L .500 2-4 2 L .600 2-4 2 L .675 2-4 2 L .720 2-4 2 L .750 2-4 2 1 .750 2-4 2 1 .750 2-4 2 1 .750 2-4 2 1 .750 2-4 2 1 .750 2-4 2 1 .750 2-4 2 1 .750 2-4 2-4 2 1 .750 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-4	44 20 12 .20 .60 4 4 4 L .300 3-4 3 1 L .420 2-4 4 R .520 2-4 4 R R.590 1-4 4 R R.713 1-4 R R.713
Mi Axx Sport Loon Axx Him Loon Axx	10 and 10	e L XX C a1 a2 a3 GN EV GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V GNE V	40 20 8 12 10 20 3-4 3 11 420 2-4 4 R .560 2-4 4 R .730 1-4 4 R .730 1-4 4 R R784 1-4 4 R R784 1-4 4 R R784 1-4 4 R R786 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	40 20 8 12 .10 .60 3-4 3 .1 .360 2-4 4 R .620 1-4 4 R .752 1-4 4 R .793 1-4 4 R .793 1-4 4 R .793	40 20 8 12 .10 .40 .50 2 2 1 .40 .500 2-4 2 1 .500 2-4 2 1 .700 2-4 2 1 .700 2-4 2 1 .767 1-4 R R25 1-4 R	40 20 8 12 20 20 60 3-4 3 1 2 360 2-4 4 R .480 2-4 4 R .587 1-4 4 R .712 1-4 4 R .760 1-4 R .820 1-4 4 R	40 20 8 12 20 30 50 2 1 300 50 2 1 400 2 4 2 1 400 2 4 8 600 1 4 8 680 1 4 8 733 1 4 8 8 733 1 4 8 8 8 734 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	40 20 8 12 20 40 40 2 2 1 40 2-4 2 1 480 2-4 2 1 586 2 4 2 1 640 2-4 2 1 640 2-4 2 1 1 640 2 1 1 640 1 7 1 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	44 20 12 12 10 .20 .70 4 4 4 .350 3-4 3 1 .490 2-4 4 R .600 2-4 4 R R.775 1-4 4 R R.777 1-4 4 R R.777 1-4 4 R R.777	2-4 20 12 10 30 .60 4 4 4 1 .300 2-3 2 1 .420 2-4 2 1 .540 2-4 2 1 .630 1-4 4 4 8 .696 1-4 4 8 .696 1-4 8 .896 1-4 8 .996 1-4 8 1-4 8 8 1-4 8 8 8 8 8 8 8 8 8 8 8 8 8	44 20 12 12 10 .40 .50 2 2 L .400 2-8 2 L .500 2-4 2 L .600 2-4 2 L .675 2-4 2 L .720 2-4 2 L .750 1-4 2 1-4 4 2 1-4 4 8 1-4 4 8 1-4 4 8 1-4 4 8 1-4 4 8 1-4 4 8 1-4 4 8 1-4 4 8 1-4 4 8 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	44 20 12 20 .60 4 4 4 L .300 3-4 3 L .420 2-4 4 R .520 2-4 4 R .590 1-4 4 R .713 1-4 4 R .713 1-4 4 R
Mi Axx Sport Loon Axx Him Loon Axx	10 acing teh ad les 10 acing teh ad les 10 acing	e L XX C a1 a2 a3 G NEE V G NEE V G NEE V G NEE V G N E V E V G N E V G N E V E V E V E V E V E V E V E V E V E	40 20 8 12 10 20 70 3-4 4 14 14 14 14 14 14 14 14 14	40 20 8 12 .10 .60 3-4 3 L .360 2-4 4 R .480 2-4 4 R .620 1-4 4 R .752 1-4 4 R .752 1-4 4 8 .752 1-4 4 8 .752 1-4 4 8 .752 1-4 4 8 .752 1-4 4 8 .752 1-4 8 .753 1-4 1-4 8 .753 1-4 8 .753 1-4 8 .753 1-4 8 .753 1-4 8 .753 1-4 8 .753 1-4 8 .753 1-4 8 .753 1-4 8 .753 1-53	40 20 8 12 .10 .40 .50 2 2 L .40 .50 2 2 L .500 2-4 2 L .500 2-4 2 L .740 2-4 2 L .740 2-4 2 L .740 2-4 2 L .740 2-4 2 L .740 2-4 4 8 825 1-4 4	20 20 20 20 3-4 4 R 2480 2-4 4 R 2587 1-4 4 R 2712 1-4 4 R 2760 1-4 4 R 8220 1-4 4	20 30 .50 2 2 1	20 40 20 40 21 L 400 20 40 20 40 20 40 20 40 20 40 20 40 20 40 20 40 20 40 20 40 20 40 20 40 40 40 40 40 40 40 40 40 40 40 40 40	44 20 12 12 .10 .20 .70 4 4 4 4 1 .350 2-4 4 R .675 1-4 4 R .777 1-4 4 R .777 1-4 4 R .777	20 12 12 10 30 60 4 4 4 4 4 1 2 30 2-3 2 1 420 2-4 2 1 630 2-4 2 1 630 1-4 4 8 8 8 1-4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	44 20 12 12 .10 .40 .50 2 2 2 2 L .500 2-4 2 L .605 2-4 2 L .675 2-4 2 L .720 2-4 2 L .720 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-4	20 12 20 .20 .60 4 4 L .300 3-4 3 L .420 2-4 4 R .520 1-4 4 R .656 1-4 4 R .713 1-4 4 R .785

EQUIVALENT LOADS

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		V	.300	.400	.350	.300	.400	.300	.300	400	.350	.300
		G N	$_{2}^{2-3}$	$\frac{2-3}{2}$	$\frac{2}{3}$	2-3 2	$\frac{2-3}{2}$	$\frac{2-3}{3}$	2-3 2	$_{2}^{-3}$	23 3	$\substack{2-3\\2}$
	20	$_{ m V}^{ m E}$	$^{ m L}_{.400}$	$^{ m L}_{.480}$	R .430	$_{.420}^{ m L}$.500	R .380	$_{.400}^{ m L}$	$^{ m L}_{.480}$	$^{ m R}_{.430}$	$^{ m L}_{.420}$
		G	2-4	2 4	2-4	24	2-4	2-4	2-4	2 4	2-3	2-3
	30	$_{ m E}^{ m N}$	$^2_{ m L}$	$^2_{ m L}$	$^{4}_{ m R}$	2 L	$^2_{ m L}$	$^4_{ m R}$	$^2_{ m L}$	$^2_{ m L}$	$^3_{ m R}$	$_{\rm L}^2$
		v	.500 2-4	.560	.527	.500	.567	.453	.467	.533	.470	.480
اید		G N	2	$\frac{2-4}{2}$	$\begin{array}{c} 2-4 \\ 4 \end{array}$	$\frac{2}{2}$	$\frac{2-4}{2}$	$\begin{array}{c}2\cdot 4\\4\end{array}$	$\frac{2}{2}$	$^{2-4}_2$	$\frac{2-4}{4}$	$^{2-4}_{2}$
Fee	40	E V	$_{.575}^{ m L}$	$_{.620}^{ m L}$	R .620	$_{.600}^{L}$	$_{.650}^{ m L}$	$_{.540}^{ m R}$	$_{.550}^{ m L}$	$_{.600}^{\mathbf{L}}$	R .565	$_{.570}^{ m L}$
Span-Feet		G	2-4	2-4	1-4	2 -4	2-4	1.4	2-4	24	2 4	2 4
SI	50	N E	$_{\mathbf{L}}^{2}$	$^2_{ m L}$	$^4_{ m R}$	$\stackrel{2}{\mathbf{L}}$	$^2_{\mathbf{L}}$	$^4_{ m R}$	$^2_{ m L}$	$_{ m L}^2$	$^4_{ m R}$	$_{ m L}^2$
		G	.620	$\frac{.656}{2-4}$.680 1-4	1-4	$\frac{.700}{2-4}$	1-4	2-4	.640 2-4	$\frac{.632}{1-4}$	$\frac{.636}{2-4}$
		N	4	2	4	4	2	4	2	2	4	2
	60	E V	$^{ m R}_{.683}$	$_{f .680}^{f L}$	$^{ m R}_{.733}$	$^{ m R}_{.700}$.733	$_{.667}^{ m R}$	$^{ m L}_{.633}$	$^{ m L}_{.667}$	$_{.690}^{ m R}$	$^{ m L}_{ m .680}$
ł		G N	1-4 4	1-4 4	1-4 4	1-4	$\frac{2-4}{2}$	1 4	1-4 4	1-4	14 4	1-4 4
	80	\mathbf{E}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	L	\mathbf{R}	\mathbf{R}	1 L	\mathbf{R}	\mathbf{R}
		-V G	.763 1 4	.740	.800	$\frac{.775}{1-4}$.775 1-4	$\frac{.750}{1-4}$.725 1-4	$\frac{.700}{1-4}$.768 1-4	1 4
	100	Ň E	4 R	4 R	4 R	4 R	4 R	4 R	${ m ^4\over R}$	ı L	4 R	4 R
	100	Ÿ	.810	.792	.840	.820	.800	.800	.780	.760	.814	.792
	uck N		141	142	143	144						
$\frac{\mathbf{W}}{\mathbf{A}\mathbf{x}}$	ı. Bas	e L X	52 20	$-\frac{52}{20}$	52 20	52 20			···			
Sp	acing	X'	20	20	20	20						
Hit		C	12	.20	.20	12						<u>-</u>
On		a 1 a 2	.10 .40	.20	.30	.20 .40						
Ax	ies	G G	.50	.60	.50	.40						
	10	N E	$\tilde{\tilde{z}}_{\mathbf{L}}$	4 L	$_{ m L}^{ m 2}$	$_{ m L}^{ ilde{2}}$						
	10	V	.400	.300	.300	.400						
		G N	23 2	2-3 3	$_{2}^{-3}$	$^{2-3}_{2}$						-
	20	N E V	$_{.500}^{\mathbf{L}}$	$^{3}_{ m R}$	$ar{ ext{L}}$	$_{.480}^{ m L}$						
		G	2-3	2-3	2-3	23						
	30	$_{ m E}^{ m N}$	$_{ m L}^2$	\mathbf{R}^3	$^2_{ m L}$	$_{ m L}^2$						
		V	.550	.420	.450	.520						
بپ		G N	$\overset{2-4}{\overset{2}{\text{L}}}$	$^{2-4}_{4}$	$\frac{2-4}{2}$	$\frac{2-4}{2}$						
an-Feet	40	E V	$^{ m L}_{.625}$	$^{ m R}_{.490}$	$_{.525}^{ m L}$	$^{ m L}_{.580}$						
an.		G	2-4	2-4	2-4	2 4	-	~				
$\mathbf{S}_{\mathbf{D}}$	50	E	$^2_{ m L}$	$^4_{ m R}$	$^2_{ m L}$	$\stackrel{2}{ t L}$						
		G	.680 2 -4	.552 1-4	.580 2-4	2 4						
		N	2	4	2	2						
	60	$_{ m V}^{ m E}$	$^{\rm L}_{.717}$	$_{.620}^{ m R}$	$^{ m L}_{.617}$	$_{.653}^{ m L}$						
		G	2-4	14	1 4	1-4						
	80	N E	2 L	4 R	4 R	$\stackrel{1}{\mathbf{L}}$						
		G	2-4	715 1-4		1-4						
	100	N	2 L	4	4	1						
	100	\mathbf{v}	.790	R .772	$\frac{\mathbf{R}}{.750}$.752						

TABLE 7.10

CONTROLLING CONDITIONS AND MAXIMUM SHEARS IN SIMPLE SPANS
PRODUCED BY THE TYPE 2-3 TRUCKS WEIGHING ONE KIP EACH



Ninety variations in the Type 2-3 trucks are given in this table. Each truck number, from 1 to 90, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight on each axle.

Tr	uck N	ο,	1	2	3	4	5	6	7	8	9	10
W	ı. Base		32	32	32	32	32	36	36	36	36	36
Ax	le acing	X X'	12 8	12 8	12 8	12 8	12 8	12 12	12 12	12 12	12 12	12 12
Hi	tch	C	8	8	8	8	8	8	8	8	8	- 8
Lo. On Ax		a ₁ a ₂ a ₃	.10 .20 .70	.10 .30 .60	.10 .40 .50	.20 .20 .60	.20 .30 .50	.10 .20 .70	.10 .30 .60	.10 .40 .50	.20 .20 .60	.20 .30 .50
	10	G N E V	4-5 4 L .374	2- 3 2 L .340	2 3 2 L .433	4-5 4 L .320	2-3 2 L .333	4-5 4 L .374	2 -3 2 L .340	2-3 2 L .433	4-5 4 L .320	2-3 2 L .333
	20	G N E V	2-5 5 R .513	2-5 2 L .460	2 5 2 L .533	2-5 5 R .440	2-5 2 L .433	3–5 5 R .467	2-3 2 L .420	23 2 L .500	3-5 5 R .400	2-3 2 L .400
	30	G N E V	2-5 5 R .642	2-5 2 L .607	2-5 2 L .656	2 5 5 R .560	2 5 2 L .556	2-5 5 R .585	2–5 2 L .553	25 2 L .611	2-5 5 R .506	2-5 2 L .511
Span-Feet	40	G N E V	1-5 5 R .727	1-5 5 R .690	2-5 2 L .717	1-5 5 R .660	1-5 5 R .623	1-5 5 R .673	2-5 2 L .640	2-5 2 L .683	1 5 5 R .600	2-5 2 L .583
Span	50	G N E V	1-5 5 R .781	1–5 5 R .752	2-5 2 L .753	1-5 5 R .728	1-5 5 R .699	1–5 5 R .739	1- 5 5 R .704	2- 5 2 L .727	1-5 5 R .680	1-5 5 R .645
	60	G N E V	1-5 5 R .818	1 5 5 R .793	2-5 2 L .778	1-5 5 R .773	1-5 5 R .749	1-5 5 R .782	1–5 5 R .753	2 -5 2 L .756	1-5 5 R .733	1-5 5 R .704
	80	G N E V	1-5 5 R .863	1–5 5 R .845	1–5 5 R .827	1-5 5 R .830	1–5 5 R .812	1-5 5 R .837	1-5 5 R .815	1-5 5 R .793	1 5 5 R .800	1-5 5 R .778
	100	G N E V	1–5 5 R .891	1–5 5 R .876	1-5 5 R .861	1-5 5 R .864	1–5 5 R .849	1–5 5 R .869	1-5 5 R .852	$^{1-5}_{\begin{subarray}{c}5\\R\\.835\end{subarray}$	1-5 5 R .840	1-5 5 R .823

a₁, a₂, and a₃—Represent the ratio of gross vehicle weight on axles.

G-Axle group causing maximum shear, thus, 1-3 means axles 1, 2, and 3.

N-Number of critical axle under which maximum shear occurs.

E-End of span at which critical axle is placed.

V-Maximum shear.

					E	UIVALI	ENT LO	ADS				83
	BLE ick N		(Continue	12	13	14	15	16	17	18	19	20
	. Bas		40	40	40	40	40	36	36	36	36	36
Ax		X	12	12	12	12	12	12	12	12	12	12
Spa Hit	cing	<u>X'</u> C	16 8	8	8	8	16 8	8 12	12	8 12	12	$\frac{8}{12}$
Los		a ₁	.10	.10	.10	.20	.20		.10	.10	.20	.20
On Ax	100	a2	.20 .70	.30 .60	.40 .50	.20 .60	.30 $.50$.20 .70	.30 .60	.40 .50	.20 .60	$.30 \\ .50$
AX	ies	G G	4-5	2-3	2-3	4-5	23	4-5	4-5	2	4 -5	2
	10	N E	4	2	$^2_{ m L}$	4	$^2_{ m L}$	4	4 L	$^2_{ m L}$	$^4_{ m L}$	$^2_{ m L}$
	10	v	$\frac{L}{.374}$	$^{ m L}_{.340}$.433	$^{ m L}_{.320}$.333	$^{ m L}_{374}$.320	.400	.320	.300
		G	3-5	2-3	2 -3	3-5	$\frac{2-3}{2}$	3-5	3-5	2-3 2	3-5	$\frac{1}{2}^2$
	20	$_{ m E}^{ m N}$	$\overset{5}{\mathrm{R}}$	$^2_{f L}$	$^2_{ m L}$	$\overset{5}{\mathrm{R}}$	Ĺ	$\overset{5}{\mathbf{R}}$	$\overset{5}{\mathrm{R}}$	L	$\overset{5}{\mathbf{R}}$	\mathbf{R}
		V	.420	.420	.500	.360	.400	.513	.440	.467	.440	.380
		G N	$_{5}^{2-5}$	$\frac{2-5}{2}$	$\frac{2\cdot -5}{2}$	$\frac{2}{5}$	$^{2-5}_2$	$\frac{2-5}{5}$	$_{5}^{2-5}$	$\frac{2-5}{2}$	$^{2-5}_{5}$	$^{2-5}_{2}$
1	30	E	$^{ m R}_{.527}$	$_{.500}^{ m L}$	$_{.567}^{ m L}$	$^{ m R}_{.453}$	$_{.467}^{ m L}$	$^{ m R}_{.615}$	$^{ m R}_{.553}$	$_{.589}^{ m L}$	R ,533	$\frac{1}{.489}$
		G	1-5	2-5	2-5	1-5	2.5	1-5	1 5	2.5	1. 5	1-5
et	40	N	5	$^{2}_{ m L}$	$_{ m L}^{2}$	5	$^2_{ m L}$	5	5	2 L	5 R	5
E.	40	E V	$_{.620}^{ m R}$.600	.650	$^{ m R}_{.540}$.550	$_{.697}^{ m R}$	R .650	.667	.€20	$^{ m R}_{.573}$
Span-Feet		G	1–5	2 5	2 5	1 5	1-5	1-5	1.5	2-5	1-5	1-5
S	50	N E	5 R	$^{2}_{ m L}$	$_{ m L}^2$	$^{5}_{ m R}$	$^{1}_{ m L}$	5 R	$^{5}_{ m R}$	$^2_{ m L}$	$\overset{5}{\mathrm{R}}$	$^{5}_{ m R}$
		v	.696	.660	.700	.632	.608	.757	.720	.713	.696	.659
		G N	$^{1-5}_{5}$	1-5 5	$\frac{2}{2}$	1 5 5	1 5 1	$_{5}^{1-5}$	1-5 5	$_{2}^{2-5}$	$_{5}^{1-5}$	15 5
	60	E	R .747	R	L	R	L .673	R	\mathbf{R}	I. .744	R .747	R
		$\frac{\mathbf{v}}{\mathbf{G}}$	1-5	.713	.733 2 5	$\frac{.693}{1.5}$	1 5	.798 1-5	.767 1-5	1-5	1-5	$\frac{.716}{1-5}$
	0.0	N	5	5	2	5	1	5	5	5	5	5
	80	$_{ m V}^{ m E}$	R .810	R .785	L .775	$^{ m R}_{.770}$	L .755	$_{.848}^{ m R}$	$^{ m R}_{.825}$	$_{.802}^{ m R}$	$_{.810}^{ m R}$	$^{ m R}_{.787}$
		Cr	1_5	1-5	1_5	1-5	1 5	1-5	1-5	1-5	15	1-5
	100	$_{ m E}^{ m N}$	5 R	5 R	5 R	5 R	l L	5 R	$\overset{5}{\mathrm{R}}$	$^{5}_{ m R}$	$^{5}_{ m R}$	$^{5}_{ m R}$
		V	.48	.828	.808.	.813	.894	.879	.860	.841	.848	.829
	ick N		21	22	23	24	25	26	27	28		30
$\frac{\mathbf{w}\mathbf{r}}{\mathbf{A}\mathbf{x}}$	ı. Bas	<u>е г. —</u>	40 12	12	12	12	$-\frac{40}{12}$	<u>44</u> 12	12	12	12	12
	icing	$\hat{\mathbf{x}}'$	12	12	12	12	12	16	16	16	16	16
Hit		С	12	12	12	12	12	12	12	12	12	12
Lo: On	ad	21 1 21 2	.10	.10 .30	.10	.20	.20	.10 .20	.10 .30	.10 .40	.20	.20 .30
Ax	les	\mathbf{a}_3	.70	.60	.50	.60	.50	.70	.60	.50	.60	.50
		G N	4 · 5 4	$\begin{array}{cc} 4 & 5 \\ & 4 \end{array}$	2 2	$\frac{4}{4}$	2 2	$^{4}_{4}$ $^{5}_{4}$	45 4	2 2	$\frac{4-5}{4}$	$\frac{2}{2}$
	10	E	L	L	\mathbf{L}	\mathbf{L}	L .200	L	R	\mathbf{L}	\mathbf{L}	L
		G	374	3-5	$\frac{.400}{2-3}$.320 3 5	1-2		.320 2-3	2-3	35	1 2
	9.0	N	5	5	2	5	2	5	2	2	5	2
	20	$_{ m V}^{ m E}$	R .467	$^{ m R}_{.400}$	I. .467	$^{ m R}_{.400}$	$^{ m R}_{.380}$	R .420	$_{.380}^{ m L}$	$_{.467}^{ m L}$	$^{ m R}_{.360}$	$^{ m R}_{.380}$
		G	2-5	25	2-5	2-5	2 5	3 - 5	3-5	2.4	3-5	1 2
	30	N E	$^{5}_{ m R}$	$\overset{5}{\mathbf{R}}$	$^2_{ m L}$	5 R	2 L	$^{5}_{ m R}$	$^{5}_{ m R}$	$^2_{ m L}$	$\overset{5}{\mathbf{R}}$	$^2_{ m R}$
1		V	.558	.487	.545	.480	.445	.513	.440	.511	.440	.420
ىد		$_{ m N}^{ m G}$	$^{1-5}_{5}$	$^{1-5}_{5}$	$\frac{2.5}{2}$	1 5 5	$_{2}^{-5}$	$^{2-5}_{5}$	$^{2}_{2}^{5}$	$^{2-5}_{2}$	$\frac{2.5}{5}$	$\frac{2-5}{2}$
Feet	40	E	R	\mathbf{R}	\mathbf{L}	\mathbf{R}	L	\mathbf{R}	\mathbf{L}	\mathbf{L}	\mathbf{R}	$_{\rm L}$
Span-F		G	.643 1–5	$\frac{.590}{1.5}$	$\frac{.633}{2-5}$.560 1-5	$\frac{.533}{1-5}$	1-5	1.5	.600 2-5	$\frac{.520}{1.5}$	$\frac{.500}{1-5}$
Spa		N	5	5	2	5	5	5	5	2	5	1 L
	50	$_{ m V}^{ m E}$	R .715	$^{ m R}_{.672}$	1. .687	R .648	$_{.605}^{ m R}$	$^{ m R}_{.672}$	$_{.624}^{ m R}$.660	$^{ m R}_{.600}$.568
	-	G	1-5	1-5	2 5	1 5	1- 5	1-5	1-5	2-5	1-5	15
	60	$_{ m E}^{ m N}$	5 R	$^{5}_{ m R}$	$_{ m L}^2$	$\overset{5}{\mathbf{R}}$	5 R	$^{5}_{ m R}$	${}^{5}_{\mathbf{R}}$	$\frac{2}{\mathbf{L}}$	$^{5}_{ m R}$	$^{ m l}_{ m L}$
		V	.762	.727	.722	.707	.671	.727	.687	.700	.667	.640
1		G N	$^{1-5}_{5}$	1–5 5	1-5 5	1 5 5	$^{1-5}_{5}$	$^{1-5}_{5}$	$^{1-5}_{5}$	$\overset{2-5}{\overset{2}{_2}}$	$^{1-5}_{5}$	1-5 1
	80	\mathbf{E}	\mathbf{R}	R	\mathbf{R}	$^{\mathrm{R}}$	5 R	\mathbf{R}	R	L	\mathbf{R}	$_{ m L}$
		- V G	.822 1-5	.795 1-5	.768 1–5	$\frac{.780}{1-5}$.753 15	$\frac{.795}{1-5}$.765 1–5	.750 1-5	.750 1-5	$\frac{.730}{1-5}$
		N	5	5	5	5	5	5	5	5	5	1-0
	100	\mathbf{v}	$^{ m R}_{.857}$	$^{ m R}_{.836}$	$rac{\mathbf{R}}{.815}$	$_{.824}^{ m R}$	$_{.803}^{ m R}$	$^{ m R}_{.836}$	R .812	.788	$_{.800}^{\mathbf{R}}$	1 L .784
		· · · · · ·					00				00	••••

84 METHOD OF CONVERTING HEAVY MOTOR VEHICLE LOADS TABLE 7.10 (Continued)

			(Continue		0.0			- 0.0	0.7	0.2	00	
	. Base		31	32	33	34	35 36	36 40	$-\frac{37}{40}$	38	40	40
Ax		X X'	16 8	16 8	16 8	16 8	16 8	16 12	16 12	16 12	16 12	16 12
Hit		С	8	8	8	8	8	8	8	8	8	8
Loa On Axl		a1 a2 a3	.10 $.20$ $.70$.10 .30 .60	.10 .40 .50	.20 .20 .60	.20 .30 .50	.10 .20 .70	.10 .30 .60	.10 .40 .50	.20 .20 .60	.20 .30 .50
		G	45 4	2-3	23	4-5 4	2 -3 2	4- 5	23 2	2-3	4-5	$_{2}^{-3}$
	10	N E V	.374	2 L .340	2 L .433	.320	.333	4 L .374	$_{.340}^{ m L}$	2 L .433	4 L .320	.333
		G N	2-5 5	$\frac{2-5}{2}$	$\frac{2-5}{2}$	$^{2-5}_{5}$	$_{2-5}^{2-5}$	$^{3-5}_{5}$	2-3	$\frac{2-3}{2}$	$_{5}^{3-5}$	2-3 2
	20	E V	R .513	2 L .460	$_{.533}^{ m L}$	R .440	.433 	R .467	2 L .420	.500_	R .400	.400
		G N	$\begin{array}{c}2 & 5 \\ & 5\end{array}$	$\frac{2-5}{2}$	$\frac{2-5}{2}$	$^{2-5}_{5}$	$\substack{2\cdot -5\\2}$	$^{2-5}_{5}$	$_{2}^{-5}$	2-5 2	$^{2-5}_{5}$	$^{2-5}_2$
	30	E V	R .642	.607	.656	R .560	.556	R .585	2 L .553	2 L .611	R .506	L .511_
		G N	1 -5 5	$_{5}^{1-5}$	$\frac{2-5}{2}$	$^{1-5}_{5}$	$\frac{2\cdot\cdot5}{2}$	$^{1-5}_{5}$	2-5 2	$^{2-5}_{2}$	$^{1-5}_{5}$	$^{2-5}_{2}$
Span-Feet	40	Ē V	.717	$^{ m R}_{.680}$	L .717	R .640	.617	R .663	.640	L .683	Ř .580	L 583
วสท		G N	$^{1-5}_{5}$	1-5 5	$^{2-5}_2$	15 5	$^{1-5}_{5}$	$^{1-5}_{5}$	15 5	$\frac{2-5}{2}$	1~5 5	$^{1-5}_{5}$
S.	50	\mathbf{E}	R	\mathbf{R}	\mathbf{L}	\mathbf{R}	\mathbf{R}	\mathbf{R}	R	2 L	R	\mathbf{R}
		V G	.773 1-5	1 5	.753 2–5	$\frac{.712}{1-5}$	$\frac{.683}{1-5}$	$\frac{.731}{1-5}$	1.5	$\frac{.727}{2-5}$	$\frac{.664}{1-5}$	$\frac{.629}{1.5}$
		N	5	5	2	5	5	5	5	2	5	5
İ	60	E V	.811	R .787	$^{ m L}_{.778}$	$^{ m R}_{.760}$	$^{ m R}_{.736}$	R .776	$^{ m R}_{.747}$	$_{.756}^{\mathbf{L}}$	$^{ m R}_{.720}$	$_{.691}^{ m R}$
		G	1-5	1-5	1-5	1 5	1-5	1-5	15	25	1-5	1-5
ļ	80	N E V	5 R .858	5 R .840	${\overset{5}{\rm R}}_{.822}$	$^{5}_{ m R}$	$^{5}_{ m R}$.802	$^{5}_{\mathrm{R}}^{}$	5 R .810	$^{2}_{ m L}$.792	5 R .790	5 R .768
į		G	1_5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5
	100	N E V	$_{ m R}^{ m 5}$.887	$^{5}_{\mathrm{R}}_{.872}$	$_{ m R}^{ m 5}$.857	$^{5}_{\mathrm{R}}_{.856}$	5 R .841	5 R .865	5 R .848	5 R .831	$^{5}_{\mathbf{R}}\\.832$	5 R .815
	ıck N		41	42	43	44	45	46	47	48	49	50
Wh	ı. Bas	e L	44	44	44	44	44	40	40	40	40	40
Wh	ı. Bas											
Wh Ax Spa Hit	n. Bas le acing ch	e L X X' C	16 16 8	16 16 8	16 16 8	16 16 8	16 16 8	40 16 8 12	16 8 12	40 16 8 12	16 8 12	16 8 12
Wh Ax Spa Hit Loa	n. Bas le acing ch	E L X X' C a ₁	44 16 16 8	44 16 16 8 .10	44 16 16 8 .10	44 16 16 8 .20	44 16 16 8 .20	40 16 8 12	40 16 8 12	40 16 8 12 .10	16 8 12 .20	16 8 12 .20
Wh Ax Spa Hit	n. Bas le acing ch ad	E L X X' C a ₁ a ₂ a ₃	44 16 16 8 .10 .20 .70	44 16 16 8 .10 .30 .60	44 16 16 8 .10 .40 .50	44 16 16 8 .20 .20 .60	44 16 16 8 .20 .30 .50	16 8 12 .10 .20 .70	16 8 12 .10 .30 .60	40 16 8 12 .10 .40 .50	16 8 12 .20 .20	16 8 12 .20 .30 .50
Wh Ax Spa Hit Loa On	n. Bas le acing ch ad	e L X X' C a ₁ a ₂ a ₃ G	44 16 16 8 .10 .20 .70 4-5	44 16 16 8 .10 .30 .60 2-3	44 16 16 8 .10 .40 .50 2-3	44 16 16 8 .20 .20	44 16 16 8 .20 .30 .50	40 16 8 12 .10 .20 .70 4–5	16 8 12 .10 .30 .60 4-5	40 16 8 12 .10 .40 .50	16 8 12 .20 .20 .60 4-5	16 8 12 .20 .30 .50
Wh Ax Spa Hit Loa On	n. Bas le acing ch ad	e L X X' C a ₁ a ₂ a ₃ G N E	16 16 8 .10 .20 .70 4–5 4 L	16 16 8 .10 .30 .60 2-3 2 L	44 16 16 8 .10 .40 .50 2–3 2 L	16 16 8 .20 .20 .60 4-5 4 L	16 16 8 .20 .30 .50 2-3 2 L	16 8 12 .10 .20 .70 4–5 4 L	16 8 12 .10 .30 .60 4–5 4 L	16 8 12 .10 .40 .50	16 8 12 .20 .20 .60 4-5 4 L	16 8 12 .20 .30 .50
Wh Ax Spa Hit Loa On	n. Bas le neing ch ad les	e L X X' C a ₁ a ₂ a ₃ G N E V	44 16 16 8 .10 .20 .70 4–5 4	44 16 16 8 .10 .30 .60 2-3 2	44 16 16 8 .10 .40 .50 2-3 2	44 16 16 8 .20 .20 .60 4-5	44 16 16 8 .20 .30 .50 2-3 2	16 8 12 .10 .20 .70 4–5	40 16 8 12 .10 .30 .60 4–5 4 L .320	40 16 8 12 .10 .40 .50 2 L .400	40 16 8 12 .20 .60 4-5 4 L .320	16 8 12 .20 .30 .50 2 2 L .300
Wh Ax Spa Hit Loa On	le acing ch ad les	e L X X' C a ₁ a ₂ a ₃ G N E V	44 16 16 8 .10 .20 .70 4–5 4 L .374 3–5 5	44 16 16 8 .10 .30 .60 2-3 2 L .340 2-3 2	44 16 16 8 .10 .40 .50 2-3 2 L .433 2-8 2	44 16 16 8 .20 .60 4–5 4 L .320 3–5 5	44 16 16 8 .20 .30 .50 2-3 2 L .333 2-3 2	40 16 8 12 .10 .20 .70 4–5 4 L .374 3–5 5	40 16 8 12 .10 .30 .60 4-5 4 L .320 3-5 5	40 16 8 12 .10 .40 .50 2 2 L .400 2 -3 2	40 16 8 12 .20 .60 4-5 4 L .320 3-5 5	40 16 8 12 .20 .30 .50 2 2 L .300 2-3 2
Wh Ax Spa Hit Loa On	n. Bas le neing ch ad les	E L X X X' C a1 a2 a3 G N E V G N E V	44 16 16 8 .10 .20 .70 4–5 4 L .374 3–5 5 R .420	44 16 16 8 .10 .30 .60 2-3 2 L .340 2-3 2 L .340 2-3 2 L	44 16 16 8 .10 .40 .50 2-3 2 L .433 2-8 2 L .500	44 16 16 8 .20 .20 .60 4-5 4 L .320 3-5 5 R .360	44 16 16 8 .20 .30 .50 2-3 2 L .333 2-3 2 L .400	40 16 8 12 .10 .20 .70 4–5 4 L .374 3–5 5 R .513	40 16 8 12 .10 .30 .60 4-5 4 L .320 3-5 5 R .440	40 16 8 12 .10 .40 .50 2 L .400 2 -3 2 L .467	40 16 8 12 .20 .60 4-5 4 L .320 3-5	16 8 12 .20 .30 .50 2 L .300 2-3
Wh Ax Spa Hit Loa On	le acing ch ad les	E L X X X' C a1 a2 a3 G N E V G N E V G	44 16 16 8 .10 .20 .70 4–5 4 L .374 3–5 5 R .420 2–5	44 16 16 8 .10 .30 .60 2-3 2 L .340 2-3 2 L .420 2-5	44 16 16 8 .10 .40 .50 2 L .433 2-8 2 L .500 2-5	44 16 16 8 .20 .20 .60 4 L .320 3-5 R .360 2-5	44 16 16 8 .20 .30 .50 2 L .333 2-3 2 L .400 2-5	40 16 8 12 .10 .20 .70 4 L .374 3-5 5 R .513 2-5	40 16 8 12 .10 .30 .60 4 L .320 3-5 5 R .440 2-5	40 16 8 12 .10 .40 .50 2 L .400 2 -3 2 L .467 2-5	40 16 8 12 .20 .60 4-5 4 L .320 3-5 5 R .440 2-5	16 8 12 .20 .30 .50 2 2 L .300 2-3 2 L .367 2-5
Wh Ax Spa Hit Loa On	le acing ch ad les	E L X X X C a ₁ a ₂ a ₃ G N E V G N E V G N E V G N E V	44 16 16 8 .10 .20 .70 4–5 4 L .374 3–5 5 R .420 2–5 5 R	16 16 8 .10 .30 .60 2-3 2 L .340 2-3 2 L .420 2-5 2 L	44 16 8 .10 .40 .50 2-3 2 L .433 2-8 2 L .500 2-5 2 L	44 16 16 8 .20 .20 .60 4–5 4 L .320 3–5 5 R .360 2–5 5 R	44 16 16 8 .20 .30 .50 2-3 2 L .333 2-3 2 L .400 2-5 2 L	40 16 8 12 .10 .20 .70 4–5 4 L .374 3–5 5 R .513 2–5 5 R	40 16 8 12 .10 .30 .60 4–5 4 L .320 3–5 5 R .440 2–5 R	40 16 8 12 .10 .40 .50 2 L .400 2 -3 2 L .467 2 -5 2 L	40 16 8 12 .20 .20 .60 4-5 4 L .320 3-5 5 R	40 16 8 12 .20 .30 .50 2 2 L .300 2-3 2 L .367 2-5 2 L
Wh Ax Spa Hit Loa On	le le acing ch ad les	E L X X C a1 a2 a3 G N E V G N E V G N E V G O G O G O G O G O G O G O G O G O G	44 16 16 8 .10 .20 .70 4–5 4 L .374 3–5 5 R .420 2–5 8 .527 2–5 2–5 2–5 2–7 2–7 2–7 2–7 3–7 3–7 3–7 3–7 3–7 3–7 3–7 3	44 16 16 8 .10 .30 .60 2-3 2 L .340 2-3 2 L .420 2-5 L .500	44 16 8 .10 .40 .50 2-3 2 L .433 2-8 2 L .500 2-8 2 L .500 2-8 2 L .500 2-8 2 2 2 2 3 2 4 .500 2-8 2-8 2-8 2-8 2-8 2-8 2-8 2-8	44 16 16 8 .20 .20 .60 4–5 4 L .320 3–5 5 R .360 2–5 R .453 2–5	44 16 16 8 .20 .30 .50 2-3 2 L .333 2-8 2 L .400 2-5 2 L .400 2-5 400 2-5 400 2-5 400 2-6 400 2-7 400 2-7 400 400 400 400 400 400 400 40	40 16 8 12 .10 .20 .70 4–5 4 L .374 3–5 R .513 2–5 5 R .615 1–5	40 16 8 12 .10 .30 .60 4-5 4 L .320 3-5 R .440 2-5 R .553 1-5	40 16 12 .10 .40 .50 2 2 L .400 2 ·3 2 L .467 2-5 2 L .589 2-5	40 16 8 12 .20 .60 4-5 4 L .320 3-5 5 R .440 2-5 R .533 1-5	40 16 8 12 .20 .30 .50 2 L .300 2–3 2 L .367 2–5 2 L .489
Whax Span Hit Loss On Ax	le le le le le le le le le le le le le l	E L X X C a ₁ a ₂ a ₃ G N E V G N E V G N E V G N E V	44 16 8 .10 .20 .70 4-5 4 L .374 3-5 5 R .420 2-5 5 R .527	44 16 16 8 .10 .30 .60 2-3 2 L .340 2-3 2 L .420 2-5 2 L .500 2-5 2	44 16 16 8 .10 .40 .50 2-3 L .433 2-3 2 L .500 2-5 2-5 L .500 2-5 L	44 16 16 8 .20 .20 .60 4–5 4 L .320 3–5 5 R .453 2–5 5 R .453	44 16 8 .20 .30 .50 2-3 2 L .333 2-3 2 L .400 2-5 2 L .407 2-5 2	40 16 8 12 .10 .20 .70 4–5 4 L .374 3–5 5 R .513 2–5 5 R .615 1–5	40 16 8 12 .10 .30 .60 4-5 4 L .320 3-5 5 R .440 2-5 5 R .553 1-5 5	40 16 8 12 .10 .40 .50 2 2 .40 2-3 2 L .467 2-5 2 L .589 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	40 16 8 12 .20 .60 4-5 4 L .320 3-5 5 R .440 2-5 5 R .533 1-5 5	40 16 8 12 .20 .30 .50 2 2 2 L .300 2–3 2 L .367 2–5 2 L .489 2–5 2
Whax Span Hit Loss On Ax	n. Bas le acing ach ad les 10	E L X X C a ₁ a ₂ a ₃ G N E V G N E V C N E V	44 16 16 8 .10 .20 .70 4-5 4 L .374 3-5 5 R .420 2-5 5 R .527 2-5 5 R	44 16 16 8 .10 .30 .60 2-3 2 L .340 2-5 2 L .500 2-5 2 L .500	44 16 16 8 .10 .40 .50 2-3 2 L .500 2-8 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	44 16 16 8 .20 .60 4-5 4 L .320 .60 4-5 5 R .360 2-5 5 R .45 2-5 5 R .50 .60	44 16 16 8 .20 .30 .50 2-3 2 L .333 2-3 2 L .400 2-5 2 L .400 2-5 2 L .50	40 16 8 12 .10 .20 .70 4–5 4 L .374 3–5 5 R .513 2–5 5 R .615 1–5 8 R	40 16 8 12 .10 .30 .60 4-5 4 L .320 3-5 5 R .440 2-5 5 R .53 1-5 8 .60	40 16 8 12 .10 .40 .50 2 2 L .400 2 · 3 2 · L .467 2 - 5 2 · L .55 2 · L .467 2 · S 2 · L .55 .55 .55 .55 .55 .55 .55 .5	40 16 8 12 20 .60 4-5 4 L .320 .60 4-5 5 R .440 2-5 5 R .53 1-5 5 R .60	40 16 8 12 .20 .50 2 2 L .300 .50 2-3 2 L .367 2-5 2 L .367 2-5 2 L .367 2-5 2 L .367 2-5 2 L .367 .3
Whax Span Hit Loss On Ax	le le le le le le le le le le le le le l	e L	44 16 8 .10 .20 .70 4–5 4 L .374 3–5 5 R .420 2–5 5 R .527 2 5 R .620 .70	44 16 16 8 .10 .30 .60 2-3 2 L .340 2-3 2 L .420 2-5 2 L .500 2-5 2 L .600	44 16 16 8 .10 .40 .50 2-3 2 L .433 2-3 2 L .500 2-5 2 L .507 2-5 2 L .500 2-3 2 L .500 2-3 2 L .500 2-3 2 L .500 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	44 16 16 8 .20 .20 .60 4–5 4 L .320 3–5 5 R .453 2–5 8 R .453 2–5 8 R .453 2–5 8 R .454 .455	44 16 8 .20 .30 .50 2-3 2 L .333 2-3 2 L .400 2-5 2 L .467 2-5 2 L	40 16 8 12 .10 .20 .70 4–5 4 L .374 3–5 5 R .615 1–5 8 .687 1–5	40 16 8 12 .10 .60 4–5 4 L .320 3–5 5 R .553 1–5 8 .640 1–5	40 16 8 12 .10 .40 .50 2 2 1 .400 2 -3 2 1 .467 2-5 2 L .589 2 .589 .589 2 .589 .589 2	40 16 8 12 .20 .60 4-5 4 L .320 3-5 5 R .440 2-5 5 R .533 1-5 6 8 .60 1-5 8	40 16 8 12 .20 .30 .50 2 2 L .300 2–3 2 L .367 2–5 2 L .489 2–5 2 L .567
Wh Ax Spa Hit Loa On	le le le le le le le le le le le le le l	e L	44 16 16 8 .10 .70 4–5 4 L .374 3–5 5 R .420 2–5 5 R .527 2 5 R .620 1–5 R	44 16 16 8 .10 .30 .60 2-3 2 L .340 2-3 2 L .420 2-5 2 L .500 2-5 2 L .600 2-5 2 L	44 16 16 8 .10 .40 .50 2-3 2 L .500 2-5 2 L .507 2-5 2 L .650 2-5 2 L .505 2-1 .500 .500 .50	44 16 16 8 .20 .60 4–5 4 L .320 3–5 5 R .360 2–5 5 R .453 2–5 5 R .453 1–5 5 R .453 1–5 5 8 .453 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 .553 8 .55	44 16 16 8 .20 .50 2-3 2 L .33 2-3 2 1 .400 2-5 2 L .467 2-5 2 L .50 2-3 2 1 .50 2-3 2 1 .50 2-3 2 1 .50 2-5 2 1 .50 2-5 2 1 .50 2-5 2 1 .50 2-5 2 2 1 .50 2 .50 .50 .50 .50 2 .50 .50 .50 .50 .50 .50 .50 .50	40 16 8 12 .10 .20 .70 4–5 4 L .374 3–5 5 R .513 2–5 5 R .615 1–5 5 R	40 16 8 12 .10 .30 .60 4-5 4 L .320 3-5 5 R .553 1-5 5 R .640 1-5 8	40 16 8 12 .10 .40 .50 2 2 L .40 2 · 3 2 L .467 2 - 5 2 L .589 2 · 589 2 · 667 2 - 5 2 L .667 2 - 5 2 L .667	40 16 8 12 .20 .60 4-5 4 L .320 .60 4-5 5 R .440 2-5 5 R .53 1-5 5 R .600 1-5 8 .600 1-5 .600 1-5 8	40 16 8 12 .20 .30 .50 2 L .300 2-3 2 L .367 2-5 2 L .367 2-5 2 L .367 2-5 2 L .367 2-5 2 L .367 2-5 2 L .367 2-5 2 L .367 2-5 2 L .367 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5
Mh Axx Axe Axe Axe Axe Axe Axe Axe Axe Axe	n. Bas le acing ch ad les 10 20 30 40	e L	44 16 8 .10 .20 .70 4–5 4 L .374 3–5 5 R .420 2–5 5 R .527 2 5 R .620 1–5 6 8	44 16 16 8 .10 .30 .60 2-3 2 L .340 2-3 2 L .420 2-5 2 L .500 2-5 2 L .600	44 16 16 8 .10 .40 .50 2-3 2 L .433 2-3 2 L .500 2-5 2 L .567 2-5 2 L .567 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2-5 2 L .500 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	44 16 16 8 .20 .20 .60 4–5 4 L .320 3–5 5 R .453 2–5 5 R .453 2–5 5 R .453 2–5 5 R .453 2–5 5 8 .453 1–5 8 .453 1–5 8 .453 1–5 8 .453 1–5 8 .453 1–5 8 .453 .453 8 .453 .453 8 .453 .453 8 .453	$\begin{array}{c} 44\\ 16\\ 16\\ 8\\ .20\\ .30\\ .50\\ 2-3\\ 2\\ L\\ .333\\ 2-3\\ 2\\ L\\ .400\\ 2-5\\ 2\\ L\\ .467\\ 2-5\\ 2\\ L\\ .550\\ 2-5\\ 2\\ L\\ .560\\ 0\\ \end{array}$	40 16 8 12 .10 .20 .70 4–5 4 L .374 3–5 5 R .615 1–5 6 R .687 1–5 8 R .687 1–5 8 R	40 16 8 12 .10 .30 .60 4-5 4 L .320 3-5 5 R .440 2-5 5 R .553 1-5 8 .60 1-5 8 .712	40 16 8 12 .10 .40 .50 2 2 L .400 2-3 2 L .589 2-5 2 L .589 2-5 2 L .589 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	40 16 8 12 .20 .60 4-5 4 L .320 3-5 5 R .440 2-5 5 R .533 1-5 5 R .60 1-5 8 .60 1-5 8 .60 1-	40 16 8 12 .20 .30 .50 2 2 L .300 2–3 2 L .367 2–5 2 L .489 2–5 2 L .567 1–5 8 8 8
Mh Axx Axe Axe Axe Axe Axe Axe Axe Axe Axe	n. Bas le acing ch ad les 10 20 30 40	e L XX C C a1 a2 a3 G N E V R E V R E	44 16 8 .10 .20 .70 4–5 4 L .374 3–5 5 R .420 2–5 5 R .527 2 5 R .620 1–5 R .688 1–5	44 16 16 18 .10 .30 .60 2-3 2 L .340 2-5 2 L .500 2-5 2 L .600 2-5 2 L .600 2-8 2 L .600 2-8 2 L .600 2-8 2 L .600 2-8 2 L .600 2-8 2 L .600 2-8 2-8 2-8 2-8 2-8 2-8 2-8 2-8	44 16 16 8 .10 .40 .50 2-3 2 L .500 2-5 2 L .507 2-5 2 L .567 2-5 2 L .650 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 2 2 2 2 2 2 2 2 2 2 2 2	44 16 16 8 .20 .60 4–5 4 L .320 3–5 5 R .360 2–5 5 R .453 2–5 5 R .453 1–5 5 R .453 1–5 5 8 .453 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 1–5 8 .553 .553 8 .55	44 16 8 .20 .30 .50 2-3 2 L .333 2-8 2 1.400 2-5 2 L .467 2-5 2 L .500 2-8 2 L .500 2-8 2 L .500 2-8 2 L .500 2-8 2 L .500 2-8 2 L .500 2-8 2 L .500 2-8 2 L .500 2-8 2 L .500 2-8 2 L .500 2-8 2 L .500 2-8 2 L .500 2-8 2 L .500 2-8 2 L .500 2-8 2-8 2 L .500 2-8 2-8 2-8 2-8 2-8 2-8 2-8 2-8	40 16 8 12 .10 .20 .70 4–5 4 L .374 3–5 5 R .615 5 R .687 1–5 5 R .749	40 16 8 12 .10 .30 .60 4-5 4 L .320 3-5 5 R .553 1-5 5 R .640 1-5 8 .712 1-5 5 8	40 16 8 12 .10 .40 .50 2 2 L .400 2 · 3 2 L .50 2 2 L .667 2 - 5 2 L .713 2 - 5 2 L .713	40 16 8 12 .20 .60 4-5 4 L .320 .60 4-5 5 8 .440 2-5 5 R .533 1-5 5 R .600 1-5 8 .600 1-	40 16 8 12 .20 .30 .50 2 2 L .300 2-3 2 L .367 2-5 2 L .489 2-5 2 L .567 1-5 8 .643 1-5 5
Mh Axx Axe Axe Axe Axe Axe Axe Axe Axe Axe	n. Bas le acing ch ad les 10 20 30 40	e L	44 16 16 8 .10 .20 .70 4-5 4 L .374 3-5 5 R .420 2-5 5 R .527 2 5 8 .620 1-5 5 R .620 1-5 8 .70 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7	44 16 16 8 .10 .30 .60 2-3 2 L .340 2-3 2 L .420 2-5 2 L .500 2-5 2 L .600 1-5 R .707	44 16 16 8 .10 .40 .50 2-3 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-7 2 L .500 2-7 2 L .500 2-7 2 L .500 2-7 2 L .500 2-7 2 L .500 2-7 2 L .500 2-7 2 L .500 2-7 2-7 2 L .500 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	44 16 16 8 .20 .60 4-5 4 L .320 3-5 5 R .360 2-5 5 R .453 2-5 5 R .453 2-5 5 R .453 2-5 5 R .453 2-5 8 .453 2-5 8 .453 .453 8 .453 .453 8 .453	44 16 16 8 .20 .30 .50 2-3 2 L .33 2-3 2 L .400 2-5 2 L .467 2-5 2 L .550 2-7 2 L .400 2-7 2 L .400 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	40 16 8 12 .10 .20 .70 4-5 4 L .374 S-5 R .513 2-5 R .615 S R .687 1-5 S R .791	40 16 8 12 .10 .30 .60 4-5 4 L .320 3-5 5 R .440 2-5 5 R .553 1-5 5 R .640 1-5 4 .762 1-5 8 .766 1-	40 16 8 12 .10 .40 .50 2 L .400 2 -3 2 L .467 2-5 2 L .589 2-5 2 L .667 2-5 2 L .714	40 16 8 12 20 .60 4-5 4 L .320 .60 4-5 5 R .440 2-5 5 R .600 1-5 5 R .600 1-5 5 R .600	40 16 8 12 .20 .30 .50 2 2 L .300 .50 2-3 2 L .367 2-5 2 L .489 2-5 2 L .567 1-5 8 .677 1-5 8 .677 1-5 1-5 .677 1-5
Mh Axx Axe Axe Axe Axe Axe Axe Axe Axe Axe	n. Bas le acing ch ad les 10 20 30 40	e L XX X' C a1 a2 G N E V G N E V G N E V G N E V G N E V G N E V G S G S G S S G S S S S S G S S S S S	44 16 8 .10 .70 4–5 4 L .374 3–5 5 R .420 2–5 5 R .527 2 5 R .620 1–5 R .688 1–5 R .740 1–5 1–7 1–7 1–7 1–7 1–7 1–7 1–7 1–7	44 16 16 8 .10 .30 .60 2-3 2 L .340 2-5 2 L .500 2-5 2 L .660 2-5 2 L .660 1-5 R .707	44 16 16 18 .10 .40 .50 2-3 2 L .500 2-5 2 L .507 2-5 2 L .560 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 2 2 2 2 2 2 2 2 2 2 2 2	44 16 16 8 .20 .60 4–5 4 L .320 3–5 5 R .453 2–5 5 R .453 2–5 5 R .453 2–5 5 R .616 1–5 R .616 1–5 R .616 1–5 R .616 1–5 R .616 1–5 R .616 1–5 R .616 1–5 R .616 1–5 R .616 1–5 R .616 1–5 R .616 1–5 R .616 1–5 R .616 1–5 R .616 1–5 R .616 1–5 R .616	44 16 16 8 .20 .30 .50 2-3 2 L .333 2-8 2 1.400 2-5 2 L .550 2-5 2 L .50 2-8 2 L .60 2-5 2 L .60 2-5 2 1.50 2-5 2-5 2 1.50 2-5 2 1.50 2-5 2 1.50 2-5 2 1.50 2-5 2 1.50 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	40 16 8 12 .10 .20 .70 4-5 4 L .374 3-5 5 R .615 1-5 5 R .749 1-5 5 R .749 1-5 7 1-5	40 16 8 12 .10 .30 .60 4-5 4 L .320 3-5 5 R .440 2-5 5 R .553 1-5 5 R .640 1-5 5 R .712 1-5 8 .760 1-5	40 16 8 12 .10 .40 .50 2 2 L .400 2 -3 2 L .589 2-5 2 L .667 2-5 2 L .713 2 -5 2 L .714 1-5	40 16 8 12 .20 .60 4-5 4 L .320 .60 4-5 8 .440 2-5 8 .533 1-5 8 .600 1-5 8 .600 1-5 8 .733 1-5 8 .75 .75 .75 .75 .75 .75 .75 .75	40 16 8 12 .20 .30 .50 2 2 L .300 2-3 2 L .367 2-5 2 L .489 2-5 2 L .567 1-5 8 .643 1-5 8 .702 1-5
Mh Axx Axe Axe Axe Axe Axe Axe Axe Axe Axe	n. Bas le acing ch ad les 10 20 30 40	e L	44 16 16 8 .10 .20 .70 4–5 5 R .420 2–5 5 R .527 2–5 5 R .620 1–5 5 R .688 1–5 5 R .740 1–5 5 8 .740 1–5 8 8 8 8 8 8 8 8 8 8 8 8 8	44 16 16 8 .10 .30 .60 2-3 2 1 .420 2-5 2 L .500 2-5 2 L .600 1-5 5 R .707	44 16 16 18 .10 .40 .50 2-3 2 L .500 2-5 2 L .500 2-5 2 L .567 2-5 2 L .650 2-5 2 L .700 2-5 2 L .700 2-5 2 L .700 2-5 2 L .700 2-5 2 L .700 2-5 2 L .700 2-5 2 L .700 2-5 2 L .700 2-5 2 L .700 2-5 2 L .700 2-5 2 L .700 2-5 2 L .700 2-5 2 L .700 2-5 2 L .700 2-5 2 L .700 2-5 2 L .700 2-5 2 L .700 2-5 2 L .700 2-5 2 L .700 2-5 2 2 2 2 2 2 2 2 2 2 2 2 2	44 16 16 8 .20 .60 4-5 4 L .320 .60 4-5 R .360 2-5 5 R .453 2-5 5 R .453 2-5 5 R .453 2-5 5 R .616 1-5 R .616	44 16 8 .20 .30 .50 2-3 2 L .333 2-8 2 L .400 2-5 2 L .550 2-5 2 L .600 1-5 8 8 .20 .30 .30 .30 .30 .30 .30 .30 .3	40 16 8 12 .10 .20 .70 4-5 4 L .374 3-5 5 R .513 2-5 5 R .615 5 R .687 1-5 5 R .749 1-5 5 R .791 1-5 5 R	40 16 8 12 .10 .30 .60 4-5 4 L .320 3-5 5 R .440 2-5 5 R .55 R .640 1-5 5 R .712 1-5 5 R .712 1-5 5 8 .712 1-5 8 .712 .712 1-5 8 .712 8 .712 8 .712 8 .712 8 .712 8	40 16 8 12 .10 .40 .50 2 2 L .40 2 -3 2 L .467 2 -5 2 L .589 2 -5 2 L .714 1 -5 5 R	40 16 8 12 .20 .20 .60 4-5 4 L .320 .5 8 .440 2-5 8 .440 2-5 8 .5 8 .600 1-5 8 .680 1-5 8 .733 1-5 8 .733	40 16 8 12 .20 .30 .50 2 2 L .300 2-3 2 L .367 2-5 2 L .489 2-5 2 L .567 1-5 8 .643 1-5 8 .702 1-5
Mh Axx Axe Axe Axe Axe Axe Axe Axe Axe Axe	n. Bas le acing ch ad less 10 20 30 40 50	E L X X C a1 a2 a3 G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V	44 16 8 .10 .20 .70 4–5 5 R .420 2–5 5 R .527 2–5 5 R .620 1–5 688 1–5 R .740 1–5 R .70 1–5 R .70 1–5 R .70 .70 .70 .70 .70 .70 .70 .70	44 16 16 8 .10 .30 .60 2-3 2 L .340 2-5 2 L .500 2-5 2 L .660 2-5 2 L .6860 1-5 R .787	44 16 16 8 .10 .40 .50 2-3 2 L .43 2 L .500 2-5 2 L .567 2-5 2 L .700 2-5 2 L .775	44 16 16 8 .20 .60 4–5 4 L .320 3–5 5 R .453 2–5 5 R .540 1–5 5 R .616 1–5 5 R .616 1–5 8 .616	44 16 16 8 .20 .30 .50 2-3 2 L .333 2-8 2 L .400 2-5 2 L .550 2-5 2 L .50 2-8 2 L .60 2-5 2 L .60 2-5 2 1 .60 2-5 2 1 .60 2-5 2 1 .60 2-5 2 1 .60 2-5 2 1 .60 2-5 2 1 .60 2-5 2 1 .60 2-5 2 1 .60 2-5 2 1 .60 2-5 2 1 .60 2 .60 .60 .60 .60 .60 .60 .60 .60	40 16 8 12 .10 .20 .70 4–5 4 L .374 3–5 5 R .615 1–5 5 R .749 1–5 5 R .79 1–5 5 R .78 .79 1–5 8 R .79 1–5 8 R .79 1–5 8 R .79 1–5 8 R .79 1–5 8 R .79 1–5 8 R .79 1–5 8 R .79 1–5 8 R .79 1–5 8 R .79 1–5 8 R .79 1–5 8 R .79 1–5 8 R .79 1–5 8 R .79 1–5 8 R .79 1–5 8 R .79 1–5 8 R .79 1–5 8 R .79 1–5 8 R .79 1–5 8 R .79 1–7 8 R .79	40 16 8 12 .10 .30 .60 4-5 4 L .320 3-5 5 R .553 1-5 8 .640 1-5 5 R .712 1-5 5 R .760 1-5 8 R .780 .780	40 16 8 12 .10 .40 .50 2 2 L .40 .2-3 2 L .589 2-5 2 L .667 2-5 2 L .718 2-5 2 L .714 1-5 5 R .797	40 16 8 12 .20 .20 .20 .60 4-5 4 L .320 .2-5 5 R .533 1-5 5 R .680 1-5 R .733 1-5 R .733 1-5 R .800	40 16 8 12 .20 .30 .50 2 2 L .300 2-3 2 L .367 2-5 2 L .489 2-5 5 R .643 1-5 5 R .777
Mh Axx Axe Axe Axe Axe Axe Axe Axe Axe Axe	n. Bas le accing cch ad les 10 20 30 40 50 60 80	E L X X Y C	44 16 16 8 .10 .20 .70 4–5 5 R .420 2–5 5 R .620 1–5 5 R .620 1–5 5 R .688 1–5 8 R .688 1–5 5 8 8 .70 1–5 8 8 8 8 8 8 8 8 8 8 8 8 8	44 16 16 8 .10 .30 .60 2-3 2 L .340 2-3 2 L .500 2-5 2 L .660 2-5 2 L .707 1-5 8 .780 1-5 5	44 16 8 .10 .40 .50 2-3 2 L .500 2-5 2 L .500 2-5 2 L .650 2-5 2 L .700 2-5 2 L .775 1-5 2 1-775 1-5 5	44 16 16 8 .20 .60 4-5 4 L .320 .60 4-5 8 .360 2-5 5 R .453 2-5 5 R .453 2-5 5 R .616 1-5 8 .616	44 16 16 8 .20 .30 .50 2-3 2 L .33 2-3 2 L .400 2-5 2 L .550 2-5 2 L .500 2-3 2 L .400 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .600 2-5 8-6 8-6 8-6 8-6 8-6 8-6 8-6 8-6	40 16 8 12 .10 .20 .70 4-5 4 L .374 3-5 5 R .513 2-5 5 R .615 5 R .749 1-5 5 R .791 1-5 5 R .843 1-5 5	40 16 8 12 .10 .30 .60 4-5 4 L .320 3-5 5 R .440 2-5 5 R .553 1-5 5 R .712 1-5 5 R .760 1-5 5 R .820	40 16 8 12 .10 .40 .50 2 2 L .40 2 -3 2 L .467 2-5 2 L .589 2-5 2 L .714 1-5 5 R .797	40 16 8 12 .20 .20 .60 4-5 4 L .320 .3-5 5 R .440 2-5 5 R .53 1-5 5 R .680 1-5 5 R .733 1-5 5 R .800 1-5 5	40 16 8 12 .20 .30 .50 2 L .300 2-3 2 L .367 2-5 2 L .489 2-5 2 L .567 1-5 5 R .702 1-5 5 R .777 1-5 5
Mh Axx Axe Axe Axe Axe Axe Axe Axe Axe Axe	n. Bas le acing ch ad less 10 20 30 40 50	E L X X C a1 a2 a3 G N E V G N E N	44 16 16 8 .10 .20 .70 4-5 4 L .374 3-5 5 R .420 2-5 5 R .527 2 5 8 .620 1-5 5 R .620 1-5 8 .620	44 16 16 8 .10 .30 .60 2-3 2 L .340 2-3 2 L .420 2-5 2 L .500 2-5 2 L .600 1-5 8 .707 1-5 8 .780 1-5	44 16 16 8 .10 .40 .50 2-3 2 L .500 2-5 2 L .500 2-5 2 L .567 2-5 2 L .567 2-5 2 L .500 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	44 16 16 8 .20 .20 .60 4–5 4 L .320 3–5 5 R .453 2–5 5 R .453 2–5 5 R .453 1–5 5 R .453 1–5 5 R .40 1–5 8 .40 1–5 8 .40 1–5 8 .40 1–5 8 .40 1–5 8 .40 .40 .40 .40 .40 .40 .40 .40	44 16 8 .20 .30 .50 2-3 2 L .333 2-3 2 L .400 2-5 2 L .467 2-5 2 L .550 2-5 2 L .647 1 5 8 .647 1 8 8 8 8 8 8 8 8 8 8	40 16 8 12 .10 .20 .70 4-5 4 L .374 3-5 5 R .518 2-5 5 R .615 1-5 5 R .749 1-5 5 R .791 1-5 8 .843 1-5	40 16 8 12 .10 .30 .60 4-5 4 L .320 3-5 5 R .440 2-5 5 R .558 1-5 5 R .712 1-5 5 R .760 1-5 8 .760 1-5 .760 1-5 8 .760 1-	40 16 8 12 .10 .40 .50 2 L .400 2 -3 2 L .467 2 -5 2 L .589 2 -5 2 L .713 2 -5 2 L .744 1 -5 R R 7.797 1 -5	40 16 8 8 12 20 20 20 60 4-5 4 L 320 3-5 5 R 440 2-5 5 R .533 1-5 6 R .600 1-5 5 R .733 1-5 5 R .880 1-5 8 .800 1-5	40 16 8 12 .20 .30 .50 2 L .300 2-3 2 L .367 2-5 L .489 2-5 2 L .567 1-5 R .702 1-5 R .707 1-5

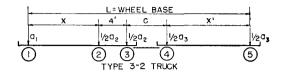
TA	RLE	7 10	(Cont	innedl

			(Continu									
	ck N		51	52	53	54	55	56	57	58	59	60
Axle	Base	X	16	16	16	16	16	48 16	48 16	48 16	48 16	16
	e cing	Ω,	12	12	12	12	12	16	16	16	16	16
Hite	eh	C	12	12	12	12	12	12	12	12	12	12
Load	d	aı	.10	.10	.10	.20	.20	.10	.10	.10	.20	.20
On Axle	es	\mathbf{a}_2	$\frac{.20}{.70}$.30 .60	$.40 \\ .50$	$.20 \\ .60$.30 .50	$\frac{.20}{.70}$.30 .60	.40 .50	.20 .60	.30 $.50$
		G	4-5	4-5	2	4-5	2	4-5	4-5	2	4-5	2
İ	10	$_{ m E}^{ m N}$	$^4_{f L}$	$^4_{ m L}$	$^2_{ m L}$	$^{4}_{ m L}$	$^2_{ m L}$	$^4_{ m L}$	$^4_{ m L}$	2 L	$^{4}_{ m L}$	$^2_{ m L}$
		v	.374	.320	.400	$.3\overline{20}$.300	.374	.320	.400	$.3\overline{20}$.300
		G	3-5	3 5	2-3	3-5	2-3	3 - 5	2-3	2-3	3.5	2-3
	20	$_{ m E}^{ m N}$	$^{5}_{ m R}$	5 R	$^2_{ m L}$	5 R	$^2_{ m L}$	5 R	$^2_{ m L}$	$^2_{ m L}$	$^{5}_{ m R}$	$_{ m L}^2$
_		V	.467	.400	.467	.400	.367	.420	.380	.467	.360	.367
		G N	2 -5 5	$^{2-5}_{5}$	$\substack{2\cdot-5\\2}$	$^{2-5}$	2.5	3- 5 5	3-5	$^{2-4}_{2}$	3-5	$^{2-4}_{2}$
	30	E	Ř	R.	Ĺ	5 R	$^2_{\mathbf{L}}$	R.	$^{5}_{ m R}$	Ĺ	5 R	$\overset{{}_{\scriptscriptstyle{\perp}}}{\mathbf{L}}$
_		V	.558	.487	.545	.480	.445	.513	.440	.511	.440	.411
ا بـ		G N	25 5	$^{2-5}_{5}$	$_{2}^{-5}$	2-5 5	$\frac{2-5}{2}$	2 5 5	$_{2}^{-5}$	$\frac{2-5}{2}$	$\frac{2-5}{5}$	2-5
Se	40	\mathbf{E}	$^{\mathrm{R}}$	\mathbf{R}	L	R	L	\mathbf{R}	$_{\rm L}$	L	\mathbf{R}	$^2_{\mathbf{L}}$
Span-Feet		V	.643	.590	.633	.560	.533	.600	.540	.600	.520	.500
ba		G N	$15 \\ 5$	$^{1-5}_{5}$	$_{2}^{-5}$	15 5	1-5 5	$_{5}^{1-5}$	$\begin{array}{cc} 1 & 5 \\ & 5 \end{array}$	$^{2-5}_2$	$\frac{1}{5}$	$\frac{2-5}{2}$
02	50	N E	\mathbf{R}	R	L	\mathbf{R}	R	R	R	L	\mathbf{R}	\mathbf{L}
-		V G	.707 15	.664 1-5	687 2 -5	5 15		1 5	.616 15	2 - 5	.584 15	$\frac{.560}{1-5}$
-		N	5	5	2	5	5	5	1·-ə 5	2 2	5	1-5 5
-	60	\mathbf{v}	R_{75c}	R	$^{ m L}_{.722}$	R	R	R	\mathbf{R}	L	\mathbf{R}	$^{\mathrm{R}}$
-		G	.756 1 5	$-\frac{.720}{1-5}$	2-5	1.5	.658 1-5	$\frac{.720}{1-5}$.680 1-5	$\frac{.700}{2-5}$	653 1-5	$\frac{.613}{1-5}$
-		N	5	5	2	5	5	5	5	2	5	5
1	80	$_{ m V}^{ m E}$	$^{ m R}_{.817}$	$^{ m R}_{.790}$	$_{.767}^{ m L}$	R .770	R .743	R .790	R .760	L .750	R .740	R .710
-		- G	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-5
1	• • • •	N	5	5	5	5	5	5	5	5	5	5
İ	100	$_{ m V}^{ m E}$	$^{ m R}_{.853}$	$^{ m R}_{.832}$	R .811	.816	R .795	$^{ m R}_{.832}$	$_{.808}^{ m R}$	$\frac{\mathbf{R}}{.784}$	R .792	$^{ m R}_{.768}$
Tru	ck N	0.	61	62	63	64	65	66	67	68	69	70
	. Base		40	40	40	40	40	44	44	44	44	44
Axle		X	20	20	20	20	20	20	20	20	20	20
	cing	X'	8	8	8	8	8	12	12	12	12	12
Hite												
On		C	- 8	8	8	8		8	- 8	8	8	
Axle	a	a ₁ a ₂	.10	.10	$\frac{8}{.10}$.20	.20	.10	.10 .30	.10 .40	.20 .20	.20
		a ₁ a ₂ a ₃	.10 .20 .70	.10 .30 .60	.10 .40 .50	.20 .20 .60	.20 .30 .50	.10 .20 .70	.10 .30 .60	.10 .40 .50	.20 .20 .60	.20 .30 .50
-		a ₁ a ₂ a ₃ G	.10 .20 .70 4-5	.10 .30 .60	.10 .40 .50	.20 .20 .60 4 5	.20 .30 .50 2-3	.10 .20 .70 4-5	.10 .30 .60	.10 .40 .50	.20 .20 .60 4-5	.20 .30 .50
		a ₁ a ₂ a ₃ G N E	.10 .20 .70 4-5 4 L	.10 .30 .60 2-3 2	.10 .40 .50 2-3 2 L	.20 .20 .60 4 5 4 L	.20 .30 .50 2-3 2 L	.10 .20 .70 4-5 4 L	.10 .30 .60 2 3 2 L	.10 .40 .50 2–3 2 L	.20 .20 .60 4–5 4 L	.20 .30 .50 2–3 2 L
	es	a ₁ a ₂ a ₃ G N E V	.10 .20 .70 4-5 4 L .374	.10 .30 .60 2-3 2 IL .340	.10 .40 .50 2-3 2 L .433	.20 .20 .60 4 5 4 L	.20 .30 .50 2-3 2 L .333	.10 .20 .70 4-5 4 L .374	.10 .30 .60 2 3 2 L .340	.10 .40 .50 2-3 2 L .433	.20 .20 .60 4-5 4 L .320	.20 .30 .50 2–3 2 L .333
-	es	a ₁ a ₂ a ₃ G N E V	.10 .20 .70 4-5 4 L	.10 .30 .60 2-3 2 IL .340 2-5	.10 .40 .50 2-3 2 L .433	.20 .20 .60 4 5 4 L .320 2 -5	.20 .30 .50 2-3 2 L .333 2-5	.10 .20 .70 4-5 4 L	.10 .30 .60 2 3 L .340 2-3 2	.10 .40 .50 2-3 2 L .433 2-3	.20 .20 .60 4-5 4 L .320	.20 .30 .50 2-3 2 L .333 2-3
-	es	a ₁ a ₂ a ₃ G N E V	.10 .20 .70 4-5 4 L .374 2-5 5 R	.10 .30 .60 2-3 2 L .340 2-5 2 L	.10 .40 .50 2-3 2 L .433 2-5 2 L	.20 .20 .60 4 5 4 L .320 2 -5 5 R	.20 .30 .50 2-3 2 L .333 2-5 2	.10 .20 .70 4 5 4 L .374 3-5 R	.10 .30 .60 2 3 L .340 2-3 2 L	.10 .40 .50 2-8 2 L .433 2-3 2 L	.20 .20 .60 4-5 4 L .320 3-5 R	.20 .30 .50 2-3 2 L .333 2-3 2 L
-	es 10	a ₁ a ₂ a ₃ G N E V G N E V	.10 .20 .70 4-5 4 L .374 2-5 5 R	.10 .30 .60 2-3 2 L .340 2-5 2 L .460	.10 .40 .50 2-3 2 L .433 2-5 2 L .533	.20 .20 .60 4 5 4 L .320 2 -5 5 R	.20 .30 .50 2-3 2 L .333 2-5 2 1,	.10 .20 .70 4 5 4 L .374 3 5 5 R .467	.10 .30 .60 2 3 2 L .340 2-3 2 L .420	.10 .40 .50 2-3 2 L .433 2-3 2 L .500	.20 .20 .60 4-5 4 L .320 3-5 5 R .400	.20 .30 .50 2-3 L .333 2-3 2 L .400
-	10 20	a ₁ a ₂ a ₃ G N E V G N E V G N E V	.10 .20 .70 4-5 4 L .374 2-5 5 R .513	.10 .30 .60 2-3 L .340 2-5 2 L .460 2-5 2	.10 .40 .50 2-3 2 L .433 2-5 2 L .533 2-5 2	.20 .20 .60 4 5 4 L .320 2 -5 5 R .440 2 5	.20 .30 .50 2-3 2 L .333 2-5 2 1, .433	.10 .20 .70 4-5 4 L .374 3-5 5 R .467 2-5	.10 .30 .60 2 3 2 L .340 2-8 2 L .420 2-5 2	.10 .40 .50 2-3 2 L .433 2-8 2 I .500 2-5 2	.20 .20 .60 4-5 4 L .320 3-5 5 R .400	$\begin{array}{c} .20\\ .30\\ .50\\ \hline 2-3\\ L\\ .333\\ \hline 2-3\\ 2\\ L\\ .400\\ \hline 2\\ 2\\ 5\\ 2\\ \end{array}$
_	es 10	a ₁ a ₂ a ₃ G N E V G N E V G N E V	.10 .20 .70 4-5 4 L .374 2-5 5 R .513	.10 .30 .60 2-3 1 .340 2-5 2 L .460 2-5 L	.10 .40 .50 2-3 2 L .433 2-5 2 L .533 2-5 2 L	.20 .20 .60 4 5 4 L .320 2 -5 R .440 2 5 R	.20 .30 .50 2-3 2 L .333 2-5 2 1, .433 2-5 L	.10 .20 .70 4 5 4 L .374 3-5 5 R .467 2-5 R	.10 .30 .60 2 8 L .340 2-8 2 L .420 25 L	.10 .40 .50 2-8 2 L .433 2-3 2 L .500 2 5 L	.20 .20 .60 4-5 4 L .320 3-5 5 R .400	.20 .30 .50 2-3 2 L .333 2-3 2 L .400 2-5 2 L
	10 20	a ₁ a ₂ a ₃ G N E V G N E V G N E V	.10 .20 .70 4-5 4 L .374 2-5 5 R .513	.10 .30 .60 2-3 L .340 2-5 2 L .460 2-5 2	.10 .40 .50 2-3 2 L .433 2-5 2 L .533 2-5 2	.20 .20 .60 4 5 4 L .320 2 -5 5 R .440 2 5	.20 .30 .50 2-3 2 L .333 2-5 2 1, .433 2-5 2 L .556	.10 .20 .70 4-5 4 L .374 3-5 5 R .467 2-5	.10 .30 .60 2 3 2 L .340 2-8 2 L .420 2-5 2	.10 .40 .50 2-8 2 L .433 2-3 2 I .500 2 5 2 L .611 2-5	.20 .20 .60 4-5 4 L .320 3-5 5 R .400 2-5 R .506	.20 .30 .50 2-3 2 L .333 2-3 2 L .400 2-5 2 L
et	20 30	a ₁ a ₂ a ₃ G NEV G NEV G NEV G NE V G N E V G N	.10 .20 .70 4-5 4 L .374 2-5 5 R .513 2-5 8 R .642	.10 .30 .60 2-3 2 L .340 2-5 2 L .460 2-5 2 L .607	.10 .40 .50 2-3 2 L .433 2-5 2 L .533 2-5 2 L .656 2-5 2	.20 .20 .60 4 5 4 L .320 2 -5 5 R .440 2 5 R .560	.20 .30 .50 2-3 2 L .333 2-5 2 1, .433 2-5 2 L .556 2	.10 .20 .70 4 5 4 1. .374 3 5 8 .467 2 5 8 .585 5	.10 .30 .60 2 8 2 L .340 2-8 2 L .420 25 2 L .553 2-5	.10 .40 .50 2-8 2 L .433 2-3 2 I .500 2 5 2 L .611 2-5	.20 .20 .60 4-5 4 L .320 3-5 5 R .400 2-5 5 R .506	.20 .30 .50 .50 .2-3 .2 .2 .333 .2-3 .2 .40 .2.5 .2 .511 .2-5 .2
Feet	10 20	a ₁ a ₂ a ₃ G N E V E V G N E V E V E V E V E V E V E V E V E V E	.10 .20 .70 4-5 4 L .374 2-5 8 .513 2-5 R .642 1-5 8	.10 .30 .60 2-3 2 L .340 2-5 2 L .460 2-5 2 L .607 2-5 2 L	.10 .40 .50 2-3 2 L .433 2-5 2 L .533 2-5 2 L .656 2-5 2 L	20 20 60 4 5 4 L 320 2 -5 5 R .440 2 5 8 8,560 1 5 8	.20 .30 .50 2-3 2 L .333 2-5 2 J .433 2-5 2 L .556 2 5 2 L	.10 .20 .70 4 · 5 4 L .374 3 · 5 5 R .467 2 · 5 R .585 2 · 5 R	.10 .30 .60 2 3 2 L .340 2-3 2 L .420 2-5 2 L .553 2-5 2 L	.10 .40 .50 2-8 2 L .433 2-8 2 L .500 2 5 2 L .611 2-5 2 L	.20 .20 .60 .60 .4-5 .4 .320 .3-5 .5 .8 .400 .2-5 .5 .8 .506 .2-5 .8	20 30 50 2-3 2 L 3333 2 1 400 2 5 2 L .511 2 5 2 L
an-Feet	20 30	a ₁ a ₂ a ₃ G NEV G NEV G NEV G NE V G N E V G N	.10 .20 .70 4-5 4 L .374 2-5 5 R .513 2-5 8 R .642	.10 .30 .60 2-3 2 L .340 2-5 2 L .460 2-5 2 L .607	.10 .40 .50 2-3 2 L .433 2-5 2 L .533 2-5 2 L .656 2-5 2 L .717	.20 .20 .60 4 5 4 L .320 2 -5 5 R .440 2 5 R .560	.20 .30 .50 2-3 2 L .333 2-5 2 1, .433 2-5 2 L .556 2	.10 .20 .70 4 5 4 1. .374 3 5 8 .467 2 5 8 .585 5	.10 .30 .60 2 3 2 L .340 2-3 2 L .420 2-5 2 L .553 2-1 .553 2-1 .640	.10 .40 .50 2-3 2 L .433 2-3 2 L .500 2 5 2 L .611 2-5 2 L	.20 .20 .60 4-5 4 L .320 3-5 5 R .400 2-5 5 R .506	20 30 50 2-3 2 L 333 2-3 2 L 400 2 5 L 511 2 5 2 L 588 2-5
Span-Feet	20 30 40	at ag ag GNEV GNEV GNEV GNEV GNEV GNEV	.10 .20 .70 .4-5 4 L .374 2-5 R .513 2-5 R .642 1-5 R .707 1-5 5	.10 .30 .60 2-3 2 L .340 2-5 2 L .460 2-5 2-5 2 L .607 2-5 2 L .607	$\begin{array}{c} .10\\ .40\\ .50\\ 2-3\\ 2\\ L\\ .433\\ 2-5\\ 2\\ L\\ .53\\ 2-5\\ 2\\ L\\ .656\\ 2-5\\ 2\\ L\\ .717\\ 2\\ .5\\ 2\\ \end{array}$.20 .20 .20 .60 4 5 4 L .320 2 -5 5 R .440 2 5 5 R .560 1 5 8 .620	.20 .30 .50 2-3 2 L .333 2-5 2 1 .433 2-5 2 L .556 2 5 2 L .617 1 5	.10 .20 .70 4 .5 4 L .374 3 .5 5 R .467 2 .5 5 R .585 2 .5 R .663 1 .5	.10 .30 .60 2 3 2 L .340 2-3 2 L .420 2-5 2 L .553 2-5 2 L .640 2-5 2	.10 .40 .50 2-3 2 L .433 2-5 2 L .500 2 5 2 L .611 2-5 2 L .625 2 L .625 2 L .625 2 L .625 2 L .635 2 L .645 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	.20 .20 .60 4-5 4 L .320 3-5 5 R .400 2-5 5 R .506 2-5 8 R .580	$\begin{array}{c} .20 \\ .30 \\ .50 \\ \hline .50 \\ 2-3 \\ 2 \\ L \\ .333 \\ \hline .20 \\ .333 \\ 2-3 \\ 2 \\ L \\ .511 \\ \hline .20 \\ .511 \\ \hline .20 \\ .583 \\ \hline .20 \\ .583 \\ \hline .20 \\ .$
Span-Feet	20 30	a ₁ a ₂ a ₃ GNEV GNEV GNEV GNEV G	.10 .20 .70 .70 .4-5 4 L .374 2-5 5 R .513 2-5 5 R .642 1-5 5 R .707	.10 .30 .60 2-3 2 L .340 2-5 2 L .460 2-5 2 L .607 2-5 2 L .607 2-5 2 R	.10 .40 .50 2-3 2 L .433 2-5 2 L .533 2-5 2 L .656 2-5 2 L .717	20 20 20 20 20 20 20 20 20 20 20 20 20 2	.20 .30 .50 .50 .50 .50 .50 .50 .50 .50 .50 .5	.10 .20 .70 4 5 4 L .374 3 - 5 5 R .467 2 - 5 5 R .5885 2 5 R .663 1 - 5 5 R	.10 .30 .60 2 3 2 L .340 2-3 2 L .420 2-5 2 L .553 2-1 .553 2-1 .640	.10 .40 .50 .50 .50 .50 .2 .433 .2 .500 .2 .500 .2 .5 .611 .2 .5 .611 .2 .683 .2 .2 .2 .2 .663 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2	.20 .20 .60 4-5 4 L .320 3-5 5 R .400 2-5 5 R .506 2-5 5 R	20 30 50 2-3 2 L 333 2-3 2 2 L 400 2 5 2 L 511 2 5 2 L 583 2-5 2 L
Span-Feet	20 30 40	at a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV	.10 .20 .70 .70 .70 .70 .70 .70 .70 .70 .70 .7	.10 .30 .60 2-3 2 L .340 2-5 2 L .607 2-5 2 L .680 1-5 R .736	.10 .40 .50 2-3 2 L .43 2-5 2 L .533 2-5 2 L .656 2-5 2 L .717 2 5 2 L .717 2 5 2 L	.20 .20 .20 .60 4 5 4 L .320 2 -5 5 R .440 2 5 8 R .560 1 5 8 R .620 1 -5 8 R .620	.20 .30 .50 .50 .50 .50 .50 .50 .50 .50 .50 .5	.10 .20 .70 4 .5 4 .1 3.74 3.5 5 .8 R.467 2.5 .5 R.585 .585 .585 .585 .587 .663 1.5 R.723	.10 .30 .60 2 3 2 L .340 2-3 2 L .420 2-5 2 L .553 2-5 2 L .640 2-5 2 L	.10 .40 .50 .50 .50 .50 .2 .4 .3 .2 .500 .2 .5 .500 .2 .5 .2 .1 .683 .2 .2 .4 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5	.20 .20 .20 .60 4-5 4 L .320 3-5 5 R .400 2-5 5 R .506 2-5 5 R .580 1-5 8	20 30 50 2-3 2 1 333 2-3 2 1 400 2 5 2 1 5 1 2 5 2 1 5 83 2-3 2 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1
Span-Feet	10 20 30 40	a1 a2 a3 GNEV GNEV GNEV GNEV GNEV	.10 .20 .70 .4-5 4 L .374 2-5 5 R .513 2-5 5 R .642 1-5 5 R .707 1-5 5 R .705 1-5 5 R	.10 .30 .60 2-3 2 1 .340 2-5 2 1 .460 2-5 2 1 .680 1 5 8 R .736	.10 .40 .50 2-3 2 L .433 2-5 2 L .533 2-5 2 L .656 2-5 2 L .717 2 5 2 L .753 2 2 L .753 2 2 L .753 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	20 20 20 60 4 5 4 L 320 2-5 5 R 440 2 5 8 8,560 1 5 8 620 1-5 5 8 8.696	.20 .30 .50 .50 .50 .50 .50 .50 .50 .50 .50 .5	.10 .20 .70 4 5 4 L .374 3 -5 5 R .467 2 - 5 5 R .588 2 5 8 R .663 1 - 5 5 R .723	.10 .30 .60 2 3 2 L .340 2-3 2 L .420 2-5 2 L .553 2-5 2 L .640 2-5 2 L .640 2-5 2 L	.10 .40 .50 .50 .50 .50 .2 .433 .2 .500 .2 .500 .2 .5 .2 .611 .2 .5 .2 .611 .2 .2	.20 .20 .20 .60 4-5 4 L .320 3-5 5 R .400 2-5 5 R .506 2-5 5 R .580 1-5 5 R	20 30 .50 2-3 2 L .333 2-3 2 L .400 2 5 2 L .511 2 -5 2 L .583 2-5 2 L .583 2-1 5-1 1 2-5 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Span-Feet	20 30 40	at a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV	.10 .20 .70 .70 .70 .70 .70 .70 .70 .70 .70 .7	.10 .30 .60 2-3 2 L .340 2-5 2 L .607 2-5 2 L .680 1-5 R .736	.10 .40 .50 2-3 2 L .43 2-5 2 L .533 2-5 2 L .656 2-5 2 L .717 2 5 2 L .717 2 5 2 L	.20 .20 .20 .60 4 5 4 L .320 2 -5 5 R .440 2 5 8 R .560 1 5 8 R .620 1 -5 8 R .620	.20 .30 .50 .50 .50 .50 .50 .50 .50 .50 .50 .5	.10 .20 .70 4 .5 4 .1 3.74 3.5 5 .8 R.467 2.5 .5 R.585 .585 .585 .585 .587 .663 1.5 R.723	.10 .30 .60 2 3 2 L .340 2-3 2 L .420 2-5 2 L .553 2-5 2 L .640 2-5 2 L	.10 .40 .50 .50 .50 .50 .2 .4 .3 .2 .500 .2 .5 .500 .2 .5 .2 .1 .683 .2 .2 .4 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5	.20 .20 .20 .60 4-5 4 L .320 3-5 5 R .400 2-5 5 R .506 2-5 5 R .580 1-5 8	20 30 50 2-3 2 1 333 2-3 2 1 400 2 5 2 1 5 1 2 5 2 1 5 83 2-3 2 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1
Span-Feet	10 20 30 40	a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV GNEV	.10 .20 .70 .4-5 .4 .4. .374 .2-5 .5 .8 .642 .1-5 .5 .8 .707 .707 .707 .707	.10 .30 .60 2-3 2 L .340 2-5 2 L .460 2-5 2 L .607 2-5 8 R .736 1-5 8 R .780 1.5	.10 .40 .50 2-3 2 L .433 2-5 2 L .5333 2-5 2 L .656 2-5 2 L .717 2 5 2 L .753 2 - 5 2 L .717 2 5 2 L .717 2 5 2 L .717 2 5 2 L .717 2 5 2 L .717 2 5 2 L .717 2 5 2 5 2 5 2 5 2 5 2 5 2 5 2 5 2 5 2 5	20 20 20 20 60 4 5 4 L 320 2 -5 5 R 440 2 5 8 8 .560 1 5 8 8 .620 1 -5 5 8 R .696	.20 .30 .50 2-3 2 L .3333 2-5 2 1,433 2-5 2 L .556 2 5 2 1,617 1-5 8 R .667 1-5 8	.10 .20 .70 4 5 4 L .374 3 -5 5 R .467 2 - 5 5 R .5885 2 5 8 R .663 1 - 5 5 R .723 1 - 5 8 R .723	.10 .30 .60 2 3 2 L .340 2-3 2 L .420 2-5 2 L .553 2-5 2 L .692 1-5 8 R .740	.10 .40 .50 2-3 2 L .433 2-3 2 L .500 2-5 2 L .611 2-5 2 L .683 2-5 2 L .727 2-5 2 L .727	.20 .20 .20 .60 4-5 4 L .320 3-5 5 R .400 2-5 5 R .506 2-5 5 R .580 1-5 5 R .580 1-5 5 R .707	20 30 .50 2-3 2 L .333 2-1 .400 2-5 2 L .511 2-5 2 L .583 2-5 2 L .583 2-5 2 L .627 1-5 6 8 8
Span-Feet	20 20 30 40 50	a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV GNEV	.10 .20 .70 .4-5 .4 .1 .374 .2-5 .8 .8.518 .2-5 .8 .642 .1-5 .8 .705 .7 .7 .7 .7 .7 .8 .8 .8 .7 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	.10 .30 .60 2-3 2 L .340 2-5 2 L .460 2-5 2 L .607 2-5 2 L .607 1-5 8 R .736 1-5 8 R .780	.10 .40 .50 2-3 2 L .433 2-5 2 L .656 2-5 2 L .717 2 5 2 L .778 2 -5 2 L .778	20 .20 .20 .20 .20 .20 .20 .20 .20 .20 .	.20 .30 .50 .50 .50 .50 .50 .50 .50 .50 .50 .5	.10 .20 .70 4 .5 4 L .374 3 .5 5 R .467 2 .5 5 R .585 2 5 R .663 1 .5 5 R .723 1 -5 5 R	.10 .30 .60 2 3 2 L .340 2-3 2 L .420 2-5 2 L .553 2-5 2 L .692 1-5 5 R .740	.10 .40 .50 2-3 2 L .433 2-3 2 L .500 2-5 2 L .611 2-5 2 L .683 2-5 2 L .727 2-5 2 L .727	.20 .20 .20 .60 4-5 4 L .320 3-5 5 R .400 2-5 5 R .580 1-5 8 R .648 1-5 5 R	20 30 .50 2-3 2 L .333 2-1 .400 2-5 2 L .511 2-5 2 L .583 2-5 2 L .583 2-5 2 L .627 1-5 6 8 8
Span-Feet	10 20 30 40	a ₁ a ₂ a ₃ G G N E V G N E V G N E V G N E V C R E V C R E V C R E V C R E V C R E V C R E V C R E V C R E R E R E R E R E R E R E R E R E R	.10 .20 .70 .4-5 .4 .4. .374 .2-5 .5 .8 .642 .1-5 .5 .8 .707 .707 .707 .707	.10 .30 .60 2-3 2 L .340 2-5 2 L .460 2-5 2 L .607 2-5 8 R .736 1-5 8 R .780 1.5	.10 .40 .50 2-3 2 L .433 2-5 2 L .5333 2-5 2 L .656 2-5 2 L .717 2 5 2 L .753 2 - 5 2 L .717 2 5 2 L .717 2 5 2 L .717 2 5 2 L .717 2 5 2 L .717 2 5 2 L .717 2 5 2 5 2 5 2 5 2 5 2 5 2 5 2 5 2 5 2 5	20 20 20 20 60 4 5 4 L 320 2 -5 5 R 440 2 5 8 8 .560 1 5 8 8 .620 1 -5 5 8 R .696	.20 .30 .50 2-3 2 L .3333 2-5 2 1,433 2-5 2 L .556 2 5 2 1,617 1-5 8 R .667 1-5 8	.10 .20 .70 4 5 4 L .374 3 -5 5 R .467 2 - 5 5 R .5885 2 5 8 R .663 1 - 5 5 R .723 1 - 5 8 R .723	.10 .30 .60 2 3 2 L .340 2-3 2 L .420 2-5 2 L .553 2-5 2 L .692 1-5 8 R .740	.10 .40 .50 2-3 2 L .43.3 2-8 2 L .500 2 5 2 L .611 2-5 2 L .683 2-5 2 L .727 2-5 2 L .756	.20 .20 .20 .60 4-5 4 L .320 3-5 5 R .400 2-5 5 R .506 2-5 5 R .580 1-5 5 R .580 1-5 5 R .707	20 30 .50 2-3 2 L .333 2-3 2 L .400 2 5 2 L .511 2 5 2 L .583 2-5 2 L .583 2-5 2 L .683 2-5 2 L .684 2-5 2 L .685 2-5 2 L .686 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5
Span-Feet	20 20 30 40 50	a ₁ a ₂ a ₃ G NEV GNEV GNEV GNEV GNEV GNEV GNEV GNE	.10 .20 .70 .4-5 .4 .1 .374 .2-5 .8 .818 .2-5 .8 .642 .1-5 .5 .8 .705 .1-5 .8 .804 .1-5 .8 .804 .1-5 .8 .804 .1-5 .8 .804 .1-5 .8 .804 .804 .804 .804 .804 .804 .804	.10 .30 .60 2-3 2 L .340 2-5 2-5 2 L .607 2-5 2 L .680 1-5 8 R .780 1-5 8 R .835 1-5	.10 .40 .50 2-3 2 L .43 2-5 2 L .533 2-5 2 L .656 2-5 2 L .717 2 5 2 L .717 2 5 2 L .718 1 5 8 R .817 1-5	.20 .20 .20 .20 .4 5 4 L .320 .325 5 R .440 2 5 5 R .560 1 5 5 R .620 1 -5 5 R .747 1 -5 8 R .747	.20 .30 .50 .50 .50 .50 .50 .50 .50 .50 .50 .5	.10 .20 .70 4 5 4 L .374 3 5 5 R .467 2 5 5 R .585 2 5 8 R .663 1 -5 5 R .723 1 -5 5 R .769 1 -5 5 R	.10 .30 .60 2 3 2 L .340 2-3 2 L .420 2-5 2 L .553 2-5 2 L .640 2-5 2 L .692 1-5 5 R .740 1-5 R .740	.10 .40 .50 .50 .50 .50 .50 .2 .1 .433 .2 .1 .500 .2 .5 .2 .1 .611 .2 .5 .2 .1 .611 .2 .5 .2 .1 .5 .2 .1 .5 .2 .1 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7 .7	.20 .20 .20 .60 4-5 4 L .320 3-5 5 R .400 2-5 5 R .506 2-5 8 R .580 1-5 5 R .707 1-5 8 R .780	20 30 30 50 2-3 2 1 33 2-3 2 1 400 2 5 2 1 511 2 5 2 1 583 2-5 2 1 588 2-5 7 8 8 7 8 7 8 8 7 8 8 8 8 8 8 8 8 8 8
Span-F	20 20 30 40 50	a ₁ a ₂ a ₃ G NEV G NEV G NEV G NEV G NEV C N	.10 .20 .70 .4-5 .4 .1 .374 .2-5 .5 .8 .642 .1-5 .5 .R .707 .707 .707 .705 .8 .705 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	.10 .30 .60 2-3 2 L .340 2-5 2 L .607 2-5 2 L .680 1-5 5 R .736 1-5 5 R .786 1-5 5 R .786	.10 .40 .50 2-3 2 L .433 2-5 2 L .656 2-5 2 L .753 2-5 2 L .753 2-5 2 L .753 2-5 2 L .753 2-5 2 L .757 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	20 .20 .20 .20 .20 .20 .20 .20 .20 .20 .	.20 .30 .50 2-3 2 L .3333 2-5 2 1,433 2-5 2 L .556 2 5 2 L .617 1 .5 5 R .667 1-5 5 R .792	.10 .20 .70 4 - 5 4 L .374 3 - 5 5 R .467 2 - 5 5 R .585 2 5 5 R .663 1 - 5 5 R .723 1 - 5 7 R .723	.10 .30 .60 2 3 2 L .340 2-3 2 L .420 2-5 2 L .553 2-5 2 L .640 2-5 2 L .692 1-5 8 R .740	.10 .40 .50 2-3 2 L .433 2-3 2-1 .500 2-5 2 L .611 2-5 2 L .727 2-5 2 L .727 2-5 2 L .727 2-5 2 L .727	.20 .20 .20 .60 4-5 4 L .320 3-5 5 R .400 2-5 5 R .506 2-5 5 R .580 1-5 8 R .648 1-5 8 R .787	20 30 350 2-3 2 L 3332 2-1 400 2-5 2 L 511 2-5 2 L 52 L 583 2-5 2 L 583 2-5 2 1 583 1-5 1 583 1-5 1 584 1-5 1 585 1-5 1 586 1-5 1 586 1-5 1 586 1-5 1 586 1-5 1 586 1-5 1 586 1-5 1 586 1-5 1 586 1-5 1 586 1-5 1 586 1-5 1 586 1-5 1 586 1-5 1 586 1-5 1 586 1-5 1 586 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

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	uck N		71 48	72 48	73 48	74 48	75 48	76	77 44	78 44	79 44	80
Ax	n. Bas	X X	20	20	20	20	20	20	20	20	20	20
	acing	χ̈́,	16	16	16	16	16	- 8	8	Я	8	8
Hi		C	8	8	8	8	8	12	12	12	12	12
Lo On		\mathbf{a}_1 \mathbf{a}_2	$.10 \\ .20$	$.10 \\ .30$	$.10 \\ .40$.20 .20	.20	.10 .20	.10 .30	.10 .40	.20 .20	.20 .30
Ax		a ₃	.70	.60	.50	.60	.50	.70	.60	.5ŏ	.60	.50
		G	4 -5	$^{2-3}_{2}$	23	4 5	$\frac{2-3}{2}$	4-5	4-5	2 2	45	2 2
	10	N E	$^4_{ m L}$	Ĺ	$^2_{ m L}$	4 L	Ĺ	$^4_{ m L}$	4 L	Ĺ	$^4_{ m L}$	Ĺ
		V	,374	.340	.433	.320	.333	.374	.320	.490	.320	.300
		$_{ m N}^{ m G}$	3 5 5	$\frac{2-3}{2}$	$_{2}^{-3}$	35 5	$_{2}^{2-3}$	35 5	$_{5}^{3-5}$	2-3 2	3–5 5	$_{2}^{-3}$
	20	E	R	L	\mathbf{L}	\mathbf{R}	L .400	R	$^{\mathrm{R}}$	L	\mathbf{R}	\mathbf{L}
		- <u>v</u> 	.420 2-5	$\frac{.420}{2-5}$	2.5	.360 2-5	$\frac{400}{2-5}$	$\frac{.513}{2-5}$	2-5	.467 2-5	$\frac{.440}{2-5}$	$\frac{.367}{2-5}$
		N	5	2	2	5	2	5	5	2	5	2
	30	E V	$^{ m R}_{.527}$	$_{.500}^{ m L}$	$_{.567}^{L}$	R . 453	$^{ m L}_{.467}$	R .615	$^{ m R}_{.553}$	$_{.589}^{ m L}$	$^{ m R}_{.533}$	$_{.489}^{ m L}$
		G	2 - 5	2-5	2-5	2 5	2-5	2-5	2-5	2-5	2-5	2-5
şct	40	$_{ m E}^{ m N}$	5 R	$_{ m L}^2$	2 L	5 R	$^2_{ m L}$	5 R	$_{ m R}^{5}$	2 L	5 R	$_{ m L}^2$
4		v	.620	.600	.650	.540	$.5\overline{50}$.687	.640	.667	.600	.567
Span-Feet		G	1 5 5	$^{2-5}_{2}$	$\frac{2-5}{2}$	15 5	$\frac{2-5}{2}$	1-5 5	1_{5}°	$\frac{2}{2}$ 5	1 - 5 5	1-5
SZ.	50	$_{ m E}^{ m N}$	\mathbf{R}	$\mathbf L$	L	\mathbf{R}	Ĺ	R	$^{5}_{ m R}$	L	\mathbf{R}	$\overset{5}{\mathrm{R}}$
		_ <u>V</u>	.680	.660	.700	.600	.600	.741	.704	.713	.664	.627
- 1		G N	15 5	1⊹5 -5	$rac{2}{2}$	$^{1-5}_{5}$	$^{1-5}_{5}$	15 5	$_{5}^{1-5}$	$\frac{2}{2}$	$_{5}^{1-5}$	$_{5}^{1-5}$
	60	\mathbf{E}	R	\mathbf{R}	${f L}$	\mathbf{R}	R	R .784	R	L	R	R
		- V G	.733 1-5	$\frac{.700}{1-5}$.733 2-5	.667 15	.633 15	1-5	.753 1 5	.744 1-5	.720 1· 5	$\frac{.689}{1-5}$
		N	5	5	2	5	5	5	5	5	5	5
	80	E V	R .800	R .775	L .775	$\frac{R}{.750}$	$^{ m R}_{.725}$	$^{ m R}_{.838}$	$^{ m R}_{.815}$	$^{ m R}_{.792}$	R .790	R .767
		G	1-5	1-5	1-5	1-5	15	1-5	1-5	1-5	1-5	1-5
	100	N E	$^{5}_{ m R}$	$^{5}_{ m R}$	$^{5}_{ m R}$	$\overset{5}{\mathrm{R}}$	5 R	$_{\mathbf{R}}^{5}$	$^{5}_{ m R}$	$^{5}_{ m R}$	$^{5}_{ m R}$	$\overset{5}{\mathrm{R}}$
		V	.840	.820	.800	.800	.780	.871	.852	.833	.832	.813
Tro												
	iek N	ο.	81	82	83	84	85	86	87	88	89	90
Wh	. Bas	e L	48	48	48	48	48	52	52	52	52	52
$\frac{\mathbf{W}\mathbf{h}}{\mathbf{A}\mathbf{x}}$	ı. Bası le	e L	48	48 20	48 20	48 	48	52 20	52 20	52 20	52 20	52 20
$\frac{\mathbf{W}\mathbf{h}}{\mathbf{A}\mathbf{x}}$	i. Bas le icing		48	48	48	48	48	52	52	52	52	52
Wh Ax Spa Hit Loa	le le cing ch	e L X X' C a ₁	48 20 12 12 .10	48 20 12 12 12 .10	48 20 12 12 12 .10	20 12 12 12 .20	20 12 12 .20	52 20 16 12 .10	52 20 16 12 .10	52 20 16 12 .10	52 20 16 12 .20	52 20 16 12 .20
Wh Ax Spa Hit Loa On	le le acing ch ad	e L X X' C a ₁ a ₂	48 20 12 12 12 .10 .20	48 20 12 12 .10 .30	48 20 12 12 12 .10 .40	20 12 12 12 .20 .20	48 20 12 12 .20 .30	52 20 16 12 .10 .20	52 20 16 12 .10 .30	52 20 16 12 .10 .40	52 20 16 12 .20 .20	52 20 16 12 .20 .30
Wh Ax Spa Hit Loa	le le acing ch ad	e L X X' C a ₁ a ₂ a ₃ G	48 20 12 12 .10 .20 .70 4-5	48 20 12 12 12 .10 .30 .60 4-5	48 20 12 12 12 .10 .40 .50	48 20 12 12 12 .20 .20 .60 4-5	48 20 12 12 .20 .30 .50	52 20 16 12 .10 .20 .70	52 20 16 12 .10 .30 .60 4–5	52 20 16 12 .10 .40 .50	52 20 16 12 .20 .20 .60 4-5	52 20 16 12 .20 .30 .50
Wh Ax Spa Hit Loa On	le le acing ch ad les	e L X X' C a ₁ a ₂ a ₃ G	48 20 12 12 .10 .20 .70 4-5 4	48 20 12 12 .10 .30 .60 4-5 4	48 20 12 12 .10 .40 .50	48 20 12 12 .20 .20 .60 4-5 4	48 20 12 12 12 .20 .30 .50	52 20 16 12 .10 .20 .70 4-5 4	52 20 16 12 .10 .30 .60 4–5	52 20 16 12 .10 .40 .50	52 20 16 12 .20 .20 .60 4–5	52 20 16 12 .20 .30 .50
Wh Ax Spa Hit Loa On	le le acing ch ad	e L X X' C a ₁ a ₂ a ₃ G N E V	48 20 12 12 .10 .20 .70 4-5 4 L	48 20 12 12 .10 .30 .60 4–5 4 L	48 20 12 12 .10 .40 .50 2 2 L	48 20 12 12 .20 .20 .60 4-5 4 L .320	48 20 12 12 .20 .30 .50 2 2 L .300	52 20 16 12 .10 .20 .70 45 4 I.	52 20 16 12 .10 .30 .60 4-5 4 L	52 20 16 12 .10 .40 .50 2 2 L	52 20 16 12 .20 .20 .60 4-5 4 L	52 20 16 12 .20 .30 .50 2 2 L .300
Wh Ax Spa Hit Loa On	le le acing ch ad les	e L X X' C a ₁ a ₂ a ₃ G N E V	48 20 12 12 .10 .20 .70 4-5 4 L .374	48 20 12 12 .10 .30 .60 4-5 4 L .320	48 20 12 12 .10 .40 .50 2 2 L .400 2 · 3	48 20 12 12 .20 .20 .60 4-5 4 L .320 3 5	48 20 12 12 .20 .30 .50 2 L .300 2-3	52 20 16 12 .10 .20 .70 4-5 4 1 .374 3 ·5	52 20 16 12 .10 .30 .60 4–5 4 L .320	52 20 16 12 .10 .40 .50 2 2 L .400 2-3	52 20 16 12 .20 .60 4-5 4 L .320 3-5	52 20 16 12 .20 .30 .50 2 2 L .300 2-3
Wh Ax Spa Hit Loa On	le le acing ch ad les	e L X X' C a ₁ a ₂ a ₃ G N E V G N E	48 20 12 12 10 .20 .70 4-5 4 L .374 3-5 R	48 20 12 12 .10 .30 .60 4–5 4 L .320 3–5 5 R	48 20 12 12 .10 .40 .50 2 2 L .400 2 - 3 L	48 20 12 12 20 20 60 4-5 4 L 320 3 5 5 R	48 20 12 12 .20 .30 .50 2 2 L .300 2-3 2 L	52 20 16 12 .10 .20 .70 4-5 4 1, .374 3 5 8	52 20 16 12 .10 .30 .60 4–5 4 L .320 2–3 2	52 20 16 12 .10 .40 .50 2 L .400 2-3 2 L	52 20 16 12 .20 .20 .60 4-5 4 L .320 3-5 5 R	52 20 16 12 .20 .30 .50 2 2 L .300 2-3 2 L
Wh Ax Spa Hit Loa On	le le acing ch ad les	e L X X, X' C a ₁ a ₂ a ₃ G N E V G N E	48 20 12 12 10 .20 .70 4-5 4 L .374 3-5 5 R	48 20 12 12 .10 .30 .60 4-5 4 L .320 3-5 5 R .400	48 20 12 12 .10 .40 .50 2 L .400 2 -3 2 L .467	48 20 12 12 .20 .20 .60 4-5 4 L .320 3 5 R .400	48 20 12 12 .20 .30 .50 2 L .300 2-3 L .367	52 20 16 12 .10 .20 .70 4-5 4 L .374 3-5 5 R	52 20 16 12 .10 .30 .60 4-5 4 L .320 2-3 2 L	52 20 16 12 .10 .40 .50 2 2 L .400 2–3 2 L .467	52 20 16 12 .20 .60 4-5 4 L .320 2-5 5 R	20 16 12 .20 .30 .50 2 2 L .300 2-8 2 L .367
Wh Ax Spa Hit Loa On	L. Bassle le acing ch ad les 10	e L X X' C a ₁ a ₂ a ₃ G N E V G N E	48 20 12 12 .10 .20 .70 4-5 4 L .374 3-5 R .467 2-5 5	48 20 12 12 .10 .30 .60 4-5 4 L .320 3-5 R .400 2-5 5	48 20 12 12 .10 .40 .50 2 L .40 2.3 2 L .40 .50	48 20 12 12 .20 .60 4-5 4 L .320 .320 .60 4-5 .820	48 20 12 12 .20 .30 .50 2 L .300 2–3 L .361 2–3 2–4 .365 2–5 2–5 2–5	52 20 16 12 .10 .20 .70 4-5 4 1, .374 3 5 8	52 20 16 12 .10 .30 .60 4–5 4 L .320 2–3 2 L .380 3–5 5	52 20 16 12 .10 .40 .50 2 2 L .400 2-3 2 L .467 2-4 2	52 20 16 12 .20 .20 .60 4-5 4 L .320 3-5 5 R .360 3-5 5	52 20 16 12 20 .30 .50 2 2 L .300 2-3 2 L .367 2-4
Wh Ax Spa Hit Loa On	le le acing ch ad les	e L	20 12 12 12 .10 .20 .70 4-5 4 L .374 3-5 5 R .467 2-6 5 R	48 20 12 10 .30 .60 4-5 4 L .320 3-5 5 R .400 2-5 8	48 20 12 110 .40 .50 2 2 L .400 2 · 3 2 L .467 2 - 5 2 L	48 20 12 12 .20 .20 .60 4-5 4 L .320 3 5 5 R .400 2-5 5 R	48 20 12 12 .20 .30 .50 2 L .300 2-3 2 L .367 2-5 2 L	52 20 16 12 .10 .20 .70 4-5 4 I .374 3 -5 5 R .420 3 5	52 20 16 12 .10 .30 .60 4-5 4 L .320 2-3 2 L .380 3-5 5 R	52 20 16 12 .10 .40 .50 2 2 L .400 2-3 2 L .467 2-4 2 L	52 20 16 12 .20 .20 .60 4-5 4 L 3-20 3-5 5 R .360	20 16 12 .30 .50 2 2 L .300 2–3 2 L .367 2–4 2
Wh Ax Spa Hit Loa On	L. Bassle le acing ch ad les 10	e L X X' C a ₁ a ₂ a ₃ G N E V G N E V G N	48 20 12 12 .10 .20 .70 4-5 4 L .374 3-5 R .467 2-5 5	48 20 12 12 .10 .30 .60 4-5 4 L .320 3-5 R .400 2-5 5	48 20 12 12 .10 .40 .50 2 L .40 2.3 2 L .40 .50	48 20 12 12 .20 .60 4-5 4 L .320 .320 .60 4-5 .820	48 20 12 12 .20 .30 .50 2 L .300 2–3 L .361 2–3 2–4 .365 2–5 2–5 2–5	52 20 16 12 .10 .20 .70 4-5 4 L J. 374 2 8 8 8 8 .420 3 5 5	52 20 16 12 .10 .30 .60 4-5 4 L .320 2-3 2 L .38 3-5 5 R R	52 20 16 12 .10 .40 .50 2 2 L .400 2-3 2 L .467 2-4 2	52 20 16 12 .20 .60 4-5 4 L .320 3-5 5 R .360 3-5 5 R .440	52 20 16 12 .30 .50 2 2 L .300 2-3 2 L .367 2-4 2 L .411
Write Axx Speed Hitt Loss On Axx	le Bassle acing chad les 10 20 30	e L X X' C a ₁ a ₂ a ₃ G N E V G N E V G N E V	48 20 12 12 .10 .20 .70 4-5 4 L .374 3-5 R .467 2-5 8 .558 2-5	48 20 12 12 .10 .30 .60 4-5 4 1 .320 3-5 5 R .400 2-5 5 R .487 2-5 5	48 20 12 12 .10 .40 .50 2 2 L .400 2-3 2 L .467 2-5 2 L .545 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-	48 20 12 12 .20 .20 .60 4-5 4 L .320 3 5 R .400 2-5 5 R .480 2-5 5	48 20 12 12 .20 .30 .50 2 2 L .300 2-3 2 L .367 2-5 2 L .445 2-5 2	52 20 16 12 .10 .20 .70 4-5 4 11 .374 3 5 5 R .420 3 5 R .513 2-5	52 20 16 12 .10 .30 .60 4–5 4 L .320 2–3 2 L .380 3–5 5 R .440 2–5 2	52 20 16 12 .10 .40 .50 2 2 L .400 2-3 2 L .467 2 -4 2 L .511 2-5 2	52 20 16 12 .20 .60 4-5 4 L .320 3-5 5 R .360 3-5 5 R .440 2-5	52 20 16 12 20 30 .50 2 2 L .300 2-3 2 L .367 2-4 2 L .411 2-5 2
Whax Specification of the spec	L. Bassle le acing ch ad les 10	e L X X Y C a1 a2 a3 G N E V G R E V R E V G R E V R E R E V R E R E R E R E R E R E	48 20 12 12 .10 .20 .70 .4-5 4 L .374 3-5 5 R .467 2-5 R .558 2-5	48 20 12 12 10 .30 .60 4-5 4 L .320 3-5 5 R .409 2-5 8 .487 2-5	48 20 12 11 .10 .40 .50 2 2 L .400 2 -3 2 L .467 2 -5 2 L .55 2 -	48 20 12 12 .20 .20 .60 4-5 4 L .320 3 5 5 R .400 2-5 8 .480 2-5	48 20 12 12 .20 .30 .50 2 2 L .300 2-3 2 L .367 2-5 2 L .445	52 20 16 12 .10 .20 .70 4-5 4 L .374 3-5 5 R .420 3 5 R .513	52 20 16 12 .10 .30 .60 4–5 4 L .320 2–3 2 L .380 3–5 5 R 440 2–5	52 20 16 12 .10 .40 .50 2 2 L .400 2-3 2 L .467 2 4 2 L .511 2-5	52 20 16 12 .20 .60 4-5 4 L .320 3-5 5 R .360 3-5 5 R	52 20 16 12 .20 .30 .50 .50 2 2 L .300 2–3 2 L .367 2–4 2 L .411 2–5
Whax Specification of the spec	le Bassle acing chad les 10 20 30	e L X X Y C a1 a2 a2 a3 G N E E V G N E E V G N E E V G N E E V G M E C T G	48 20 12 12 .10 .20 .70 4-5 4 L .374 3-5 5 R .467 2-5 5 R .558 2-5 R .643 1-5	48 20 12 .10 .30 .60 4–5 5 R .400 2–5 5 R .487 2–5 5 R .590 1–5	48 20 12 12 .10 .40 .50 2 2 L .400 2-3 2 L .467 2-5 2 L .545 2-5 2 L .545 2-5 2 L	48 20 12 12 .20 .60 4-5 4 L .320 3 5 5 R .400 2-5 5 R .480 2-5 5 R .560 1-5	48 20 12 12 .20 .30 .50 2 2 L .300 2–3 2 L .367 2–5 2 L .445 2–5 2 L .52 2 2 2 2 2 2 2 2 2 2 2 3 3 3 4 4 4 4 5 5 6 7 8 8 8 8 8 8 8 8 8 8 8 8 8	52 20 16 12 .10 .20 .70 4-5 4 1, .374 3 5 5 R .420 3 5 R .513 2-5 R .600 2 5	52 20 16 12 .10 .30 .60 4-5 4 L .320 2-3 2 L S80 3-5 5 R .440 2-5 L .540 2-5 L	52 20 16 12 .10 .40 .50 2 2 L .400 2-3 2 L .467 2 -4 2 L .511 2-5 2 L .511 2-5 2 2 L .55 2 2 1 .65 2 2 1 .65 2 2 1 2 3 3 4 3 4 3 5 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1	52 20 16 12 .20 .60 4-5 4 L .320 3-5 5 R .360 3-5 5 R .440 2-5 R .520 2-5	52 20 16 12 .20 .30 .50 2 2 L .300 2–3 2 L .367 2–4 2 L .411 2–5 2 .50 .50 .50 .50 .50 .50 .50 .50
Whax Specification of the spec	le Bassle acing chad les 10 20 30	e L X X C a ₁ a ₂ a ₃ G N E V G N E V G N E V C N E V C C C N E V C C C C C C C C C C C C C C C C C C	48 20 12 12 .10 .20 .70 4-5 4 L .374 5 8 .467 2-5 5 R .55 8 8 .55 8 .643	48 20 12 12 10 .30 .60 4-5 4 L .320 3-5 5 R .400 2-5 5 R .487 .487 .487	48 20 12 12 12 .10 .40 .50 2 L .400 2-2 L .407 2-5 2 L .467 2-5 2 L .563	48 20 12 12 .20 .60 4-5 4 L .320 .60 4-5 7 8 .400 2-5 5 R .400 2-5 8 .400 2-5 8 .400 2-5 8 .400 2-5 8 .400 2-5 8 .400 2-5 8 .400 2-5 8 .400 2-5 8 .400 2-5 8 .400 2-5 8 .400 2-5 8 .400 2-5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	48 20 12 12 12 .30 .50 2 2 L .300 .50 2 2 L .367 2-3 2 L .367 2-5 2 L .445 2-5 2 L .533	52 20 16 12 .10 .20 .70 4-5 4 L .374 4-5 8 5 R .420 3 5 5 R .51 8 .52 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	52 20 16 12 .10 .30 .60 4-5 4 L .320 2-3 2 L .380 3-5 5 R .440 2-5 2 L .540	52 20 16 12 .10 .40 .50 2 2 L .400 2-3 2 L .467 2-4 2 2 L .51 2-1 2 L .52 2 L .53 2 L .54 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	52 20 16 12 .20 .20 .60 4-5 4 L .320 .60 3-5 5 R .360 3-5 5 R .440 2-5 8 .44 2-5 8 .45 8 .45 8 .45 8 .45 8 .45 8 .45 8 .45 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	52 20 16 12 .20 .30 .50 2 2 L .300 2–3 2 L .367 2–4 2 L .411 2–5 2 .50 .50 .50 .50 .50 .50 .50 .50
Write Axx Speed Hitt Loss On Axx	i. Basile leacing ch ad les 10 20 30 40	e L	48 20 12 12 .10 .20 .70 4-5 4 L .374 3-5 8 .467 2-5 5 R .558 2-5 8 .648 1-5 8 .649	48 20 12 12 .10 .60 4-5 4 1 .320 3-5 5 R 400 2-5 5 R .487 2-5 5 R .59 .60	48 20 12 12 .10 .40 .50 2 2 L .400 2 .3 2 L .467 2-5 2 L .545 2-5 2 L .545 2-5 2 L .545 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-	48 20 12 12 .20 .60 4-5 4 L .320 3-5 5 R .400 2-5 5 R .480 2-5 5 R .560 1-5 8 .60 1-5 8 .60 1-60	48 20 12 12 .20 .30 .50 2 2 L .300 2–3 2 L .367 2–5 2 L .445 2–5 2 L .53 2 L .54 2 L .55 2 L .56 2 2 L .56 2 2 L .56 2 2 L .56 2 2 L .56 2 2 L .56 2 2 L .56 2 2 L .56 2 2 L .56 2 2 L .56 2 2 L .56 2 2 L .56 2 2 L .56 2 2 L .56 2 2 L .56 2 L .56 2 2 L .56 2 2 L .56 2 2 L .56 2 .56 2 2 2 L .56 2 2 2 2 2 2 2 2 2 2 2 2 2	52 20 16 12 .10 .20 .70 4-5 4 11 .374 3-5 5 R .420 3-5 5 R .513 2-5 8 R .600	52 20 16 12 .10 .30 .60 4-5 4 L .320 2-3 2 L S80 3-5 5 R .440 2-5 2 L .540 2-5 2 L .540 2-5 2 L .540 2-5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	52 20 16 12 .10 .40 .50 2 2 L .400 2-3 2 L .467 2 -4 2 L .511 2-5 2 L .511 2-5 2 L .511 2-5 2 L .52 2 L .53 2 L .54 2 L .55 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	52 20 16 12 .20 .60 4-5 4 L .320 3-5 5 R .360 3-5 5 R .440 2-5 R .520 .520 .60 2-5 5 R .440 2-5 8 R .540 2-5 8 R .540 2-5 8 R .540 2-5 8 R .540 2-5 8 R .540 2-5 8 R .540 2-5 8 R .540 2-5 8 R .540 2-5 8 R .540 2-5 8 R .540 2-5 8 R .540 2-5 8 R .540 2-5 8 R .540 2-5 8 R .540 2-5 8 R .540 2-5 8 R .540 2-5 8 R .540 2-5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	52 20 16 12 .20 .30 .50 2 2 L .300 2–3 2 L .367 2–4 2 L .411 2–5 2 L .50 2–2 L .50 2–2 L .50 2–2 L .50 2–2 L .50 .50 .50 .50 .50 .50 .50 .50
Whax Specification of the spec	i. Basile leacing ch ad les 10 20 30 40	c L	48 20 12 .10 .20 .70 4-5 4 L .374 4-5 5 R .467 2-5 5 R .558 8 .643 1-5 5 R	48 20 12 12 13 .10 .60 4-5 4 L .320 2-5 5 R .400 2-5 5 R .487 2-5 5 R .590 1-5 8 .60 1-5 8 .60 1-7 8 8 8 8 8 8 8 8 8 8 8 8 8	48 20 10 112 112 1.0 40 .50 2 2 L .40 23 2 L .467 25 2 L .633 25 2 L .687 25 2 L .687	48 20 12 12 12 20 .60 4-5 4 L .320 .60 4-5 R .400 2-5 5 R .400 2-5 5 R .400 1-5 8 .60 .60 .60 .60 .60 .60 .60 .60	48 20 12 12 20 .30 .50 2 2 L .300 2-3 2 2 L .367 2-5 2 2 L .5533 2-5 2 L .533 2-5 2 L .545 2-5 2 1 L .555 2-7 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	52 20 16 12 .10 .20 .70 4-5 4 I. .374 8 .420 3 5 8 R .420 2 5 R .600 2 5 R	52 20 16 12 .10 .30 .60 4-5 4 L .320 2-3 2 L .380 3-5 5 R .440 2-5 2 L .540 2-6 2 L .540 2-6 1 L .540 2-7 1 L .540 2-7 1 L .540 2-7 1 L .540 2-7 1 L .540 2-7 1 L .540 2-7 1 L .540 2-7 1 L .540 2-7 1 1 L .540 2-7 1 L .540 2-7 1 L .540 2-7 1 L .540 2-7 1 2 1 2 1 2-7 1 2 1 2-7 1 2 1 2 1 2 1 2 1 2 1 2 1 1 2 1 2 1	52 20 16 12 .10 .40 .50 2 2 L .400 2-3 2 L .467 2-4 2 L .51 2-5 2 L .600 2-5 2 L	52 20 16 12 .20 .60 4-5 4 L .320 3-5 5 R .360 3-5 5 R .440 2-5 5 R .520 2-5 5 R	52 20 16 12 .20 .50 .50 2 2 2 L .300 .50 2-3 2 L .367 2-4 2 L .411 2-5 2 L .500 2-5 2-5 L .500 2-5
Whax Specification of the spec	i. Basile leacing ch ad les 10 20 30 40	C L X X Y C a1 a2 a3 G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE C T	48 20 12 12 .10 .20 .70 4-5 4 L .374 3-5 R .467 2-5 5 R .558 2-5 5 R .643 1-5 5 R	48 20 12 12 .10 .30 .60 4-5 4 L .320 3-5 5 R 400 2-5 5 R .487 2-5 5 R .59 .60 1-5 8 .60 1-5 8 .60 1-5 8 .60 1-5 8 .60 1-5 8 .60 1-5 8 .60 1-5 8 .60 1-5 8 .60 1-5 8 .60 1-5 8 .60 1-5 8 .60 1-5 8 .60 1-5 8 .60 1-5 8 .60 1-5 8 .60 .60 .60 .60 .60 .60 .60 .60	48 20 12 12 .10 .40 .50 2 2 L .400 2 .3 2 L .467 2-5 2 L .545 2-5 2 L .683 2-5 2 L .687 2-5 2 L	48 20 12 12 .20 .60 4-5 4 L .320 3 5 5 R .400 2-5 5 R .480 2-5 5 R .56 1-5 8 .616 1-5 8	48 20 12 12 .20 .30 .50 2 L .300 2–3 2 L .367 2–5 2 L .445 2–5 2 L .587 1–5 5 R	52 20 16 12 .10 .20 .70 4-5 4 I. .374 3 5 5 R .420 3 5 5 R .513 2 -5 5 R .660 1-5 5 R	52 20 16 12 .10 .30 .60 4-5 4 L .320 2-3 2 L L So 80 3-5 5 8 R .440 2-5 2 L L .540 2-5 2 L L .550 2-5 1 L L .550 2-5 1 L L L L L L L L L L L L L L L L L L	52 20 16 12 .10 .40 .50 2 2 L .400 2-3 2 L .467 2-4 2 L .511 2-5 2 L .660 2-5 2 L	52 20 16 12 .20 .60 4-5 4 L .320 3-5 5 R .360 3-5 5 R .440 2-5 8 R .526 5 R .576	52 20 16 12 .20 .30 .50 2 2 L .300 2–3 2 L .367 2–4 2 L .411 2–5 L .500 2–5 2 L .500 2–1 .500 .5
Whax Specification of the spec	n. Bas. le accing ch ad less 10 20 30 40 50	c L X X Y C a1 a2 a3 G NE V G NE V G NE V G NE V C G NE V V V G NE V V V G NE V V V V V V V V V V V V V V V V V V	48 20 12 12 .10 .70 4-5 4 L .37-4 3-5 R .467 2-5 5 R .558 R .643 1-5 5 R .643 1-5 5 R .749	48 20 12 12 13 .60 4-5 4 L .320 3-5 5 R .400 2-5 5 R .487 2-5 5 R .590 1-5 8 R .590 1-5 8 R .713	48 20 10 112 112 1.10 .40 .50 2 L .40 23 2 L .467 25 2 L .545 2-5 2 L .633 2-5 2 L .687 2-5 2 L .687	48 20 12 12 12 20 .60 4-5 4 L .320 .60 4-5 R .400 2-5 R .400 2-5 R .400 2-5 R .400 1-5 R .400 R .400	48 20 12 .20 .30 .50 2 2 L .367 2 -5 2 L .445 2 -5 2 L .533 2 -5 2 L .533 2 -5 2 L .535 2 L .555	52 20 16 12 .10 .20 .70 4-5 4 L .374 4-5 8 .420 3 · 5 8 R .420 2 · 5 8 R .600 2 · 5 R .600 1 · 5 R	52 20 16 12 .10 .30 .60 4-5 4 L .320 2-3 2 L .380 3-5 5 R R .440 2-5 2 L .540 2-5 2 L .540 2-5 2 L .540 2-5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	52 20 16 12 .10 .40 .50 2 2 L .400 2-3 2 L .467 2-4 2 L .511 2-5 2 L .600 2-5 2 L .600 2-5 2 L .700 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .500 2-5 2 L .600 2-5 2 L .600 2-5 2 L .600 2-5 2 L .600 2-5 2 L .600 2-5 2 L .600 2-5 2 L .600 2-5 2 L .600 2-5 2 L .600 2-5 2 L .600 2-5 2 L .600 2-5 2 L .600 2-5 2 L .600 2-5 2 L .600 2-5 2 L .600 2-5 2 L .600 2-5 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	52 20 16 12 .20 .60 4-5 4 L .320 .60 3-5 5 R .360 3-5 5 R .440 2-5 5 R .520 2-5 5 R	52 20 16 12 .20 .30 .50 2 2 2 L .300 2–3 2 L .367 2–4 2 L .500 2–5 2 L .500 2–1 .500 .500 2–1 .500 .50
Whax Specification of the spec	1. Bas le le accing ch le le le le le le le le le le le le le	c L X X C a1 a2 a3 G N E V E V G N E V E V E V E V E V E V E V E V E V E	48 20 12 12 .10 .20 .70 4-5 4 L .374 3-5 R .467 2-5 5 R .558 2-5 5 R .643 1-5 5 R .699 1-5 8 R .749 1-5 8 1-5 8	48 200 12 12 13 .30 .60 4-5 4 L .320 3-5 5 R .400 2-5 5 R .487 2-5 5 R .590 1-5 5 R .713 1-5 5 8 .713	48 20 12 12 10 40 .50 2 2 L .407 2-3 2 L .467 2-5 2 L .545 2-5 2 L .633 2-5 2 L .633 2-5 2 L .633 2-5 2 L .633 2-5 2 L .634 .635	48 20 12 12 20 .60 4-5 4 L .320 .60 4-5 R .400 2-5 5 R .480 2-5 5 R .480 1-5 5 R .660 1-5 8 .660 1-	48 20 12 12 12 20 .30 .50 2 2 L .367 2-5 2 L .588 2-5 2 L .588 2-5 2 L .588 2-5 2 L .588 2-5 2 L .588 2-5 2 L .588 2-5 2 L .588 2-5 2 L .588 2-5 2-5 2 L .588 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	52 20 16 12 .10 .20 .20 .70 4-5 4 I. .374 4-5 5 8 .420 3 5 7 8 .420 2 5 8 .660 2 5 8 .660 1-5 5 R .660 1-5 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	52 20 16 12 .10 .30 .60 4–5 4 L .320 2–3 2 L .380 3–5 5 R 440 2–5 2 L .540 2–5 2 L .540 1–5 5 R	52 20 16 12 .10 .40 .50 2 2 L .400 2-3 2 L .511 2-5 2 L .511 2-5 2 L .660 2-5 2 L .660 2-5 2 L	52 20 16 12 .20 .60 4-5 4 L .320 3-5 5 R .360 3-5 5 R .440 2-5 8 R .576 1-5 8 R .576 1-5 8 R	52 20 16 12 .20 .30 .50 2 2 2 L .300 .50 2-3 2 L .367 2-4 2 L .411 2-5 2 L .500 2-8 2 L .500 2-1 .500 -
Whax Specification of the spec	n. Bas. le accing ch ad less 10 20 30 40 50	C L X X Y C a1 a2 a3 G N E V G	48 20 12 12 .10 .20 .70 4-5 4 L .374 3-5 5 R .467 2-5 5 R .643 1-5 5 R .649 1-5 8 .749 1-5 8	48 20 12 12 13 .60 4-5 4 L .320 3-5 5 R .400 2-5 5 R .487 2-5 5 R .590 1-5 8 .656 1-5 8 .713 1-5 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-	48 20 10 112 112 110 140 150 2 2 1 140 20 2 1 140 20 2 1 140 20 2 1 140 20 20 20 20 20 20 20 20 20 20 20 20 20	48 20 12 12 12 20 .60 4-5 4 L .320 .60 4-5 R .400 2-5 5 R .480 2-5 5 R .560 1-5 5 R .616 1-5 8 .616 .617	48 20 12 12 .20 .50 .50 2 L .300 .50 2-3 2 L .367 2-5 2 L .587 1-5 .587 1-5 .644 1-5 .644	52 20 16 12 .10 .20 .70 4-5 4-5 5 8 .420 3 5 5 R .513 2 -5 5 R .600 2 5 R .660 1 -5 5 R	52 20 16 12 .10 .30 .60 4-5 4-5 1 L .380 3-5 5 8 R .440 2-5 2 L .540 2-5 2 L .612 2-5 2 1 .612 1-5 5 8 8 8 8	52 20 16 12 .10 .40 .50 2 2 L .400 2-3 2 L .467 2 4 2 L .511 2-5 2 L .600 2-5 2 L .700 2-5 2 L	52 20 16 12 .20 .20 .60 4-5 4 L .320 3-5 5 R .360 3-5 5 R .440 2-5 5 R .520 2-5 8 R .576 1-5 5 R	52 20 16 12 20 .30 .50 2 2 L .300 2–3 2 L .367 2–4 2 L .411 2–5 2 L .500 2–5 2 L .367 2–4 2 L .500 2–5 1 .500 2–5 1 .500 2–5 1 .500 2–5 1 .500 2–5 1 .500 2–5 1 .500 2–5 1 .500 2–5 1 .500 2–5 1 .500 2–5 1 .500 2–5 1 .500 2–5 1 .500 2–5 1 .500 2–5 .500
Whax Specification of the spec	1. Bas le le accing ch le le le le le le le le le le le le le	c L X X C a1 a2 a3 G N E V G N E N	48 20 12 12 .10 .20 .70 4-5 4 L .37-6 5 R .467 2-5 5 R .558 R .643 1-5 5 R .643 1-5 5 R .643 1-5 8 .643 1-5 8 .644 .645	48 20 12 12 13 .60 4-5 4 L .320 2-5 5 R .400 2-5 5 R .487 2-5 5 R .590 1-5 5 R .60 1-5 8 .713 1-5 8 8 .713 1-5 8 8 .713 1-5 8 8 .713 1-5 8 8 .713 1-5 8 8 .713 1-5 8 8 .713 1-5 8 8 .713 1-5 8 .713	48 200 12 12 12 10 40 .50 2 L .40 .2-3 2 L .467 2-5 2 L .545 2-5 2 L .633 2-5 2 L .722 2-5 2 L .725 2 L .71 1-5	48 20 12 12 12 20 .60 4-5 4 L .320 3 5 5 R .400 2-5 5 R .480 2-5 5 R .666 1-5 5 R .616 1-5 7 8 8 8 8 8 8 8 8 8 8 8 8 8	48 20 12 12 12 20 30 .50 2 2 L .367 2-5 2 L .583 2-5 2 L .583 2-5 2 L .583 2-5 2 L .583 2-5 2 L .585 2-5 2 L .585 2-5 2 L .586 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	52 20 16 12 .10 .20 .70 4-5 4 I. .374 420 3 · 5 8 .420 2 · 5 8 .600 2 · 5 R .600 2 · 5 R .713 1 · 5 R	52 20 16 12 .10 .30 .60 4-5 4 L .320 2-3 2 L .380 3-5 5 R .440 2-5 2 L .540 2-5 2 L .540 2-5 2 L .540 2-5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	52 20 16 12 .10 .40 .50 2 2 L .40 2-3 2 L .467 2-4 2 L .511 2-5 2 L .600 2-5 2 L .700 2-5 2 L	52 20 16 12 .20 .60 4-5 4 L .320 3-5 5 R .360 3-5 5 R .440 2-5 5 R .520 2-5 5 R .520 1-5 5 R .520 1-5 5 R .520 1-5 8 8 8 R .520 1-5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	52 20 16 12 20 300 2-3 2 L 300 2-3 2 L 367 2-4 2 L 411 2-5 2 L 500 2-8 2 L 367 2-4 2 L 411 2-5 2 L 500 2-5 1 1 1 1 1 1 1 1 1 1 1 1 1
Whax Specification of the spec	1. Bas-le le le le le le le le le le le le le l	C L XX C a1 A2 A3 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	48 20 12 12 .10 .20 .70 4-5 4 L .374 3-5 5 R .467 2-6 5 R .558 2-5 5 R .643 1-5 5 R .649 1-5 8 .749 1-5 8 1-5 8 .749 1-5 8 .749 1-5 8 .749 1-5 8 .749 1-5 8	48 20 12 12 .10 .30 .60 4-5 4 1 .320 3-5 5 R .400 2-5 5 R .487 2-5 5 R .656 1-5 8 .713 1-5 5 R .713 1-5 5 8 .713 1-5 5 8 .713 1-5 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .713 1-5 8 .7	48 20 12 12 .10 .40 .50 2 L .400 2-3 2 L .467 2-5 2 L .633 2-5 2 L .687 2-5 2 L .722 2-5 2 L .767	48 20 12 12 12 20 .60 4-5 4 L .320 .60 4-5 5 R .400 2-5 5 R .480 2-5 5 R .616 1-5 5 R .616 1-5 5 R .616 1-5 5 8 .616 1-5 8 .616 .617	48 20 12 12 .20 .30 .50 2 L .300 2-3 2 L .367 2-5 2 L .587 1-5 8 R .738 1-5 8 .738	52 20 16 12 .10 .20 .70 4-5 4 4 1 3-5 5 8 .420 3-5 5 R .513 2-5 5 R .660 1-5 R .713 1-5 8 R .713 1-5 8 R .713 1-5 8 R .714 1-5 8 R .715 1-5 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 1-5 8 R .715 1-5 8 8 R .715 1-5 8 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 1-5 8 R .715 8 R .715 1-5 8 R .715 1-5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	52 20 16 12 .10 .30 .60 4-5 4 L .320 2-3 2 L .380 3-5 5 R .440 2-5 2 L .540 2-5 2 L .612 1-5 8 R .673 1-5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	52 20 16 12 .10 .40 .50 2 2 L .400 2-3 2 L .511 2-5 2 L .600 2-5 2 L .600 2-5 2 L .750	52 20 16 12 .20 .20 .60 4-5 4 L .320 3-5 5 R .360 3-5 5 R .440 2-5 5 R .520 2-5 5 R .576 1-5 5 R	52 20 16 12 20 30 300 2-3 2 L 300 2-3 2 L 411 2-5 2 L 560 2-5 2 L 500 2-8 2 L 411 2-5 2 L 500 300 300 300 300 300 300 300
Whax Specification of the spec	1. Bas le le accing ch le le le le le le le le le le le le le	c L X X C a1 a2 a3 G N E V G N E N	48 20 12 12 .10 .20 .70 4-5 4 L .37-6 5 R .467 2-5 5 R .558 R .643 1-5 5 R .643 1-5 5 R .643 1-5 8 .643 1-5 8 .644 .645	48 20 12 12 13 .60 4-5 4 L .320 2-5 5 R .400 2-5 5 R .487 2-5 5 R .590 1-5 5 R .60 1-5 8 .713 1-5 8 8 .713 1-5 8 8 .713 1-5 8 8 .713 1-5 8 8 .713 1-5 8 8 .713 1-5 8 8 .713 1-5 8 8 .713 1-5 8 .713	48 200 12 12 12 10 40 .50 2 L .40 .2-3 2 L .467 2-5 2 L .545 2-5 2 L .633 2-5 2 L .722 2-5 2 L .725 2 L .71 1-5	48 20 12 12 12 20 .60 4-5 4 L .320 3 5 5 R .400 2-5 5 R .480 2-5 5 R .666 1-5 5 R .616 1-5 7 8 8 8 8 8 8 8 8 8 8 8 8 8	48 20 12 12 12 20 30 .50 2 2 L .367 2-5 2 L .583 2-5 2 L .583 2-5 2 L .583 2-5 2 L .583 2-5 2 L .585 2-5 2 L .585 2-5 2 L .586 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	52 20 16 12 .10 .20 .70 4-5 4 I. .374 420 3 · 5 8 .420 2 · 5 8 .600 2 · 5 R .600 2 · 5 R .713 1 · 5 R	52 20 16 12 .10 .30 .60 4-5 4 L .320 2-3 2 L .380 3-5 5 R .440 2-5 2 L .540 2-5 2 L .540 2-5 2 L .540 2-5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	52 20 16 12 .10 .40 .50 2 2 L .40 2-3 2 L .467 2-4 2 L .511 2-5 2 L .600 2-5 2 L .700 2-5 2 L	52 20 16 12 .20 .60 4-5 4 L .320 3-5 5 R .360 3-5 5 R .440 2-5 5 R .520 2-5 5 R .520 1-5 5 R .520 1-5 5 R .520 1-5 8 8 8 R .520 1-5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	52 20 16 12 20 300 2-3 2 L 300 2-3 2 L 367 2-4 2 L 411 2-5 2 L 500 2-8 2 L 367 2-4 2 L 411 2-5 2 L 500 2-5 1 1 1 1 1 1 1 1 1 1 1 1 1

TABLE 7.11

CONTROLLING CONDITIONS AND MAXIMUM SHEARS IN SIMPLE SPANS PRODUCED BY THE TYPE 3-2 TRUCKS WEIGHING ONE KIP EACH



Ninety variations in the Type 3-2 truck are given in this table. Each truck number, from 1 to 90, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight on each axle.

Tr	ıck N	0.	1	2	3	4	5	6	7	8	9	10
W	ı. Bas	e L	36	36	36	36	36	40	40	40	40	40
Ax Spa	le icing	X X'	12 12	12 12	12 12	12 12	12 12	12 16	12 16	12 16	12 16	12 16
Hit	ch	C	- 8	8	8	×	8		8	×	8	8
Los On Ax		a ₁ a ₂ a ₃	.10 .40 .50	.10 .50 .40	.10 .60 .30	.20 .40 .40	.20 .50 .30	.10 $.40$ $.50$.10 .50 .40	.10 .60 .30	.20 .40 .40	.20 .50 .30
	10	G N E V	2-3 2 L .320	2-3 2 L .400	2-3 2 L .480	2 3 2 L .320	2-3 2 L .400	2 3 2 L .320	2 3 2 L .400	2-3 2 L .480	2-3 2 L .320	2-3 2 L .400
	20	G N E V	2-4 2 L .460	2-4 2 L .530	2-4 2 L .600	2-4 2 L .440	2 4 2 L .510	2- 4 2 L .460	2-4 2 L .530	2 4 2 L .600	2-4 2 L .440	2-4 2 L .510
	30	G N E V	$^{2-5}_{\ \ L}_{\ \ .573}$	2-5 2 L .626	$^{2-5}_{\ \ \text{L}}_{.680}$	25 2 L .534	2-5 2 1 .586	2 5 2 L .540	2-5 2 L .600	2-5 2 L .660	1 4 4 R .506	2 5 2 L 566
Feet	40	G N E V	2-5 2 L .655	2-5 2 L .695	2-5 2 L .735	2-5 2 L .600	2-5 2 L .640	2 5 2 L .630	2-5 2 L .675	25 2 1, .720	2 5 2 L .580	2 5 L 625
Span-Feet	50	G N E V	2-5 2 I .704	2-5 2 L .736	2 5 2 L .768	1 5 1 L .648	1 5 1 L .689	2 5 2 L .684	2-5 2 L .720	2 5 2 L .756	1-5 1 L .632	1 5 1 L .668
	60	G N E V	1-5 5 R .743	2-5 2 L .763	2 5 2 L .790	1 5 1 L .707	1 -5 1 L .733	2 5 1 .720	2-5 2 1. .750	2 5 2 L .780	1-5 1 L .693	1-5 1 L 723
	80	G N E V	1–5 5 R .808	2-5 2 L .797	2-5 2 L .817	1 5 1 L .780	1 5 1 L .800	1-5 5 R .770	2 -5 2 L .788	2 5 2 L .810	1-5 1 L .770	15 1 L .793
	100	G N E V	1 5 5 R .846	1 5 5 R .830	2-5 2 L .834	1-5 1 L .824	1-5 1 L .840	1-5 5 R .816	2 5 2 L .810	2 5 2 L .828	1-5 1 L .816	1 5 1 L .834

a1, a2, and a3-Represent the ratio of gross vehicle weight on axles.

G--Axle group causing maximum shear, thus, 1-3 means axles 1, 2, and 3.

N-Number of critical axle under which maximum shear occurs.

E End of span at which critical axle is placed.

V-Maximum shear.

88 METHOD OF CONVERTING HEAVY MOTOR VEHICLE LOADS TABLE 7.11 (Continued)

			(Continue									
	uck N		11	12	13	14	15	16	17	18	19	20
Ax		e L X	$\frac{44}{12}$	$-\frac{44}{12}$	12	- 44 12	12	12	12	$\frac{40}{12}$	12	12
	acing	χ,	20	20	20	20	20	12	12	12	12	12
Hit		C	8	8	8	8	8	12	12	12	12	12
Loa	ad	a ₁	.10 .40	.10 .50	$.10 \\ .60$.20 .40	$.20 \\ .50$.10	.10 $.50$.10 .60	.20 .40	.20 .50
Ax	les	\mathbf{a}_3	.50	.40	.30	.40	.30	.50	.40	.30	.40	.30
		G	2-3	2_3	2-3	2-3	2-3	2 3	2 3	2-3	23	2-3
	10	$_{ m E}^{ m N}$	2 L	$^2_{ m L}$	$^2_{f L}$	$^2_{ m L}$	$^2_{ m L}$	$^2_{ m L}$	$^2_{ m L}$	$^2_{ m L}$	$^2_{f L}$	$^2_{f L}$
		v	.320	.400	.480	.320	.400	.320	.400	.480	.320	.400
		G N	$\frac{2-4}{2}$	2 4 2	$\frac{2-4}{2}$	2-4 2	$egin{smallmatrix} 2 & 4 \ 2 \end{matrix}$	$\frac{2-4}{2}$	$\frac{2-4}{2}$	$\frac{2-4}{2}$	$\frac{2\mathbf{-4}}{2}$	$^{1-3}_3$
	20	\mathbf{E}	L	Ĺ	Ĺ	Ĺ	Ĺ	Ĺ	L	Ĺ	Ĺ	\mathbf{R}
		V	.460	.530	.600	.440	.510	.410	.490	.570	.400	.490
		G N	1 4 4	2-4 2	$\frac{2-4}{2}$	$^{1-4}_{4}$	$\frac{1-3}{3}$	2-5	$^{2-5}_2$	$\frac{2}{2}5$	$^{2-5}_2$	$^{1-3}_{3}$
	30	\mathbf{E}	R	L	L	R	R	$^2_{ m L}$	\mathbf{L}	L	\mathbf{L}	\mathbf{R}
		V	.537	587	.650	.506	.560	.507	.573	.640	.480	.560
ľ		G N	2-5 2	$^{2-5}_{2}$	$\frac{2-5}{2}$	1 4 4	$\frac{2-5}{2}$	$\begin{smallmatrix}2&5\\2\end{smallmatrix}$	$\frac{2-5}{2}$	$\frac{2}{2}$	$\begin{smallmatrix}2&5\\&2\end{smallmatrix}$	2-5 2
eet	40	\mathbf{E}	\mathbf{L}	L	L	\mathbf{R}	L	L	$_{ m L}$	L	L	L
Span-Feet		V G	.605 2-5	.655 2 · 5	.705 2 5	1.4	1 5	2-5	2-5	.705 2 5	1.5	$\frac{.610}{1-5}$
par		N	2	2	2	4	1	2 2 L	2	2	1	1
SZ.	50	$_{ m V}^{ m E}$	$_{.664}^{ m L}$	$_{.704}^{\mathbf{L}}$	L .744	$_{.624}^{ m R}$	$_{.656}^{ m L}$	$_{.664}^{ m L}$	$_{.704}^{\mathbf{L}}$	$_{.744}^{ m L}$	$_{.616}^{ m L}$	$_{.656}^{ m L}$
		G	2-5	2-5	2.5	1 5	1 5	1 5	2-5	2-5	1-5	1 5
		N	2 L	2	2	1	1	5	2	2	1	1
	60	E V	.703	L .737	$^{ m L}_{.770}$	$_{.680}^{L}$	$_{.713}^{\mathbf{L}}$	$^{ m R}_{.710}$	$^{ m L}_{.737}$	$^{ m L}_{.770}$	$_{.680}^{ m L}$	$^{ m L}_{.713}$
		Ġ	2-5	2-5	2.5	1 5	1 5	1.5	2- 5	2-5	1-5	1-5
	0.0	N	2	2	2	1	1	5	2	2	1	1
	80	E V	$_{.752}^{ m L}$	$_{.778}^{\mathbf{L}}$	$_{.803}^{L}$	$_{.760}^{L}$	$\frac{\mathrm{L}}{.785}$	$^{ m R}_{.783}$	L .778	$_{.803}^{ m L}$	$^{ m L}_{.760}$	$^{ m L}_{.785}$
		G	1-5	2-5	2-5	1-5	1.5	1 5	1 5	2-5	15	1-5
	100	N E	5 R	$^2_{ m L}$	2 L	$_{ m L}^{1}$	1 L	$\frac{5}{\mathbf{R}}$	$^{5}_{ m R}$	$^2_{f L}$	l L	$^{1}_{ m L}$
	100	$\vec{\mathbf{v}}$.786	.802	.822	.808	.828	.826	.806	.822	.808	.828
Tr	ıck N		21	22	23	24	25	26	27	28	29	30
Wł	ı. Bas	o. e L	44	44	44	24 44	25 44	26 48	27 48	28 48	29 48	30
Wł	ı. Bas le	o. e L	44 12	44 12	44 12	24 44 12	25 44 12	26 48 12	27 48 12	28 48 12	29 48 12	30 48 12
Wi Ax Spa	ı. Bas le ıcing	o. e L X X'	12 16	12 16	12 16	24 44 12 16	25 44 12 16	26 48 12 20	27 48 12 20	28 48 12 20	29 48 12 20	30 48 12 20
Wh Ax Spa Hit	i. Bas le acing ch	o. e L X X' C	12 16 12	44 12	44 12	24 44 12 16 12	25 44 12 16 12	26 48 12 20 12	27 48 12	28 48 12 20 12	29 48 12 20 12	30 48 12 20 12
Wh Ax Spa Hit Loa	le le acing ch ad	o. e L X X' C a ₁ a ₂	12 16 12 .10 .40	12 16 12 .10 .50	12 16 12 .10 .60	24 44 12 16 12 .20 .40	25 44 12 16 12 .20 .50	26 48 12 20 12 .10 .40	27 48 12 20 12 .10 .50	28 48 12 20 12 .10 .60	29 48 12 20 12 .20 .40	30 48 12 20 12 .20 .50
Whax Spa Hit Loa	le le acing ch ad	o. e L X X' C a ₁ a ₂ a ₃	12 16 12 .10 .40 .50	44 12 16 12 .10 .50 .40	12 16 12 .10 .60 .30	24 44 12 16 12 .20 .40 .40	25 44 12 16 12 .20 .50 .30	26 48 12 20 12 .10 .40 .50	27 48 12 20 12 .10 .50 .40	28 48 12 20 12 .10 .60 .30	29 48 12 20 12 .20 .40 .40	30 48 12 20 12 .20 .50 .30
Wh Ax Spa Hit Loa	n. Bas le acing ch ad les	o. e L X X C a ₁ a ₂ a ₃ G N	44 12 16 12 .10 .40 .50	44 12 16 12 .10 .50 .40 2 3 2	12 16 12 .10 .60 .30 2 3	24 44 12 16 12 .20 .40 .40	25 44 12 16 12 .20 .50 .30 2	26 48 12 20 12 .10 .40 .50	27 48 12 20 12 .10 .50 .40 2-3 2	28 48 12 20 12 .10 .60 .30 2-3 2	29 48 12 20 12 .20 .40 .40 2-3 2	30 48 12 20 12 .20 .50 .30 2-3 2
Wh Ax Spa Hit Loa	le le acing ch ad	o. e L X X C a ₁ a ₂ a ₃ G N	12 16 12 .10 .40 .50 2 .3 2	44 12 16 12 .10 .50 .40 2 3 2 L	12 16 12 .10 .60 .30 2 3 2 L	24 44 12 16 12 .20 .40 .40 2 8 2	25 44 12 16 12 .20 .50 .30 2 3 L	26 48 12 20 12 .10 .40 .50	27 48 12 20 12 .10 .50 .40 2-3 2	28 48 12 20 12 .10 .60 .30 2-3 2 L	29 48 12 20 12 .20 .40 .40 2-3 2 L	30 48 12 20 12 .20 .50 .30 2-3 2 L
Wh Ax Spa Hit Loa	n. Bas le acing ch ad les	o. e L X X' C a ₁ a ₂ a ₃ G	44 12 16 12 .10 .40 .50 2 -3 2 I. .320 2-4	44 12 16 12 .10 .50 .40 2 3 2 L .400 2-4	44 12 16 12 .10 .60 .30 2 3 2 L .480 2-4	24 44 12 16 12 .20 .40 .40	25 44 12 16 12 .20 .50 .30 2	26 48 12 20 12 .10 .40 .50 2 3 2 L .320 2-4	27 48 12 20 12 .10 .50 .40 2-3 2	28 48 12 20 12 .10 .60 .30 2-3 2 .480 2-4	29 48 12 20 12 .20 .40 .40 2-3 2	30 48 12 20 12 .20 .50 .30 2-3 2
Wh Ax Spa Hit Loa	le le acing sch	o. e L X X' C a ₁ a ₂ a ₃ G N E V G N	44 12 16 12 .10 .40 .50 2 -3 2 I. .320 2-4	44 12 16 12 .10 .50 .40 2 3 2 L .400 2-4 2	44 12 16 12 .10 .60 .30 2 3 4 480 2-4 2	24 44 12 16 12 .20 .40 .40 2 3 2 L .320 2 4	25 44 12 16 12 .20 .50 .30 2 3 1 .400 1 3	26 48 12 20 12 .10 .40 .50 2 1 .320 2 -4 .320	27 48 12 20 12 .10 .50 .40 2-3 2 L .400 2-4 2	28 48 12 20 12 .10 .60 .30 2-3 2 H. .480 2	29 48 12 20 12 .20 .40 .40 .40 2-3 2 L .320 2-4	30 48 12 20 12 .20 .50 .30 2-3 2 L .400 1 · 3
Wi Ax Spa Hit Loa	n. Bas le acing ch ad les	o. e L X X' C a ₁ a ₂ a ₃ G N E V	44 12 16 12 .10 .40 .50 2 -3 2 L .320	44 12 16 12 .10 .50 .40 2 3 2 L .400 2-4	44 12 16 12 .10 .60 .30 2 3 2 L .480 2-4	24 44 12 16 12 .20 .40 .40 2 3 2 L .320 2 4	25 44 12 16 12 20 .50 .30 2 3 2 L .400 1 3	26 48 12 20 12 .10 .40 .50 2 3 2 L .320 2-4	27 48 12 20 12 .10 .50 .40 2-3 2 L .400 2-4	28 48 12 20 12 .10 .60 .30 2-3 2 .480 2-4	29 48 12 20 12 20 .40 .40 2-3 2 L .320 2-4	30 48 12 20 12 .20 .50 .30 2-3 2 L .400
Wi Ax Spa Hit Loa	le le acing sch	o. e L X X C a ₁ a ₂ a ₃ G N E V G N E V G	44 12 16 12 10 .40 .50 2 1 .320 2 -4 .410 2 4	44 12 16 12 .10 .50 .40 2 L .400 2-4 2 L .490 2-4	44 12 16 12 .10 .60 .30 2 L .480 2-4 2 L .570 2-4	24 44 12 16 12 .20 .40 .40 2 3 2 L .320 2 -4 2 .40 .40 1-3	25 44 12 16 12 .50 .30 2 3 4 400 1 3	26 48 12 20 12 10 .40 .50 2 3 1 1 .32 2 1 .42 .42 .44 .41 .41 .41 .41 .41 .41 .42 .42 .43 .44 .44 .44 .44 .44 .45 .45 .45 .45 .45	27 48 12 20 12 .50 .40 2-3 2 L .400 2-4 2 2 L .490 2 4	28 48 12 20 12 .10 .60 .30 2-3 2 L .480 2 4 2 L .570 2 4	29 48 12 20 12 .20 .40 .40 2-3 L .320 2-4 2 L .400 2-4	30 48 12 20 12 20 .50 .30 2-3 2 L .400 1 · 3 8 .490 1 · 3
Wi Ax Spa Hit Loa	n. Bas le acing sch ad les 10	o. e L X X' C a ₁ a ₂ a ₃ G N E V G N E V	44 12 16 12 10 .40 .50 2 3 2 L .320 2-4 2 L .410 2 4	44 12 16 12 .10 .50 .40 2 3 2 L .400 2-4 2 L .490 2-4 2 L	12 16 12 .10 .60 .30 2 3 L .480 2-4 2 L .570 2 4	24 44 12 16 12 .20 .40 .40 2 3 2 L .320 2 -4 2 L .400 1-3 3	25 44 12 16 12 .20 .50 .30 2 3 2 L .400 1 3 8 R .490	26 48 12 20 10 .40 .50 2 3 2 L .320 2-4 2 L .410 2-4 2	27 48 12 20 10 .50 .40 2 - 3 2 L .400 2 - 4 2 L .490 2 4	28 48 12 20 12 .10 .60 .30 2-3 2 L .480 2 4 2 L .570 2 4 2	29 48 12 20 40 .40 .40 2-3 2 L .320 2-4 2 L .400 2-4	30 48 12 20 12 .20 .50 .30 2-3 .2 L .400 1.3 8 .490 1.3 3
Wh Ax Spa Hit Loa	le le acing sch	o. e L X X C a ₁ a ₂ a ₃ G N E V G N E V G	44 12 16 12 .10 .40 .50 2 ·3 2 ·1 .320 2 ·4 2 ·1 .410 .42 .410 .42 .43 .43 .43 .44 .44 .45 .45 .45 .45 .45 .45	44 12 16 12 .10 .50 .40 2 L .400 2-4 2 L .490 2-4	44 12 16 12 .10 .60 .30 2 L .480 2-4 2 L .570 2-4	24 44 12 16 12 .20 .40 .40 2 3 2 L .320 2 -4 2 .40 .40 1-3	25 44 12 16 12 .50 .30 2 3 4 400 1 3	26 48 12 20 12 10 .40 .50 2 3 1 1 .32 2 1 .42 .42 .44 .41 .41 .41 .41 .41 .41 .42 .42 .43 .44 .44 .44 .44 .44 .45 .45 .45 .45 .45	27 48 12 20 12 .50 .40 2-3 2 L .400 2-4 2 2 L .490 2 4	28 48 12 20 12 .10 .60 .30 2-3 2 L .480 2 4 2 L .570 2 4	29 48 12 20 12 .20 .40 .40 2-3 L .320 2-4 2 L .400 2-4	30 48 12 20 12 20 .50 .30 2-3 2 L .400 1 · 3 8 .490 1 · 3
Wh Ax Spa Hit Loa	n. Bas le acing sch ad les 10	o. e L X X C a ₁ a ₂ a ₃ G N E V G R E V R E V R E	44 12 16 12 .10 .40 .50 2 ·3 2 L .320 2 ·-4 2 L .410 2 -4 2 L .49 2 -4 2 L	44 12 16 12 .10 .50 .40 2 3 2 L .400 2-4 2 L .490 2 4 2 L .560 2-5	12 16 .60 .30 2 3 2 L .480 2-4 2 L .570 2 4 630 2-5	24 44 12 16 12 20 .40 .40 2 3 2 L .320 2 -4 2 L .400 1-3 8 R .467 2-5	25 44 12 20 .50 .30 2 3 2 4 4 4 9 1 3 8 R .490 1 3 8 R .560 2 5 8	26 48 12 20 12 10 .40 .50 2 .40 .50 2 .40 .20 .40 .40 .50 2 .40 .40 .40 .40 .40 .40 .40 .40	27 48 12 20 12 10 .50 .40 2-3 2 L .400 2-4 2 L .490 2 4 2 L .560 .50 .50 .50 .50 .50 .50 .50 .5	28 48 12 20 12 10 .60 .30 2-3 2 L .480 2 4 2 L .570 2 4 2 L .63 .64 .65 .60 .60 .60 .60 .60 .60 .60 .60	29 48 12 20 12 20 .40 .40 2-3 2 L .320 2-4 2 L .400 2-4 2 L .467 2-5	30 48 12 20 50 30 2-3 2 L 400 1 3 8 8 490 1 -3 8 8 560 1 -3
WITAXX Span Hiti Loss On Ax	n. Bas le acing sch ad les 10	o. e L X X C a ₁ a ₂ a ₃ G N E V G R E V E V G R E V E V G R E V E V E V E V E V E V E V E V E V E	44 12 16 10 .10 .50 2 3 2 L .320 2-4 2 L .410 2-4 2 L .490 2-5 2	44 112 16 10 .50 .40 2 3 2 L .400 2-4 2 L .490 2 4 2 L .560 2 -5 2	44 12 16 16 .10 .30 2 3 2 L .480 2-4 2 L .570 2 4 2 L .630 2 -5 2 2	24 44 12 16 12 .20 .40 .40 2 3 2 L .320 2 4 2 L .400 1-3 3 R .467 2-5	25 44 12 16 12 20 .50 .30 2 3 2 L .400 1 3 8 R .560 2 5	26 48 12 20 10 .40 .50 2 3 2 L .320 2-4 2 L .410 2-4 2 L .490 2 5 2 2	27 48 12 20 12 .10 .50 .40 2-3 2 L .400 2-4 2 L .490 2 4 2 L .560 2 - 5 2	28 48 12 20 12 .10 .60 .30 2-3 2 L .480 2 4 2 L .570 2 4 2 L .630 2-5 2	29 48 12 20 12 .20 .40 .40 2-3 2 L .320 2-4 2 L .400 2-4 2 L .467 2-5 2	30 48 12 20 .50 .30 2-3 2 L .400 1·3 8 R .560 1-3 3
WITAXX Span Hiti Loss On Ax	le le acing sch ad les 10 20 30	o. e L X X/ C a1 a2 a3 G N E V G G N E V G G N E V V G G N E V V G G N E V V G G N E V V G G N E V V G G N E V V G G N E V V G G N E V V G G N E V V G G N E V V G G N E V V G G N E V V G G N E V V G G N E V V G G N E V V G G N E V V G G N E V V C G M E V V C M E V M	44 12 16 12 .10 .40 .50 2 ·3 2 L .320 2 ·4 2 L .410 2 -4 2 L .490 2 -5 2 L .400 2 ·5 1 L .500 2 ·5	44 12 16 12 .10 .50 .40 2 3 2 L .400 2-4 2 L .490 2 4 2 L .560 2 -5 2 L .500 .400 2 3 2 L .400 2 -7 .400 2 -1 .400 .4	44 112 16 12 .10 .60 .30 2 3 2 L .480 2-4 2 L .570 2 4 2 L .630 2	24 44 12 16 12 .20 .40 .40 2 3 2 L .320 2 -4 2 L .400 1-3 3 R .467 2-5 2 L .540	25 444 12 20 50 30 2 3 2 400 1 3 8 8 490 1 3 8 8 .560 2 5 5 7 8 8 8 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	26 48 12 20 12 10 .40 .50 2 L .320 2-4 2 L .410 2-4 2 L .410 2-5 2 L .50 2 3 2 L .50 2 3 2 L .50 2 -5 2 -5 2 L .50 2 -5 2 L .50 .50 .50 .50 .50 .50 .50 .50	27 48 12 20 12 .10 .50 .40 2-3 2 L .40 2-4 2 L .490 2-4 2 L .50 .50 .40 .50 .40 .50 .40 .50 .40 .50 .50 .40 .50 .50 .50 .50 .50 .50 .50 .5	28 48 12 20 12 10 60 .30 2-3 2 L .480 2 4 2 L .570 2 4 2 L .60 .50 .50 .50 .50 .50 .50 .50 .5	29 48 12 20 12 20 .40 .40 2-3 2 L .320 2-4 2 L .400 2-4 2 L .467 2-5	30 48 12 20 50 30 2-3 2 L 400 1 3 8 8 490 1 -3 8 8 560 1 -3
WITAXX Span Hit Loss On Ax	le le acing sch ad les 10 20 30	o. e L X X Y C a ₁ a ₂ a ₃ G N E V G N E V G N E V G N E V G N E V G N E V G N E O O O O O O O O O O O O O O O O O O	44 12 16 10 .50 2 3 2 L .320 2-4 2 L .410 2-4 2 L .490 2-5 2 L .50 2-5 2 1 .50 2-5 2 1 .50 2-5 2 1 .50 2-5 2 1 .50 2 1 .50 2 .50 .50 .50 .50 .50 .50 .50 .50	44 112 16 10 .50 .40 2 3 2 L .400 2-4 2 L .490 2 4 2 L .560 2 5 2 L .635 2 L .635 2 L .565 2 L .565 2 L .565 2 L .565 2 L .565 2 L .665 2 2 L .665 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	44 12 16 16 12 .10 .60 .30 2 3 2 L .480 2 -4 2 L .570 2 4 2 L .630 2 -5 2 L	24 44 12 16 12 .20 .40 .40 2 3 2 L .320 2 4 2 L .400 1-3 3 R .467 2-5 L L 540 1 5	25 44 12 16 12 .20 .50 .30 2 3 2 L .400 1 3 3 R .560 2 5 5 6 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1	26 48 12 20 10 .40 .50 2 3 2 L .320 2-4 2 L .490 2 5 2 L .555 2 5 2 5 2 5 2 5 2 5 2 5 2 5	27 48 12 20 10 .50 .40 2 · 3 2 L .400 2 · 4 2 L .560 2 · 4 2 .560 2 · 4 .60 2 · 4 .60 2 · 4 .60 2 · 4 .60 .60 .60 .60 .60 .60 .60 .60	28 48 12 20 12 10 .60 .30 2-3 2 L .480 2 4 2 L .570 2 4 2 L .630 2-5 2 L .630	29 48 12 20 12 20 40 40 2-3 2 L 320 2-4 2 L 467 2-4 2 L 520 1 5	30 48 12 20 .50 .30 2-3 2 L .400 1.3 3 R .560 1-3 3 R .560 1-3 8 .595 1-5
pan-Feet	le le acing sch ad les 10 20 30	o. e L X X Y C a ₁ a ₂ a ₃ G N E V G N E V G N E V G N E V G N E V G N E V	44 12 16 12 .10 .40 .50 2 ·3 2 L .320 2 ·4 2 L .410 2 -4 2 L .490 2 -5 2 L .400 2 ·5 1 L .500 2 ·5	44 12 16 12 .10 .50 .40 2 8 2 1 .400 2-3 2 1 .490 2-4 2 1 .560 2-5 2 1 .50 2-4 2 1 .50 2-4 2 1 .50 2-4 2-4 2-4 2-5 1 .50 1 .50 2-5 1 .50 .50 1 .50 .50 1 .50 .50 .50 .50 .50 .50 .50 .50	44 112 16 12 .10 .60 .30 2 3 2 L .480 2-4 2 L .570 2 4 2 L .630 2	24 44 12 16 12 .20 .40 .40 2 3 2 L .320 2 -4 2 L .400 1-3 3 R .467 2-5 2 L .540	25 444 12 20 50 30 2 3 2 400 1 3 8 8 490 1 3 8 8 .560 2 5 5 7 8 8 8 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	26 48 12 20 12 10 .40 .50 2 L .320 2-4 2 L .410 2-4 2 L .410 2-5 2 L .50 2 3 2 L .50 2 3 2 L .50 2 -5 2 -5 2 L .50 2 -5 2 L .50 .50 .50 .50 .50 .50 .50 .50	27 48 12 20 12 .10 .50 .40 2 · 3 2 L .400 2 · 4 2 L .560 2 · 4 2 · L .560 2 · 4 2 · L .500 2 · 4 2 · L .500 2 · C 2	28 48 12 20 12 10 60 .30 2-3 2 L .480 2 4 2 L .570 2 4 2 L .60 .50 .50 .50 .50 .50 .50 .50 .5	29 48 12 20 12 20 .40 .40 2-3 2 L .320 2-4 2 L .400 2-4 2 L .467 2-5 2 L .520	30 48 12 20 50 50 30 2-3 2 L 400 1.3 3 R 490 1-3 3 R 560 1-3 8 8 595 1-5 1
WITAXX Span Hit Loss On Ax	10 Bas le eacing excheded and les 10 20 40	o. e L XX C a1 a2 a3 G N E V G N E V G N E V G N E V G N E V G N E V V G N E V V G N E V V G N E V O G N E	44 12 16 10 .10 .50 2 · 3 2 L .320 2 · 4 2 L .410 2 · 4 2 · L .490 2 · 5 2 · L .50 2 · 3 2 · L .50 2 · C .50 2 · C .50 2 · C .50 2 · C .50 .50 .50 .50 .50 .50 .50 .50	44 12 16 12 .10 .40 2 3 2 L .400 2-4 2 L .490 2 4 2 L .560 2-5 2 L .688	44 12 16 16 12 .10 .60 .30 2 3 2 L .480 2-4 2 L .570 2 4 2 L .630 2 -5 2 L .630 2 -5 2 L .630	24 44 12 16 12 .20 .40 .40 2 3 2 L .320 2 4 2 L .400 1-3 3 R .467 2-5 2 L L .540 1 5 1 L .600	25 44 12 16 12 .20 .50 .30 2 3 2 L .400 1 3 3 R .490 1 3 3 R .560 2 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1	26 48 12 20 10 .40 .50 2 3 2 L .320 2-4 2 L .410 2-4 2 L .490 2 5 2 L .50 2 - 1 .50 2 - 1 .50 2 - 1 .50 2 - 1 .50 2 - 1 .50 2 - 1 .50 2 - 1 .50 2 - 1 .50 2 - 1 .50 2 - 1 .50 2 - 1 .50 2 - 1 .50 2 - 1 .50 2 - 1 .50 .50 .50 .50 .50 .50 .50 .50	27 48 12 20 12 .10 .50 .40 2-3 2 L .400 2-4 2 L .560 2-4 2 L .560 2-5 2 L .615 2-5 2 L .672	28 48 12 20 12 .10 .60 .30 2-3 2 L .480 2 4 2 L .570 2 4 2 L .630 2-5 2 L .630 2-5 2 L .570 2 L .630 2 L .570 2 L .570 2 L .570 2 .570	29 48 12 20 12 .20 .40 .40 2-3 2 L .320 2-4 2 L .400 2-4 2 L .467 2-5 1 .520 1 5 1 L .584	30 48 12 20 .50 .30 2-3 2 L .400 1.3 3 R .595 1.5 1.5 1.5 1.6 632
pan-Feet	10 Bas le eacing excheded and les 10 20 40	o. e L XX C a1 a2 G N E V G N E V G N E V G N E V G N E V G N E V G O N E V D O N E N E V D O N E N E N E N E N E N E N E N E N E N	44 12 16 12 .10 .40 .50 2 · 3 2 L .320 2 · 4 2 · L .410 2 · 4 2 · L .490 2 · 5 2 · L .40 2 · L .40 2 · L .40 2 · L .40 2 · L .40 .40 .40 .40 .40 .40 .40 .40	44 112 116 12 110 110 110 110 110 110 110	44 12 16 16 12 10 60 30 2 3 2 L 480 2-4 2 L .570 2 4 2 L .630 2-5 2 L .690 2 5 2 L .690 2 - 1 .600 2 3 2 L .600 2 - 1 .600 .60	24 44 12 16 12 20 40 40 2 3 2 1 320 2 4 2 L 400 1-3 8 R 467 2-5 2 L 540 1 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	25 44 12 20 .50 .50 .30 2 3 2 4 40 1 3 8 R .490 1 3 8 R .560 2 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5	26 48 12 20 12 10 .40 .50 2 3 2 L .320 2-4 2 L .410 2-4 2 L .49 .50 2-1 .40 .50 2-1 .40 .50 2-1 .40 .50 2-1 .40 .50 .50 .50 .50 .50 .50 .50 .5	27 48 12 20 12 10 .50 .40 2-3 2 L .400 2-4 2 L .490 2-4 2 L .560 2-5 2 L .615 2-5 2 L .625 2 5 2 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6	28 48 12 20 12 10 60 .30 2-3 2 1 .480 2-4 2 L .570 2-4 2-2 L .635 .675 2-5 2-1 .675 2-5 2-1 .675 .775 .7	29 48 12 20 12 20 .40 .40 2-3 2 L .320 2-4 2 L .400 2-4 2 L .467 2-5 2 L .520 1 5 1 L .584	30 48 12 20 50 50 30 2-3 2 L 400 1·3 3 R 490 1·3 3 R 490 1·5 560 50 1·5 1·5 1·5 1·5 1·5 1·5 1·5 1·5
pan-Feet	10 Bas le eacing excheded and les 10 20 40	o. e L XX C a1 a2 G NE V G NE	44 12 16 12 10 .40 .50 2 · 3 2 L .320 2 · 4 2 · L .410 2 · 4 2 · L .490 2 · 5 2 · L .580 2 · 5 L .40 .40 .40 .40 .40 .40 .40 .40	44 12 16 12 .10 .40 2 3 2 L .400 2 -4 2 L .490 2 -4 2 L .560 2 -5 2 L .688 2 -5 2 L	112	24 44 12 16 12 20 40 40 2 3 2 L 320 2 4 2 L 400 1 3 8 R 467 2 5 40 1 5 1 L 600 1 5 1 L	25 44 12 20 30 2 3 2 4 40 1 3 8 R .490 1 3 8 R .560 2 5 2 L .595 1 -5 1 L .644	26 48 12 20 12 10 .40 .50 2 3 2 L .410 2-4 2 L .410 2-5 2 L .555 2 5 2 L .5555 2 5 2 L .624 2 L .624 2 L .635 2 L .645 2 L	27 48 12 20 12 .10 .50 .40 2-3 2 L .400 2-4 2 L .490 2-4 2 L .560 2-5 2 L .615 2-5 2 L .672 2-5 2 L	28 48 12 20 12 10 60 .30 2-3 2 L .480 2-4 2 L .570 2-4 2 L .675 2-5 2 L .675 2-5 2 L .675 2-	29 48 12 20 12 20 40 40 2-3 L 320 2-4 2 L 400 2-4 2 L 467 2-5 2 L 520 1 5 1 L L 1-5 1 L	30 48 12 20 50 50 30 2-3 2 1 400 1-3 3 8 490 1-3 3 8 490 1-3 3 1-5 1-5 1-5 1-5 1-5 1-5 1-5 1-5
pan-Feet	a. Bas le acing ch ad les 10 20 30 40	o. e L XX C a1 a2 a3 G N E V G N E V G N E V G N E V G N E V C G N E V C G N E V C C R E C C R E C C R E C C R E C C R E	44 12 16 12 .10 .40 .50 2 · 3 2 L .320 2 · 4 2 L .410 2 - 4 2 L .490 2 - 5 2 L .580 2 - 5 L .40 2 · 4 2 L .40 2 · 4 2 L .40 2 · 4 2 L .40 2 · 4 2 L .40 2 · 5 2 · 6 2 · 7 2 · 7 2 · 8 2	44 112 116 117 119 119 119 119 119 119 119 119 119	44 112 116 112 110 110 110 110 110 110 110 110 110	24 44 12 16 12 .20 .40 .40 2 3 2 L .320 2 -4 2 L .400 1-3 3 R R.467 2-5 L .540 1 5 L .6667	25 44 12 20 50 30 2 3 2 40 1 3 3 8 490 1 3 8 490 1 3 8 490 1 5 1 400	26 48 12 20 12 10 .40 .50 2 3 2 L .320 2-4 2 L .410 2-4 2 L .410 2 5 2 L .555 2 1 .410	27 48 12 20 12 10 .50 .40 2-3 2 L .400 2-4 2 L .490 2-4 2 L .560 2-5 2 L .615 2-5 2 L .710	28 48 12 20 12 10 60 .30 2-3 2 L .480 2 4 2 L .570 2 4 2 L .675 2 5 2 L .750	29 48 12 20 12 20 .40 .40 2-3 2 L .320 2-4 2 L .400 2-4 2 L .45 2 L .520 1 5 1 L .584 1-6 1 L .653	30 48 12 20 50 30 2-3 2 L 400 1.3 3 R 490 1.3 3 R .595 1.5 1 L .632 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5
pan-Feet	a. Bas le acing ch ad les 10 20 30 40	o. e L XX C a1 a2 GN EV	44 12 16 12 .10 .40 .50 2 ·3 2 L .320 2 ·4 2 L .410 2 ·4 2 ·2 L .490 2 ·5 2	44 112 116 110 110 110 110 110 110 110 110 110	44 112 116 12 .10 .60 .30 2 3 2 4 .40 2 -4 2 L .570 2 4 2 L .630 2 -5 2 L .690 2 -5 2 L .732 2 -5 2 L .732 2 -5 2 L .732 2 -5 2 L .732 .732 .733 .734 .735 .7	24 44 12 16 12 .20 .40 .40 2 3 2 L .320 2 4 2 L .400 1-3 3 R .467 2-5 2 L .540 1 5 1 L .660 1 5 1 L .667 1 -5	25 44 12 16 12 20 50 30 2 3 2 L 400 1 3 8 R 490 1 3 8 R 560 2 5 1 L 595 1 L 596 1 S 1 S 1 S 1 S 1 S 1 S 1 S 1 S	26 48 12 20 10 40 .50 2 3 2 1 .320 2-4 2 1 .410 2-4 2 1 .490 2 5 2 1 .555 2 1 .50 2 3 2 1 .50 2 3 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 .50 .50 .50 .50 .50 .50 .50	27 48 12 10 10 50 12 10 50 40 2 3 2 L 400 2 4 2 L 560 2 5 2 L 615 2 5 2 L 672 2 5 2 L 710 2 -5	28 48 12 20 12 .10 .60 .30 2-3 2 L .480 2 4 2 L .570 2 4 2 L .630 2-5 2 L .630 2-5 2 L .630 2-5 2 L .630 2-5 2 1 .630 2-5 2 1 .630 2-5 2 1 .630 2 .630 .630 2 .630	29 48 12 20 12 20 40 40 2-3 2 L 320 2-4 2 L 400 2-4 2 L 467 2-5 1 L 584 1-5 1 L 653	30 48 12 20 50 50 30 2-3 2 L 400 103 8 8 560 1-3 8 8 560 1-3 1-5 1 1-5 1 1-5 1-5 1-5 1-5 1-
pan-Feet	a. Bas le acing ch ad les 10 20 30 40	o. e L XX Y C a1 a2 G G N E V R E V R	44 12 16 12 .10 .40 .50 -2 ·3 2 L .320 2 -4 2 L .410 2 -4 2 L .490 2 -5 2 -5 2 L .580 2 -5 2 L .580 2 -1 .580	44 112 116 112 110 110 110 110 110 110 110 110 110	112 116 112 110 110 110 110 110 110 110	24 44 12 16 12 .20 .40 .40 2 3 2 L .320 400 1-3 3 R R .467 2-5 2 L .6607 1-5 1 L .6667 1-5 1 L	25 44 12 .20 .50 .30 2 3 2 .40 1 3 8 8 .490 1 3 8 .595 1 -5 1 .644 1 -5 1 L .703 1 -5 1 L	26 48 12 20 12 .10 .40 .50 2 3 2 L .320 2-4 2 L .410 2-4 2 L .490 2 5 2 L .555 2 L .555 2 L .565 2 L .575 2 L .677 2 L .67	27 48 12 10 50 12 10 50 40 2-3 2 1 40 2-4 2 1 490 2-4 2 1 560 2-5 2 1 672 2-5 2 1 710 2-5 2 L	28 48 12 20 12 .10 .60 .30 2-3 2 L .480 2 4 2 L .570 2 4 2 L .570 2 5 2 L .750 2 5 2 L	29 48 12 20 12 29 40 40 2-3 2 L 320 2-4 2 L 400 2-4 2 L 520 1 5 1 L 584 1-5 1 L 653 1-5 1 L	30 48 12 20 50 30 2-3 2 400 1 3 8 490 1 -3 3 R 560 1 -3 3 R 560 1 -5 1 1 -5 1 -
pan-Feet	a. Bas le accing cch ad les 10 20 30 40 50 60	o. e L XY C a1 a2 GN EV GN EV GN EV GN EV GN EV GN EV GN EV V GN EV V GN EV V GN EV V GN EV V GN EV V GN EV V GN EV V GN EV V GN EV V GN EV V	44 12 16 10 .50 2 · 3 2 L .320 2 · 4 2 L .410 2 · 4 2 · L .490 2 · 5 2 · L .580 2 · 5 L .50 2 · 3 2 · L .50 2 · A .50 2 · A .50 2 · A .50 2 · A .50 2 · A .50 2 · A .50 2 · A .50 .50 .50 .50 .50 .50 .50 .50	44 112 16 16 12 .10 .50 .40 2 3 2 L .400 2 -4 2 L .560 2 -5 2 L .688 2 -5 2 L .724 2 -5 2 L .768	44 112 116 116 117 110 110 110 110 110 110 110 110 110	24 44 12 16 12 .20 .40 .40 2 3 2 L .320 2 -4 2 L .400 1-3 3 R .467 2-5 L .540 1 5 1 L .600 1 5 1 L .61 1 5 1 L .62 1 1 L .65 1	25 44 12 16 12 20 .50 .30 2 3 2 L .400 1 3 3 R .560 2 5 1 L .595 1 L	26 48 12 20 10 40 .50 2 3 2 1 .320 2-4 2 1 .410 2-4 2 1 .490 2 5 2 1 .555 2 1 .555 2 1 .50 2 3 2 1 .50 2 3 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 .50 .50 .50 .50 .50 .50 .50	27 48 12 20 12 10 .50 .40 2 -3 2 L .400 2 -4 2 L .560 2 -5 2 L .615 2 -5 2 L .672 2 -5 2 L .758	28 48 12 20 12 .10 .60 .30 2-3 2 L .570 2 4 2 L .630 2-5 2 L .720 2 5 2 L .758	29 48 12 20 12 20 40 40 2-3 2 L 320 2-4 2 L 400 2-4 2 L 467 2-5 1 L 584 1-5 1 L 653 1-5 1 L 740	30 48 12 20 50 50 30 2-3 2 400 1.3 3 R 560 1-3 8 8 560 1-5 1 682 1-5 1 682 1-5 1 1 1 1 1 1 1 1 1 1 1 1 1
pan-Feet	a. Bas le accing cch ad les 10 20 30 40 50 60	o. e L	44 12 16 12 .10 .40 .50 -2 ·3 2 L .320 2 -4 2 L .410 2 -4 2 L .490 2 -5 2 -5 2 L .580 2 -5 2 L .580 2 -1 .580	44 112 116 117 110 110 110 110 110 110 110 110 110	44 112 116 117 110 110 110 110 110 110 110 110 110	24 44 12 16 12 20 .40 .40 2 3 2 L .400 1-3 3 R 67 2-5 2 L .540 1 5 1 L .606 1 5 1 L .750 1 5 1 L .750 1 5	25 44 12 20 .50 .30 2 3 2 4 .400 1 3 8 R .490 1 3 8 R .560 2 5 2 L .595 1 -5 1 L .703 1 -5 1 1 -5 1 L .703 1 -5 1	26 48 12 20 12 10 .40 .50 2 3 2 1 .41 .50 2 -4 2 1 .410 2 -4 2 1 .49 .25 .40 .50 2 -1 .40 .50 2 -1 .40 .50 2 -1 .40 .50 2 -1 .40 .50 2 -1 .40 .50 .50 .60 .60 .60 .60 .60 .60 .60 .6	27 48 12 20 12 10 .50 .40 2-3 2 L .400 2-4 2 L .400 2-4 2 L .560 2-5 2 L .615 2-5 2 L .710 2-5 2 L .710	28 48 12 20 12 10 60 .30 2-3 2 L .480 2-4 2 L .570 2-4 2-2 L .675 2-5 2-1 .750 2-5 2-1 .750 2-5 2-1 .750 2-5 2-1 .750 2-5 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	29 48 12 20 12 20 .40 .40 2-3 2 L .320 2-4 2 L .400 2-4 2 L .467 2-5 2 L .520 1 5 1 L .584 1-5 1 L .653 1-5 1 L .740 1-5	30 48 12 20 50 50 30 2-3 2 L 400 1:3 3 R 490 1:3 3 R 560 1-3 3 R 595 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.
pan-Feet	a. Bas le accing cch ad les 10 20 30 40 50 60	o. e L XY C a1 a2 GN EV GN EV GN EV GN EV GN EV GN EV GN EV V GN EV V GN EV V GN EV V GN EV V GN EV V GN EV V GN EV V GN EV V GN EV V GN EV V	44 12 16 12 .10 .40 .50 2 · 3 2 L .320 2 · 4 2 L .410 2 - 4 2 L .490 2 - 5 2 L .580 2 - 5 2 L .580 2 - 5 2 L .580 2 - 1 .580 .580 2 - 1 .580 2	44 112 16 16 12 .10 .50 .40 2 3 2 L .400 2 -4 2 L .560 2 -5 2 L .688 2 -5 2 L .724 2 -5 2 L .768	44 112 116 116 117 110 110 110 110 110 110 110 110 110	24 44 12 16 12 .20 .40 .40 2 3 2 L .320 2 -4 2 L .400 1-3 3 R .467 2-5 L .540 1 5 1 L .600 1 5 1 L .61 1 5 1 L .62 1 1 L .65 1	25 44 12 16 12 20 .50 .30 2 3 2 L .400 1 3 3 R .560 2 5 L .595 1 400 1 3 3 R .560 2 1 L .595 1 5 1 5 1 5 1 L .595 1	26 48 12 20 10 40 .50 2 3 2 1 .320 2-4 2 1 .410 2-4 2 1 .490 2 5 2 1 .555 2 1 .555 2 1 .50 2 3 2 1 .50 2 3 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 .50 .50 .50 .50 .50 .50 .50	27 48 12 20 12 10 .50 .40 2 -3 2 L .400 2 -4 2 L .560 2 -5 2 L .615 2 -5 2 L .672 2 -5 2 L .758	28 48 12 20 12 .10 .60 .30 2-3 2 L .480 2 4 2 L .570 2 4 2 L .630 2-5 2 L .720 2 5 2 L .720 2 5 2 L .720 2 5 2 L .720 2 5 2 L .720 2 1 L .720 2 1 L .720 2 1 L .720 2 1 L .720 2 1 L .720 2 1 L .720 2 1 L .720 2 1 L .720 2 1 L .720 2 1 L .720 2 1 L .720 2 1 L .720 2 1 L .720 2 1 L .720 2 1 L .720 2 1 L .720 2 2 2 L .720 2 2 L .720 2 2 L .720 2 2 L .720 2 2 L .720 2 2 L .720 2 2 L .720 2 2 L .720 2 2 L .720 2 2 L .720 .720 2 2 L .720	29 48 12 20 12 20 40 40 2-3 2 L 320 2-4 2 L 400 2-4 2 L 467 2-5 1 L 584 1-5 1 L 653 1-5 1 L 740	30 48 12 20 50 50 30 2-3 2 400 1.3 3 R 560 1-3 8 8 560 1-5 1 682 1-5 1 682 1-5 1 1 1 1 1 1 1 1 1 1 1 1 1

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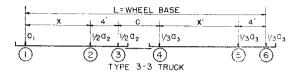
			Continu		0.0	0.	AP		0.5	0.0	0.0	1 ^
	ck N		31	32	33	34	35	36	37	38	39	40
Axle	. Base		16	40	16	40 16	16	44	16	16	16	16
	cing	Х Х'	12	$^{16}_{12}$	12	$\frac{16}{12}$	12	$\begin{array}{c} 16 \\ 16 \end{array}$	16	16	16	16
Hite		C	8	8	8	8	8	8	8	8	8	8
Loa	d	aı	.10	.10	.10	.20	.20	.10	.10	.10	.20	.20
On Axle		a ₂	.40 .50	.50 .40	.60	.40 .40	.50 .30	.40	.50	$.60 \\ .30$	$.40 \\ .40$.50 $.30$
AXI	es	G G	2-3	2-3	$\frac{.30}{2-3}$	2-3	2-3	$\frac{.50}{2-3}$		2-3	2-3	2-3
		Ň	2-3	2 - 3	2 - 3	2-3	2-3	$\overset{2-3}{2}$	2	2-3	2	$\frac{2-3}{2}$
	10	E	L	$\mathbf L$	2 L	L	L	\mathbf{L}	L	L	L	L
		V	.320	.400	.480	.320	.400	.320	.400	.480	.320	.400
		G N	$\frac{2-4}{2}$	2–4 2	$\frac{2-4}{2}$	$\frac{2\cdot 4}{2}$	2- 4 2	$\frac{2-4}{2}$	$\frac{2-4}{2}$	2-4	$^{2-4}_2$	$\frac{2}{2}$
	20	\mathbf{E}	$\mathbf L$	\mathbf{L}	L	\mathbf{L}	L	$^{2}_{ m L}$	\mathbf{L}	$_{ m L}^2$	L	$_{ m L}^2$
_		V	.460	.530	.600	.440	.510	.460	.530	.600	.440	.510
		G N	$\frac{2-5}{2}$	$\substack{2-5\\2}$	$^{2-5}_{2}$	$\begin{smallmatrix}2&5\\2\end{smallmatrix}$	$^{2-5}_2$	$\substack{2-5\\2}$	$\frac{2-5}{2}$	2-5	$\substack{2-5\\2}$	$\substack{2-5\\2}$
	30	Ë	Ĺ	Ĺ	Ĺ	Ĺ	Ĺ	Ĺ	Ĺ	$_{ m L}^2$	Ĺ	Ĺ
		V	.573	.626	.680	.534	.586	.540	.600	.660	.506	.566
		G	2 5	2-5	2 5	2-5	2-5	2-5	2-5	2-5	2-5	2 -5
ta l	40	N E	$^2_{ m L}$	2 L	$^2_{ m L}$	$_{ m L}^2$	$^2_{ m L}$	$_{\rm L}^2$	$_{ m L}^2$	$^2_{ m L}$	$_{ m L}^2$	$_{\rm L}^2$
F		$\tilde{\mathrm{v}}$.655	.695	.735	.600	.640	.630	.675	.720	$.5\overline{80}$	$.6\overline{2}5$
Span-Feet		G	25	2 5	2 5	2 5	2-5	2-5	2-5	2-5	2-5	2-5
ba	50	N	$^2_{ m L}$	$^2_{ m L}$	$^2_{ m L}$	$_{ m L}^2$	$^2_{ m L}$	2 L	$_{ m L}^2$	$^2_{ m L}$	2 L	$^2_{ m L}$
02	90	E V	.704	.736	.768	.640	.672	.684	.720	.756	.624	.660
[-		G	1-5	2.5	2-5	1 5	2-5	2-5	2-5	2-5	2-5	2-5
[N	5	2	2	5	2	2	2	2	2	2
1	60	$_{\mathbf{v}}^{\mathrm{E}}$	R .737	$^{ m L}_{.763}$	$^{ m L}_{.790}$	R .680	.694	.720	$^{ m L}_{.750}$	$_{.780}^{ m L}$	$_{.654}$	$_{.683}^{ m L}$
		Ğ	1.5	2-5	2-5	1-5	1-5	1-5	2-5	2 · 5	1-5	1-5
İ		N	5	2	2	5	1	5	$\frac{2-3}{2}$	2	1	1
ļ	80	\mathbf{E}	R	L	L	R	L	R	L	L	L	L
-		V	.803 _	.797	.817	.760	.760	765	.788	.810	.730	.753
		G N	$^{1-5}_{5}$	15 5	$\frac{2-5}{2}$	1 5 5	1-5 1	1–5 5	$^{2-5}_2$	$^{2-5}_2$	$^{1-5}_{1}$	1-5 1
	100	E	\mathbf{R}	$\ddot{ m R}$	Ĺ	R	L	\mathbf{R}	$_{ m L}$	\mathbf{L}	L	L
_ !		v	.842	.826	.834	.808	.808	.812	.810	.828	.784	.802
Tru	ck N	ο.	41	42	43	44	45	46	47	48	49	50
Wh.	. Base	e L	48	48	48	48	48	44	44	44	44	44
$\frac{\overline{\mathbf{W}}\mathbf{h}}{\mathbf{A}\mathbf{x}\mathbf{b}}$. Base	e L X	48 16	48 16	48 16	48 16	48 16	44 16	44 16	44 16	44 16	16
Wh.	. Base e cing	e L X X'	48 16 20	48 16 20	48 16 20	48 16 20	48 16 20	44 16 12	44 16 12	44 16 12	16 12	16 12
Wh. Axle Space Hite	. Base e cing ch	e L X X' C	48 16 20 8	48 16 20 8	48 16 20 8	48 16 20 8	48 16 20 8	16 12 12	16 12 12	16 12 12	16 12 12	16 12 12
Wh.	. Base e cing ch	e L X X'	48 16 20	48 16 20	48 16 20	48 16 20	48 16 20	44 16 12	44 16 12	44 16 12	16 12	16 12
Wh. Axle Space Hite Loa	Base e cing ch d	e L X X' C a ₁ a ₂ a ₃	48 16 20 8 .10 .40 .50	16 20 8 .10 .50 .40	48 16 20 8 .10 .60 .30	48 16 20 8 .20 .40 .40	48 16 20 8 .20 .50 .30	16 12 12 12 .10 .40 .50	16 12 12 12 .10 .50 .40	16 12 12 12 .60 .30	16 12 12 .20 .40 .40	16 12 12 12 .20 .50 .30
Wh. Axle Space Hite Loa On	Base e cing ch d	e L X X' C a ₁ a ₂ a ₃ G	48 16 20 8 .10 .40 .50	48 16 20 8 .10 .50 .40 2-3	48 16 20 8 .10 .60 .30 2 3	48 16 20 8 .20 .40 .40 2 3	48 16 20 8 .20 .50 .30 2-3	16 12 12 12 .10 .40 .50 2-3	16 12 12 12 .10 .50 .40 2–3	16 12 12 12 .10 .60 .30	16 12 12 12 .20 .40 .40	16 12 12 .20 .50 .30 2-3
Wh. Axle Space Hite Loa On	. Base e cing ch d	e L X X' C a ₁ a ₂ a ₃ G	48 16 20 8 .10 .40 .50 2 3	48 16 20 8 .10 .50 .40 2-3 2	48 16 20 8 .10 .60 .30 2 3 2	48 16 20 8 .20 .40 .40 .23 2	48 16 20 8 .20 .50 .30 2-3 2	44 16 12 12 .10 .40 .50 2-3 2	44 16 12 12 .10 .50 .40 2-3 2	16 12 12 12 .10 .60 .30	16 12 12 12 .20 .40 .40 .2-3 2	16 12 12 .20 .50 .30 2-3 2
Wh. Axle Space Hite Loa On	Base e cing ch d	e L X X' C a ₁ a ₂ a ₃ G	48 16 20 8 .10 .40 .50	48 16 20 8 .10 .50 .40 2.3 2.3 1.400	48 16 20 8 .10 .60 .30 2 3	48 16 20 8 .20 .40 .40 2 3	48 16 20 8 .20 .50 .30 2-3	16 12 12 12 .10 .40 .50 2-3	16 12 12 12 .10 .50 .40 2–3	16 12 12 12 .60 .30	16 12 12 12 .20 .40 .40	16 12 12 .20 .50 .30 2-3
Wh. Axle Space Hite Loa On	. Base e cing ch d	e L X X' C a ₁ a ₂ a ₃ G N E V	48 16 20 8 .10 .40 .50 2 1 .320 2 4	48 16 20 8 .10 .50 .40 2.3 2.4 .400 2.4	48 16 20 8 .10 .60 .30 2 3 2 L .480 2-4	48 16 20 8 .20 .40 .40 2 3 2 L .320 2-4	48 16 20 8 .20 .50 .30 2-3 L .400 2 4	44 16 12 12 .10 .40 .50 2-3 2 L .320	44 16 12 12 .10 .50 .40 2-3 2 L .400 2-4	44 16 12 12 .10 .60 .30 2-3 2 L .480 2-4	44 16 12 12 .20 .40 .40 .40 2 3 2 L .320 2-4	44 16 12 12 .20 .50 .30 2 -3 2 L .400 2-4
Wh. Axle Space Hite Loa On	. Base e cing ch d es	e L X X' C a ₁ a ₂ a ₃ G N E V	48 16 20 8 .10 .40 .50 2 1 .320 2 4	48 16 20 8 .10 .50 .40 2 1 .400 2 2 1 .400	48 16 20 8 .10 .60 .30 2 3 2 L .480 2-4	48 16 20 8 .20 .40 .40 2 3 2 L .320 2-4 2	48 16 20 8 .20 .50 .30 2-3 2 L .400 2 4	44 16 12 12 .10 .40 .50 2-3 2 L .320	44 16 12 12 .10 .50 .40 2-3 2 L .400 2-4 2	44 16 12 12 .10 .60 .30 2-3 2 L .480 2-4 2	44 16 12 12 .20 .40 .40 2 3 2 L .320 2-4	44 16 12 12 .20 .50 .30 2-3 2 L .400 2-4
Wh. Axle Space Hite Loa On	. Base e cing ch d	e L X X' C a ₁ a ₂ a ₃ G N E V	48 16 20 8 .10 .40 .50 2 1 .320 2 4	48 16 20 8 .10 .50 .40 2.3 2.4 .400 2.4	48 16 20 8 .10 .60 .30 2 3 2 L .480	48 16 20 8 .20 .40 .40 2 3 2 L .320 2-4	48 16 20 8 .20 .50 .30 2-3 L .400 2 4	44 16 12 12 .10 .40 .50 2-3 2 L .320	44 16 12 12 .10 .50 .40 2-3 2 L .400 2-4	44 16 12 12 .10 .60 .30 2-3 2 L .480 2-4	44 16 12 12 .20 .40 .40 .40 2 3 2 L .320 2-4	44 16 12 12 .20 .50 .30 2 -3 2 L .400 2-4
Wh. Axle Space Hite Loa On	. Base e cing ch d es	e L X X X' C a ₁ a ₂ a ₃ G N E V G N E V G	48 16 20 8 .10 .40 .50 2 L .320 2 L .460 1-4	48 16 20 8 .10 .50 .40 2 .4 .400 2 4 2 L .530 .400 2 1 .500 .400 2 1 .500 .400 2 1 .500 .400 .50	48 16 20 8 .10 .60 .30 2 L .480 2-4 2 I .600 2-4	48 16 20 8 .20 .40 .40 .40 2 L .320 2-4 2 L .440 2 4	48 16 20 8 .20 .50 .30 2-8 2 L .400 2 4 2 L .510 2-4	44 16 12 12 10 .40 .50 2 1 .320 2-4 2 1 .410 2-5	44 16 12 12 .10 .50 .40 2-3 2 L .400 2-4 2 L .490 2-5	44 16 12 12 10 .60 .30 2-3 2 L .480 2-4 2 L .570 2-5	44 16 12 12 .20 .40 .40 .40 2 S 2 L .320 2 -4 2 L .400 2 5	16 12 12 12 .20 .50 .30 2-3 2 L .400 2-4 2 L .480 2-5
Wh. Axle Space Hite Loa On	. Base e cing ch d es	C a1 a2 a3 G N E V GN E V G N	48 16 20 8 .10 .40 .50 2 3 2 .1 .320 2 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4	48 16 20 8 .10 .50 .40 2 3 2 1 .400 2 4 2 L .53 .50 .40 2 3 2 4 2 4 2 5 .50 .50 .50 .50 .50 .50 .50 .5	48 16 20 8 .10 .60 .30 2 3 2 L .480 2-4 .10 .60 .30 2 3 .10 .480	48 16 20 8 .20 .40 .40 .2 3 2 L .320 2-4 2 L .440 2 4	48 16 20 8 .20 .50 .30 2-8 2 L .400 2 4 2 L .510 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-4	44 16 12 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .410 2-5 2	16 12 12 .10 .50 .40 2-3 2 L .400 2-4 2 L .490 2-5 2	44 16 12 12 10 .60 .30 2-3 2 L .480 2-4 2 L .570 2-5	16 12 12 .20 .40 .40 .2 3 2 L .320 2-4 2 L .400 2.5 2	16 12 12 .20 .50 .30 2-3 2 L .400 2-4 2 L .480 2-5 2
Wh. Axle Space Hite Loa On	. Base e cing ch d es	e L X X X' C a ₁ a ₂ a ₃ G N E V G N E V G	48 16 20 8 .10 .40 .50 2 L .320 2 L .460 1-4	48 16 20 8 .10 .50 .40 2 .4 .400 2 4 2 L .530 .400 2 1 .500 .400 2 1 .500 .400 2 1 .500 .400 .50	48 16 20 8 .10 .60 .30 2 L .480 2-4 2 I .600 2-4	48 16 20 8 .20 .40 .40 .40 2 L .320 2-4 2 L .440 2 4	48 16 20 8 .20 .50 .30 2-8 2 L .400 2 4 2 L .510 2-4	44 16 12 12 10 .40 .50 2 1 .320 2-4 2 1 .410 2-5	16 12 12 12 .10 .50 .40 2-3 2 L .400 2-4 2 L .490 2-5 2 L	44 16 12 12 10 .60 .30 2-3 2 L .480 2-4 2 L .570	44 16 12 12 .20 .40 .40 .40 2 S 2 L .320 2 -4 2 L .400 2 5	16 12 12 12 .20 .50 .30 2-3 2 L .400 2-4 2 L .480 2-5
Wh. Axle Space Hite Loa On	. Base e cing ch d es	C a1 a2 a3 G NE V G NE V G	48 16 20 8 .10 .40 .50 2 3 2 L .320 2 4 2 L .460 1 - 4 4 R 8.524 2 5	48 16 20 8 .10 .50 .40 2 .4 .400 2 4 2 L .530 2 -4 2 L	48 16 20 8 .10 .60 .30 2 .480 2-4 2 1 .600 2-4 2 L	48 16 20 8 .20 .40 .40 2 3 2 L .320 2-4 2 L .440 2 4 2 L .493 2 4 2 5 2 4 2 6 2 7 2 8 2 1 2 1 2 1 2 1 3 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4	48 16 20 8 .20 .50 .30 2-8 2 L .400 2 4 2 L .510 2-4 2 1 .557 2-5	44 16 12 12 10 .40 .50 2 L .320 2-4 2 L .410 2-5 2 L	44 16 12 12 .10 .50 .40 2-3 2 L .400 2-4 2 L .490 2-5 2 L .573 2-5	44 16 12 12 10 .60 .30 2-8 2 L .480 2-4 2 L .570 2-5 L .640	44 16 12 .20 .40 .40 .40 2 3 2 L .320 2-4 2 L .400 2 5 L .400 2 .5	16 12 12 20 .50 .30 2-8 2 L .400 2-4 2 L .480 2-5 2 L
Wh. Axid Space Hito Loa On Axid	Base e e cing ch d es 10	C A1 A2 A3 GN E V GN E	48 16 20 8 .10 .40 .50 2 3 2 L .320 2 4 2 L .460 1 -4 4 R 8 .524	48 16 20 8 .10 .50 .40 2.3 2.1 .400 2.4 2.2 L.3530 2.3 2.4 2.5580 2.4 2.587 2.587	48 16 20 8 .10 .60 .30 2 3 2 L .480 2 -4 2 L .600 2 -4 2 L .650 2 5 2 5	48 16 20 8 .20 .40 .40 .40 2 3 2 L .320 2-4 2 L .440 2 4 2 L .493 2-5 2	48 16 20 8 .20 .30 .30 2-3 2 L .400 2 4 2 L .510 2-4 2 1, .557 2-5 2	44 16 12 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .410 2-5 2 L .507 2-5 2	44 16 12 12 .10 .50 .40 2-3 2 L .400 2-4 2 1 .490 2-5 2 L .573 2-5 2	44 16 12 12 10 .60 .30 2-8 2 L .480 2-4 2 L .570 2-5 2 L .640 2-5 2	16 12 12 12 .20 .40 .40 2 3 2 L .320 2-4 2 L .400 2 5 2 L .480 2 .5 2	44 16 12 .20 .50 .30 2-8 2 L .400 2-5 2 L .546 2-5 2 .546
Wh. Axid Space Hito Loa On Axid	. Base e cing ch d es	e L	48 16 20 8 .10 .40 .50 2 3 2 L .320 2 4 2 L .460 1 - 4 4 R R .524 2 L .525 2 L	48 16 20 8 .10 .50 .40 2.3 2.1 .400 2.4 2.1 .52 4.2 2.1 .587 2.587 2.587	48 16 20 8 .10 .60 .30 2 3 2 L .480 2-4 2 L .600 2 -4 2 L .650 2 5 2 L	48 16 20 8 .20 .40 .40 .40 .2 3 2 L .320 2-4 2 L .440 2 4 2 2 L .449 2 4 2 L	48 16 20 8 20 .50 .30 2-3 2 L .400 2-4 2-4 2-1 .557 2-5 2-1 L	44 16 12 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .410 2-5 2 I .507	44 16 12 .10 .50 .40 2-3 2 L .400 2-4 2 2 L .490 2-5 2 L .573 2-5 2 L	44 16 12 12 .10 .60 .30 2-3 2 L .480 2-4 2 L .570 2-5 2 L .640 2-5 2 L	44 16 12 12 20 40 20 40 21 32 40 21 40 21 40 22 40 23 24 24 24 24 24 400 25 26 26 27 27 28 28 29 20 20 20 20 20 20 20 20 20 20	44 16 12 .20 .50 .30 2-8 2 L .400 2-4 2 L .480 2-5 2 L .546 2-5 2 L
Wh. Axid Space Hito Loa On Axid	Base e e cing ch d es 10	e L	48 16 20 8 .10 .40 .50 2 3 2 L .320 2 4 2 L .460 1 - 4 4 R .524 2 L .605	48 16 20 8 .10 .50 .40 2 .3 2 .1 .400 2 .4 2 .1 .530 2 .4 2 .1 .530 2 .4 2 .1 .530 2 .4 2 .1 .530 2 .4 2 .1 .530 2 .4 2 .1 .530 2 .4 2 .1 .530 2 .4 2 .1 .530 2 .4 2 .1 .530 2 .4 2 .1 .530 2 .4 2 .1 .530 2 .4	48 16 20 8 .10 .60 .30 2 3 2 4 .480 2-4 2 1 .600 2-4 2 L .650 2 5 2 1 .705	48 16 20 8 .20 .40 .40 2 3 2 .40 2 3 2 4 2 4 440 2 4 2 4 2 4 2 5 2 5 2 - 4.5 4.5 2 8 2 - 4.5 3 2 9 3 2 9 4 4 9 3 2 9 4 4 9 4 9 4 9 4 9 4 9 4 9 4 9	48 16 20 8 .20 .50 .30 2-3 2 L .400 2 4 2 L .510 2-4 2 1, .557 2-5 2 L	44 16 12 10 .10 .50 2-3 2 L .320 2-4 2 L .410 2-5 2 L .507 2-1 .507 .507 2-1 .507 2-1 .507 .50	44 16 12 12 10 .50 .40 2-3 2 L .400 2-4 2 L .490 2-5 2 L .57 2 L .58 2 2 4 2 2 4 4 2 2 4 4 4 4 4 4 4 4 4 4 4 4 4	44 16 12 12 10 .60 .30 2-8 2 1 .480 2-4 2 L .570 2-5 2 L .64 .65 .65 .60 .60 .60 .60 .60 .60 .60 .60	12 12 12 .20 .40 .40 2 3 2 L .320 2-4 2 L .400 2 5 2 L .480 2 5 2 L .480 2 5 2 L .480 2 5 2 L .480 2 5 2 L .480 2 5 2 L .480 2 5 2 5 2 5 2 5 2 5 2 5 2 5 2 5 2 5 2 5	44 16 12 12 .20 .30 2-3 2 L .400 2-4 2 L .480 2-5 2 L .50 .30
Wh. Axid Space Hito Loa On Axid	Base e cing ch d l l l l l l l l l l l l l l l l l l	e L X X X C a1 a2 a3 G N E V G N E V G N E V V G N E V V G N E V V G N E V V G N E V V G N E V V G N E V V G N E V V G N E V V C G N E V V C G N E V V C G N E V V C G N E V V C G N E V V C G N E V V C G N E V V C G N E V V C G N E V V C G N M E V V C G M M E V V C G N M E V V C G N M E V V C G N M E V V C G N M E V V C G N M E V V C G N M E V V C G N M E V V C G N M E V V C G M M E V V C G N M E V V C G M M E V V C G N M E V V C G N M E V V C G N M E V V C G N M E V V C G M M E V V C G M M E V V C G M M E V V C G M M E V V C G M M E V V C G M M E V V C G M M E V V C G M M E V V C G M M E V V C G M M E V V C M M E V V C M M E V V C M M E V V C M M E V V C M M E V V C M M E V V C M M E V V C M M E V V C M M E V V C M M E V V C M M E V V C M M E V V C M M E V M M E V M M E V M M E V M M E V M M E V M M E V M M M E V M M M E V M M M E V M M M M	48 16 20 8 .10 .40 .50 2 3 2 L .320 2 4 2 L .460 1 - 4 4 R 2 .52 4 L .50 2 4 2 L .60 2 4 2 L .60 2 4 .60 1 - 4 .60 1 - 4 .60 .60 .60 .60 .60 .60 .60 .60	48 16 20 8 .10 .50 .40 2 .3 2 .1 .400 2 .4 2 .1 .530 2 -4 2 .1 .580 2 -5 2 .1 .580 2 -5 2 .1 .580 2 .580	48 16 20 8 .10 .60 .30 2 3 2 L .480 2-4 2 L .600 2 -4 2 L .650 2 5 2 L	48 16 20 8 .20 .40 .40 .40 .2 3 2 L .320 2-4 2 L .440 2 4 2 2 L .493 2-5 2 L .560 2-5 2	48 16 20 8 20 .50 .30 2-3 2 L .400 2 4 2 L .510 2-4 2 1 .557 2-5 2 L .610 2-5 2 1 .610 2-5 2 1 .610 2-5 2 1 .610 2-6 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	44 16 12 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .410 2-5 2 I .507	44 16 12 10 .50 .40 2-3 2 L .400 2-4 2 L .490 2-5 2 L .573 2-5 2 L .655 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2	44 16 12 12 .10 .60 .30 2-3 2 L .480 2-4 2 L .570 2-5 2 L .640 2-5 2 L	44 16 12 12 .20 .40 .40 2 .3 2 L .320 2-4 2 L .400 2 .5 2 L .400 2 .5 2 .560 2 .5 2 .560 2 .5	44 16 12 20 50 30 2-3 2 L 480 2-5 2 L 546 2-5 2 L 610 2-5 2
Wh. Axle Space Hite Loa On	Base e e cing ch d es 10	C L X X X C A 1 A 2 A 3 A 3 A 3 A 5 C V C G N E E V C G N E E V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C C C N E C V C C C C C C C C C C C C C C C C C	48 16 20 8 .10 .40 .50 2 3 2 1 .320 2 4 2 L .460 1 - 4 4 R .524 2 5 2 L .605 2 .5 2 1 .605 2 5 2 1 .605 .605	48 16 20 8 .10 .50 .40 2 3 2 1 .400 2 4 2 1 .530 2 -4 2 L .587 2 -5 2 L .655 2 -5 2 L	48 16 20 8 .10 .60 .30 2 3 2 L .480 2 -4 2 L .600 2 -4 2 L .650 2 5 2 L .705 2 5 2 L	48 16 20 8 .20 .40 .40 .2 3 2 L .320 2-4 2 L .440 2 4 2 L .493 2 -5 2 L .560 2 -5 2 L	48 16 20 8 .20 .50 .30 2-8 2 L .400 2 4 2 L .510 2-4 2 1, .557 2-5 2 L .610 2-5 2 L	44 16 12 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .410 2-5 2 L .507 2-5 2 L .605	44 16 12 10 .50 .40 2-3 2 L .400 2-4 2 1 .499 2-5 2 L .573 2-5 2 L .655 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2	44 16 12 12 10 .60 .30 2-3 2 L .480 2-4 2 L .570 2-5 2 L .640 2-5 2 L .600 2-7 2-1 .600 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	16 12 12 12 .20 .40 .40 2 3 2 L .320 2-4 2 L .400 2 5 2 L .480 2 5 2 L .560 2 -5 2 L	44 16 12 .20 .50 .30 2-8 2 L .400 2-4 2 L .480 2-5 2 L .546 2-5 2 L .610 2-5 2 L
Wh. Axid Space Hito Loa On Axid	Base e cing ch d l l l l l l l l l l l l l l l l l l	C L X X X Y C A 1 A 2 A 3 A 3 A 3 A 3 A 3 A 3 A 4 A 4 A 4 A 4	48 16 20 8 .10 .40 .50 2 3 2 L .320 2 4 2 L .460 1-4 4 R .524 2 5 5 6 1 .50 2 .50 2 .50 2 .50 2 .50 2 .50 2 .50 2 .50 2 .50 2 .50 2 .50 2 .50 2 .50 2 .50 2 .50 2 .50 2 .50 2 .50 2 .50 2 .50 .50 .50 .50 .50 .50 .50 .50	48 16 20 8 .10 .40 2.3 2.4 .400 2.4 2.530 2.4 2.587	48 16 20 8 .10 .60 .30 2 3 2 L .480 2-4 2 L .600 2-4 2 L .650 2 5 2 L .705	48 16 20 8 .20 .40 .40 .40 2 3 2 L .320 2-4 2 L .440 2 4 2 L .493 2-5 2 L .560 2 -5 2 L	48 16 20 8 .20 .30 2-3 2 L .400 2 4 2 L .510 2-4 2 1, .557 2-5 2 L .610	44 16 12 12 .10 .50 2-3 2 L .320 2-4 2 L .410 2-5 2 L .507 2-5 2 L .507 2-5 2 L	44 16 12 12 .10 .40 2-3 2 L .400 2-4 2 1 .573 2-5 2 L .655 2 L .655 2 L .704	44 16 12 12 .10 .60 .30 2-8 2 L .480 2-4 2 L .570 2-5 2 L .640 2-5 2 L .705 .744	44 16 12 12 .20 .40 .40 2 3 2 L .320 2-4 2 L .400 2 5 2 L .480 2 .5 2 L .560 2 -5 2 L .560 .60	44 16 12 .20 .50 .30 2-3 2 L .400 2-4 .2 L .480 2-5 2 L .546 2-5 2 L .648
Wh. Axid Space Hito Loa On Axid	Base e cing ch d l l l l l l l l l l l l l l l l l l	C L X X X C A 1 A 2 A 3 A 3 A 3 A 5 C V C G N E E V C G N E E V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C C C N E C V C C C C C C C C C C C C C C C C C	48 16 20 8 .10 .40 .50 2 3 2 1 .320 2 4 2 L .460 1 -4 4 R .524 2 5 2 L .605 2 .5 2 L .664 2 -5 2 L	48 16 20 8 .10 .40 2 3 2 1 .400 2 4 2 1 .530 2 4 2 L .587 2 5 2 L .655 2 - 5 2 L .704 2 2 L .655	48 16 20 8 .10 .60 .30 2 3 2 L .480 2 -4 2 L .600 2 -4 2 L .650 2 5 2 1 .705 2 5 2 L .705 2 5 2 L .704 2 L .704 2 L .705 2 L	48 16 20 8 .20 .40 .40 .2 3 2 L .320 2-4 2 L .440 2 4 2 L .493 2 -5 2 L .560 2 -5 2 L	48 16 20 8 .20 .30 2-8 2 L .400 2 4 2 L .510 2-4 2 1 .557 2-5 2 L .610 2-5 2 L .648 2-5 2 2 2 2 2 2 2 2 2 2 2 2 2	44 16 12 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .410 2-5 2 L .507 2-5 2 L .605	44 16 12 12 10 .50 .40 2-3 2 L .400 2-4 2-1 .490 2-5 2 L .573 2-5 2 L .655 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2	44 16 12 12 10 .60 .30 2-3 2 L .480 2-4 2 L .570 2-5 2 L .640 2-5 2 L .705 2-5 2 L .704 2-5 2 .705 2-5 2 .705 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	44 16 12 12 .20 .40 .40 2 .3 2 L .320 2-4 2 L .400 2 .5 2 .5 2 L .400 2 .5	44 16 12 .20 .30 .30 2-3 2 L .400 2-4 2 L .546 2-5 2 L .610 2-5 2 L .610 2-5 2 L .610 2-5 2 .60 .60 2-7 .70 .70 .70 .70 .70 .70 .70 .7
Wh. Axid Space Hito Loa On Axid	Base e cing ch d l l l l l l l l l l l l l l l l l l	C L X X X Y C A 1 A 2 A 2 A 3 A 3 A 5 C Y C G N E V C C C C C C C C C C C C C C C C C C	48 16 20 8 .10 .40 .50 2 3 2 L .320 2 4 2 4 2 4 4 4 R 8.524 2 5 2 L .605 2 5 2 L .605	48 16 20 8 .10 .50 .40 2 .3 2 .1 .400 2 .4 2 .1 .580 2 -4 2 .1 .587 2 -5 2 .1 .655 2 -5 2 .1 .655 2 -5 2 .1 .655	48 16 20 8 .10 .60 .30 2 3 2 L .480 2-4 2 L .650 2 5 2 L .705 2 5 2 L .705 2 L .744 2 L	48 16 20 8 .20 .40 .40 .40 .2 3 2 L .320 2-4 2 L .440 2 4 2 L .493 2-5 2 L .560 2-5 2 L	48 16 20 8 20 .50 .30 2-3 2 L .400 2-4 2 1 .557 2-5 2 L .610 2-5 2 L .610 2-5 2 L .540 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	44 16 12 12 10 40 .50 2-3 2 L .320 2-4 2 L .410 2-5 2 L .507 2-5 2 L .507 2-5 2 L .506 2-1 .507 .507 .507 .507 .507 .507 .507 .507 .507 .507 .507 .5	44 16 12 12 .10 .40 2-3 2 L .400 2-4 2 1 .573 2-5 2 L .655 2 L .704 2-5 2 L	44 16 12 12 .10 .60 .30 2-3 2 L .480 2-4 2 L .570 2-5 2 L .640 2-5 2 L .704 2-5 2 L	44 16 12 12 .20 .40 .40 2 3 2 L .320 .320 2-4 2 L .400 2 5 2 L .480 2 .5 2 L .560 2 -5 2 L .560 2 -5 2 L .560 .560 .660	44 16 12 20 50 30 2-3 2 L 480 2-5 2 L 546 2-5 2 L 610 2-5 2 L 648 2-5 2 L 648
Wh. Axid Space Hito Loa On Axid	. Bass e cing ch d ces 10 20 40 50	C C A1 A2 A2 A3 A2 A3 A3 A4 A4 A4 A4 A4 A4 A4 A4 A4 A4 A4 A4 A4	48 16 20 8 .10 .40 .50 2 3 2 L .320 2 4 2 L .460 1 -4 4 R 8.524 2 L .605 2 -5 2 L .605 2 -5 2 L .703	48 16 20 8 .10 .50 .40 2 3 2 L .530 2 -4 2 L .587 2 -5 2 L .655 2 -5 2 L .737	48 16 20 8 .10 .60 .30 2 3 2 L .480 2-4 2 L .600 2-4 2 L .650 2 5 2 L .705 2 5 2 L .705	48 16 20 8 .20 .40 .40 2 3 2 .40 2 -4 2 L .440 2 4 2 L .493 2 -5 2 L .560 2 -5 2 L .640	48 16 20 8 .20 .30 2-3 2 L .400 2 4 2 L .510 2-4 2 1 .557 2-5 2 L .610 2-5 2 L .610	44 16 12 10 .50 2-3 2 L .320 2-4 2-1 .410 2-5 2 L .507 2-5 2 L .605 2-5 2 L .505 2-1 .50 2-1 .50 2-1 .50 2-1 .50 2-1 .50 2-1 .50 2-1 .50 2-1 .50 .50 .50 .50 .50 .50 .50 .50	44 16 12 12 10 .40 2-3 2 L .400 2-4 2-4 2-5 2 L .655 2-5 2 L .655 2-5 2 L .737	44 16 12 12 .10 .60 .30 2-8 2 L .480 2-4 2 L .570 2-5 2 L .705 2-5 2 L .705 2-5 2 L .705	44 16 12 12 12 .20 .40 .40 2 3 2 L .32 2 -4 2 L .400 2 5 2 5 2 L .400 2 -5 2 L .400	44 16 12 .20 .30 .30 2-3 L .400 2-4 .2 L .546 2-5 .2 L .610 2-5 .2 L .610 2-5 .2 L .610
Wh. Axid Space Hito Loa On Axid	. Bass e cing ch d ces 10 20 40 50	C	48 16 20 8 .10 .40 .50 2 3 2 L .320 2 4 2 L .460 1 - 4 4 R .524 2 5 2 L .605 2 - 5 2 L .664 2 - 5 2 L .703 2 L .704 2 L .705	48 16 20 8 .10 .40 2-3 2-4 2-4 2-4 2-4 2-4 2-4 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	48 16 20 8 .10 .60 .30 2 3 2 L .480 2 -4 2 L .650 2 -5 2 L .705 2 5 2 L .744 2 L .705 2 5 2 L .705	48 16 20 8 .20 .40 .40 .2 3 2 L .320 2 -4 2 L .440 2 4 2 L .493 2 -5 2 L .560 2 -5 2 L .608 2 -5 2 L .640 1 -5	48 16 20 8 .20 .50 .50 .30 2-8 2 L .400 2 4 2 1 .510 2-4 2 1 .557 2-5 2 L .610 2-5 2 L .648 2 5 2 L .648 1 5	44 16 12 12 10 40 .50 2-3 2 L .320 2-4 2 L .410 2-5 2 L .507 2-5 2 L .605 2-5 2 L .507 2-5 2 L .507 2-5 2 L .507 2-5 2 L .507 2-5 2 L .507 2-5 2 L .507 2-5 2 L .507 2-5 2 L .608 2-5 2-5 2 L .608 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	44 16 12 12 .10 .40 2-3 2 L .400 2-4 2 L .573 2-5 2 L .655 2-5 2 L .655 2-5 2 L .704	44 16 12 12 10 .60 .30 2-8 2 L .480 2-4 2 L .570 2-5 2 L .640 2-5 2 L .705 2-5 2 L .704 2-5 2 L .704 2-5 2 L .705 2-5 2 L .705 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	16 16 16 17 18 18 18 18 18 18 18 18 18 18 18 18 18	44 16 12 .20 .50 .30 2-8 2 L .400 2-4 2 L .5480 2-5 2 L .610 2-5 2 L .648 2-5 2 L .648 1-5 2 L .648
Wh. Axid Space Hito Loa On Axid	. Bass e cing ch d ces 10 20 40 50	C A1 A2 A3 A3 A4 A4 A4 A4 A4 A4 A4 A4 A4 A4 A4 A4 A4	48 16 20 8 .10 .40 .50 2 3 2 L .320 2 4 2 L .460 1 -4 4 R 8.524 2 L .605 2 -5 2 L .605 2 -5 2 L .703	48 16 20 8 .10 .50 .40 2 3 2 L .530 2 -4 2 L .587 2 -5 2 L .655 2 -5 2 L .737	48 16 20 8 .10 .60 .30 2 3 2 L .480 2-4 2 L .600 2-4 2 L .650 2 5 2 L .705 2 5 2 L .705	48 16 20 8 .20 .40 .40 2 3 2 .40 2 -4 2 L .440 2 4 2 L .493 2 -5 2 L .560 2 -5 2 L .640	48 16 20 8 .20 .30 2-3 2 L .400 2 4 2 L .510 2-4 2 1 .557 2-5 2 L .610 2-5 2 L .610	44 16 12 10 .50 2-3 2 L .320 2-4 2-1 .410 2-5 2 L .507 2-5 2 L .605 2-5 2 L .505 2-1 .50 2-1 .50 2-1 .50 2-1 .50 2-1 .50 2-1 .50 2-1 .50 2-1 .50 .50 .50 .50 .50 .50 .50 .50	44 16 12 12 10 .40 2-3 2 L .400 2-4 2-4 2-5 2 L .655 2-5 2 L .655 2-5 2 L .737	44 16 12 12 .10 .60 .30 2-8 2 L .480 2-4 2 L .570 2-5 2 L .705 2-5 2 L .705 2-5 2 L .705	44 16 12 12 12 .20 .40 .40 2 3 2 L .32 2 -4 2 L .400 2 5 2 5 2 L .400 2 -5 2 L .400	44 16 12 .20 .30 .30 2-3 .40 2-4 .2 .1 .480 2-5 .2 .546 2-5 .2 .546 2-5 .2 .610 2-5 .2 .610 2-5 .610 2-6 .610 2-7 .610 .610 2-7 .610
Wh. Axid Space Hito Loa On Axid	Base e cing eh d e cs 10 20 30 40 50 60	C A A A A A A A A A A A A A A A A A A A	48 16 20 8 .10 .40 .50 2 3 2 L .320 2 4 2 L .460 1 - 4 4 R .524 2 5 2 L .605 2 - 5 2 L .664 2 - 5 2 L .703 2 - 5 2 L .703	48 16 20 8 .10 .40 2-3 2-4 2-4 2-4 2-4 2-587 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	48 16 20 8 .10 .60 .30 2 3 2 L .480 2-4 2 L .600 2-4 2 L .650 2 5 2 L .705 2 5 2 L .744 2-5 2 L .770 2-5 2 L .780 2-5 2 L .780	48 16 20 8 .20 .40 .40 2 3 2 L .320 2-4 2 L .440 2 4 2 L .493 2-5 2 L .608 2-5 2 L .608 1-5 1 L .720	48 16 16 20 8 .20 .50 .30 2-3 2 L .400 2 4 2 L .510 2-4 2 1 .557 2-5 2 L .610 2-5 2 L .648 2 5 2 L .6745	44 16 12 10 40 .50 2-3 2 L .320 2-4 2 L .410 2-5 2 L .507 2-5 2 L .605 2-5 2 L .605 3-5 2 1 .605 3-7 3-7 3-7 3-7 3-7 3-7 3-7 3-7	44 16 12 12 .10 .40 2-3 2 L .400 2-4 2 L .573 2-5 2 L .655 2-5 2 L .704 2-5 2 L .655 2-5 2 L .704 2-5 2 L .704 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	44 16 12 12 10 .60 .80 2-8 2 L .480 2-4 2 L .570 2-5 2 L .640 2-5 2 L .705 2-5 2-5 2 L .705 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-	44 16 12 12 .20 .40 .40 2 3 2 L .320 2-4 2 L .400 2 5 2 L .480 2 -5 2 L .560 2 -5 2 L .608 1 -5 8 8 8 8 8 8 8 8 8 8 8 8 8	44 16 12 .20 .50 .30 2-8 2 L .400 2-5 2 L .546 2-5 2 L .648 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5
Wh. Axid Space Hito Loa On Axid	Base e cing eh d e cs 10 20 30 40 50 60	C A1 A2 G NE V G	48 16 20 8 .10 .40 .50 .50 .50 .50 .50 .50 .50 .50 .50 .5	48 16 20 8 .10 .50 .40 2 .3 2 .1 .400 2 .4 2 .1 .530 2 -4 2 .1 .587 2 -5 2 .1 .655 2 .5 2 .1 .704 2 .1 .707 2 .1	48 16 20 8 .10 .60 .30 2 3 2 .L .480 2-4 2 .L .600 2 -4 2 .L .705 2 5 2 .L .705 2 5 2 .L .770 2-5 2 .L .770 2-5 2 .L .770 2-5 2 .L .803	48 16 20 8 20 8 20 40 40 2 3 2 L 32 2 L 440 2 4 2 4 2 5 L 560 2 -5 2 L 640 1 -5 1 L 720 1 -5	48 16 20 8 20 .50 .30 2-3 2 L .400 2 4 2 L .510 2-4 2 1 .557 2-5 2 L .610 2-5 2 L .610 2-5 2 L .745 2 1 .757 2-5 2 1 .746 1 .7	44 16 12 12 10 .40 .50 2-3 2 L .320 2-4 2 L .410 2-5 2 L .507 2-5 2 L .605 2-5 2 L .507 2-5 2 L .507 2-5 2 L .508 .509	44 16 12 12 10 .40 2-3 2 L .400 2-4 2 L .490 2-5 2 L .573 2-5 2 L .655 2-5 2 L .707 2-7 2-1 .737	44 16 12 12 10 .30 2-8 2 L .480 2-4 2 L .570 2-5 2 L .705 2-5 2 L .705 2-5 2 L .705 2-5 2 L .705 2-1 .706 .707 .707 .708 .708 .709	44 16 12 12 .20 .40 .40 2 .3 2 L .32 2 L .400 2 .5 2 L .400 2 .5 2 L .400 2 .5 2 .L .400 2 .5 2 .L .400 2 .5 2 .L .400 2 .5 2 .L .400 2 .S .400	44 16 12 20 50 30 2-3 2 L 480 2-5 2 L .546 2-5 2 L .610 2-5 2 L .610 2-5 2 L .546 10 2-5 10 10 10 10 10 10 10 10 10 10
Wh. Axid. Hitte Load On Axid.	Base e cing ch d ces 10 20 30 40 50 60 80	C L XX C a1 a2 a3 G N E V G N	48 16 20 8 .10 .40 .50 2 3 2 1 .320 2 4 2 L .460 1-4 4 R .524 2 5 2 L .605 2 -5 2 L .703 2 -5 2 L .752 1 -5 5	48 16 20 8 .10 .50 .40 2 3 2 L .400 2 4 2 L .530 2 -4 2 L .585 2 -5 2 L .704 2 -5 2 L .778 2 -5 2 L .778	48 16 20 8 .10 .60 .30 2 3 2 L .480 2-4 2 L .6600 2-4 2 L .650 2 5 2 L .705 2 5 2 L .7744 2-5 2 L .7770 2-5 2 L .803 2-5 2	48 16 20 8 .20 .40 .40 2 3 2 .1 .320 2-4 2 .440 2 4 2 .493 2-5 2 .560 2-5 2 L .604 1-5 1 L .720 1-5 1	48 16 20 8 .20 .50 .50 .24 .2 .510 .510 .52 .4 .510 .52 .648 .55 .648 .55 .648 .55 .648 .55 .648 .55 .648 .55 .648 .55 .648 .55 .648 .55 .648 .55 .648 .55 .648 .55 .648 .55 .648 .55 .648 .55 .648 .55 .648 .55 .648 .55 .648 .55 .65 .65 .65 .65 .65 .65 .65 .65 .65	44 16 12 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .410 2-5 2 L .605 2-5 2 L .605 2-5 2 L .778 1-5 R .778	10 10 11 10 10 10 10 10 10 10	44 16 12 12 10 .60 .30 2-8 2 L .480 2-4 2 L .570 2-5 2 L .705 2-5 2 L .774 2-5 2 L .7770 2-5 2 L .770 2-5 2 L .770 2-5 2 L .770 2-5 2 L .7803 2-5 2 L .803 2-5 2	10 44 16 16 12 12 12 12 12 12 14 10 14 16 16 17 16 17 16 17 17 17 17 17 17 17 17 17 17 17 17 17	44 16 12 .20 .50 .30 2-3 2 L .400 2-4 2 L .546 2-5 2 L .610 2-5 2 L .648 2-5 1 5 1 1 5 1
Wh. Axid. Hitte Load On Axid.	Base e cing eh d e cs 10 20 30 40 50 60	C A1 A2 G NE V G	48 16 20 8 .10 .40 .50 .50 .50 .50 .50 .50 .50 .50 .50 .5	48 16 20 8 .10 .50 .40 2 .3 2 .1 .400 2 .4 2 .1 .530 2 -4 2 .1 .587 2 -5 2 .1 .655 2 .5 2 .1 .704 2 .1 .707 2 .1	48 16 20 8 .10 .60 .30 2 3 2 .L .480 2-4 2 .L .600 2 -4 2 .L .705 2 5 2 .L .705 2 5 2 .L .770 2-5 2 .L .770 2-5 2 .L .770 2-5 2 .L .803	48 16 20 8 20 8 20 40 40 2 3 2 L 32 2 L 440 2 4 2 4 2 5 L 560 2 -5 2 L 640 1 -5 1 L 720 1 -5	48 16 20 8 20 .50 .30 2-3 2 L .400 2 4 2 L .510 2-4 2 1 .557 2-5 2 L .610 2-5 2 L .610 2-5 2 L .745 2 1 .757 2-5 2 1 .746 1 .7	44 16 12 12 10 .40 .50 2-3 2 L .320 2-4 2 L .410 2-5 2 L .507 2-5 2 L .605 2-5 2 L .507 2-5 2 L .507 2-5 2 L .508 .509	44 16 12 12 10 .40 2-3 2 L .400 2-4 2 L .490 2-5 2 L .573 2-5 2 L .655 2-5 2 L .707 2-7 2-1 .737	44 16 12 12 10 .30 2-8 2 L .480 2-4 2 L .570 2-5 2 L .705 2-5 2 L .705 2-5 2 L .705 2-5 2 L .705 2-1 .706 .707 .707 .708 .708 .709	44 16 12 12 .20 .40 .40 2 .3 2 L .32 2 L .400 2 .5 2 L .400 2 .5 2 L .400 2 .5 2 .L .400 2 .5 2 .L .400 2 .5 2 .L .400 2 .5 2 .L .400 2 .S .400	44 16 12 20 50 30 2-3 2 L 480 2-5 2 L .546 2-5 2 L .610 2-5 2 L .610 2-5 2 L .546 10 2-5 10 10 10 10 10 10 10 10 10 10

90 METHOD OF CONVERTING HEAVY MOTOR VEHICLE LOADS

90 TAI	BLE	7 11	(Continue		ONVER	ING H	EAVY M	OTOR V	/EHICLI	LOAD	5	
	ck No		51	52	53	54	55	56	57	58	59	60
	. Base	L	48	48	48	48	48	52	52	52	52	52
Axl		X X	16 16	16 16	16	16	16	16 20	16	16 20	16 20	16 20
Hite	cing ch	C	12	12	16	$\frac{16}{12}$	16	$\frac{20}{12}$	12	12	12	$\frac{20}{12}$
Loa		a ₁	.10	.10	.10	.20	.20	.10	,10	.10	.20	.20
On	0.00	\mathbf{a}_2	.40 .50	.50 .40	.60 .30	.40	.50	$.40 \\ .50$.50	.60 .30	.40	$.50 \\ .30$
Axl	.68	a ₃	2-3	2-3	2-3	$\frac{.40}{2-3}$	$\frac{.30}{2-3}$	2 -3	2-3	2-3	$\frac{.40}{2-3}$	2-3
		N	2	2	2	2	2	2	2	2	2	2
İ	10	E V	$^{ m L}_{.320}$	$_{.400}^{\mathbf{L}}$	$_{.480}^{\mathbf{L}}$	$^{ m L}_{.320}$	$_{.400}^{ m L}$	$^{ m L}_{.320}$	$_{.400}^{\mathbf{L}}$	$_{.480}^{ m L}$	$^{ m L}_{.320}$	$_{.400}^{ m L}$
		G	2-4	2-4	2-4	24	2-4	2-4	2 4	2 4	2-4	2-4
	20	$_{ m E}^{ m N}$	$^2_{ m L}$	$_{\mathbf{L}}^{2}$	$^2_{ m L}$	$^2_{ m L}$	2 I.	2 L	$^2_{ m L}$	$^2_{ m L}$	$_{ m L}^2$	$^2_{ m L}$
		$\tilde{\mathbf{v}}$.410	.490	.570	.400	.480	.410	.490	.570	.400	.480
		G N	$\substack{2-4\\2}$	$\frac{2-4}{2}$	$^{2-4}_{2}$	$^{2-4}_{2}$	2- 4 2	$\frac{2-4}{2}$	$\frac{2-4}{2}$	2-4	$^{2-4}_2$	$^{2-4}_2$
	30	\mathbf{E}	L	L	L	\mathbf{L}	\mathbf{L}	$_{\rm L}$	L	$^2_{ m L}$	L	\mathbf{L}
		<u>V</u> _	.490 2-5	$\frac{.560}{2-5}$.630 2-5	.467 2-5	.537 z-5	2 · 5	.560 2-5	2-5	$\frac{.467}{2-5}$	$\frac{.537}{2-5}$
		G N	2	2	2	2	2	2	2	2	2	2
e	40	E	$_{.580}^{ m L}$	$_{.635}^{\mathbf{L}}$	$_{.690}^{ m L}$	L .540	L .595	$_{.555}$	$^{ m L}_{.615}$	$^{ m L}_{.675}$	$_{.520}^{ m L}$	$_{.580}^{ m L}$
n-F		G	2-5	2-5	2 5	2-5	2.5	2 5	2-5	2 5	2-5	2-5
Span-Feet		N	2	$^2_{ m L}$	2	2	$^2_{ m L}$	$^2_{ m L}$	$^2_{ m L}$	2	2	$\frac{2}{L}$
02	50	$_{\mathbf{V}}^{\mathrm{E}}$	$_{.644}^{\mathrm{L}}$.688	$^{ m L}_{.732}$	$_{.592}^{ m L}$.636	.624	.672	$^{ m L}_{.720}$	$^{ m L}_{.576}$.624
		G	2-5	2-5	2-5	2-5	2 5	2-5	2 5	2-5	2-5	2-5
Ì	60	N E	$^2_{\mathbf{L}}$	$^2_{ m L}$	2 L	$_{\rm L}^2$	$^2_{ m L}$	$_{ m L}^2$	$^2_{ m L}$	$_{ m L}^2$	$^2_{ m L}$	$^2_{ m L}$
		V	.687	.724	.760	.626	.663	.670	.710	.750	.614	.654
		G N	1-5 5	$^{2-5}_{2}$	$\frac{2-5}{2}$	1 5 1	$rac{1\cdot\cdot 5}{1}$	$^{2}_{2}^{5}$	$\frac{2-5}{2}$	$\substack{2-5\\2}$	$_{1}^{1-5}$	$^{1-5}_1$
	80	\mathbf{E}	ĸ	2 L	L	${f L}$	\mathbf{L}	2 I.	L	\mathbf{L}	L	L
		G	.740 1-5	.768 2-5	$\frac{.795}{2-5}$.710 1-5	$\frac{.738}{15}$.727 15	$\frac{.758}{2-5}$.788 25	$\frac{.700}{1-5}$.730 1-5
Ì		N	5	2	2	1	1	5	2	2	1	1
	100	E V	$^{ m R}_{.792}$	$^{ m L}_{.794}$	$^{ m L}_{.816}$	$_{.768}^{ m L}$	$^{ m L}_{.790}$	$^{ m R}_{.762}$	$^{ m L}_{.786}$	$^{ m L}_{.810}$	$^{ m L}_{.760}$	$^{ m L}_{.784}$
		•			-0.20							
Tw	rale M		61	69	69	C.4	65	e.e	67	60	60	70
	ıck N		61	62 44	63 44	64	65	66 48	67	68 48	69 48	70 48
$\frac{\mathbf{W}\mathbf{h}}{\mathbf{A}\mathbf{x}}$. Base le	2 L X	20	44 20	20	44 20	20	48 20	48	48 20	48 20	48 20
Wh Axl Spa	. Base le acing	X X	20 12	44 20 12	44 20 12	44 20 12	20 12	48 20 16	48 20 16	48 20 16	48 20 16	48 20 16
Mh Axl Spa Hit	. Base le acing ch	X X C	20 12 8	20 12 8	20 12 8	20 12 8	20 12 8	48 20 16 8	48 20 16 8	48 20 16 8	48 20 16 8	48 20 16 8
Wh Axl Spa Hit Loa On	i. Base le acing ch ad	X X' C a ₁ a ₂	20 12 8 .10 .40	44 20 12 8 .10 .50	8 .10 .60	44 20 12 8 .20 .40	20 12 8 .20 .50	48 20 16 8 .10 .40	48 20 16 8 .10 .50	48 20 16 8 .10 .60	48 20 16 8 .20 .40	48 20 16 8 .20 .50
Wh Axi Spa Hit Loa	i. Base le acing ch ad	X X' C a ₁ a ₂ a ₃	20 12 8 .10 .40 .50	44 20 12 8 .10 .50 .40	44 20 12 8 .10 .60 .30	44 20 12 8 .20 .40 .40	20 12 8 .20 .50 .30	48 20 16 8 .10 .40 .50	48 20 16 8 .10 .50 .40	48 20 16 8 .10 .60 .30	48 20 16 8 .20 .40 .40	48 20 16 8 .20 .50 .30
Wh Axl Spa Hit Loa On	i. Base le acing ch ad	Z L X X' C a1 a2 a3 G N	44 20 12 8 .10 .40 .50 2-3 2	44 20 12 8 .10 .50 .40	44 20 12 8 .10 .60 .30 2-3 2	44 20 12 8 .20 .40 .40 2-3 2	44 20 12 8 .20 .50 .30 2-3 2	$ \begin{array}{r} 48 \\ 20 \\ 16 \\ 8 \\ .10 \\ .40 \\ .50 \\ -2 \\ 3 \\ 2 \end{array} $	48 20 16 8 .10 .50 .40 2-3 2	48 20 16 8 .10 .60 .30 2-3 2	48 20 16 8 .20 .40 .40 2-3 2	48 20 16 8 .20 .50 .30 2-3 2
Wh Axl Spa Hit Loa On	i. Base le acing ch ad	X X' C a ₁ a ₂ a ₃ G	20 12 8 .10 .40 .50	44 20 12 8 .10 .50 .40	44 20 12 8 .10 .60 .30 2-3	44 20 12 8 .20 .40 .40	8 .20 .50 .30 .2-3	48 20 16 8 .10 .40 .50 2 3	48 20 16 8 .10 .50 .40 2–3	48 20 16 8 .10 .60 .30 2-3	48 20 16 8 .20 .40 .40	48 20 16 8 .20 .50 .30
Wh Axl Spa Hit Loa On	i. Base le acing ch ad	E L X X X' C a1 a2 a3 G N E V G	44 20 12 8 .10 .40 .50 2-3 2 L .320 2-4	44 20 12 8 .10 .50 .40 2-3 2 L .400 2-4	44 20 12 8 .10 .60 .30 2-3 2 L .480 2-4	44 20 12 8 .20 .40 .40 2–3 2 L .320 2–4	44 20 12 8 .20 .50 .30 2-3 2 L .400	48 20 16 8 .10 .40 .50 2 3 2 1 .320 2-4	48 20 16 8 .10 .50 .40 2-3 2 L .400 2-4	48 20 16 8 .10 .60 .30 2-3 2 L .480	48 20 16 8 .20 .40 .40 2-3 2 L .320 2-4	48 20 16 8 .20 .50 .30 2 .3 2 .400 2 4
Wh Axl Spa Hit Loa On	i. Base le acing ch ad	E L X X' C a ₁ a ₂ a ₃ G N E V	20 12 8 .10 .40 .50 2-3 2 L	44 20 12 8 .10 .50 .40 2-3 2 L .400 2-4	8 .10 .60 .30 2-3 L .480	44 20 12 8 .20 .40 .40 2-3 2 L .320	8 .20 .50 .30 .2-3 L	48 20 16 8 .10 .40 .50 2 1 .320	48 20 16 8 .10 .50 .40 2-3 L .400	48 20 16 8 .10 .60 .30 2-3 2 L .480 2-4	48 20 16 8 .20 .40 .40 2-3 2 L	48 20 16 8 .20 .50 .30 2 3 2 1 .400 2 4 2
Wh Axl Spa Hit Loa On	le le acing ch ad	E L X X' C a ₁ a ₂ a ₃ G N E V G N E V	44 20 12 8 .10 .40 .50 2-3 2 L .320 2-4 2 L .460	20 12 8 .10 .50 .40 2-3 2 L .400 2-4 2 L	44 20 12 8 .10 .60 .30 2-3 2 L .480 2-4 2 L	44 20 12 8 .20 .40 .40 2-3 2 L .320 2-4 2 L	44 20 12 8 .20 .50 .30 2-3 2 L .400 2-4 2 L .510	48 20 16 8 .10 .40 .50 2 3 2 L .320 2-4 2 L .460	48 20 16 8 .10 .50 .40 2-3 2 L .400 2-4 2 1 .530	48 20 16 8 .10 .60 .30 2-3 2 L .480 2-4 2 L .600	48 20 16 8 .20 .40 .40 2-3 2 L .320 2-4 2 L .440	48 20 16 8 .20 .50 .30 2-3 2 L .400 2-4 2 L .510
Wh Axl Spa Hit Loa On	le le acing ch ad	E L X X X Y C a1 a2 a3 G N E V G N E V G	20 12 8 .10 .40 .50 2-3 2 L .320 2-4 2 L .460 2-5	44 20 12 8 .10 .50 .40 2-3 2 L .400 2-4 2 L .50 .50 .50 .50 .50 .50 .50 .50	20 12 8 .10 .60 .30 2-3 2 L .480 2-4 2 L .600 2-5	44 20 12 8 .20 .40 .40 .2-3 2 L .320 2-4 2 L .440 2-5	44 20 12 8 .20 .50 .30 2-3 2 L .400 2-4 2 L .510	48 20 16 8 .10 .40 .50 2 1 .320 2-4 2 L .460 2 5	48 20 16 8 .10 .50 .40 2-3 2 L .400 2-4 2 L .530 2-5	48 20 16 8 .10 .60 .30 2-3 L .480 2 4 2 L .600 2-5	48 20 16 8 .20 .40 .40 .40 2 L .320 2 L .42 4 2 1 4 2 4 2 4 4 4 4 4 4 4 4 4 4 4 4 4	48 20 16 8 .20 .50 .30 2-3 2 .400 2-4 2 .510 2-5
Wh Axl Spa Hit Loa On	le le acing ch ad	X X X' C a ₁ a ₂ a ₃ G N E V G N E V	44 20 12 8 .10 .40 .50 2-3 L .320 2-4 2 L .460 2-5 2 L	44 20 12 8 8 .10 .50 .40 2-3 2 L .400 2-4 2 L .530 2-5 2 L	44 20 12 8 .10 .60 .30 2-3 L .480 2-4 2 L .600 2-5 2 L	44 20 12 8 .20 .40 .40 2–3 2 L .320 2–4 2 L .440 2–5 2 L	44 20 12 8 .20 .50 .30 2-3 2 L .400 2-4 2 L .510	48 20 16 8 .10 .40 .50 2 3 2 I .320 2-4 2 L .460 2 5 2 L	48 20 16 8 .10 .50 .40 2-3 2 .1 .400 2-4 2 1 .530 2-5 2 L	48 20 16 8 .10 .60 .30 2-3 2 L .480 2-4 2 L .600 2-5 2 L	48 20 16 8 .20 .40 .40 .40 .40 .40 .40 .41 .42 .42 .43 .44 .44 .44 .44 .44 .44 .44	48 20 16 8 .20 .50 .30 2-3 2 L .400 2-4 2 L .510 2-5 2 L
Wh Axl Spa Hit Loa On	L. Base le acing ch ad les 10	E L X X X C C a1 a2 a3 G N E V G N E V G N E V	44 20 12 8 .10 .40 .50 2-3 2 L .320 2-4 2 .460 2-5 2 L .573	20 12 8 .10 .50 .40 2-3 2 L .40 2-4 2 2 .530 2-5 2 1 .530	44 20 12 8 .10 .60 .30 2-3 2 L .480 2-4 2 L .600 2-5 2 L	44 20 12 8 .20 .40 .40 2-3 2 L .320 2-4 2 L .440 .40 .40 .53 40 .40 .40 .40 .40 .40 .40 .40 .40 .40	44 20 12 8 .20 .50 .30 2-3 2 L .400 2-4 2 2 L .510 .520 .520 .520 .520 .520 .520 .520 .52	48 20 16 8 .10 .50 2 3 2 1 .320 2 -4 2 4 .460 2 5 2 L .50	48 20 16 8 .10 .50 .40 2-3 2 L .400 2-4 1 .530 2-5 2 L .600	48 20 16 8 .10 .30 2-3 2 L .480 2 4 2 L .600 .600	48 20 16 8 .20 .40 .40 2-3 2 L .320 2 4 2 L .440 2 5 2 L .506	48 20 16 8 .20 .50 .30 2 .4 .40 2 .4 .510 2-5 2 L .566
White Axx Space Hitt Load On Ax	L. Basele le acing ch ad les 20	Z L X X Y C a1 a2 a3 G N E V G N E V G N E V G N E V G N E V G N E V C G N E V C G N E V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N E C V C G N C C C C C C C C C C C C C C C C C	44 20 12 8 .10 .40 .50 2-3 L .320 2-4 2 L .460 2-5 2 L .573 2-5 2	44 20 12 8 .10 .50 .40 2-3 2 1,400 2-4 2 L .530 2-5 2 L	44 20 12 8 .10 .30 2-3 2 L .480 2-4 2-L .600 2-5 L	44 20 12 8 .20 .40 .40 2-3 2 L .320 2-4 2 L .440 2-5 2 L .534 2-5 2	44 20 12 8 .20 .50 .30 2-3 2 L .400 2-4 2 L .510 2-5 2 L .586 2-5 2	48 20 16 8 .10 .40 .50 2 3 2 1 .320 2-4 2 L .460 2 5 2 L .50 2 1 .50 2 .50 .50 .50 .50 .50 .50 .50 .50	48 20 16 8 .10 .50 .40 2-3 2 .40 2-4 .530 2-5 2 L .600 2-5	48 20 16 8 .10 .60 .30 2-3 2 L .480 2-4 2 L .600 2-5 2 L .660 2-5 2 L	48 20 16 8 .20 .40 .40 2–3 2 L .320 2 4 2 L .440 2 5 2 L .506 6	48 20 16 8 .20 .50 .30 2-3 2 1 .400 2-4 2 L .510 2-5 2 L .566 2-5 2
White Axx Space Hitt Load On Ax	L. Base le acing ch ad les 10	C	44 20 12 8 .10 .40 .50 2-3 2 L .320 2-4 2 L .460 2-5 2 L .573 2-5 2 L	44 20 8 -10 .50 .40 2-3 1 L .400 2-4 2 L .530 2-4 2 L .626 2-5 2 L	44 20 12 8 .10 .60 .30 2-3 2 1, .480 2-4 2 1, .600 2-5 2 1, .680	44 20 12 8 .20 .40 .40 2-3 2 L .320 2-4 2 L .440 2-5 2 L .534	44 20 12 8 .20 .50 .50 .30 2-3 L .400 2-4 2 L .510 2-5 2 L .58 2-1 .58 2-1 .510 2-5 1 L	48 20 16 8 .10 .40 .50 2 3 1 1 .320 2 -4 2 2 1 .460 2 5 2 1 1 .50 2 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	48 20 16 8 10 40 2-3 1 1 40 2-4 2 1 1 530 2-5 2 1 600 2-5 2 1	48 20 16 8 .10 .30 .30 2-3 .1 .480 2-4 .2 .1 .600 2-5 .2 .1 .600 2-5 .2 .2 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3	48 20 16 8 .20 .40 .40 .23 .L .320 .24 .2 .L .440 .2.5 .2 .L .506 .2.5 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2	48 20 50 50 30 2-3 2 1 400 2-4 2 1 566 2-5 2 1 566 2-5 2 1 566
What Axi Spage Hitt Load On Ax	L. Basele le acing ch ad les 20	C a1 a2 a3 G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E C V C C V C C V C C V C C V C V C C V C V C C V C V C V C C V	44 20 12 8 .10 .40 .50 2-3 L .320 2-4 2 L .460 2-5 2 L .573 2-5 2 L .573	44 20 12 8 .10 .50 .40 2-3 2 1 .400 2-4 2 1 .530 2-5 2 1 .626 2-5 2 1 .626 2-5 2 1 .626 2-5 2 1 .626 2-6 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	44 20 12 8 .10 .60 .30 2-3 2 1 .480 2-4 2 1 .600 2-5 2 L .680 2-5 2 L .680 2-5 2 L .680 2-5 2 1 .600 2-7 2 1 .600 2-7 2 2 1 .600 2-7 2 2 2 2 2 2 2 2 2 2 2 2 2	44 20 12 8 .20 .40 .40 2-3 2 L .320 2-4 2 L .440 2-5 2 L .534 2-5 2 L .600 2-5	44 20 12 8 .20 .50 .30 2-3 2 L .400 2-4 2 L .510 2-5 2 L .586 2-5 2 L	48 20 16 8 .10 .50 -2 .320 2-4 2 L .460 2-5 2 L .540 2-5 2 L .540 2-5 2 L .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	48 20 16 8 .10 .50 .40 2-3 2 1 .400 2-4 2 1 .530 2-5 2 1 .600 2-5 2 1 .600 2-5 2 1 .600 2-5 2 1 .600 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	48 20 16 8 .10 .60 .30 2-3 2 L .480 2-4 2 L .600 2-5 2 L .660 2-5 2 L .660 2-5 2 L .600 2-5 2 L .600	48 20 16 8 .20 .40 .40 2-3 2 L .320 2·4 2 L .440 2·5 2 L .506 2-5 L .580	48 20 16 8 .20 .30 2.3 2 L .400 2-4 2 L .510 2-5 2 L .566 2-5 2 L
What Axi Spage Hitt Load On Ax	L. Base Le coing Lech ad Les Loca ad Ad Ad Ad Ad Ad Ad Ad Ad Ad Ad Ad Ad Ad	E L X X Y C a1 a2 a3 G N E V G	44 20 12 8 .10 .40 .50 2-3 2 L .320 2-4 2 L .460 2-5 2 L .573 2-5 2 L .573 2-5 2 L	44 20 12 8 -10 .50 .40 2-3 2 1 .400 2-4 2 1 .530 2-5 2 1 .626 2-5 2 1 .695 2-5 2	44 20 12 8 .10 .60 .30 2-3 1 1. .480 2-4 2 1 1. .600 2-5 2 1 1. .680 2-5 2 1 1. .690 2-5 2 1 1. .690 2-5 2 1 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	44 20 12 8 .20 .40 .40 2-3 2 L .320 2-4 2 L .440 2-5 2 L .534 2-5 2 L .600 2-5 2 L	44 20 12 8 .20 .50 .30 2-3 2 L .400 2-4 2 L .510 2-5 2 L .586 2-5 2 L	48 20 16 8 10 40 .50 2 3 1 .320 2-4 2 1 .460 2 5 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 1 .50 2 .50 1 .50 2 .50 1 .50 2 .50 .50 .50 .50 .50 .50 .50 .50	48 20 16 8 10 .50 .40 2-3 L .400 2-4 2 1 .530 2-5 2 L .675 2-5 2 1 .675 2-5 2	48 20 16 8 .10 .30 2-3 L .480 2-5 2 L .600 2-5 2 L .720 2-5 2	48 20 16 8 .20 .40 .40 .23 L .320 2 4 2 L .440 2 5 L .506 2 -5 2 L .580	48 20 16 8 .20 .30 2.3 2 L .400 2-4 2 L .510 2-5 2 L .566 2-5 2 L
White Axx Space Hitt Load On Ax	L. Basele le acing ch ad les 20	C a1 a2 a3 G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E C V C C V C C V C C V C C V C V C C V C V C C V C V C V C C V	44 20 12 8 .10 .40 .50 2-3 L .320 2-4 2 L .460 2-5 2 L .573 2-5 2 L .573	44 20 12 8 .10 .50 .40 2-3 2 1 .400 2-4 2 1 .530 2-5 2 1 .626 2-5 2 1 .626 2-5 2 1 .626 2-5 2 1 .626 2-6 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	44 20 12 8 .10 .60 .30 2-3 2 1 .480 2-4 2 1 .600 2-5 2 L .680 2-5 2 L .680 2-5 2 L .680 2-5 2 1 .600 2-7 2 1 .600 2-7 2 2 1 .600 2-7 2 2 2 2 2 2 2 2 2 2 2 2 2	44 20 12 8 .20 .40 .40 2-3 2 L .320 2-4 2 L .440 2-5 2 L .534 2-5 2 L .600 2-5	44 20 12 8 .20 .50 .30 2-3 2 L .400 2-4 2 L .510 2-5 2 L .586 2-5 2 L	48 20 16 8 .10 .40 .50 2 3 1 .320 2 4 2 4 .460 2 5 2 L .540 2 5 2 L .686	48 20 16 8 .10 .50 .40 2-3 L .400 2-4 .530 2-5 2 L .600 2-5 2 L .600 2-5 2 L .600 2-5 2 .600 2-5 .600 .600 2-5 .600 2-5 .600 2-5 .600 2-5 .600 2-5 .600 2-5 .600 2-5 .600 2-5 .600 2-5 .600 .6	48 20 16 8 .10 .60 .30 2-3 L .480 2-4 2 L .600 2-5 2 L .600 2-5 2 L .756	48 20 16 8 .20 .40 .40 2-3 2 L .320 2·4 2 L .440 2·5 2 L .506 2-5 L .580	48 20 16 8 .20 .30 2.3 2 L .400 2-4 2 L .510 2-5 2 L .566 2-5 2 L .625 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2
What Axi Spage Hitt Load On Ax	L. Base Le coing Lech ad Les Loca ad Ad Ad Ad Ad Ad Ad Ad Ad Ad Ad Ad Ad Ad	C a1 a2 a2 a3 G NE E V G NE E	44 20 12 8 .10 .40 .50 2-3 2 L .320 2-4 2 L .460 2-5 2 L .573 2-5 2 L .573 2-5 2 L .50 2-4 2 L .50 2-4 2 L .50 2-4 2 L .50 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	44 20 12 8 .10 .40 2-3 2 L .400 2-4 2 L .530 2-5 2 L .626 2-5 2 L .695 2-5 2 L .695 2-5 2 L .695 2-7 .695 .695 .695 .695 .695 .695 .695 .695 .695 .695 .695 .9	44 20 12 8 .10 .30 2-3 1 1. .480 2-4 2 1. .600 2-5 2 1. .680 2-5 2 1. .735 2-1 1. .735	44 20 12 8 .20 .40 .40 2-3 2 L .320 2-4 2 L .440 2-5 2 L .534 2-5 2 L .600 2-5 2 L	44 20 12 8 .20 .50 .30 2-3 2 L .400 2-4 2 L .510 2-5 2 1 L .540 2-5 2-5 2 2-5 2 2-5 2 2 2 2 2 2 2 2 2 2	48 20 16 8 10 40 .50 2 1 .320 2-4 2 1 .460 2 5 2 1 .50 2 - 4 2 L .50 2 - 4 2 L .50 2 - 4 2 L .50 2 - 5 2 L .50 2 - 6 2 L .50 2 - 6 2 L .50 2 - 7 2 - 7 2 L .50 2 - 7	48 20 16 8 .10 .40 2-3 L .400 2-4 2 L .530 2-5 2 L .600 2-5 2 L .675 2-5 2 L .720	48 20 16 8 .10 .30 2-3 2 L .480 2-5 2 L .600 2-5 2 L .720 2-5 2 L .720	48 20 16 8 .20 .40 .40 .2-3 .1 .320 .2 4 .2 L .440 .2 5 .1 .506 .2-5 .2 L .580 .2 -5 .1 .6 L .6 L .7 L	48 20 16 8 .20 .30 2.3 2 L .400 2.4 2.5 1. .510 2-5 2. L .625 2-5 2. L .625 2-5 2. L .625 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2
What Axi Spage Hitt Load On Ax	L. Base Le coing Lech ad Les Loca ad Ad Ad Ad Ad Ad Ad Ad Ad Ad Ad Ad Ad Ad	C L X X X C C A 1 A 2 A 3 A 3 A 3 C C C C C C C C C C C C C C	44 20 112 8 .10 .40 .50 2-3 2 L .320 2-4 2 L .460 2-5 2 L .573 2-5 2 L .573 2-5 2 L .50 2-1 .50 2-1 .50 2-1 .50 2-1 .50 .50 .50 .50 .50 .50 .50 .50	44 20 8 10 10 10 10 10 10 10 10 10 10	44 20 12 8 .10 .60 .30 2-3 .1 .480 2-4 .2 .1 .600 2-5 .2 .1 .680 2-5 .2 .1 .735 2-5 .1 .748 .74	44 20 12 8 .20 .40 .40 2-3 2 L .320 2-4 2 L .440 2-5 2 L .534 2-5 2 L .600 2-5 2 L .600 1-5 5 8	44 20 12 8 .20 .50 .30 2-3 L .400 2-4 2 L .510 2-5 2 L .540 2-5 2 L .640 2-5 2 L .640 2-5 2 L .540 .54	48 20 8 16 8 10 40 50 2 3 1 320 2-4 2 1 460 2 5 2 1 5 2 1 5 2 1 5 2 1 5 2 1 5 6 6 6 7 8 8 8 8 8 8 8 8 8 8 8 8 8	48 20 16 8 10 10 10 10 10 10 10 10 10 10	48 20 16 8 .10 .30 2-3 L .480 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	48 20 8 .20 .40 .40 .40 .23 .1 .320 .2 4 .2 L .440 .2 5 .2 L .506 .2 -5 .2 L .580 .2 -5 .2 L .580 .2 -5 .2 L .580 .680 .780	48 20 16 8 20 30 2-3 2 1 400 2-4 2 1 510 2-5 2 1 625 2-5 2 1 625 2-5 2 1 625 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2
What Axi Spage Hitt Load On Ax	a. Basele ecing ch ad less 10 20 30 40 50	Z L X X X C C A A A A A A A A A A A A A A A	44 20 12 8 .10 .40 .50 2-3 2 L .320 2-4 2 L .460 2-5 2 L .573 2-5 2 L .573 2-5 2 L .573 2-5 2 L .573 2-5 2 L .573 2-5 2 L .574 .575 .5	44 20 12 8 .10 .40 2-3 2 L .400 2-4 2 L .530 2-5 2 L .626 2-5 2 L .695 2-5 2 L .763	44 20 12 8 .10 .30 2-3 2 L .480 2-4 2-1 .600 2-5 2 L .580 2-5 2 L .735 2-5 2 L .735	44 20 12 8 .20 .40 2-3 2 L .320 2-4 2 L .440 2-5 2 L .534 2 L .534 2 L .600 2-5 2 2-5 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	44 20 12 8 .20 .50 .30 2-3 2 L .400 2-4 2 L .510 2-5 2 L .540 2-5 2 L .640 2-5 2 L .640 2-5 2 L .640 2-5 2 L	48 20 16 8 10 40 .50 2 1 .320 2-4 2 1 .460 2 5 2 1 .50 2-4 2 1 .50 2-4 2 1 .50 2-4 2 1 .50 2-5 2 1 .50 2-5 2 1 .50 2-5 2 1 .50 2-5 2 2 1 .50 2-5 2 2 2 2 2 2 2 2 2 2 2 2 2	48 20 16 8 .10 .40 2-3 2 L .400 2-4 2 L .530 2-5 2 L .600 2-5 2 L .675 2-5 2 L .750	48 20 16 8 .10 .60 .30 2-3 2 L .480 2-4 2 L .600 2-5 2 L .720 2-5 2 L .720 2-5 2 L .780	48 20 16 8 .20 .40 .40 2-3 2 L .320 2-4 2-5 2 L .506 2-5 2 L .580 2-5 2 L .580 2-5 2 L .580 2-5 2 L .580 2-5 2 L .580 2-5 2 L .580 2-5 2 L .580 2-5 2 2 L .580 2-5 2 2 2 2 2 2 2 2 2 2 2 2 2	48 20 50 50 30 2-3 2-1 400 2-4 2-5 1 510 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5
What Axi Spage Hitt Load On Ax	a. Basele ecing ch ad less 10 20 30 40 50	Z L X X X C C A 1 A 2 A 2 A 3 A 3 A 5 C C C C C C C C C C C C C C C C C C	44 20 12 8 .10 .40 .50 2-3 L .320 2-4 2 L .460 2-5 2 L .573 2-5 2 L .573 2-5 2 L .573 2-5 L .573 2-5 L .573 2-5 L .573 2-5 L .573 2-5 L .573 2-5 L .573 2-5 L .573 2-5 L .573 2-5 L .573 2-5 L .573 2-5 L .655 2-5 L .655 2-5 L .655 2-5 L .655 2-5 L .655 2-5 L .655 2-5 L .655 2-5 L .655 2-5 L .655 2-5 L .655 2-5 L .655 2-5 L .655 2-5 L .655 2-5 L .655 2-5 L .655 2-5 L .655 2-5 L .704 2-5 L .705 2-5 L .705 2-5 L .705 2-5 L .705 2-5 L .705 2-5 L .705 2-5 L .705 2-5 L .705 2-5 L .705 2-5 L .705 2-5 L .705 2-5 L .705	44 20 12 8 .10 .40 2-3 2 L .400 2-4 2 L .530 2-5 2 L .626 2-5 2 L .626 2-5 2 L .626 2-5 2 L .636 2-5 2 L .626 2-5 2 L .626 2-5 2 L .626 2-5 2 L .626 2-5 2 L .626 2-5 2 L .626 2-5 2 L .626 2-5 2 L .626 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	44 20 12 8 .10 .60 .30 2-3 2 L .600 2-5 2 L .680 2-5 2 L .735 2-5 2 L .748 2-5 2 L .748	44 20 12 8 .20 .40 .40 2-3 2 L .320 2-4 2 L .534 2-5 2 L .640 2-5 2 L .640 2-5 2 L .640 2-5 2 L .640 2-5 2 L .640 2-5 2-5 2 .640 2-5 2-5 2 .640 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	44 20 12 8 .20 .50 .30 2-3 2 L .400 2-4 2 L .510 2-5 2 L .640 2-5 2 L .672 2-5 2 L .672 2-5 2-5 2-5 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	48 20 16 8 .10 .40 .50 -2 3 2 1 .320 2 -4 2 L .540 2 5 2 L .630 2 -5 2 L .684 2 -5 2 L .720 2 -5 2 L .720 2 -5	48 20 16 8 .10 .50 .40 2-3 2 1 .400 2-4 2 1 .530 2-5 2 1 .600 2-5 2 1 .600 2-5 2 1 .600 2-5 2 1 .600 2-5 2 1 .600 2-5 2 1 .600 2-5 2 1 .600 2-5 2 1 .600 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	48 20 16 8 .10 .60 .30 2-3 2 L .480 2-5 2 L .660 2-5 2 L .720 2-5 2 L .756 2 L .780 2-5 2 L .780 2-5	48 20 16 8 .20 .40 .40 .40 .40 .2-3 .2 L .320 .440 .506 .506 .506 .506 .506 .506 .506 .624 .624 .624 .624 .624 .624 .624 .635 .636	48 20 16 8 .20 .30 .30 2 · 3 .400 2 · 4 .510 .566 2 - 5 2 L .625 2 · 2 L .625 2 · 2 L .625 2 · 2 L .660 2 · 5 L .660 2 · 5 L .660
What Axi Spage Hitt Load On Ax	a. Basele ecing ch ad less 10 20 30 40 50	L XX C C a1 a2 a3 G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE C NE C G NE C	44 20 12 8 .10 .40 .50 2-3 2 L .320 2-4 2 L .460 2-5 2 L .573 2-5 2 L .573 2-5 2 L .573 2-5 2 L .573 2-5 2 L .573 2-5 2 L .573 2-5 2 L .573 2-5 2 L .573 2-5 2 L .655 2 .655 .655 2 .655 .655 2 .655	44 20 12 8 .10 .40 2-3 2 L .400 2-4 2 L .530 2-5 2 L .626 2-5 2 L .695 2-5 2 L .736 2-5 2 L .626 2-5 2 L .626 2-5 2 L .626 2-5 2 L .626 2-5 2 L .626 2-5 2 L .626 2-5 2 L .626 2-5 2 L .626 2-5 2 L .626 2-5 2 L .626 2-5 2 L .626 2-5 2 L .626 2-5 2 2 L .626 2-5 2 2 L .626 2-5 2 2 2 2 2 2 2 2 2 2 2 2 2	44 20 12 8 8 .10 .60 .80 2-3 2 L .48 2 L .600 2-5 2 L .735 2-5 2 L .768 2-5 2 L .790 2-5 2 L .790	44 20 12 8 .20 .40 2-3 2 L .320 2-4 2-5 2 L .600 2-5 2 L .600 2-5 2 L .640 1-5 5 R	44 20 12 8 .20 .50 .30 2-3 2 L .400 2-4 2 L .510 2-5 2 L .540 2-5 2 L .640 2-5 2 L .640 2-5 2 L .640 2-5 2 L .640 2-5 2 L .640 2-5 2 L .640 2-5 2 L .640 2-5 2 L .640 2-5 2 L .640 2-5 2 L .640 2-5 2 L .640 2-5 2 L .640 2-5 2 L .640 2-5 2 L .640 2-5 2 L .640 2-5 2 L .640 2-5 2 2 2 2 2 2 2 2 2 2 2 2 2	48 20 16 8 10 40 .50 2 3 2 1 .320 2-4 2 1 .540 2-5 2 1 .630 2-5 2 1 .684 2-5 2 1 .684 2-5 2 1 .684 2-5 2 1 .685 2 1 .685 2 1 .685 2 1 .685 2 1 .685 2 .885 2 .885 .885 2 .885	48 20 16 8 10 50 .40 2-3 2 L .530 2-5 2 L .600 2-5 2 L .675 2-5 2 L .720 2-5 2 L .750	48 20 16 8 .10 .60 .30 2-3 2 L .48 2 2 L .600 2-5 2 L .720 2-5 2 L .756 2 L .780 2-5 2 L .780	48 20 40 40 2-3 2 L 320 2 4 2 L 506 2-5 2 L 624 2-5 2 L 506 2-5 2 L 624 2-5 2 L 624 1-6 624 1-6 625 1-6 1-6 1-6 1-6 1-6 1-6 1-6 1-6	48 20 50 50 30 2 3 2 L 400 2 L 510 2-5 2 L 625 2-5 2 L 660 2-5 2 L 660 2-5 1 L 683 1-5 1 L
What Axi Spage Hitt Load On Ax	i. Base le accing cch ad les 10 20 30 40	ZXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	44 20 12 8 .10 .40 .50 2-3 2 L .320 2-4 2 L .573 2-5 2 L .573 2-5 2 L .704 2-5 2 L .704 2-5 2 L .704 2-5 2 L .704 2-5 8 .798	44 20 12 8 .10 .40 2-3 2 L .400 2-4 2 L .530 2-5 2 L .626 2-5 2 L .626 2-5 2 L .695 2-5 2 L .736 2-5 2 L .736 2-5 2 L .736 2-5 2 L .736 2-5 2 L .736 2-5 2 L .736 2-5 2 L .736 2-5 2 L .736 2-5 2 L .736 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	44 20 12 8 .10 .60 .30 2-3 L .480 2-5 2 L .680 2-5 2 L .768 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	44 20 12 8 .20 .40 .40 2-8 2 L .320 2-4 2 L .534 2-5 2 L .640 2-5 2 L .640 1-5 8 R .667 1-5 8 R	44 20 12 8 .20 .50 .30 2-3 2 L .400 2-4 2 L .510 2-5 2 L .640 2-5 2 L .672 2-5 2 L .672 2-5 2 L .672 2-5 2 L .672 2-5 2-5 2 .672 2-5 2 .672 2-5 2 .672 2-5 2 .672 2-5 2 .672 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-	48 20 16 8 .10 .40 .50 -2 .3 2 .1 .320 2 -4 2 .540 2 -5 2 .1 .630 2 -5 2 .1 .684 2 -5 2 .1 .726	48 20 16 8 10 .50 .40 2-3 2 1 .530 2-5 2 1 .600 2-5 2 1 .675 2 1 .720 2-5 2 2 1 .720 2-5 2 2 2 2 2 2 2 2 2 2 2 2 2	48 20 16 8 .10 .60 .30 2-3 2 L .480 2-5 2 L .720 2-5 2 L .756 2-5 2 L .780 2-5 2 L .810	48 20 16 8 .20 .40 .40 .40 .2-3 .2 L .320 .320 .440 .506	48 20 16 8 .20 .30 2 · 3 2 L .400 2 - 4 2 · 1 .510 2 - 5 2 · L .625 2 · L .625 2 · L .625 2 · L .625 2 · L .625 2 · L .625 1 · L .625 2 · L .625 1 · L .625 2 · L .625 1 · L .625 2 · L .625 1 · L .625
What Axi Spage Hitt Load On Ax	1. Base le accing cch ad les 10 20 30 40 50	a L XX C a1 a2 G G NE V	44 20 12 8 .10 .40 .50 2-3 2 L .320 2-4 2 L .573 2-5 2 L .573 2-5 2 L .704 2-5 2 L .737 1-5 5 R .798 1-5 5	44 20 12 8 .10 .40 2-3 2 L .400 2-4 2 L .530 2-5 2 L .626 2-5 2 L .695 2-5 2 L .736 2-5 2 L .736 2-5 2 L .736 2-5 2 1 .736 2-5 2 1 .736 2-5 2 1 .746 2-5 2 1 .746 2-5 2 1 .746 2-5 2 1 .746 2-5 2 1 .746 2-5 2 1 .746 2-5 2 1 .746 2-5 2 1 .746 2-5 2 1 .746 2-5 2 1 .746 2-5 2 1 .746 2-5 2 1 .746 2-5 2 1 .746 2-5 2 1 .746 2-7 2 1 .746 2-7 2 1 .746 2-7 2 1 .746 2-7 2 1 .746 2-7 2 1 .746 2-7 2 1 .746 2-7 2 1 .746 2-7 2 1 .746 2-7 2 1 .746 2-7 1 .746 1 .7	44 20 12 8 8 .10 .60 .80 2-3 2 L .480 2-4 2 L .600 2-5 2 L .735 2-5 2 L .768 2-5 2 L .790 2-5 2 L .817 2-5 2	44 20 12 8 .20 .40 2-3 2 L .320 2-4 2 L .440 2-5 2 L .600 2-5 2 L .640 1-5 5 R .667 1-5 5 R .750 1-5 5 8 .750 1-5 8 .750	44 20 12 8 .20 .50 .30 2-3 2 L .400 2-4 2 L .510 2-5 2 L .640 2-5 2 L .640 2-5 2 L .640 2-5 2 L .640 2-5 2 L .640 2-5 2 L .640 2-5 2 .640 2-5 2 .650 2-5 2-5 2 .650 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	48 20 16 8 10 40 .50 2 3 2 1 .320 2-4 2 1 .540 2-5 2 1 .684 2-5 2 1 .684 2-5 2 1 .720 2-5 2 1 .684 2-5 2-5 2 1 .684 2-5 2 1 .684 2-5 2 1 .684 2-5 2 1 .684 2-5 2 1 .684 2-5 2 1 .684 2-5 2 1 .684 2-5 2 1 .684 2-5 2-5 2 1 .684 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	48 20 16 8 10 .50 .40 2-3 L .400 2-4 2 L .530 2-5 2 L .675 2-5 2 L .720 2-5 2 L .750 2-5 2 L .750 2-5 2 L .750 2-7 2 L .750	48 20 16 8 .10 .60 .30 2-3 2 L .480 2-5 2 L .600 2-5 2 L .720 2-5 2 L .780 2-5 2 L .780 2-5 2 L .780 2-5 2 L .780 2-5 2 L .780 2-5 2 L .780 2-5 2 L .780 2-5 2 L .780 2-5 2 L .780	48 20 40 40 40 2-3 2 L 320 2 4 2 L 506 2-5 2 L 624 2-5 2 L 654 1-5 8 710 1-5 5	48 20 16 8 .20 .30 .30 2 · 3 2 · 1 .400 2 · 510 .510 .566 2 · 5 2 · 1 .625 2 · 2 L .625 2 · 2 L .625 2 · 1 .660 2 · 5 2 · 1 .660 2 · 5 1 · 1 .683 1 · 1 .683 1 · 1 .683 1 · 1 .683 1 · 1 .684 1 · 1 .685 1 · 1 .885
What Axi Spage Hitt Load On Ax	i. Base le accing cch ad les 10 20 30 40	a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	44 20 12 8 .10 .40 .50 2-3 2 L .320 2-4 2 L .460 2-5 2 L .573 2-5 2 L .573 2-5 2 L .573 2-5 2 L .595 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-	44 20 8 .10 .50 .40 2-3 2 L .400 2-4 2 L .530 2-5 2 L .626 2-5 2 L .695 2-5 2 L .766 2-5 2 L .766 2-5 2 L .769 2-7 1 .769 2-7 2-7 1 .769 2-7 2-7 1 .769 2-7 1 .769 2-7 1 .769 2-7 2-7 1 .769 1 .769 2-7 1 .769 2-7 1 .769 2-7 1 .769 2-7 1 .769	44 20 12 8 .10 .60 .30 2-3 L .480 2-4 2 L .600 2-5 2 L .735 2-5 2 L .735 2-5 2 L .790 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	44 20 12 8 .20 .40 .40 2-3 2 L .320 2-4 2 L .440 2-5 2 L .534 600 2-5 2 L .600 2-5 2 L .600 1-5 R .667 1-5 R .750 R .750	44 20 12 8 .20 .50 .30 2-3 2 L .400 2-4 2 L .510 2-5 2 L .640 2-5 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	48 20 16 8 10 40 .50 2 3 1 .320 2-4 2 1 .460 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 2 1 .540 2 .540	48 20 16 8 10 .50 .40 2-3 2 1 .530 2-5 2 1 .600 2-5 2 1 .675 2 1 .720 2-5 2 2 1 .720 2-5 2 2 2 2 2 2 2 2 2 2 2 2 2	48 20 16 8 .10 .30 2-3 L .480 2-5 2 L .600 2-5 2 L .720 2-5 2 L .780 2-5 2 L .780 2-5 2 L .780 2-5 2 L .780 2-5 2 L .780 2-5 2 L .780 2-5 2 L .780 2-5 2 L .780 2-5 2 L .780 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	48 20 40 40 2-3 L 320 2-4 2 L 440 2-5 2-5 2-1 580 2-5 2-5 2-1 654 1-5 R 710 1-5	48 20 50 50 30 2 3 2 L 510 2-5 2 L 5510 2-5 2 L 625 2-5 2 L 625 2 L 625 2 L 713 1-5 1 L

True Wh.	LE	7.11	(Continu	ed)	E	QUIVALI	ENT LO	ADS				91
Wh.	k N	э.	71	72	73	74	75	76	77	78	79	80
Axle		X	52 20	52 20	52 20	52 20	52 20	48 20	20	48 20	48 20	20
Spac	ing	X'	20	20	20	20	20	12	12	12	12	12
Hitch Load		C a ₁	.10	.10	.10	.20	.20	.10	.10	.10	.20	.20
On Axle		a ₂ a ₃	.40 .50	.50 .40	.60 .30	.40	.50 .30	.40	.50	.60 .30	.40	.50 .30
		G	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3
	10	N E	$^2_{ m L}$	$^2_{ m L}$	$^2_{ t L}$	$_{\mathbf{L}}^{2}$	$^2_{f L}$	$^2_{f L}$	$_{\mathbf{L}}^{2}$	$^2_{f L}$	$_{ m L}^2$	$^2_{f L}$
		V G	.320 2-4	$\frac{.400}{2-4}$	2-4	$\frac{.320}{2-4}$	$\frac{.400}{2-4}$.320 2-4	.400 2-4	2-4	$\frac{.320}{2-4}$	2-4
	20	N E	2 L	2 L	2 L	2 L	2 L	2 L	2 L	2 L	2 L	2 L
_	20	V	.460	.530	.600	.440	.510	.410	.490	.570	.400	.480
		G N	$_{2}^{2-4}$	2-4 2	$\begin{array}{c} 2 \cdot 4 \\ 2 \end{array}$	$^{2-4}_2$	$\frac{2-4}{2}$	$\frac{2-5}{2}$	$_{2}^{-5}$	$\frac{2}{2}$	$^{2-5}_2$	$\substack{2-5\\2}$
	30	E V	$^{ m L}_{.523}$	$_{.587}^{ m L}$	$_{.650}^{ m L}$	$_{.493}^{ m L}$	$_{.557}^{ m L}$	$_{.507}^{ m L}$	$_{.573}^{ m L}$	$_{.640}^{ m L}$	$_{480}^{ m L}$	$^{ m L}_{.546}$
		G	2-5	2-5	2-5	2 5	2-5	2 5	2-5	2-5	25	2-5
et	40	N E	$^2_{ m L}$	$^2_{ m L}$	$_{\rm L}^2$	$^2_{ m L}$	$^2_{ m L}$	$^2_{ m L}$	$^2_{ m L}$	$^2_{ m L}$	$\overset{2}{\mathrm{L}}$	$_{ m L}^2$
Span-Feet		V G	.605 2-5	.655 2-5	.705 2-5	2-5	2-5	2 5	2 5	.705 2-5	.560 25	2-5
baı	50	N E	2 L	$^{2}_{ m L}$	2 L	2 L	$^{2}_{ m L}$	2 L	2 L	2 L	L L	$^{2}_{ m L}$
<i>o</i> ₁	50	V	.664	.704	.744	.608	.648	.664	.704	.744	.608	.648
		G N	$\substack{2.5\\2}$	$_{2}^{-5}$	$\frac{2}{2}$	$^{2-5}_2$	$\substack{2-5\\2}$	$\substack{2-5\\2}$	2-5 2 L	$_2^{-5}$	$\overset{2-5}{2}$	$_{2}^{-5}$
	60	E V	$^{ m L}_{.703}$	$_{.737}^{ m L}$	$^{ m L}_{.770}$	$_{.640}^{ m L}$	$_{.674}^{ m L}$	$_{.703}^{\overline{ m L}}$	$^{ m L}_{.737}$	$^{ m L}_{.770}$	$_{.640}^{ m L}$	$_{.674}^{ m L}$
-		G	25	2-5	2-5	15	1 4	1-5	2-5	2 5	1-5	1-5
	80	N E	$^{2}_{ m L}$	$^2_{ m L}$	$^2_{ m L}$	$\frac{1}{R}$	$^4_{ m R}$	$^{5}_{ m L}$	$^2_{ m L}$	$^2_{ m L}$	$\frac{5}{\mathbf{R}}$	$_{ m L}^{1}$
-		$\frac{\mathbf{v}}{\mathbf{G}}$.752 2-5	.778 2–5	$\frac{.803}{2-5}$.680 1-5	.707 1-5	.773 1-5	.778 2–5	.803 2 5	.720 1-5	$\frac{.705}{1-5}$
	100	N E	2 L	2 L	2 L	1 L	1 L	5 R	2 L	2 L	5 R	1 L
	100	v	.782	.802	.822	.744	.764	.818	.802	.822	.776	.764
Truc			81	82	83	84	85	86	87	88	89	90
Wh. Axle		X	52 20	52 20	52 20	52 20	52 20	56 20	$\frac{56}{20}$	56 20	20	56 20
Spac		X'	16	16 12	16	16 12	16 12	20 12	20	20	20 12	$\frac{20}{12}$
Hitch	_	C a ₁	.10	.10	.10	.20	.20	.10	.10	$-\frac{12}{.10}$.20	.20
On Axle	s	a ₂ a ₃	.40 $.50$.50 .40	.60 .30	.40 .40	$.50 \\ .30$.40 .50	.50 $.40$.60 .30	.40 .40	.50 $.30$
		G	23 2	2-3	2-3	2-3 2	2-3	2-3	2-3	2-3	2-3	2-3
	10	N E	L	2 L	${f L}$	L	\mathbf{L}	2 L	${f L}$	2 L	L 2	2 L
-		V G	.320 24	2 4	.480 2-4	.320 2-4	$\frac{.400}{2-4}$.320 2-4	$\frac{.400}{2-4}$	2 4	.320 2-4	2-4
Ì	20	N E	$^2_{f L}$	$^2_{\mathbf{L}}$	$^2_{ m L}$	$_{ m L}^2$	$^2_{ m L}$	$^2_{ m L}$	$^2_{ m L}$	$^2_{ m L}$	$^2_{ m L}$	$^2_{ m L}$
-		V G	.410 2 4	2-4	$\frac{.570}{2-4}$	24	.480	$\frac{.410}{2-4}$.490 2-4	2 4	2-4	.480 2-4
	0.0	N	2	2 L	2	2	$\frac{2\cdot 4}{2}$	2	2	2 L	$\overset{2^{-4}}{\overset{2}{\text{L}}}$	2
	30	\mathbf{v}	$^{ m L}_{.490}$.560	.630	$_{f .467}^{f L}$	$_{.537}^{ m L}$	$^{ m L}_{.490}$	$_{.560}^{ m L}$.630	.467	$^{ m L}_{.537}$
		G N	$_{2}^{-5}$	$\frac{2}{2}$	$\frac{2}{2}^{5}$	$\substack{2-5\\2}$	$\frac{2-5}{2}$	$\begin{array}{ccc} 2&5\\2&\end{array}$	25 2	$\frac{2-5}{2}$	$_{2-5}^{2-5}$	$^{2-5}_{2}$
eet	40	E	.580	\mathbf{L}	\mathbf{L}	$ m_{L}^{ m L}$	$_{.595}^{ m L}$	$ar{ ext{L}}$.555	\mathbf{L}	\mathbf{L}	\mathbf{L}	L
Span-F		G	2-5	$\frac{.635}{2-5}$	$\frac{.690}{2-5}$	2-5	2-5	25	$\frac{.615}{2-5}$	2-5	$\frac{.520}{2-5}$	$\frac{.580}{2-5}$
Spa	50	N E	$_{ m L}^2$	$_{\rm L}^2$	$^2_{ m L}$	$^2_{ m L}$	$^2_{ m L}$	$_{ m L}^2$	$^2_{ m L}$	2 L	2 L	$^2_{ m L}$
-		V	.644 25	.688 2-5	.732 2-5	.592 2-5	2-5	.624 2-5	.672 25	$\frac{.720}{2-5}$.576	.624
		G N	2	$\overset{2-5}{\overset{2}{\text{L}}}$	2-5 2 L	$\overset{2-5}{\overset{2}{\text{L}}}$	2-5 2 L	2	25 2 L	2-5 L	$^{2-5}_{ m L}$	$^{2-5}_{\ \ m L}$
- 1	60	E V	L .687	.724	.760	.626	.663	$^{ m L}_{.670}$.710	.750	L .614	.654
		G N	25	$\overset{2-5}{\overset{2}{2}}$	2-5	$^{1-5}_{5}$	1-5	2 -5 2	2-5 2	$\frac{2-5}{2}$	1-5 1	$^{1-5}_{1}$
-			4	÷	$^2_{f L}$	$\overset{\circ}{\mathbf{R}}$	1 L	Ĺ	Ĺ	Ĺ	Ĺ	Ĺ
	80	\mathbf{E}	2 L	L	705		600	707				600
-	80	E V G	.740 1-5	.768 2–5	.795 2–5	.680 15		2 5	$\frac{.758}{2-5}$.788 2-5	.660 1-5	.690 1-5
	100	E V	.740	.768	.795	.680	.698	.727	.758	.788	.660	.690

TABLE 7.12
CONTROLLING CONDITIONS AND MAXIMUM SHEARS IN SIMPLE SPANS
PRODUCED BY THE TYPE 3-3 TRUCKS WEIGHING ONE KIP EACH



Ninety variations in the Type 3-3 truck are given in this table. Each truck number, from 1 to 90, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight on each axle.

Truck N	To.	1	2	3	4	5	6	7	8	9	10
Wh. Bas	e L	40	40	40	40	40	44	44	44	44	44
Axle	X	12	12	12	12	12	12	12	12	12	12
Spacing		8	8	8	- 8	8	12	12	12	12	12
Hitch	C	12	12	12	12	12	12	12	12	12	12
Load	a ₁	.10	.10	.10	.20	.20	.10	.10	.10	.20	.20
On	\mathbf{a}_2	.30	.40	.50	.30	.40	.30	.40	.50	.30	.40
Axles	a 3	.60	.50	.40	.50	.40	.60	.50	.40	.50	.40
	G	56	2-3	23	5-6	2-3	5-6	2-3	23	5-6	2-3
10	N E	5 L	$\frac{2}{\mathbf{L}}$	$^2_{ m L}$	5 L	$^2_{ m L}$	5 L	$^2_{ m L}$	$^2_{ m L}$	$^{5}_{ m L}$	$^2_{ m L}$
10	V	$^{17}_{,320}$.320	.400	.267	.320	.320	.320	.400	.267	.320
	G	46	2.4	2-4	4-6	1-3	4.6	2-4	2-4	4-6	1-3
1	Ň	46 6	2 4	$\frac{\angle -4}{2}$	4-6 6	$\frac{1-3}{3}$	4 · 6	2-4		6	3
20	E	Ř	Ĺ	Ĺ	Ř	Ř	Ř	Ĺ	$^2_{ m L}$	Ř	Ř
20	\vec{v}	.440	.394	.474	.367	.400	.400	.394	.477	.333	.400
	G	26	26	2-6	2-6	26	3 6	2-5	2-5	3-6	1-3
1	Ñ	-6	2	2	-6	2	6	2	2	6	13
30	E	$^{ m R}$	$ar{ extbf{L}}$	Ĺ	$\ddot{\mathbf{R}}$	Ĺ	Ř	Ĺ	Ī.	\mathbf{R}	3 R
	\mathbf{v}	.533	.496	.564	.451	.471	.477	.463	.537	.399	.467
-	G	26	2-6	2-6	2-6	2-6	26	2~6	2 6	2-6	2-6
	N	6	2	2	6	2	6	2	2	6	2
a 40	\mathbf{E}	R	L	\mathbf{L}	R	L	R	L	L	\mathbf{R}	\mathbf{L}_{-}
Span-Feet	V	.625	.597	.648	.538	.553	.575	.563	.622	.492	.527
ġ	Ğ	1-6	1-6	2-6	1-6	1-6	16	$^{2-6}$	2-6	1-6	1-6
g 50	N E	$^6_{ m R}$	6 R	$^2_{ m L}$	$^{6}_{ m R}$	1 L	$^{6}_{ m R}$	2 L	$^2_{ m L}$	6 R	$\stackrel{1}{ m L}$
02 50	v	.700	.659	.699	.631	.611	.652	.631	.677	.577	.589
-	G	16	1-6	26	1-6	1-6	1-6	2-6	2-6	1-6	1-6
1	N	6	6	2-6	6	1-6	6	2-6	2-6	6	1-6
60	Ē	Ř	Ř	Ĺ	Ř	į,	Ř	Ĺ	Ĺ	Ř	Ľ
""	v	.750	.716	.732	.692	.676	.710	.676	.714	.648	.658
	G	1-6	16	2-6	1-6	1.6	1 6	1-6	2 6	I6	1-6
	Ň	-6	6	2	6	1	-6	6	2	6	1
80	\mathbf{E}	R	\mathbf{R}	L	R	$_{ m L}$	\mathbf{R}	R	Ĺ	R	L
l	\mathbf{v}	.813	.787	.774	.769	.757	.783	.753	.761	.736	.743
	G	16	1 6	1-6	1-6	1.6	1 6	1-6	26	1-6	1-6
	N	6	6	6	6	1	6	6	2	6	1
100	E	R	R	R	R	L	R	R	L	R	\mathbf{L}
		.850	.829	.809	.815	.805	.826	.803	.876	.789	.795

a1, a2, and a3-Represent the ratio of gross vehicle weight on axles.

G-Axle group causing maximum shear, thus, 1-3 means axles 1, 2, and 3.

N-Number of critical axle under which maximum shear occurs.

E-End of span at which critical axle is placed.

V-Maximum shear.

773 A TOT 373	77 10	(Continued)
TARLE	7.12	(Confinued)

			(Continu									
	uck N		11	12	13 48	14 48	15 48	16 44	17 44	18	19 44	20
Ax	ı. Bas le	X X	48 12	48 12	12	12	12	12	12	12	12	12
	acing	X'	16 12	16	16	16 12	16 12	$\frac{8}{16}$		8	8 16	
Hit		aı	.10	.10	.10	.20	.20	.10	.10	.10	.20	.20
On		\mathbf{a}_{2}	.30 .60	.40 .50	.50 .40	.30 .50	.40 .40	.30	.40 .50	.50 .40	.30 .50	.40
Ax	ies	a ₃	5-6	2-3	2-3	5-6	2-3	5 6	2-3	2-3	5-6	2-3
1	1.0	N	5	$^2_{f L}$	$^2_{ m L}$	5 L	$^2_{ m L}$	$_{ m L}^{5}$	2 L	$^2_{ m L}$	$^{5}_{\mathbf{L}}$	$^2_{ m L}$
İ	10	\mathbf{v}	$^{ m L}_{.320}$.320	.400	.267	.320	.320	.320	.400	.267	.320
		G	4 -6 6	2-4	2-4	I-3	$^{1-3}_{3}$	4-6 6	1-3 3	1–3 3	4-6 6	1-3 3
	20	N E	R	L	$^2_{ m L}$	\mathbf{R}	R	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}
İ		G	.360 46	.394	$\frac{.477}{2-4}$	$\frac{.310}{1.3}$.400 1-3	$\frac{.440}{3-6}$.380 2-5	.470 25	3-6	$\frac{.400}{1-3}$
Ì		N	6	2 L	2	3	3	6	2	2 L	6	3
	30	\mathbf{v}	$^{ m R}_{.440}$	$^{ m L}_{.451}$	$_{.529}^{ m L}$	$^{ m R}_{.374}$	$^{ m R}_{.467}$	$^{ m R}_{.503}$	$_{.441}^{ m L}$	L .519	$^{ m R}_{.421}$	$^{ m R}_{.467}$
		G	2-6	2-6	2-6	2-6	2-6	2~6	2-6	2 -6	2-6	2-6
اير	40	N E	$^6_{ m R}$	$^2_{ m L}$	$^2_{ m L}$	$^6_{ m R}$	$^2_{ m L}$	$^6_{ m R}$	$^2_{ m L}$	$^2_{ m L}$	$^6_{ m R}$	$^2_{ m L}$
Span-Feet		v	.525	.530	.595	.445	.500	.595	.547	.608	.508	.513
an		$_{ m N}^{ m G}$	$^{1-6}_{6}$	$_{2}^{-6}$	2-6	1–6 6	$^{1 - 6}_{6}$	$^{1-6}_{6}$	$rac{1\cdot \ 6}{6}$	$\frac{2-6}{2}$	1-6 6	$^{1-6}_{1}$
Sp	50	E	R .604	$_{.604}^{ m L}$	$^{ m L}_{.656}$	R .524	R .568	$^{ m R}_{.668}$	R .619	$_{.667}^{ m L}$	R .591	$_{.579}^{ m L}$
l		-V G	1-6	2-6	2-6	1-6	1-6	1-6	1-6	2-6	1-6	1-6
	60	N E	$^{6}_{ m R}$	$^2_{ m L}$	$^2_{ m L}$	$^{6}_{ m R}$	6 R	6 R	6 R	$^2_{ m L}$	6 R	$^{1}_{\rm L}$
		v	.670	.653	.697	.603	.640	.723	.682	.706	.659	.649
		G N	16 6	$^{1-6}_{6}$	$\frac{2-6}{2}$	$^{1-6}_{6}$	$^{1-6}_{6}$	$_{6}^{1-6}$	$\frac{1-6}{6}$	$^{2-6}_{2}$	$^{1-6}_{6}$	$^{1-6}_{1}$
	80	\mathbf{E}	R	\mathbf{R}	\mathbf{L}	Ř .702	\mathbf{R}	\mathbf{R}	$^{\mathrm{R}}$	2 L	\mathbf{R}	$_{\rm L}$
		- V G	.753 1-6	$\frac{.720}{1-6}$.747 2-6	1-6	$\frac{.730}{1-6}$	$\frac{.793}{1-6}$.762 1-6	.754 16	$\frac{.744}{1-6}$	1-6
	100	Ň E	6 R	6 R	$_{\rm L}^{2}$	6 R	6 R	6 R	6 R	6 R	6 R	1 L
	100	V	.802	.776	.864	.762	.784	.834	.809	.785	.795	.789
									1000			
	ick N		21	22	23	24	25	26	27	28	29	30
Wh	. Bas	e L	48	22 48	23 48	24 48	25 48	26 52	27 52	28 52	29 52	30 52
$\frac{Wh}{Ax}$. Bas			22	23 48 12 12	24 48 12 12	25 48 12 12	26 52 12 16	27 52 12 16	28 52 12 16	29 52 12 16	30 52 12 16
Wh Ax Spa Hit	. Bas le icing ch	e L X X' C	48 12 12 16	22 48 12 12 16	23 48 12 12 16	24 48 12 12 16	25 48 12 12 16	26 52 12 16 16	27 52 12 16 16	28 52 12 16 16	29 52 12 16 16	30 52 12 16 16
Wh Ax Spa	. Bas le icing ch	e L X X'	48 12 12	22 48 12 12 16 .10 .40	23 48 12 12 16 .10 .50	24 48 12 12 16 .20 .30	25 48 12 12 16 .20 .40	26 52 12 16 16 .10 .30	27 52 12 16 16 .10 .40	28 52 12 16 16 .10 .50	29 52 12 16 16 20 30	30 52 12 16 16 20 .40
Wh Ax Spa Hit Loa	le le le le le le le le le le le le le l	e L X X' C a ₁ a ₂ a ₃	48 12 12 16 .10 .30 .60	22 48 12 12 16 .10 .40 .50	23 48 12 12 16 .10 .50 .40	24 48 12 12 16 .20 .30 .50	25 48 12 12 16 .20 .40 .40	26 52 12 16 16 .10 .30 .60	27 52 12 16 16 .10 .40 .50	28 52 12 16 16 .10 .50 .40	29 52 12 16 16 .20 .30 .50	30 52 12 16 16 .20 .40 .40
Wh Ax Spa Hit Loa On	le le le le le le le le le le le le le l	E L X X' C a ₁ a ₂ a ₃ G N	48 12 12 16 .10 .30 .60 5-6 5	22 48 12 12 16 .10 .40 .50 2-3	23 48 12 12 16 .10 .50 .40	24 48 12 12 16 .20 .30 .50 5	25 48 12 12 16 .20 .40 .40	26 52 12 16 16 .10 .30 .60 5	27 52 12 16 16 .10 .40 .50	28 52 12 16 16 .10 .50 .40 2-3	29 52 12 16 16 .20 .30 .50 5-6 5	30 52 12 16 16 .20 .40 .40
Wh Ax Spa Hit Loa On	le le le le le le le le le le le le le l	e L X X' C a ₁ a ₂ a ₃ G N E	12 12 16 .10 .30 .60 5-6 5 L	22 48 12 12 16 .10 .40 .50	23 48 12 12 16 .10 .50 .40 2-3 2 L	24 48 12 12 16 .20 .30 .50 5-6 5	25 48 12 12 16 .20 .40 .40 2-3 2 1.	26 52 12 16 16 .10 .30 .60 5 6	27 52 12 16 16 .10 .40 .50 2–3 2 L	28 52 12 16 16 .10 .50 .40 2-3 2 L	29 52 12 16 16 .20 .30 .50 5-6 5	30 52 12 16 16 .20 .40 .40 .2-3 2 L
Wh Ax Spa Hit Loa On	le le le le le le le le le le le le le l	e L X X' C a ₁ a ₂ a ₃ G N E V	48 12 12 16 .10 .30 .60 5-6 5 L .320 4-6	22 48 12 12 16 .10 .40 .50 2-3 2 L .320	23 48 12 12 16 .10 .50 .40 2-3 2 L .400 1-3	24 48 12 12 16 .20 .30 .50 5-6 5 L .267 4-6	25 48 12 12 16 .20 .40 .40 2-3 2 1, .320	26 52 12 16 16 .10 .30 .60 5 .6 5 L .320 4-6	27 52 12 16 16 .10 .40 .50 2-3 2 L .320 1-3	28 52 12 16 16 .10 .50 .40 2-3 2 .400 1-3	29 52 12 16 16 .20 .30 .50 5-6 5 L .267 1-3	30 52 16 16 .40 .40 .40 2-3 2 L .320 1-3
Wh Ax Spa Hit Loa On	le le le le le le le le le le le le le l	e L X X' C a ₁ a ₂ a ₃ G N E V	48 12 12 16 .10 .30 .60 5-6 L .320	22 48 12 12 16 .10 .40 .50 2-3 2 L	23 48 12 12 16 .10 .50 .40 2-3 L .400	24 48 12 12 16 .20 .30 .50 5-6 5 1, .267 4-6 8	25 48 12 12 16 .20 .40 .40 2-3 2 1 .320 1-3 8	26 52 12 16 16 .30 .60 5 6 5 L .320 4-6 6 R	27 52 12 16 16 .10 .40 .50 2-3 2 1 .320 1 -3 R	28 52 12 16 16 .10 .50 .40 2-3 2 L .400 1-3 3 R	29 52 12 16 16 .20 .30 .50 5-6 5 L .267 1-3 3	30 52 12 16 16 .20 .40 .40 .2-3 2 L .320
Wh Ax Spa Hit Loa On	le le cing ch ad les	e L	48 12 12 16 .10 .30 .60 5-6 5 L .320 4-6 6 R .400	22 48 12 12 16 .10 .40 .50 2-3 2 L .320 1-3 3 R	23 48 12 12 16 .10 .50 .40 2-3 2 L .400 1-3 3 R .470	24 48 12 12 16 .20 .30 .50 5 1 .267 4-6 6 R .333	25 48 12 12 16 .20 .40 .40 2-3 2 1 .320 1-3 3 R .400	26 52 12 16 16 .10 .30 .60 5 6 5 L .320 4-6 6 R	27 52 12 16 16 .10 .40 .50 2-3 2 L .320 1-3 3 R .380	28 52 12 16 16 .10 .50 .40 2-3 2 L .400 1-3 3 R .470	29 52 12 16 16 .20 .30 .50 5-6 5 L .267 1-3 3 R .310	30 52 12 16 16 .20 .40 .40 2-3 2 L .320 1-3 3 R .400
Wh Ax Spa Hit Loa On	le le le le le le le le le le le le le l	e L X X X C a ₁ a ₂ a ₃ G N E V G N E V G N	48 12 16 .10 .30 .60 5-6 5 L .320 4-6 6 R .400	22 48 12 12 16 .10 .40 .50 2-3 2 L .320 1-3 3 R .380 2-4	23 48 12 12 16 .10 .50 .40 2-3 2 L .400 1-3 3 R .470	24 48 12 12 16 .20 .30 .50 5-6 5 L .267 4-6 6 R .333 4-6	25 48 12 12 16 .20 .40 .40 .2 -8 2 1 .320 1-3 3 R .400 1-3	26 52 12 16 10 30 60 5 6 5 L 320 4-6 6 R 360 4-6 6	27 52 12 16 .10 .40 .50 2-3 2 L .320 1-3 3 R .380 2-4	28 52 12 16 16 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 1-3 3	29 52 12 16 .20 .30 .50 5-6 5 L .267 1-3 3 R .310 1-3	30 52 12 16 16 .40 .40 .40 2-3 2 L .320 1-3 R .400 3
Wh Ax Spa Hit Loa On	le le cing ch ad les	e L X X C a1 a2 a3 G N E V G N E V G N E V G N E C O C C C C C C C C C C C C C C C C C	48 12 12 16 .10 .30 .60 5-6 5 L .320 4-6 6 R 400 4-6 6 R	22 48 12 12 16 .10 .40 .50 2-3 2 L .320 1-3 3 R 8.80 2-4 2 L	23 48 12 12 16 .10 .50 .40 2-3 2 L .400 1-3 3 R 470 1-3 3 R	24 48 12 12 16 .30 .50 5-6 5 L .267 4-6 6 R 3333 4-6	25 48 12 12 16 .20 .40 .40 2 -3 2 1, .320 1 -3 8 .40 1 -3	26 52 12 16 16 .10 .30 .60 5 6 5 L .320 4-6 6 R .360 4-6	27 52 12 16 16 .10 .40 .50 2 L .320 1-3 3 R .380 2-4	28 52 12 16 16 .10 .50 .40 2-3 2 L .400 1-3 8 R .470 1-3	29 52 12 16 .20 .30 .50 5-6 5 L .267 1-3 R R1 3 R	30 52 12 16 .20 .40 .40 .40 2-3 2 L .320 1-3 3 R .400 1-3
Wh Ax Spa Hit Loa On	le le le le le le le le le le le le le l	E L X X X C a1 a2 B3 G N E V G R E V R E R E V R E R E R E R E R E R E	48 12 12 16 .10 .60 5-6 5 L .320 4-6 6 R .400 4-6 6 R .407	22 48 12 12 16 .10 .40 .50 2-3 2 L .320 1-3 3 R .380 2-4 2 L .429 2-6	23 48 12 12 16 .10 .50 .40 2-3 2 L .40 1-3 3 R .470 1-3 3 R .470 1-3 3 8	24 48 12 12 16 .20 .30 .50 5-6 5-6 6 R .333 4-6 6 R .389 2-6	25 48 12 16 20 .40 .40 2-3 2 1, .320 1-3 3 R .400 1-3 3 R .400 1-1 3 1 1 1 1 1 1 1 1 1 1 1 1 1	26 52 12 16 16 10 30 .60 5 6 5 L .320 4-6 6 R .360 4-6 6 R .440 2 6	27 52 12 16 16 .10 .40 .50 2-3 2 L .320 1-3 3 R .380 2-4 2-4 .42 .42 .42	28 52 12 16 16 .10 .50 .40 2-3 2 L .40 1-3 3 R .470 1-3 3 R .51 .42 .43 .44 .45 .45 .45 .45 .45 .45 .45	29 52 12 16 16 20 30 50 5-6 5 L 26 1-3 3 8 310 1-3 3 8 310 1-3 3 8 310 1-4	30 52 12 16 16 .20 .40 .40 .2-3 2 L .320 1-3 3 R .400 1-3 3 R .406 .407 .407 .407 .408 .40
White Axx Spee Hite Loss On Axx	le le le le le le le le le le le le le l	e L X X C a1 a2 a3 G N E V G N E V G N E V G N E V G N E V G N	48 12 12 16 .10 .30 .60 5-6 5 L .320 4-6 6 R .400 4-6 6 R .467 2-6	22 48 12 12 16 .10 .40 .50 2-3 2 L .320 1-3 3 R 8 80 2-4 2 L .429 2-6 2	23 48 12 12 16 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 1-3 3 R .514 2 6	24 48 12 16 .20 .30 .50 5-6 5 L .267 4-6 6 R .333 4-6 6 R .389	25 48 12 16 .20 .40 .40 2 -3 2 1 .320 1-3 8 .400 1-3 8 .400 .401 .401 .402 .403	26 52 12 16 .10 .30 .60 5 6 5 L .320 4-6 6 R .360 4-6 6 R	27 52 12 16 .10 .40 .50 2-3 2 L .320 1-3 3 8 .380 2-4 2 L .429	28 52 12 16 .10 .50 .40 2-3 2 L .400 1-3 3 R .47 .47 .47 .47 .48 .49 .49 .40 .40 .40 .40 .40 .40 .40 .40	29 52 12 16 .20 .30 .50 5-6 5 L .267 1-3 3 R .310 1-8 3 8 .374	30 52 12 16 16 .20 .40 .40 2-3 2 L .320 1-3 3 R .400 1-3 3 R .467
White Axx Spee Hite Loss On Axx	le le le le le le le le le le le le le l	E L XX X' C a1 a2 a3 G NE V G NE V G NE V G NE V C NE V C NE V C NE V	48 12 12 16 .10 .30 .60 5-6 L .320 4-6 6 R .400 4-6 6 R .467 6 R .4545	22 48 12 16 .10 .40 .50 2-3 2 L .320 1-3 3 R .380 2-4 2 L .42 .42 .50 .50 .50 .50 .50 .50 .50 .50	23 48 12 12 16 .10 .50 .40 2-3 2 L .40 1-3 3 R .470 1-3 3 R .470 1-3 2 L .40 1-3 2 L .40 1-5 1-5 1-5 1-5 1-5 1-5 1-5 1-5	24 48 12 16 .20 .30 .50 5-6 L .267 4-6 6 R .333 4-6 6 R .88 .89 .90 .90 .90 .90 .90 .90 .90 .9	25 48 12 16 .20 .40 .40 2-3 2 1, .320 1-3 3 R .400 1-3 3 R .401 1-3 3 R .401 1-3 3 R .400 1-3 1-3 3 1-3 3 1-3 3 1-3 3 1-3 3 1-3 3 1-3 3 1-3 3 3 3 3 3 4 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1-3	26 52 12 16 16 .10 .30 .60 5 - 6 5 - 1 .32 4-6 6 R .360 4-6 R .446 6 R .445	27 52 12 16 16 .10 .40 .50 2-3 2 L .320 1-3 3 R .380 2-4 2 L .42 .42 .43 .44 .45 .45 .45 .45 .45 .45 .45	28 52 12 16 16 .10 .50 .40 2-3 2 L .40 1-3 3 R .470 1-3 3 R .51 .470 1-2 .40 1-3 .40 1-3 .40 1-3 .40 1-4 .40 1-4 .40 1-4 .40 1-4 .40 1-4 .40 1-4 .40 1-4 .40 .40 .40 .40 .40 .40 .40 .4	29 52 12 16 20 .30 .50 5-6 L .267 1-3 3 R .310 1-3 3 R .314 1-4 1 L .428	30 52 12 16 16 .20 .40 .40 .2-3 .2 .L .320 .1-3 3 R .400 1-3 3 R .407 1 · 3 8 R .500
Wh Ax Spa Hit Loa On	le le le le le le le le le le le le le l	E L X X C a1 a2 a3 G N E V G S S S S S S S S S S S S S S S S S S	48 12 12 16 .10 .30 .60 5-6 5 L .320 4-6 6 R .407 2-6 6 R	22 48 12 12 16 .10 .50 2-3 2 L .320 1-3 3 R .380 2-4 2 L .429 2-6 2 L	23 48 12 16 .10 .50 .40 2-3 2 .40 1-3 3 8 .470 1-3 3 R .514 2-6 2-1 L	24 48 12 16 20 30 50 5-6 5-6 6-8 8 333 4-6 6-8 8 8 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9	25 48 12 16 20 .40 .40 2-3 2 1, .320 1-3 3 R .400 1-3 3 R .400 1-1 3 8 R .500 1-1 3 8 100 100 100 100 100 100 100	26 52 12 16 .10 .30 .60 5 6 5 L .320 4-6 6 R .440 2 6 6 R	27 52 12 16 16 .10 .50 2-3 2 L .320 1-3 3 R .380 2-4 2 L .429 2-5 2 L	28 52 12 16 .10 .50 .40 2-3 2 L .400 1-3 3 R .47 .47 1-8 .8 .8 .47 .47 .47 .47 .47 .47 .47 .47	29 52 12 16 20 .30 .50 5-6 5 L .267 1-3 3 R .310 1-3 8 .374 1-4 1 L	30 52 12 16 .20 .40 2-3 2 L .320 1-3 3 R0 .467 1-3 3 R
White Axx Spee Hite Loss On Axx	le le le le le le le le le le le le le l	e L	48 12 12 16 .10 .30 .60 5-6 5 L .320 4-6 6 R .400 4-6 6 R .457 2-6 6 R .545 1-6 6 R	22 48 12 16 .10 .40 .50 2-3 2 L .320 1-3 8 R .380 2-4 2 L .429 2-6 2 L .513 2-6 2 L	23 48 12 12 16 .10 .50 .40 2-3 2 L .400 1-3 3 R .514 2 6 2 L .52 2 4 .53 8 .54 1-3 1-3 1-3 1-3 1-3 1-3 1-3 1-3	24 48 12 16 .20 .30 .50 5-6 5 L .267 4-6 6 R .333 4-6 6 R .389 2-6 6 R .462 1-6 6 R	25 48 12 16 .20 .40 .40 2-3 2 1 .320 1-3 3 8 .400 1-3 8 .467 1 3 8 .467 1 3 8 .400 1 - 3 8 .400 1 - 3 8 .400 1 - 3 8 .400 1 - 3 8 .400 1 - 3 8 .400 1 - 3 8 .400 1 - 3 .400 .4	26 52 12 16 16 .10 .30 .60 5 6 5 5 L .320 4-6 6 R .340 4 6 6 R .440 2 6 6 R .495 2 6 8 R	27 52 12 16 16 .10 .40 .50 2-3 2 L .320 1-3 3 R .380 2-4 2 L .429 2-5 2 L .481 2-6 2 L	28 52 12 16 16 .10 .50 .40 2-3 2 L .400 1-3 3 R .514 2-6 2 L .555 2-6 2 L	29 52 12 16 .20 .30 .50 5-6 .4 .267 1-3 3 R .310 1-3 .8 .314 1-4 1 .428 2-6 6 R	30 52 12 16 16 .20 .40 .40 .2-3 .2 .1 .320 1-3 .8 .400 1-3 .8 .467 1-3 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8
Mh Ax Ax Bpeed Con Con Con Con Con Con Con Con Con Con	le le le le le le le le le le le le le l	e L X X Y C a1 a2 a2 a3 G N E V G N E V G N E V G N E V G N E V G N E V G N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G G C G C G C G C G C G C G C G C G	48 12 16 .10 .30 .60 5-6 5 L .320 4-6 6 R .400 4-6 6 R .467 2-6 6 R .545 1-6 6	22 48 12 16 .10 .40 .50 2-3 2 L .320 1-3 3 R .380 2-4 2 L .429 2-6 2 L .513 2-6 2-1 2-1 2-1 2-1 2-1 2-1 2-1 2-1	23 48 12 12 16 .10 .50 .40 2-3 2 L .40 1-3 3 R .470 1-3 3 R .514 2 6 2 L .582 2 -6 2 L .645 2 L .655 2 L	24 48 12 16 .20 .30 .50 5-6 5-7 4-6 6 8 .333 4-6 6 8 .389 2-6 6 8 .462 1-6 6 8 .350 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7	25 48 12 16 20 .40 .40 2-3 2 3.2 1-3 3 R .400 1-3 8 R .500 1-6 1 L .557 1-6	26 52 11 16 16 10 30 .60 5 - 6 5 L .320 4-6 6 8 .360 4-6 6 R .440 2 - 6 6 R .495 2 - 6 6 8 R .495 8 8 8 8 8 8 8 8 8 8 8 8 8	27 52 12 16 16 16 .10 .40 .50 2-3 2 L .320 1-3 3 R .380 2-4 2 L .429 2-5 2 L .481 2-6 2-6 2-6 2-6 2-6	28 52 12 16 16 .10 .50 .40 2-3 2 .40 1-3 3 8 .470 1-3 3 8 .51 .55 2-6 2 L .55 2-6 2 L .55 .55 .55 .55 .55 .55 .55	29 52 12 16 20 30 .50 5-6 L .26 1-3 3 8 .310 1-3 3 8 .374 1-4 1 .428 2-6 6 R .492 1-6	30 52 12 16 .20 .40 .40 .40 .23 .32 .320 1-3 3 8 .400 1-3 3 8 .467 1:3 3 8 .500 1-5 1 .540 .640 .74
Mh Ax Ax Bpeed Con Con Con Con Con Con Con Con Con Con	Le Bas le teing ch ad les 10 20 40 50	e L	48 12 12 16 .10 .30 .60 5-6 5 L .320 4-6 6 R .400 4-6 6 R .545 1-6 6 R .545 1-6 6 R .620	22 48 12 16 .10 .40 .50 2-3 2 L .320 1-3 8 R 2-4 2 L .513 2-6 2 L .591 2-6 2-6 2-6 2-6 2-6 2-6 2-6 2-6	23 48 12 12 16 .10 .50 .40 2-3 2 L .400 1-3 3 R .470 1-3 3 R .514 2 6 2 L .582 2-6 2 L .645 2 6 2	24 48 12 16 .20 .30 .50 5 6 5 1 .267 4-6 6 R .333 4-6 6 R .389 2-6 6 R .462 1-6 6 R .462 1-6 6 R	25 48 12 16 .20 .40 .40 2 -3 2 1 .320 1 -3 3 R .400 1 - 3 8 .400 1 - 3 8 .400 1 - 3 8 .400 1 - 3 8 .400 1 - 3 8 .400 1 - 3 8 .400 1 - 3 8 .400 1 - 3 8 .400 1 - 3 8 .400 1 - 3 .400	26 52 12 16 16 16 .10 .30 .60 5 6 5 6 6 8 .320 4 - 6 6 R .440 2 6 6 R .495 2 6 6 R .576 1 - 6 6 R	27 52 12 16 16 .10 .40 .50 2-3 2 L .320 1-3 3 R .380 2-4 2-5 2-1 .481 2-6 2-1 .564 2-6 2-6 2-6 2-6 2-6 2-6 2-6 2-6	28 52 12 16 16 .10 .50 .40 2-3 2 .40 1-3 3 8 .470 1-3 3 8 .51 .55 2-6 2 L .55 2-6 2 L .55 .55 .55 .55 .55 .55 .55	29 52 12 16 .20 .30 .50 5-6 L .267 1-3 3 R .310 1-3 .3 R .374 1-4 1.428 2-6 6 R .492	30 52 12 16 16 .20 .40 .40 .40 .2-3 .320 1-3 .3 .400 1-3 .8 .400 1-3 .8 .8 .400 1-3 .8 .8 .8 .9 .9 .9 .9 .9 .9 .9 .9 .9 .9
Mh Ax Ax Bpeed Con Con Con Con Con Con Con Con Con Con	le le le le le le le le le le le le le l	e L	48 12 12 16 .10 .30 .60 5-6 5 L .320 4-6 6 R .400 4-6 6 R .467 1-6 6 R .620 1-6 R R .683	22 48 12 16 .10 .40 .50 2-3 2 L .320 1-3 3 R .380 2-4 2 L .429 2-6 2 L .513 2-6 2 L .513 2-6 2-1 1-6 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7	23 48 12 16 .10 .50 .40 2-3 2 L .40 .1-3 3 R .470 1-3 8 .514 .582 2-6 2 L .582 2-6 2 L .645 2-6 2 L .645	24 48 12 16 .20 .30 .50 5-6 6 R .333 4-6 6 R .389 2-6 6 R .462 1-6 R .537	25 48 12 16 .20 .40 .40 2-3 2 I .320 1-3 3 R .400 1-3 8 R .500 1-6 L .557 1 6 L .631	26 52 11 16 10 30 .60 5 · 6 5 · L .320 4-6 6 · R .360 4-6 6 · R .440 2 · 6 6 · R .495 2 · 6 6 · R .495 2 · 6 6 · 7 6 · 7 7 · 7 8 ·	27 52 12 16 16 16 .10 .40 .50 2-3 2 .1 .32 .32 .380 2-4 2 .4 .42 .42 .42 .481 2-6 2 .564 2-6 2 .1 .620	28 52 12 16 16 .10 .50 .40 2-3 2 L .40 1-3 3 R .470 1-3 3 R .470 1-2 2 L .555 2-6 2 L .555 2-6 2 L .555 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	29 52 12 16 16 20 30 .50 5-6 L 7 1-3 3 R .310 1-3 3 R .374 1 L .428 2-6 6 R .492	30 52 12 16 16 .20 .40 .40 .40 .23 .32 .32 .32 .32 .32 .32 .32
Mh Ax Ax Bpeed Con Con Con Con Con Con Con Con Con Con	Le Bas le teing ch ad les 10 20 40 50	e L	48 12 12 16 .10 .30 .60 5-6 5 L .320 4-6 6 R .400 4-6 6 R .545 1-6 6 R .620 1-6 R .683 1-6	22 48 12 16 .10 .40 .50 2-3 2 L .320 1-3 3 R .380 2-4 2 L .513 2-6 2 L .591 2-6 2 L .591 2-6 2-1 .591 2-6 2-1 .591 2-6 2-6 2-7 1-6 2-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1	23 48 12 12 16 .10 .50 .40 2-3 2 L .40 1-3 3 R .7 1-3 3 R .514 2 6 2 L .582 2-6 2 L .645 2 6 2 L .688 2 6 8 2 6	24 48 12 16 .20 .30 .50 5-6 5 L .267 4-6 6 R .333 4-6 6 R .389 2-6 6 R .462 1-6 6 R .537	25 48 12 16 .20 .40 .40 .40 2-3 2 1.32 1-3 3 R .400 1-3 8 R .500 1-6 1 L .5557	26 52 12 16 16 10 30 .30 .60 5 - 6 5 L .320 4-6 6 R .360 4 - 6 6 R .440 2 - 6 6 R .495 2 - 6 8 - 7 8	27 52 12 16 16 16 .10 .50 2-3 2 L .320 1-3 3 R .380 2-4 2 L .429 2-5 2 L .481 2-6 2-6 2-6 2-1 L 564	28 52 12 16 .10 .50 .40 2-3 2 L .400 1-3 3 R .514 2-6 2 L .624 2-6 2 L .624	29 52 12 16 16 .20 .30 .50 5-6 .L .267 1-3 3 R .310 1-3 2 R .374 1 4 .428 2-6 6 R .492 1-6 R .570	30 52 12 16 16 .20 .40 .40 .2-3 .2 .1 .320 1-3 .3 .8 .400 1-3 .8 .8 .400 1-3 .8 .8 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1
Mh Ax Ax Bpeed Con Con Con Con Con Con Con Con Con Con	Le Bas le teing ch ad les 10 20 40 50	e L XX C a1 a2 a3 G N E V G N E R E V	48 12 12 16 .10 .30 .60 5-6 5 L .320 4-6 6 R .400 4-6 6 R .4545 1-6 6 R .620 1-6 R .6883	22 48 12 16 .10 .40 .50 2-3 2 1-3 3 R .380 2-4 2 1 .42-6 2 L .513 2-6 2 1 .50 2-7 2-7 1 .50 2-7 2-7 1 1 1 1 1 1 1 1 1 1 1 1 1	23 48 12 16 .10 .50 .40 2-3 2 L .40 1-3 3 R .470 1-3 3 R .514 2 6 2 L .688 2 6 2 L .688 2 6 2 L .688	24 48 12 16 .20 .30 .50 5-6 5 L .267 4-6 6 R .333 4-6 6 R .389 2-6 6 R .462 1-6 6 R .537 1 6 R .614	25 48 12 16 .20 .40 .40 2-3 2 1320 1-3 3 R .400 1-3 8 R .466 1 1 .557 1-6 1 1 .681 1 L	26 52 11 16 16 10 30 60 5 6 5 L 32 4-6 6 8 8 360 4-6 6 8 8 440 2 6 6 8 8 8 8 1-6 1-6 1-6 1-6 1-6 1-6 1-6 1-6	27 52 12 16 16 16 .10 .40 .50 2-3 2 L .320 1-3 3 R .380 2-4 2-4 L .42 5-5 2 L .481 2-6 2 L .564 2-6 2 L .620 1-6 6 R	28 52 12 16 16 .10 .50 .40 2-3 2 L .40 1-3 3 R .470 1-3 3 R .514 2-6 2 L .555 2-6 2 L .624 2-6 2 L .624 2-6 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	29 52 12 16 16 20 30 50 5-6 L 7 1-3 3 R 310 1-3 4 1 1 L 428 2-6 6 R .492 1-6 6 R .570 1-6 6 R	30 52 12 16 16 .20 .40 .40 2-3 2 L .320 1-3 3 R .400 1-3 3 R .400 1-5 1 L .541 1 6 1 6 1 6 1 6 1 6 1 6 1 6 1
Mh Ax Ax Bpeed Con Con Con Con Con Con Con Con Con Con	a. Bas le le le le le le le le le le le le le l	e L XX C a1 a2 a3 G N E V G N E V G N E V G N E V G N E V G N E V G N E V O	48 12 12 16 .10 .30 .60 5-6 5 L .320 4-6 6 R .400 4-6 6 R .467 2-6 6 R .545 1-6 6 R .620 1-6 6 R .683	22 48 12 16 .10 .50 2-3 2 L .320 1-3 3 8 .380 2-4 2 L .429 2-6 2 L .513 2-6 2 L .591 2-6 2-1 .640	23 48 12 12 16 .10 .50 .40 2-3 2 L .40 1-3 3 R .470 1-3 3 R .514 2-6 2 L .645 2-6 2 L .688 2-6 2 L .688	24 48 12 16 20 30 50 5-6 5 L 4-6 6 R 3333 4-6 6 R 462 1-6 R 5337 1 6 R 614 1-6 6	25 48 12 16 .20 .40 .40 .40 2-3 2 1.32 1-3 3 R .400 1-3 3 R .500 1-6 1 L .5557 1-6 1 L .631	26 52 12 16 16 10 30 .60 5 6 5 L .320 4-6 6 R .340 4-6 6 R .440 2-6 6 R .495 2-6 6 R .576 1-6 6 8 .60 1-6 1-6 1-6 1-6 1-6 1-6 1-6 1-6	27 52 12 16 16 16 .10 .40 .50 2-3 2 .320 .320 1-3 3 R .380 2-4 2 L .429 2-5 2 L .481 2-6 2-6 2-1 .620 1-6 6	28 52 12 16 16 .10 .50 .40 2-3 2 .40 .40 1-3 3 8 .470 1-3 3 8 .514 .555 2-6 2 L .62 .62 .63 .63 .63 .63 .63 .63 .63 .63	29 52 12 16 20 30 .50 5-6 5 L 267 1-3 3 8 310 1-3 3 8 314 1-4 1 L 428 2-6 6 8 8 8 1-6 8 8 8 1-6 8 8 8 8 8 8 8 8 8 8 8 8 8	30 52 12 16 16 20 .40 .40 2-3 2 L .320 1-3 3 R .400 1-3 3 R .500 1-5 1 L .541 1-6 1 1-6 1
Mh Ax Ax Bpeed Con Con Con Con Con Con Con Con Con Con	a. Bas le le le le le le le le le le le le le l	e L	48 12 12 16 .10 .30 .60 5-6 5 L .320 4-6 6 R .400 4-6 6 R .467 2-6 6 R .545 1-6 6 R .620 1-6 6 R .683	22 48 12 16 .10 .40 .50 2-3 2 L .320 1-3 3 8 .380 2-4 2 L .591 2-6 2 L .591 2-6 6 6 6 6 7.28	23 48 12 12 16 .10 .50 .40 2-3 2 L .400 1-3 3 R .514 2 6 2 L .582 2-6 2 L .645 2 6 2 L .688 2 6 2 L .688	24 48 12 12 16 .20 .30 .50 5-6 5 L .267 4-6 6 R .333 4-6 6 R .389 2-6 6 R .462 1-6 6 R .537 1 6 R .61 .711	25 48 12 16 .20 .40 .40 2-3 2 1 .320 1-3 3 R .400 1-3 3 R .467 1 1 557 1 6 1 L .557 1 6 1 L .631 1 6 1 L .723	26 52 12 16 16 16 .60 .60 .60 .60 .60 .60 .60 .6	27 52 12 16 16 .10 .40 .50 2-3 2 L .320 1-3 3 R .380 2-4 2 L .429 2-5 2 L .481 2-6 2 L .564 2-6 2 L .620 1-6 6 R .695	28 52 12 16 16 10 .50 .40 2-3 2 L .400 1-3 3 R .514 2-6 2 L .624 2-6 2 L .627 2-6 2 L .627	29 52 12 16 16 .20 .30 .50 5–6 5 L .267 1–3 3 R .374 1–4 1 .428 2–6 6 R .492 1–6 6 R .50 .50 1–7 1–7 1–7 1–7 1–7 1–7 1–7 1–7	30 52 12 16 16 .20 .40 .40 .40 .40 .40 .40 .40 .4

94 METHOD OF CONVERTING HEAVY MOTOR VEHICLE LOADS

TA	BLE	7.12	(Continue	ed)								
Tru	ick N	0.	31	32	33	34	35	36	37	38	39	40
	. Base		44	44	44	44	44	48	48	48	48	48
Ax	le icing	X X'	$\frac{16}{8}$	$\frac{16}{8}$	$\frac{16}{8}$	$\frac{16}{8}$	$\frac{16}{8}$	$\frac{16}{12}$	$\frac{16}{12}$	$\frac{16}{12}$	$\frac{16}{12}$	$\frac{16}{12}$
Hit		C	12	12	12	12	12	12	12	12	12	12
Loz	ıdı	a ₁	.10	.10	.10	.20	.20	.10	.10	.10	.20	.20
On Ax	les	\mathbf{a}_3	.30 .60	.40 .50	.50 .40	$.30 \\ .50$	$.40 \\ .40$.30 .60	.40 .50	.50 .40	.30 $.50$.40 .40
		G	5-6	2-3	2-3	5-6	2-3	5-6	2-3	2-3	5-6	2-3
	10	N E	5 L	$^2_{ m L}$	$^2_{ m L}$	$_{ m L}^{5}$	$_{ m L}^2$	$_{ m L}^{5}$	$^2_{ m L}$	$_{ m L}^2$	$_{ m L}^{5}$	$_{ m L}^2$
-	10	Ÿ	.320	.320	.400	.267	.320	.320	.320	.400	.267	.320
ļ		G	4-6	2-4	2-4	4-6	2-4	4-6	2-4	2-4	4-6.	2-4
1	20	N E	6 R	$^2_{ m L}$	$_{ m L}^2$	$^{6}_{\rm R}$	$_{ m L}^2$	$^{6}_{ m R}$	$^2_{\mathbf{L}}$	$^2_{ m L}$	$^{6}_{ m R}$	$_{\mathbf{L}}^{2}$
İ		v	.440	.394	.477	.367	.387	.400	.394	.477	.333	.387
		G N	2-6 6	$^{2-6}_2$	$^{2-6}_{2}$	$_{6}^{2-6}$	$\frac{2-6}{2}$	3-6 6	$^{2-5}_2$	$^{2-5}_2$	$_{6}^{3-6}$	$^{2-5}_{2}$
	30	N E	\mathbf{R}	\mathbf{L}	L	\mathbf{R}	\mathbf{L}	\mathbf{R}	\mathbf{L}	${f L}$	\mathbf{R}	$^2_{ m L}$
		V G	.533 2-6	.496 2-6	$\frac{.564}{2-6}$.451 2–6	.471 2-6	2-6	2-6	.537 2-6	.399 2-6	2-6
		N	6	2 L	2	6	2	6	2	2	6	2
8	40	$_{ m V}^{ m E}$	$_{.625}^{ m R}$	L .597	$_{.648}^{ m L}$	$^{ m R}_{.538}$	$^{ m L}_{.553}$	$^{ m R}_{.575}$	$_{.563}^{ m L}$	$_{.622}^{ m L}$	R .492	$_{.527}^{ m L}$
F.		G	1-6	2-6	2-6	1-6	2-6	1-6	2-6	2-6	1-6	2-6
Span-Feet	F.0	N	6	2	2	6	2	6	2	2	6	2 L
ß	50	\mathbf{v}	$_{.692}^{ m R}$	$_{.657}$	$_{.699}^{\mathbf{L}}$	$_{.615}^{ m R}$	$^{ m L}_{.603}$	$_{.644}^{ m R}$	$_{.631}^{ m L}$	$_{.677}^{ m L}$	$^{ m R}_{.561}$.581
		G	1-6	1-6	2-6	1-6	1-6	1-6	2-6	2-6	1-6	2-6
	60	N E	$^{6}_{ m R}$	$_{\mathbf{R}}^{6}$	$^2_{f L}$	$^{6}_{ m R}$	$^{6}_{ m R}$	$^6_{ m R}$	$^2_{ m L}$	$_{ m L}^2$	$^{6}_{ m R}$	$_{\rm L}^2$
İ		$\ddot{\mathbf{v}}$.743	.709	.732	.679	.644	.703	.676	.714	.634	.618
		G	1-6	1-6	2-6	1-6	1-6	1-6	1-6	2-6	1-6	1-6
	80	$_{ m E}^{ m N}$	$^{6}_{ m R}$	$^{6}_{ m R}$	$_{ m L}^2$	$^{6}_{ m R}$	6 R	$_{\mathbf{R}}^{6}$	$^6_{ m R}$	$^2_{ m L}$	$^{6}_{\rm R}$	$^{1}_{ m L}$
Ì		v	.808	.782	.774	.759	.733	.778	.748	.761	.726	.703
		G N	$^{1-6}_{6}$	$^{1-6}_{6}$	$^{1-6}_{6}$	$^{1-6}_{6}$	$^{1-6}_{6}$	1-6 6	$\frac{1-6}{6}$	$\frac{2-6}{2}$	16 6	$^{1-6}_{1}$
	100	\mathbf{E}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{R}	\mathbf{L}	R	\mathbf{L}
=		v	.846	.825	.805	.807	.787	.822	.799	.876	.781	.763
	ick N		41	42 52	43 52	44	45	46	47	48	49	50
	. Bas	e L	41 52 16	42 52 16	43 52 16	44 52 16	45 52 16	48	48	48	48	48
Wh Ax Spa	. Base le .cing	e L X X'	52 16 16	52 16 16	52 16 16	52 16 16	52 16 16	48 16 8	48 16 8	48 16 8	48 16 8	48 16 8
Wh Ax Spa Hit	. Base le .cing .ch	e L X X' C	52 16 16 12	52 16 16 12	52 16 16 12	52 16 16 12	52 16 16 12	48 16 8 16	48 16 8 16	48 16 8 16	48 16 8 16	48 16 8 16
Wh Ax Spa	. Base le .cing .ch	e L X X'	52 16 16 12 .10 .30	52 16 16 12 .10 .40	52 16 16 12 .10 .50	52 16 16 12 .20 .30	52 16 16	48 16 8	48 16 8	48 16 8 16 .10 .50	48 16 8	48 16 8
Wh Ax Spa Hit Loa	le le le le le le le le le le le le le l	E L X X' C a ₁ a ₂ a ₃	52 16 16 12 .10 .30 .60	52 16 16 12 .10 .40 .50	52 16 16 12 .10 .50 .40	52 16 16 12 .20 .30 .50	52 16 16 12 .20 .40 .40	48 16 8 16 .10 .30 .60	48 16 8 16 .10 .40 .50	48 16 8 16 .10 .50 .40	48 16 8 16 .20 .30 .50	48 16 8 16 .20 .40 .40
Wh Ax Spe Hit Los On	le le le le le le le le le le le le le l	E L X X' C a ₁ a ₂ a ₃ G	52 16 16 12 .10 .30 .60 5-6	52 16 16 12 .10 .40 .50	52 16 16 12 .10 .50 .40 2-3	52 16 16 12 .20 .30 .50	52 16 16 12 .20 .40 .40	48 16 8 16 .10 .30 .60 5-6	48 16 8 16 .10 .40 .50	48 16 8 16 .10 .50 .40 2-3	16 8 16 .20 .30 .50	48 16 8 16 .20 .40 .40
Wh Ax Spe Hit Los On	le le le le le le le le le le le le le l	E L X X' C a ₁ a ₂ a ₃ G N E	52 16 16 12 .10 .30 .60 5-6 5	52 16 16 12 .10 .40 .50 2-3 2	52 16 16 12 .10 .50 .40 2–3 2 L	52 16 16 12 .20 .30 .50 5-6 5	52 16 16 12 .20 .40 .40 2–3 2 L	48 16 8 16 .10 .30 .60 5 -6 5 L	48 16 8 16 .10 .40 .50 2–3 2 L	48 16 8 16 .10 .50 .40 2–3 2 L	16 8 16 .20 .30 .50 5-6 5 L	48 16 8 16 .20 .40 .40 .2-3 2 L
Wh Ax Spe Hit Los On	le le le le le le le le le le le le le l	e L X X, C a ₁ a ₂ a ₃ G N E V	52 16 16 12 .10 .30 .60 5-6 L .320	52 16 16 12 .10 .40 .50 2-3 2 1 .320	52 16 16 12 .10 .50 .40 2-3 L .400	52 16 16 12 .20 .30 .50 5-6 5 I.	52 16 16 12 .20 .40 .40 2-3 2 L	48 16 8 16 .10 .30 .60 5-6 5 L .320	48 16 8 16 .10 .40 .50 2-3 2 L .320	48 16 8 16 .10 .50 .40 2-3 L .400	48 16 8 16 .20 .30 .50 5-6 5 L .267	48 16 8 16 .20 .40 .40 2-3 2 L .320
Wh Ax Spe Hit Los On	le le le le le le le le le le le le le l	e L X X' C a ₁ a ₂ a ₃ G N E V G	52 16 16 12 .10 .30 .60 5-6 5 I. .320 4-6	52 16 16 12 .10 .40 .50 2–3 2 I .320 2–4	52 16 16 12 .10 .50 .40 2-3 2 I .400 2-4	52 16 16 12 .20 .30 .50 5-6 5 I. .267 2-4 2	52 16 16 12 .20 .40 .40 2-3 2 L .320 2-4	48 16 8 16 .10 .30 .60 5-6 5 L .320 4-6	48 16 8 16 .10 .40 .50 2-3 2 L .320 4-6	48 16 8 16 .10 .50 .40 2-3 2 L .400 24 2	48 16 8 16 .20 .30 .50 5-6 5 L .267 4 6	48 16 8 16 .20 .40 .40 .40 2-3 2 L .320 2-4
Wh Ax Spe Hit Los On	le le le le le le le le le le le le le l	e L X X, C a ₁ a ₂ a ₃ G N E V	52 16 16 12 .10 .30 .60 5-6 5 L .320 4-6	52 16 16 12 .10 .40 .50 2–3 2 1 .320 2–4	52 16 16 12 .10 .50 .40 2-3 2 L .400 2-4	52 16 16 12 .20 .30 .50 5-6 5 L .267 2-4	52 16 16 12 .20 .40 .40 2–3 2 L .320 2–4	48 16 8 16 .10 .30 .60 5-6 5 L .320 4-6	48 16 8 16 .10 .40 .50 2-3 2 L .320 4-6 6 R	48 16 8 16 .10 .50 .40 2-3 L .400 24 2 L	16 8 16 .20 .30 .50 5-6 5 L .267 4 6 6	48 16 8 16 .20 .40 .40 .23 2 L .320 2-4 2 L
Wh Ax Spe Hit Los On	le le le le le le le le le le le le le l	E L X X X C a ₁ a ₂ a ₃ G N E V G N E V G	52 16 16 12 .10 .30 .60 5 L .320 4-6 6 R .360 4-6	52 16 16 12 .10 .40 .50 2 1 .320 2-4 2 L .320 2-4 2 .394 2-4	52 16 16 12 .10 .50 .40 2-3 2 L .400 2-4 2 L .477 2-4	52 16 16 12 .20 .30 .50 5 L .267 2-4 2 L .303 4-6	52 16 16 12 .20 .40 .40 2 L .320 2-4 2 1, .387 1-3	48 16 8 16 .10 .30 .60 5 L .320 4-6 6 R .440 3-6	48 16 8 16 .10 .40 .50 2 L .320 4-6 6 R .367 2-5	48 16 8 16 .10 .50 .40 2-3 2 L .400 24 2 L .450 2-5	48 16 8 16 .20 .30 .50 5 L .267 4 6 6 R .367 3-6	48 16 8 16 20 40 40 2-3 2 L 320 2-4 2 L 360 2-5
Wh Ax Spe Hit Los On	le Base le le le le le le le le le le le le le	E L X X Y C a1 a2 a3 G N E V G N E V G N E N	52 16 16 12 .10 .30 .60 5-6 5 L .320 4-6 6 R .360 4-6	52 16 16 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .394 2-4 2	52 16 16 12 .10 .50 .40 2 .400 2-4 2 L .400 2-4 2 L .47 2-4 2	52 16 16 12 .20 .30 .50 5-5 L .267 2-4 2 L .303 4-6	52 16 16 12 .20 .40 .40 2-3 2 L .320 2-4 2 1.320 1.320 2-1 3.320 1.32	48 16 8 16 .10 .30 .60 5-6 5 L .320 4-6 6 R .440 3-6	48 16 8 16 .10 .40 .50 2-3 2 L .320 4-6 6 R .367 2-5 2	48 16 8 16 .10 .50 .40 2-3 2 L .400 24 1 .450 2-5 2	48 16 8 16 .20 .30 .50 5-6 5 L .267 4 6 8 .367 8 .367 8 .307	48 16 8 16 .20 .40 .40 .2-3 2 L .320 2-4 2 L .360 2-5 2
Wh Ax Spe Hit Los On	le le le le le le le le le le le le le l	E L X X X C a ₁ a ₂ a ₃ G N E V G N E V G	52 16 16 12 .10 .30 .60 5 L .320 4-6 6 R .360 4-6	52 16 16 12 .10 .40 .50 2 1 .320 2-4 2 L .320 2-4 2 .394 2-4	52 16 16 12 .10 .50 .40 2-3 2 L .400 2-4 2 L .477 2-4	52 16 16 12 .20 .30 .50 5 L .267 2-4 2 L .303 4-6	52 16 16 12 .20 .40 .40 2 L .320 2-4 2 1, .387 1-3	48 16 8 16 .10 .30 .60 5 L .320 4-6 6 R .440 3-6	48 16 8 16 .10 .40 .50 2 L .320 4-6 6 R .367 2-5	48 16 8 16 .10 .50 .40 2-3 2 L .400 24 2 L .450 2-5	48 16 8 16 .20 .30 .50 5 L .267 4 6 6 R .367 3-6	48 16 8 16 20 40 40 2-3 2 L 320 2-4 2 L 360 2-5
Wh Ax Spe Hit Los On	le Base le le le le le le le le le le le le le	E L X X C a1 a2 B3 G N E V G S S S S S S S S S S S S S S S S S S	52 16 16 12 .10 .30 .60 5-6 5 L .320 4-6 6 R .360 4-6 6 R	52 16 16 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .394 2-4 2 L .451 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-4	52 16 16 12 .10 .40 2-3 2 L .400 2-4 2 L .477 2-4 2 L .529 2-6	52 16 16 12 .20 .30 .50 5-6 5 L .267 2-4 L .303 4-6 6 R .367 2-6	52 16 16 12 .20 .40 .40 .40 2-3 2 L .320 2-4 2 1, .387 1-3 3 R .40	48 16 18 16 .10 .30 .60 5-6 5 L .320 4-6 6 R .440 3-6 6 R .50 8 8 8 8 8 8 8 8 8 8 8 8 8	48 16 8 16 .10 .40 .50 2-3 2 L .320 4-6 R .367 2-5 L .441 2-6	48 16 8 16 .10 .50 .40 2-3 2 L .400 24 2 L .450 2-5 2 L .55 .55 .50 .40 .50 .50 .50 .50 .50 .50 .50 .5	48 16 .20 .30 .50 5-6 5 L .267 4 6 6 R .367 3-6 8 R .421 2-6	48 16 8 16 20 .40 .40 .40 2-3 2 L .320 2-4 2 L .320 2-4 2 L .426 2-5 2 4 4 4 4 4 4 4 4 4 4 4 4 4
White Axx Space Hite Loss On Ax	le Base le le le le le le le le le le le le le	E L X X C A1 A2 A3 G N E V R E V R E	52 16 16 12 .10 .30 .60 5-6 5 L .320 4-6 6 R .360 4-6 6 R	52 16 16 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .394 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-	52 16 16 12 .10 .40 2-3 2 L .400 2-4 2 L .47 2-4 2 L .47 2-4 2 .47 .50	52 16 16 12 .20 .30 .50 5-6 5 L .267 2-4 2 L .303 4-6 6 R .367	52 16 16 12 .20 .40 .40 .40 2-3 2 L .320 2-4 2 1, .387 1-3 3 R .40	48 16 8 16 .10 .30 .60 5-6 5 L .320 4-6 6 R .440 3-6 6 R	48 16 8 16 .10 .40 .50 2-3 2 L .320 4-6 R .367 2-5 L .441 2-6	48 16 8 16 .10 .40 2-3 2 L .400 2-4 2 L .450 2-5 2 L .519 2-6	48 16 8 16 .20 .30 .50 5-6 5 L .267 4-6 6 R .367 3-6 6 R .421 2-6	48 16 8 16 .20 .40 .40 2-3 2 L .320 2-4 2 L .360 2-5 2 L .426 2-6 2
White Axx Space Hite Loss On Ax	le Bassle le licing ch ad les 10 20 30	E L X X C a1 a2 a3 G N E V G N E V G N E V C N E C N E	52 16 16 12 .10 .30 .60 5-6 5 L .320 4-6 6 R .360 4-6 6 R .440 2-6 6 R	52 16 16 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .394 2-4 2 L .451 2-1 2-1 1-1 2-1 1-1 1-1 1-1 1-	52 16 16 12 .10 .50 .40 2-3 2 L .40 2-4 2 L .477 2-4 2 L .52 .53 .54 .54 .55 .55 .55 .55 .55 .55	52 16 12 .20 .30 .50 5-6 5 L .26 2-4 2 L .303 4-6 6 R .367 2-6 6 R .445	52 16 16 12 .20 .40 .40 2-3 2 L .320 2-4 2 1 .387 1-3 8 .40 2-4 2 L .387 1-2 .40 .40 .40 .40 .40 .40 .40 .40	48 16 8 16 .10 .30 .60 5-6 5 L .320 4-6 6 R .440 3-6 6 R .503 2-6 6 R	48 16 8 16 .10 .40 .50 2-3 2 L .320 4-6 6 R .367 2-5 2 L .441 2-6 2 L .547	48 16 8 16 .10 .50 .40 2-3 2 L .400 24 2 L .450 2-5 2 L .519 2-6 2 L .608	48 16 8 16 .20 .50 5-6 5-5 L .267 4-6 6 8 .367 3-6 6 8 .421 2-6 6 R	48 16 20 40 40 2-3 2 L 320 2-4 2 2 L 360 2-5 2 L 426 2-6 2-6 2-1 L 5-1
Wh Ax Spe Hit Los On	le Bassle le licing ch ad les 10 20 30	e L	52 16 16 12 .10 .30 .60 5-6 5 L .320 4-6 6 R .440 2-6 R .525 2-6	52 16 16 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .451 2-6 2 L .530	52 16 16 12 .10 .50 .40 2-3 2 L .400 2-4 2 L .529 2-6 2 L .529	52 16 16 12 .20 .30 .50 5-6 5 L .267 2-4 2 L .303 4-6 6 R .367 2-6 R .445	52 16 16 12 .20 .40 2-3 2 L .320 2-4 2 1, .387 1-3 3 R .440 2-6 1,500 2-6	48 16 8 16 .10 .30 .60 5-5 .1 .320 4-6 6 R .440 3-6 8 R .503 .603 .603 .604 .605	48 16 8 16 .10 .40 .50 2-3 2 1 .320 4-6 6 R 8 .367 2-5 2 L .441 2-6 2-1 .441 2-1 .547 -547 2-1 .547 2-1 .547 2-1 .547 2-1 .547 2-1 .547 2-1	48 16 8 16 .10 .50 .40 2-3 2 L .400 2-4 2 L .519 2-5 2 L .519 2-6 2 L .608	48 16 .20 .30 .50 5-6 5 L .267 4 6 8 .367 3-6 6 R .421 2-6 6 R	48 16 8 16 20 40 40 2-3 1 320 2-4 2 1 2-5 2 1 426 2-6 2-6
White Axx Space Hite Loss On Ax	le Bassle le licing ch ad les 10 20 30	e L	52 16 16 12 .10 .30 .60 5-6 5 L .320 4-6 6 R .440 2-6 6 R .525 2-6 6 R	52 16 16 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .451 2-6 2 L .530 2-6 2-6 2-6 2-6 2-6 2-6 2-6 2-6	52 16 16 12 .10 .50 .40 2-3 2 L .40 2-4 2 L .477 2-4 2 L .529 2-6 2 L .595 2-6 2 L	52 16 12 .20 .30 .50 5-6 5 L .26 2-4 2 L .303 4-6 6 R .367 2-6 6 R .445 2-6 6 R	52 16 16 12 .20 .40 2-3 2 L .320 2-4 2 1, .387 1-3 R .440 2-6 2 L .500 2-6 2 L	48 16 8 16 .10 .30 .60 5-6 5 L .320 4-6 6 R .440 3-6 6 R .503 2-6 6 R .505 1-6 8 8 .506 8 8 .506 8 .507 .507 8 .507 .507 8 .507	48 16 8 16 .10 .40 .50 2-3 2 L .32 4-6 6 R .367 2-5 2 L .441 2-6 2 L .547 2-6 2 L	48 16 8 16 .10 .50 .40 2-3 2 L .400 2-4 2-4 2 L .450 2-5 2 L .519 2-6 2 L .608 2-6 2 L	48 16 8 16 .20 .30 .50 5-6 L .26 6 R .367 3-6 6 R .421 2-6 6 R .50 8	48 16 8 16 20 40 2-3 2 L 320 2-4 2 L 360 2-5 2 L 426 2-6 2 L 513 2-6 2 L
What Ax Speed Hitt Los On Ax	a. Bass le teing ch ad les 10 20 30 40	E L XX C a1 a2 a3 G N E V G N E V G N E V G N E V G N E V C N E V C N E V C N E V C N C N E V C N	52 16 16 12 .10 .60 5-6 5 L .320 4-6 6 R .360 4-6 6 R .440 2-6 R .525 6 R .525 6 8 R .60 8 8 8 8 8 8 8 8 8 8 8 8 8	52 16 16 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .451 2-6 2 L .50 2-7 2 L .50 2-7 2 L .50 2-7 2 L .50 2-7 2 L .50 2-7 2 L .50 2-7 2 L .50 2-7 2 L .50 2-7 2 L .50 2-7 2 L .50 2-7 2 L .50 2-7 2 L .50 2 2 2 L .50 2 2 2 2 2 2 2 2 2 2 2 2 2	52 16 16 12 .10 .50 .40 2-3 2 L .400 2-4 2 L .477 2-4 2 L .529 2-6 2 L .595 2-6 2 L	52 16 16 12 .20 .30 .50 5-6 5 L .267 2-4 2 L .303 4-6 6 R .367 2-6 6 R .45 6 8 .45 .50	52 16 16 12 .20 .40 .40 2-3 2 1 .320 2-4 2 1 .387 1-3 3 R .440 2-6 2 L .500 2-1 .500 2-1 .500 2-1 1 .500 2-1 .500 -500 -500 -500 -500 -500 -500 -500 -500 -500 -500 -50	48 16 8 16 .10 .30 .60 5-6 5 L .320 4-6 6 R .440 3-6 6 R .503 2-6 6 R .503 2-6 6 R .503 2-6 6 8 8 8 8 8 8 8 8 8 8 8 8 8	48 16 8 16 .10 .40 .50 2-3 2 1 .320 4-6 6 R .367 2-5 2 L .441 2-6 2 L .547 2-6 2 L .617	48 16 8 16 .10 .50 .40 2-3 2 L .400 2-4 2 L .450 2-5 2 L .519 2-6 2 L .608 2-6 2 L .608	48 16 8 16 .20 .30 .50 5-6 5 L .267 4-6 6 R .367 3-6 6 R .421 2-6 R .50 .367 3-6 6 8 .367 3-6 6 8 .367 3-6 8 .367 .3	48 16 8 16 .20 .40 .40 2-3 .2 L .320 2-4 2 L .360 2-5 2 L .426 2-6 2 L .513 2-6 2 L .513 2-6 2-6 2-6 2-6 2-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1
What Ax Speed Hitt Los On Ax	a. Basele leicing ch ad less 10 20 30 40 50	e L	52 16 16 12 .10 .30 .60 5-6 5 L .320 4-6 6 R .440 2-6 6 R .525 2-6 6 R	52 16 16 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .451 2-6 2 L .530 2-6 2-6 2-6 2-6 2-6 2-6 2-6 2-6	52 16 16 12 .10 .50 .40 2-3 2 L .40 2-4 2 L .477 2-4 2 L .529 2-6 2 L .595 2-6 2 L	52 16 12 .20 .30 .50 5-6 5 L .26 2-4 2 L .303 4-6 6 R .367 2-6 6 R .445 2-6 6 R	52 16 16 12 .20 .40 2-3 2 L .320 2-4 2 1 .387 1-3 3 R .440 2-6 2 L .500 2-6 2 L .560 2-6 2 L .560 2-6 2 L .560 2-6 2 L .560 2 .660 .660 2 .660 .660 2 .660 .660 2 .660 2 .660 2 .660 2 .660 2 .660 2 .660 2	48 16 8 16 .10 .30 .60 5-6 5 L .320 4-6 6 R .440 3-6 6 R .503 2-6 6 R .505 1-6 8 8 .506 8 8 .506 8 .507 .507 8 .507 .507 8 .507	48 16 8 16 .10 .40 .50 2-3 2 L .32 4-6 6 R .367 2-5 2 L .441 2-6 2 L .547 2-6 2 L	48 16 8 16 .10 .50 .40 2-3 2 L .400 2-4 2 L .450 2-5 2 L .519 2-6 2 L .608	48 16 8 16 .20 .30 .50 5-6 L .26 6 R .367 3-6 6 R .421 2-6 6 R .50 8	48 16 8 16 20 40 40 2-3 2 L 320 2-4 2 L 360 2-5 2 L 426 2-6 2-1 2 L 513 20 1 1 1 1 1 1 1 1 1 1 1 1 1
What Ax Speed Hitt Los On Ax	a. Bass le teing ch ad les 10 20 30 40	e L XX C a1 a2 a3 G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V	52 16 16 12 .10 .30 .60 5-6 5 1 .320 4-6 6 R .360 4-6 6 R .440 2-5 6 R .525 2-6 6 R .525 2-6 6 8 R .545 1	52 16 16 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .451 2-6 2 L .50 2-3 2-1 .50 2-4 2-1 .50 2-4 2-1 .50 .50 .50 .50 .50 .50 .50 .50	52 16 16 12 .10 .40 2-3 2 L .400 2-4 2 L .477 2-4 2 L .529 2-6 2 L .656 2-6 2-6 2-6 2-6 2-6 2-6 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	52 16 16 12 .20 .30 .50 5-6 5 L .267 2-4 2 L .303 4-6 6 R .367 2-6 6 R .445 2-6 6 R .516 8 R .516 8	52 16 16 12 .20 .40 .40 2–3 .2 .1 .320 2–4 2 1 .387 1-3 3 R40 2–6 2 1 .500 2–6 2 1 .500 2–6 2 1 .500 2–6 2 1 .500 2–6 2 1 .500 2 .500 .50	48 16 8 16 .10 .30 .60 5-6 5 L .320 4-6 6 R .440 3-6 6 R .503 2-6 6 R .595 1-6 6 R .660 1-6 6 R	48 16 10 .10 .50 2-3 2 L .320 4-6 6 R .367 2-5 L .441 2-6 2 L .547 2-6 6 R .617 1-6 6 R	48 16 10 .50 .40 2-3 L 400 2-4 2 L .450 2-5 2 L .519 2-6 2 L .608 2-6 2 L .607 2-6 2 L .607	48 16 8 16 .20 .30 .50 5-6 5 L .267 4 6 6 R .367 3-6 6 R .421 2-6 6 R .50 .50 .50 .50 .50 .50 .50 .50	48 16 20 40 2-3 2 L 320 2-4 2 L 426 2-6 2 L 571 2-6 2 L 571 2-6 2 L
What Ax Speed Hitt Los On Ax	a. Basele leicing ch ad less 10 20 30 40	G L X X Y C C a 1 a 2 G N E V G N E V G N E V G N E V C C C C C C C C C C C C C C C C C C	52 16 16 12 .10 .30 .60 5-6 5 L .320 4-6 6 R .360 4-6 6 R .440 2-6 6 R .525 2-6 6 R .603	52 16 16 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .394 2-4 2 L .451 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-7 2 L .530 2-7 2 L .530 2-7 2 L .530 2-7 2 L .530 2-7 2 L .530 2-7 2 L .530 2-7 2 L .530 2-7 2 L .530 2-7 2 L .530 2-7 2 L .530 2-7 2 L .530 2-7 2 L .530 2-7 2 L .530 2-7 2 2 L .530 2-7 2 2 2 2 2 2 2 2 2 2 2 2 2	52 16 16 12 .10 .40 2-3 2 L .40 2-4 2 L .477 2-4 2 L .525 2-6 2 L .595 2-6 2 L .695 2-6 2 L .695 2-6 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	52 16 12 .20 .30 .50 5-6 5 L .26 .20 .30 4-6 6 R .303 4-6 6 R .445 2-6 6 R .445 1-6 6 R .50	52 16 16 12 .20 .40 .40 2-3 2 L .320 2-4 2 1 .387 1-3 3 R .440 2-6 2 L .500 2-6 2 L .500 2-6 2 L .500 2-6 2 L .500 2-7 1 .500 1 .500 2-7 1 .500 2-7 1 .500 2-7 1 .500	48 16 8 16 .10 .30 .60 5-6 5 .L .320 4-6 6 R .440 3-6 6 R .503 2-6 6 R .595 1-6 6 R .60 1-6 R .60 R	48 16 8 16 .10 .40 .50 2 3 L .320 4-6 6 R .367 2-5 L .441 2-6 2 L .547 2-6 6 R .676	48 16 8 16 .10 .50 .40 2-3 2 L .400 2-4 2 L .450 2-5 2 L .519 2-6 2 L .608 2-6 2 L .706	48 16 8 16 .20 .30 .50 5-6 5 L .26 6 8 .367 3-6 6 8 .421 2-6 6 8 R .508 1 6 6 8 8 .50 1 6 8 8 .50 1 6 8 8 .50 .50 .50 .50 .50 .50 .50 .50	48 16 8 16 20 40 40 2-3 2 L 320 2-4 2 L 426 2-5 2 L 513 2-6 2 L 513 2-6 2 L 513 2-6 2 L 52 1 52 1 53 54 54 54 54 54 54 54 54 54 54
What Ax Speed Hitt Los On Ax	. Base le le le le le le le le le le le le le	E L XX C a1 a2 G G NEV G G S G NEV G G S S	52 16 16 12 .10 .30 .60 5-6 5 L .320 4-6 6 R .360 4-6 6 R .525 2-6 R .525 2-6 R .600 1-6 R .663 1-6	52 16 16 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .394 2-4 2 L .451 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2 L .530 2 .530 .530 2 .530 2 .530 2 .530 2 .530 2 .530 2 .530 2 .530 2 .530 2 .530 2 .530 2 .530	52 16 16 12 .10 .50 .40 2-3 2 L .400 2-4 2 L .477 2-4 2 L .529 2-6 2 L .595 2-6 2 L .656 2-6 2 L .697 2-6 2 L .697	52 16 12 .20 .30 .50 5-6 5 L .267 2-4 2 L .303 4-6 6 R .367 2-6 6 R .445 2-6 6 R .516 .5	52 16 16 12 .20 .40 .40 2-3 2 I. .320 2-4 2 I. .387 1-3 3 R 440 2-6 2 I. .500 2-6 2 L. .500 2-1 .500 2-	48 16 8 16 .10 .30 .60 5-6 5 .1 .320 4-6 6 R .440 3-6 6 R .595 1-6 6 R .660 1-6 6 R .717	48 16 10 .40 .50 2-3 2 L .320 4-6 6 R .367 2-5 L .441 2-6 2 L .547 2-6 6 R .676 6 R .676	48 16 10 .50 .40 2-3 2 L .400 2-4 2 L .450 2-5 2 L .519 2-6 2 L .608 2-6 2 L .706 2-6 2 L .706	48 16 8 16 .20 .30 .50 5-6 5 L .26 .6 .8 .367 3-6 .6 .8 .421 2-6 .6 .8 .50 .8 .9 .9 .9 .9 .9 .9 .9 .9 .9 .9	48 16 8 16 20 40 40 2-3 2 L 320 2-4 2 L 360 2-5 2 L 426 2-6 2-1 1-5 13 13 13 13 13 13 13 13 13 13
What Ax Speed Hitt Los On Ax	a. Basele leicing ch ad less 10 20 30 40	G NEE V G NEE	52 16 16 12 .10 .30 .60 5-6 5 L .320 4-6 6 R .360 4-6 R .440 2-6 6 R .525 2-6 6 R .600 1-6 6 R .663	52 16 16 12 .10 .40 .50 2-3 2 1 .32 2-4 2 L .394 2-4 2 L .451 2-6 2 L .580 2-6 2 L .580 2-6 2 L .580 2-1 2-1 2-1 2-1 2-1 2-1 2-1 2-1	52 16 16 12 .10 .50 .40 2-3 2 L .40 2-4 2 L .477 2-4 L .529 2-6 2 L .656 2 L .697 2-6 2 L .697	52 16 12 .20 .30 .50 5-6 5-6 1. 2-4 2 L .303 4-6 6 R .367 2-6 6 R .445 2-6 6 R .516 1-6 6 R .516 1-6 6 R	52 16 16 12 .20 .40 2-3 2 L .320 2-4 2 L .387 1-3 R .440 2-6 2 L .500 2-6 2 L .500 1-6 1 L	48 16 8 16 .10 .30 .60 5-6 L .320 4-6 6 R .440 3-6 6 R .595 1-6 6 R .660 1-6 6 R .717 1-6 6 R	48 16 8 16 .10 .40 .50 2-3 2 L .320 4-6 6 R .367 2-5 2 L .441 2-6 2 L .547 1-6 6 R R .676 1-6 6 R	48 16 8 16 .10 .50 .40 2-3 2 L .400 2-4 2 L .450 2-5 2 L .519 2-6 2 L .668 2-6 2 L .706 2-6 2 L .706 2-6 2 L .706	48 16 8 16 .20 .30 .50 5-6 L .267 4 6 6 R .367 3-6 6 R .421 2-6 6 R .508 1 6 R .575 1-6 6 R R .646 1-6 R	48 16 8 16 20 40 2-3 2 L 320 2-4 2 L 360 2-5 2 L 426 2-6 2-1 571 2-6 2 L 571 2-6 2 1 60 10 10 10 10 10 10 10 10 10 1
What Ax Speed Hitt Los On Ax	. Base le le le le le le le le le le le le le	G NEV G NEV G NEV G NEV C NEV	52 16 16 12 .10 .30 .60 5-6 5 L .320 4-6 6 R .340 2-6 6 R .525 2-6 6 R .600 1-6 R .663 1-6 R .748	52 16 16 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .451 2-6 2 L .530 2-6 2 L .604 2-6 2 L .604 2-6 8 8 8 8 8 8 8 8 8 8 8 8 8	52 16 16 12 .10 .40 2-3 2 L .400 2-4 2 L .529 2-6 2 L .656 2-6 2 L .656 2-6 2 L .657 2-6 2 L .658 2-6 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	52 16 12 .20 .30 .50 5-6 5 L .267 2-4 2 L .303 4-6 6 R .367 2-6 6 R .445 2-6 6 R .516 1-6 6 R .516 1-6 6 8 .516 .516 8 .516 .516 8 .516 .516 8 .516 .516 8 .516 8 .516 8 .516 8 .516 8 .516 8 .516 8	52 16 16 12 .20 .40 2-3 2 L .320 2-4 2 L .387 1-3 3 R .440 2-6 2 L .500 2-6 2 L .560 2-6 2 L .560 1-6 1 .560 1-6 1 .600 1-6 1 .6000 1 .6000 .600 .600 .600 .6000 .600 .600 .6000 .6000 .600 .600 .6	48 16 8 16 .10 .30 .60 5-6 5 L .320 4-6 6 R .440 3-6 6 R .503 2-6 6 R .660 1-6 R .717 1-6 6 R .788	48 16 8 16 .10 .40 .50 2-3 2 L .320 4-6 6 R .367 2-5 2 L .441 2-6 2 L .547 2-6 2 L .617 1-6 R .67 6 R .757	48 16 8 16 .10 .50 .40 2-3 2 L .400 24 2 L .450 2-5 2 L .519 2-6 2 L .608 2-6 2 L .706 2-6 2 L .706 2-6 2 L .756 2-6 2-6 2 L .756 2-6 2 2 L .756 2-6 2 2 L .756 2-6 2 2 L .756 2-6 2 2 L .756 2-6 2 2 L .756 2-6 2 2 L .756 2-6 2 2 L .756 2-6 2 2 L .756 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	48 16 8 16 .20 .30 .50 5-6 5 L .267 4 6 6 R .367 3-6 6 R .421 2-6 R .575 1-6 6 R .646 1-6 R .646 R .734	48 16 8 16 20 40 40 2-3 2 1 320 2-4 2 1 360 2-5 2 1 426 2-6 2 1 513 2-6 2 1 571 2-6 6 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8
What Ax Speed Hitt Los On Ax	Base le le le le le le le le le le le le le	G NEV G NEV	52 16 16 12 .10 .30 .60 5-6 5 L .320 4-6 6 R .360 4-6 6 R .440 2-6 6 R .525 2-6 6 R .600 1-6 6 R .63 1-6 6 R .748	52 16 16 12 .10 .40 .50 2-3 2 1 .32 2-4 2 L .394 2-4 2 L .530 2-6 2 L .530 2-6 2 L .500 2-6 2 L .500 2-6 2 L .500 2-6 2 L .500 2-6 2 L .500 2-6 2 L .500 2-6 2 L .500 2-6 2 L .500 2-6 2 L .500 2-6 2 L .500 2-6 2 L .500 2-6 2 L .500 2-6 2 L .500 2-6 2 L .500 2-6 2 L .500 2-6 2 L .500 2-6 2 .500 2-6 2 .500 2-6 2 .500 2-6 2 .500 2-6 2 .500 2-6 2 .500 2-6 2 .500 2-6 2 .500 2-6 2 .500 2-6 2 .500 2-6 2 .500 2-6 2 .500 2-6 2 .500 2-6 2 .500 2-6 2 .500 2-6 2-6 2-6 2-6 2-6 2-6 2-6 2-6	52 16 16 12 .10 .50 .40 2-3 2 L .40 2-4 2 L .477 2-4 2 L .529 2-6 2 L .656 2-6 2 L .656 2-6 2 L .747 2-6 2 L .747	52 16 12 .20 .30 .50 5-6 5-7 1-1 .20 .50 5-6 6 R .367 2-4 2-4 2-4 2-4 8 .367 2-6 6 8 .367 2-6 6 8 .445 2-6 6 8 .516 .517	52 16 16 12 .20 .40 .40 2-3 2 L .320 2-4 2 L .387 1-3 R .440 2-6 2 L .500 2-6 2 L .500 1-6 1 L .690 1-6 1	48 16 8 16 .10 .30 .60 5-6 L .320 4-6 6 R .440 3-6 6 R .595 1-6 6 R .660 1-6 6 R .717 1-6 6 R .788	48 16 8 16 .10 .40 .50 2-3 2 1 .320 4-6 6 R .367 2-5 2 1 .441 2-6 2 1 .547 1-6 6 R .757 1-6 6 R .757	48 16 8 16 .10 .50 .40 2-3 2 L .400 24 2 L .450 2-5 2 L .519 2-6 2 L .608 2-6 2 L .706 2-6 2 L .706 2-6 2 L .756	48 16 8 16 .20 .30 .50 5-6 L .26 6 R .367 3-6 6 R .421 2-6 6 R .508 1 6 R .734 1 6 R .734	48 16 8 16 20 40 2-3 2 L 320 2-4 2 L 360 2-5 2 L 426 2 L 571 2-6 2 L 609 1-6 6 R 703 1-6 6
What Ax Speed Hitt Los On Ax	. Base le le le le le le le le le le le le le	B L XX C A1 A2 A3 G G N E V G S G N E V G S S S S S S S S S S S S S S S S S S	52 16 16 12 .10 .30 .60 5-6 5 L .320 4-6 6 R .360 4-6 6 R .440 2-6 6 R .525 2-6 6 R .600 1-6 6 R .663 1-6 6 R .748	52 16 16 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .394 2-4 2 L .451 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-6 2 L .530 2-6 2 .530 2-6 2 .530 2-6 2 .530 2-6 2 .530 2-6 2 .530 2-6 2 .530 2-6 2 .530 2-6 2 .530 2-6 2 .640 2-6 2 .650 2-6 2 .650 2-6 2 .650 2-6 2 .650 2-6 2 .650 2-6 2 .650 2-6 2 .650 2-6 2 .650 2-6 2 .650 2-6 2 .650 2-7 .650	52 16 16 12 .10 .50 .40 2-3 2 L .40 .2-4 2 L .529 2-6 2 L .595 2-6 2 L .697 2-6 2 L .697 2-6 2 L .77 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2	52 16 12 20 .30 .50 5-6 5 L .267 2-4 2 L .303 4-6 6 R .367 2-6 6 R .445 2-6 6 R .590 1-6 6 R .590 1-6 6 8 .590 1-700 1-6 8 .590 1-70	52 16 16 12 .20 .40 .40 2-3 2 L .320 2-4 2 L .387 1-3 3 R .440 2-6 2 L .500 2-6 2 L .500 1-6 1-6 1-6 1-6 1-6	48 16 8 16 .10 .30 .60 5-6 5 .1 .320 4-6 6 R .440 3-6 6 R .595 1-6 6 R .717 1-6 6 R .788 .788	48 16 10 .40 .50 2-3 2 1 .320 4-6 6 R .367 2-5 2 L .441 2-6 2 L .547 2-6 6 R .676 1-6 R .757	48 16 8 16 .10 .50 .40 2-3 2 L .400 2-4 2 L .450 2-5 2 L .519 2-6 2 L .667 2-6 2 L .706 2-6 2 L .706	48 16 8 16 .20 .30 .50 5-6 5 L .26 6 8 .367 3-6 6 8 .421 2-6 6 8 .508 1 6 8 .575 1-6 6 8 .646 1-6 8 8 .734	48 16 8 16 20 40 2-3 2 1 320 2-4 2 1 360 2-5 2 1 426 2-6 2-1 513 2-6 2 1 513 2-6 2 1 514 515 60 6 6 7 8 8 8 8 8 8 8 8 8 8 8 8 8

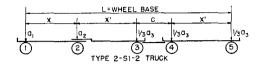
TABLE 7.12	(Continu	ed)
Truck No.	51	
Wh. Base L	52	
A 1- 37	1.0	

			(Continue							***	FC	0.0
	ick No . Base		51 52	52 52	53 52	54 52	55 52	56 56	57 56	58 56	59 56	60 56
Ax		X	16	16	16	16	16	16	16	16	16	16
	cing	X'	12	12	12	12	12	16	16	16	16	16
Hit Loa		C a ₁	.10	.10	.10	.20	.20	.10	.10	.10	.20	.20
On		\mathbf{a}_2	.30	.40	.50	.30	.40	.30	.40	.50	.30	.40
Ax	les	a ₃		2-3	$\frac{.40}{2-3}$.50 5- 6	2 3	$\frac{.60}{5-6}$	2-3	.40 2-3	.50 5-6	2-3
ŀ		N	5	2	2	5	2	5	2	2 L	5	2
	10	E V	$^{ m L}_{.320}$	$^{ m L}_{.320}$	$_{.400}^{ m L}$	$^{ m L}_{.267}$	$^{ m L}_{.320}$	$^{ m L}_{.320}$	$^{ m L}_{.320}$.400	$^{ m L}_{.267}$	$_{.320}^{\mathbf{L}}$
		G	4 6	2-4	2-4	4 6	2-4	4-6	2-4	2-4	5-6	2-3
1	20	N E	$^{6}_{\mathbf{R}}$	$^2_{f L}$	$^2_{ m L}$	$^{6}_{\mathbf{R}}$	$^2_{ m L}$	$^{6}_{\mathbf{R}}$	$^2_{ m L}$	$^2_{ m L}$	5 L	$^2_{ m L}$
		V	.400	.360	.450	.333	.360	.360	.360	.450	.301	.360
		G N	$^{4-6}_{6}$	$_{2}^{-4}$	$_{2}^{-4}$	4· 6	13 3	$^{4-6}_{6}$	2-4 2	2-4 2	$^{4-6}_{6}$	1-3 3
	30	E V	$^{ m R}_{.467}$	$_{.429}^{ m L}$	L .511	R .389	R .440	R .440	$_{.429}^{ m L}$	L .511	$^{ m R}_{.367}$	R .440
		G	2-6	2-6	2 6	2-6	2 6	2 6	2-5	2-6	2-6	1-3
ب	40	N E	6 R	$^{2}_{\mathbf{L}}$	$^2_{ m L}$	6	$^2_{ m L}$	6 R	$^2_{ m L}$	$^2_{f L}$	6	$^3_{ m R}$
Fee	40	v	.545	.513	.582	R .462	.487	.495	.481	.555	$^{ m R}_{.415}$.480
Span-Feet		G	2-6	2 6	2-6	2-6	2 6	2-6	2-6	26	2-6	2-6
Sp	50	N E	$_{\mathbf{R}}^{6}$	$^2_{f L}$	$_{\mathbf{L}}^{2}$	$^{6}_{\mathbf{R}}$	\mathbf{L}	$^6_{f R}$	$_{\mathbf{L}}^{2}$	$_{\mathbf{L}}^{2}$	$^6_{f R}$	$_{\rm L}^2$
		V G	1-6	$\frac{.591}{2-6}$	$\frac{-645}{2-6}$.529 16	$\frac{.549}{2-6}$	$\frac{.576}{1-6}$	2-6	2-6	.492 1-6	2-6
		S N E	6	2	2	6	2	6	2	2	6	2
	60	E V	$^{ m R}_{.677}$	$^{ m L}_{.642}$	$_{.688}^{ m L}$	$_{.601}^{ m R}$	$_{.591}^{ m L}$	$_{.637}^{ m R}$	$_{.620}^{ m L}$	$_{.670}^{ m L}$	$^{ m R}_{.557}$	$_{.573}^{ m L}$
		G	1 6	1-6	2-6	1-6	16	1-6	1-6	2-6	1-6	1-6
	80	N E	$^{6}_{ m R}$	$^{6}_{ m R}$	$_{\rm L}^2$	$^{6}_{ m R}$	1 L	$^6_{ m R}$	$^{6}_{ m R}$	$_{ m L}^2$	$^{6}_{ m R}$	$^{1}_{ m L}$
-		v	.758	.723	.741	.701	.683	.728	.690	.727	.667	.670
1		G N	16 6	$^{1-6}_{6}$	$_{2}^{-6}$	$^{1}_{6}$	$^{1-6}$	$^{1-6}_{6}$	$^{1-6}_{6}$	2-6	$^{1-6}_{6}$	$^{1-6}_{1}$
-	100	\mathbf{E}	R	\mathbf{R}	\mathbf{L}	\mathbf{R}	\mathbf{L}	\mathbf{R}	\mathbf{R}	L	\mathbf{R}	\mathbf{L}
		V	.806	.779	.858	.761	.747	.782	.752	.847	.734	.736
m	1 17		0.	20	20				45	20	40	
	ick N		61	62	63	64	65 48	66 52	67 52	68 52	69 52	70 52
	. Base		61 48 20	62 48 20	63 48 20	64 48 20	65 48 20	66 52 20	67 52 20	68 52 20	69 52 20	70 52 20
Wh Ax Spa	. Base le icing	X X	48 20 8	48 20 8	20 8	48 20 8	48 20 8	52 20 12	52 20 12	52 20 12	52 20 12	52 20 12
Wh Ax Spa Hit	. Base le cing ch	X X C	48 20 8 12	48 20 8 12	48 20 8 12	48 20 8 12	48 20 8 12	52 20 12 12	52 20 12 12	52 20 12 12	52 20 12 12	52 20 12 12
Wh Ax Spa Hit Loa On	. Base le acing ch ad	E L X X' C a ₁ a ₂	48 20 8 12 .10 .30	48 20 8 12 .10 .40	48 20 8 12 .10 .50	48 20 8 12 .20 .30	48 20 8 12 .20 .40	52 20 12 12 .10 .30	52 20 12 12 .10 .40	52 20 12 12 .10 .50	52 20 12 12 12 .20 .30	52 20 12 12 .20 .40
Wh Ax Spa Hit Loa	. Base le acing ch ad	E L X X' C a ₁ a ₂ a ₃	48 20 8 12 .10 .30 .60	48 20 8 12 .10 .40 .50	48 20 8 12 .10 .50 .40	20 8 12 .20 .30 .50	48 20 8 12 .20 .40 .40	52 20 12 12 .10 .30 .60	52 20 12 12 .10 .40 .50	52 20 12 12 .10 .50 .40	52 20 12 12 12 .20 .30 .50	52 20 12 12 .20 .40 .40
Wh Ax Spa Hit Loa On	. Base le acing ch ad	E L X X' C a ₁ a ₂ a ₃ G	48 20 8 12 .10 .30 .60 5 6	48 20 8 12 .10 .40 .50 2-3 2	48 20 8 12 .10 .50 .40 2-3	48 20 8 12 .20 .30 .50 5-6 5	48 20 8 12 .20 .40 .40 2 3 2	52 20 12 12 .10 .30 .60 5-6 5	52 20 12 12 .10 .40 .50 2-3 2	52 20 12 12 .10 .50 .40 2-3 2	52 20 12 12 .20 .30 .50 5-6 5	52 20 12 12 .20 .40 .40 2-3 2
Wh Ax Spa Hit Loa On	. Base le acing ch ad	E L X X' C a ₁ a ₂ a ₃ G	48 20 8 12 .10 .30 .60	48 20 8 12 .10 .40 .50 2-3	48 20 8 12 .10 .50 .40	48 20 8 12 .20 .30 .50	48 20 8 12 .20 .40 .40	52 20 12 12 .10 .30 .60 5-6	52 20 12 12 .10 .40 .50 2-3	52 20 12 12 .10 .50 .40 2-3	52 20 12 12 12 .20 .30 .50	52 20 12 12 .20 .40 .40 .2-3
Wh Ax Spa Hit Loa On	. Base le acing ch ad	E L X X' C a ₁ a ₂ a ₃ G N E V	48 20 8 12 10 30 .60 5 6 5 L .320 4 6	48 20 8 12 .10 .40 .50 2-3 2 I .320 2-4	48 20 8 12 .10 .50 .40 2-3 2 L .400 2-4	48 20 8 12 .20 .30 .50 5-6 5 L .267 4-6	48 20 8 12 .20 .40 .40 2 3 2 L .320 2 4	52 20 12 12 .10 .30 .60 5-6 5 I .320 4-6	52 20 12 12 .10 .40 .50 2-3 2 1 .320 2-4	52 20 12 12 .10 .50 .40 2-3 2 L .400 2-4	52 20 12 12 .20 .30 .50 5-6 5 L .267 4-6	52 20 12 12 .20 .40 .40 2-3 2 L .320 2-4
Wh Ax Spa Hit Loa On	. Base le acing ch ad	C an accase C N E V G N E	48 20 8 12 .10 .30 .60 5 6 5 L .320 4 6 6 R	48 20 8 12 .10 .40 .50 2-3 2 L .320 2-4 L	48 20 8 12 .10 .50 .40 2-3 L .400 2 4 2	48 20 8 12 .20 .30 .50 5-6 5 L .267 4-6 6 R	48 20 8 12 .20 .40 .40 2 3 2 L .320 2 4 2 L	52 20 12 12 .10 .30 .60 5-6 5 I .320 4-6 6 R	52 20 12 12 .10 .40 .50 2-3 2 1, .320 2-4 2	52 20 12 12 .10 .50 .40 2-3 2 L .400 2-4 2	52 20 12 12 .20 .30 .50 5-6 5 L .267 4-6 6 R	52 20 12 12 .20 .40 .40 .2-3 2 L .320 2-4 2 L
Wh Ax Spa Hit Loa On	le le cing ch ad les:	X X X' C a ₁ a ₂ a ₃ G N E V G N E V	48 20 8 12 .10 .30 .60 5 6 5 L .320 4 6 6 R .440	48 20 8 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .394	48 20 8 12 .10 .50 .40 2-3 2 L .400 2 4 2 L .477	48 20 8 12 .20 .30 .50 5-6 5 L .267 4-6 6 R .367	48 20 8 12 .20 .40 .40 2 3 2 L .320 2 4 2 L .387	52 20 12 12 .10 .30 .60 5-6 5 I .320 4-6 6 R .400	52 20 12 12 .10 .40 .50 2-3 2 I .320 2-4 2 L	52 20 12 12 .10 .50 .40 2-3 2 L .400 2-4 2 L	52 20 12 12 .20 .30 .50 5-6 5 L .267 4-6 6 R	52 20 12 12 .20 .40 .40 2-3 2 L .320 2-4 2 L .387
Wh Ax Spa Hit Loa On	le Base le acing ch ad les	XXX' C a1 a2 a3 G N E V G N E V G N E V G N	48 20 8 12 .10 .30 .60 5 L .320 4 6 6 R .440 2 6 6	48 20 8 12 .10 .40 .50 2-3 .1 .320 2-4 .2 .1 .320 2-4 .340 .320	48 20 8 12 .10 .50 .40 2-8 2 L .400 2 4 2 L .477 2-6	48 20 8 12 .20 .30 .50 5-6 L .267 4-6 6 R .367 2-6	48 20 8 12 .20 .40 .40 .40 2 3 2 L .320 2 4 L .320 2 4 .40 .40 .40 .40 .40 .40 .40	52 20 12 12 .10 .30 .60 5-6 5 I. .320 4-6 6 R .400	52 20 12 12 .10 .40 .50 2-3 2 1, .320 2-4 2 L .394 2-5 2	52 20 12 12 .10 .50 .40 2-3 2 L .400 2-4 2 L .47 2-5 2	52 20 12 12 .20 .30 .50 5-6 5 L .267 4-6 6 R .333 3-6	52 20 12 12 .20 .40 .40 .40 2-3 2 L .320 2-4 2 L .387 2-5 2
Wh Ax Spa Hit Loa On	le le cing ch ad les:	X X' C a1 a2 a3 G N E V G N E V G	48 20 8 12 .10 .30 .60 5 6 5 L .320 4 6 6 R .440 2 6 R	48 20 8 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .394	48 20 8 12 .10 .50 .40 2-3 2 L .400 2 4 2 L .477 2-6 2 L	48 20 8 12 .20 .30 .50 5-6 5 L .267 4-6 6 R .367 2-6 6 R	48 20 8 12 .20 .40 .40 2 3 2 L .320 2 4 2 L .387 2 6 2 1	52 20 12 12 12 .10 .30 .60 5-6 5 L .320 4-6 6 R .400 3-6 6 R	52 20 12 12 10 .40 .50 2–3 2 I. .320 2–4 2 L. .394 2–5	52 20 12 12 12 .10 .50 .40 2-3 2 L .400 2-4 2 L .477 2-5 2 L	52 20 12 12 12 .30 .50 5-6 5 L L267 4-6 6 R .333 3-6 6 R	52 20 12 12 .20 .40 .40 .2-3 2 L .320 2-4 2 L .387 2-5 2 L
Wh Ax Spa Hit Loa On	le Base le acing ch ad les	C an an G N E V G N E V G N E V G	48 20 8 12 .10 .60 5 6 5 L .320 4 6 6 R .440 2 6 R .533 2-6	48 20 8 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .394 2 6 2 L .496 2-6	48 20 8 12 .10 .50 .40 2-3 2 L .400 2 4 2 L .477 2-6 2 L .50 .60 2-7 2-8 2-8 2-8 2-8 2-8 2-8 2-8 2-8	48 20 8 12 .20 .30 .50 5-6 5 L .267 4-6 6 R .367 2-6 6 R .451 2-6	48 20 8 12 .20 .40 .40 2 3 2 L .320 2 4 2 L .387 2 6 2 I .471 2-6	52 20 12 12 .10 .30 .60 5-6 5 L .320 4-6 6 R .400 3-6 6 R	52 20 12 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .394 2-5 2 L .463 2-6	52 20 12 12 .10 .50 .40 2-3 2 L .400 2-4 2 L .477 2-5 2 L .587 2-6	52 20 12 12 .20 .30 .50 .50 .50 .50 .50 .50 .50 .6 .8 .333 .3-6 .6 .8 .399 .2-6	52 20 12 12 .20 .40 .40 .2-3 2 L .320 2-4 2 L .387 2-5 L .444
White Axx Space Hitt Loss Axx	le Base le neing ch ad les 10	C an an G N E V G N E V G N E V G	48 20 8 12 .10 .30 .60 5 6 5 L .320 4 6 6 R .440 2 6 6 R .533 2-6	48 20 8 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .496 2-6 2	48 20 8 12 .10 .50 .40 2-3 2 L .400 2 4 2 L .477 2-6 2 L .564 2-6 2	48 20 8 12 .20 .30 .50 5-6 5 L .267 4-6 6 R .367 2-6 6 R .451 2-6 6	48 20 8 12 .20 .40 .40 2 3 2 L .320 2 4 2 L .387 2 6 2 L .471 2 -6 2 1 L	52 20 12 12 .10 .30 .60 5-6 5 L .320 4-6 6 R .400 3-6 6 R .477 2-6 6	52 20 12 12 .10 .40 .50 2-3 2 1 .320 2-4 2 L .463 2-5 2 L .463	52 20 12 12 .10 .50 .40 2-3 2 L .400 2-4 2 L .477 2-5 2 L .587 2-6 2	52 20 12 12 .20 .30 .50 5-6 5 L .267 4-6 6 R .333 3-6 6 R .399 2-6	52 20 12 12 .20 .40 .40 2-3 2 L .320 2-4 2 L .387 2-5 2 L .444 2-6
White Ax Spare Hite Loss on Ax	le Base le acing ch ad les	E L X X Y C a1 a2 G G N E V G G N E V C G N E V C C C C C C C C C C C C C C C C C C	48 20 8 12 .10 .30 .60 5 6 5 L .320 4 6 6 R .440 2 6 6 6 R .53 2 6 6 6 8 R	48 20 8 12 .10 .40 .50 2-3 2 .1 .320 2-4 2 L .394 2 6 2 .49 .49 .50 .50 .50 .50 .50 .50 .50 .50	48 20 8 12 .10 .50 .40 2-3 2 L .400 2 4 2 L .477 2-6 2 L .564 2-6 2 L .648	48 20 8 12 .20 .30 .50 5-6 5-5 L. .267 4-6 6 R. .367 2-6 6 R. .451 2-6 6 R.	48 20 8 12 .20 .40 .40 2 3 2 1 .320 2 4 2 L .387 2 6 2 L .47 .47 .47 .47 .47 .48 .48 .48 .49 .49 .49 .49 .49 .49 .49 .49	52 20 12 12 12 .10 .60 5-6 5 5 1. .320 4-6 6 R .400 3-6 6 R .477 2-6 6 R	52 20 12 12 12 .10 .40 .50 2 2 1 .320 2-4 2 L .394 2 5 2 1 L .463 2 2 L .394 2 5 1 L .50 2 5 1 L .50 2 5 1 L .50 2 5 1 L .50 2 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	52 20 12 12 12 .10 .50 .40 2-3 2 L .400 2-4 2 L .477 2-5 2 2 L .53 2 2 L .54 2 2 1 2 1 2 1 2 1 2 1 3 1 3 1 3 1 3 1 3	52 20 12 12 .20 .30 .50 5-6 5 L .267 4-6 6 R .333 3-6 6 6 R	52 20 12 .20 .40 .40 2-3 2 L .320 2-4 2 L .387 2-5 2 L .444 2-6 2 L .527
White Ax Spare Hite Loss on Ax	le Base le neing ch ad les 10	E L X X X Y C a1 a2 a3 a3 G NN E V G G N E E V G N E E V G G M E E V G G M E C M E M E M E M E M E M E M E M E M	48 20 8 12 .10 .60 5 6 5 L .320 4 6 6 R .440 2 6 6 R .533 2 6 6 R .533 2 6 6 R	48 20 8 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .496 2-6 2 L .597 2-6 2-7 2-6 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	48 20 8 12 .10 .50 .40 2-3 2 L .400 2 4 2 L .477 2-6 2 L .564 2-6 2 L .648 2-6	48 20 8 12 .20 .30 .50 5-6 5 L .267 4-6 6 R .367 2-6 6 R .451 2-6 6 R .451 1-6 6 8 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7	48 20 8 12 .20 .40 .40 2 3 2 L .320 2 4 2 L .387 2 6 2 L .471 2 -6 2 L .553 2 -6	52 20 12 12 .10 .30 .60 5-6 5 L .320 4-6 6 R .400 3-6 6 R .477 2-6 R .575 2-6 F R	52 20 12 12 .10 .40 .50 2-3 2 1, .320 2-4 2 2 L .463 2-5 2 L .463 2-6	52 20 12 112 .10 .50 .40 2-3 2 L .400 2-4 2 L .477 2-5 2 L .537 2-6 2 L .62 2-6	52 20 12 12 .20 .30 .50 5-6 5 L .267 4-6 6 R .333 3-6 6 R .399 2-6 R .492	52 20 12 .20 .40 .40 .2-3 2 L .320 2-4 2 L .387 2-5 2 L .444 2-5 2 L .527 2-6
White Axx Space Hitt Loss Axx	le Base le neing ch ad les 10	E L XXY C a ₁ a ₂ a ₃ G G NE V G NE V G NE V G NE V G NE V G NE V	48 20 8 12 .10 .30 .60 5 6 5 L .320 4 6 6 R .440 2 6 6 R .533 2 - 6 6 R .625 1 - 6 6 R	48 20 8 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .394 2-6 2-1 2-6 2-1 2-6 2-1 2-6 2-1 2-6 2-1 2-6 2-1 2-6 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	48 20 8 12 .10 .40 2-3 2 L .400 2 4 2 L .477 2-6 2 L .564 2-6 2 L .648 2-6 2 L	48 20 8 12 .20 .30 .50 5-6 5 L .267 4-6 6 R .367 2-6 6 R .451 2-6 6 R .538 1-6 6 R	48 20 8 12 .20 .40 .40 2 3 2 L .320 2 4 2 L .387 2 - 6 2 L .553 2 - 6 2 L	52 20 12 12 .10 .60 5-6 5 5 1 .320 4-6 6 R .400 3-6 6 R .477 2-6 6 R .575 2-6 6 R	52 20 12 12 12 .10 .40 .50 2-3 2 1 .320 2-4 2 2 .55 2 1 .463 2-6 2 2 L.563 2-6 2 2 L	52 20 12 112 .10 .50 .40 2-3 2 L .400 2-4 2 L .477 2-5 2 L .537 2-6 2 L .622 2-6 2 L	52 20 12 12 .20 .30 .50 5-6 5 L .267 4-6 6 R .333 3-6 6 R .399 2-6 6 R .492 2-6 6 R	52 20 12 .20 .40 .40 .2-3 2 L .320 2-4 2 L .387 2-5 2 L .444 2-6 2 L .527 2-6 2 L
White Ax Spare Hite Loss on Ax	le lecing le lecing ch ald les:	E L X X Y C a ₁ a ₂ a ₃ G G N E V G N E V G N E V C G N E V C G N E V V V C G N E V V V C G N E V V V V C G N E V V V V V C G N E V V V V V C G N E V V V V V V V V V V V V V V V V V V	48 20 8 12 .10 .60 5 6 5 L .320 4 6 6 R .440 2 6 6 R .533 2 6 6 R .625 1 -6 6 R	48 20 8 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .496 2-6 2 L .597 2-6 2 L .597 2-6 2-1 .597 2-6 2-1 .597 2-6 2-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1	48 20 8 12 .10 .50 .40 2-3 2 L .400 2 4 2 L .477 2-6 2 L .564 2-6 2 L .648 2 L .648 2 L .649 2	48 20 8 12 .20 .30 .50 5-6 5 L .267 4-6 6 R .367 2-6 6 R .451 2-6 6 R .50 1-6 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7	48 20 8 12 .20 .40 .40 2 3 2 L .320 2 4 2 L .387 2 6 2 L .471 2 - 6 2 L .553 2 - 6 2 L .563	52 20 12 12 .10 .30 .60 5-6 5 L .320 4-6 6 R .400 3-6 6 R .477 2-6 6 R .575 2-6 6 R	52 20 12 12 .10 .40 .50 2-3 2 1, .320 2-4 2 2 L .463 2-6 2 1, .563 2-6 2 L .563	52 20 12 112 .10 .50 .40 2-3 2 L .400 2-4 2 L .477 2-5 2 L .537 2-6 2 L .62 .62 .677	52 20 12 12 .20 .30 .50 5-6 5 L .267 4-6 6 R .333 3-6 6 R .399 2-6 R .492 2-6 6 R	52 20 12 .20 .40 .40 .40 2-3 2 L .320 2-4 2 L .387 2-5 2 L .444 2-6 2 L .527 2-1 .548 .54
White Ax Spare Hite Loss on Ax	a. Base le leing ch ad les: 10 20 30 40	E L X X C a1 a2 a3 GN E V GN E V GN E V GN E V GN E V GN E V GN E V GN E V GN E V GN E V GN E V	48 20 8 12 .10 .60 5 6 5 L .320 4 6 6 R .440 2 6 6 R .533 2-6 6 R .625 1-6 6 R .625	48 20 8 12 .10 .40 .50 2-3 2 L .320 2-4 2 6 2 L .496 2 L .597 2 6 2 L .597 2 6 2 L .597 2 6 2 L .597 2 6 2 L .597 2 L .59	48 20 8 12 .10 .40 2-3 2 L .400 2 4 2 L .477 2-6 2 L .564 2-6 2 L .699 2-6 2	48 20 8 12 .20 .30 .50 5-6 5 L .267 4-6 6 R .367 2-6 6 R .451 2-6 6 R .59 1-6 6 8 8 .59 1-6 8 8 .59 1-6 8 8 8 8 8 8 8 8 8 8 8 8 8	48 20 8 12 .20 .40 .40 2 3 2 L .320 2 4 2 L .387 2 6 2 L .553 2 - 6 2 L .603 2 - 6 2 L	52 20 12 12 .10 .60 5-6 5 5 1 .320 4-6 6 R .400 3-6 6 R .477 2-6 6 R .575 2-6 6 R	52 20 12 12 12 .10 .40 .50 2-3 2 L .320 2-4 2 2 L .463 2-6 2 L .563 2-6 2 L .563 2-6 2 L .563 2-6 2 2 1 2-6 2 2 1 2-6 2 2 3 2 4 3 2 4 3 2 4 3 2 4 3 4 3 3 4 3 3 4 3 4	52 20 12 12 .10 .50 .40 2-3 2 L .400 2-4 2 L .477 2-5 2 L .537 2-6 2 L .622 2-6 2 L .677 2-6 2	52 20 12 12 .20 .30 .50 5-6 5 L .267 4-6 6 R .333 3-6 6 R .399 2-6 6 R .492 2-6 6 R	52 20 12 .20 .40 .40 .40 2-3 2 L .320 2-4 2 L .387 2-5 2 L .444 2-6 2 L .527 2-6 2 L .581 2-6 2
White Ax Spare Hite Loss on Ax	le lecing le lecing ch ald les:	E L X X Y C a1 a2 a2 a3 G N E E V G N N E V V G N N E V V G N E V V G N E V V G N E V V G N E V V G C N E V C G C N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G C C C C C C C C C C C C C C C C C	48 20 8 12 .10 .60 5 6 5 L .320 4 6 6 R .440 2 6 6 R .533 2-6 6 R .625 1-6 8 R .625	48 20 8 12 10 40 40 50 2-3 2 L 394 2 6 2 L 496 2-6 2 L 597 2 6 2 L 597 1 6 1 6 1 6 1 6 1 7 1 7 1 7 1 7 1 7 1 7 1 7 1 7	48 20 8 12 .10 .40 .50 .40 .40 .2 L .40 .2 L .477 .2 -6 .2 L .564 .564 .564 .648 .6	48 20 8 12 20 30 50 5-6 5-5 L 26 6 R 367 2-6 6 R 4-6 6 R 4-1 2-6 6 R 4-1 1-2 1-6 6 8 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7	48 20 8 12 .20 .40 .40 2 3 2 L .320 2 4 2 L .387 2 - 6 2 L .471 2 - 6 2 L .553 2 - 6 2 - 6 2 L .553 2 - 6 2 - 7 2 - 6 2 - 6 2 - 6 2 - 6 2 - 6 2 - 6 2 - 6 2 - 7	52 20 12 12 12 10 .30 .60 5-6 5 L .320 4-6 6 R .400 3-6 6 R .477 2-6 6 R .575 2-6 6 R .575 2-6 6 R	52 20 12 12 12 .10 .40 .50 2 2 L .320 2-4 2 L .394 2 5 2 L .463 2-6 2 L .563 2-6 2 L	52 20 12 12 .10 .50 .40 2-3 2 L .400 2-4 2 L .477 2-5 2 L .537 2-6 2 L .622 2-6 2 L .622 2-6 2 L	52 20 30 .50 5-6 5 L .267 4-6 6 R .333 3-6 6 R .399 2-6 6 R .399 2-6 6 R .399 1-6 8 R .399 1-6 8 R .391 1-6 8 R .391 1-6 8 R .391 1-6 8 R .391 1-6 8 R .391 1-6 8 R .391 1-6 8 R .391 1-6 8 R .391 1-6 8 R .391 1-6 8 R .391 1-6 8 R .391 1-6 8 R .391 1-6 8 R .391 1-6 8 R .391 1-6 8 R .391 1-6 8 R .391 1-6 8 R .391 1-6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	52 20 12 12 .20 .40 .40 2-3 2 L .320 2-4 2 L .387 2-5 2 L .444 2-6 2 L .527 2-6 2 L .527
White Ax Spare Hite Loss on Ax	a. Base le leing ch ad les: 10 20 30 40	E L XX C a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	48 20 8 12 .10 .60 5 6 5 L .320 4 6 6 R .440 2 6 6 R .533 2 - 6 6 R .625 1 - 6 6 R .625 1 - 6 8 R .684 1 - 6 8 R .737 1 - 6	48 20 8 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .394 2-6 2-6 2-1 .597 2-6 2-1 .597 2-6 2-1 .597 2-6 2-7 2-6 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	48 20 8 12 .10 .40 2-3 2 L .400 2 4 2 L .477 2-6 2 L .564 2-6 2 L .699 2-6 2 L .699 2-6 2 L .732 2 .740 .740	48 20 8 12 .20 .30 .50 5-6 5 L .267 4-6 6 R .367 2-6 6 R .451 2-6 6 R .599 1-6 6 R .599 1-6 6 8 8 .599 1-6 8 8 8 8 8 8 8 8 8 8 8 8 8	48 20 8 12 .20 .40 .40 2 3 2 L .320 2 4 2 L .387 2 - 6 2 L .553 2 - 6 2 L .603 2 - 6 2 L .603	52 20 12 12 .10 .60 5-6 5 5 4 6 6 R .400 3-6 6 R .477 2-6 6 R .575 2-6 6 R .575 2-6 6 R .575 2-6 6 R	52 20 12 12 12 .10 .40 .50 2-3 2 L .320 2-4 2 5 2 L .463 2-6 2 L .563 2-6 2 L .563 2-6 2 L .563 2-6 2 L .563 2-6 2 L .563 2-63 2-63 2-63 2-63 2-63 2-63 2-63 2-	52 20 12 112 .10 .50 .40 2-3 2 L .400 2-4 2 L .477 2-5 2 L .537 2-6 2 L .677 2-6 2 L .677	52 20 12 12 .20 .30 .50 5-6 5 L .267 4-6 6 R .333 3-6 6 R .399 2-6 6 R .492 2-6 6 R .492 2-6 6 R	52 20 12 .20 .40 .40 .40 2-3 2 L .320 2-4 2 L .387 2-5 2 L .444 2-6 2 L .527 2-6 2 L .581 2-6 2 L .581 1-6
White Ax Spare Hite Loss on Ax	a. Base le leing ch ad les: 10 20 30 40	E L X X Y C an an an an an an an an an an an an an	48 20 8 12 .10 .30 .60 5 6 5 5 L .320 4 6 6 R .440 2 6 6 R .533 2-6 6 R .625 1-6 6 R .625 1-6 8 R .625	48 20 8 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .394 2-6 2-6 2-1 .496 2-6 2-1 .597 2-6 2-1 .597 2-6 2-1 .597 2-6 2-1 .597 2-6 2-7 .597 2-6 2-7 .597 2-6 2-7 .597 2-7 .597 2-7 .697 1-7 .697 2-7 .697 2-7 .697 1-7 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 .697 1-7 1-7 .697 1-7	48 20 8 12 .10 .50 .40 2-8 2 L .400 2 4 2 L .477 2-6 2 L .564 2-6 2 L .648 2-6 2 L .648 2-6 2 L .648	48 20 8 12 .20 .30 .50 5-6 5-5 L .267 2-6 6 R .367 2-6 6 R .451 2-6 6 R .451 1-6 6 R .538 1-6 6 R .538 1-6 6 8 R .538 1-6 6 8 R .538 1-6 6 8 R .538 1-6 6 8 8 8 8 8 8 8 8 8 8 8 8 8	48 20 8 12 .20 .40 .40 2 3 2 L .320 .47 2 L .387 2 - 6 2 L .553 2 - 6 .553 2	52 20 12 12 12 .10 .60 5-6 5 5 1 .320 4-6 6 R .400 3-6 6 R .477 2-6 6 R .575 2-6 6 R .575 2-6 6 R .575 2-6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	52 20 12 12 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .394 2-5 2 L .463 2-6 2 L .563 2-6 2 L .563 2-6 2 L .563 2-6 2 L .563 2-64 2-64 2-64 2-64 2-64 2-64 2-64 2-64	52 20 12 112 112 .10 .50 .40 2-3 2 L .400 2-4 2 L .477 2-5 2 L .53 2 L .622 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	52 20 30 .30 .50 5-6 5 L .267 4-6 6 R .333 3-6 6 R R .399 2-6 6 R R .399 2-6 6 R R .391 1-6 6 R	52 20 12 .20 .40 .40 2-3 2 L .320 .2-4 2 L .387 2-5 2 L .444 .527 2-6 2 L .527 2-6 2 L .527
White Ax Spare Hite Loss on Ax	10 20 40 60 60 60 60 60 60 60 60 60 60 60 60 60	E L XX C a1 a2 G NE V G S S S S S S S S S S S S	48 20 8 12 .10 .60 5 6 5 L .320 4 6 6 R R.440 2 6 6 R .5333 2-6 6 R .625 1-6 6 R .625 1-6 6 R .684 1-6 8 R .737 1-6 8 R	48 20 8 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .394 2-6 2-6 2-1 .597 2-6 2-1 .597 2-6 2-1 .597 2-6 2-1 .597 2-6 2-7 1-6 6-7 1-6 8-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1	48 20 8 12 .10 .40 2-3 2 L .400 2 4 2 L .477 2-6 2 L .564 2-6 2 L .699 2-6 2 L .774	48 20 8 12 .20 .30 .50 5-6 5 L .267 4-6 6 R .367 2-6 6 R .451 2-6 6 R .599 1-6 6 R .599 1-6 6 8 8 .599 1-6 8 8 8 8 8 8 8 8 8 8 8 8 8	48 20 8 12 .20 .40 .40 2 3 2 L .320 2 4 2 L .387 2 6 2 L .553 2 6 2 L .603 2 6 2 L .603 2 6 2 L .563 1 L .723	52 20 12 12 .10 .60 5-6 5 5 1 .320 4-6 6 8 .400 3-6 6 R .477 2-6 6 R .575 2-6 6 R .575 2-6 6 R .575 1-6 1-6 1-6 1-6 1-6 1-6 1-6 1-6 1-6 1-6	52 20 12 12 12 .10 .40 .50 2-3 2 L .320 2-4 2 2 L .463 2-6 2 L .563 2-6 2 L .631 2-6 2 L .631 2-6 2 L .631 2-6 2 1 .631 2-6 2 1 .631 2-6 2 1 .631 2-6 2 1 .631 2-6 2 1 .631 2-6 2 1 .631 2-6 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	52 20 12 12 .10 .50 .40 2-3 2 L .400 2-4 2 L .477 2-5 2 L .537 2-6 2 L .677 2-6 2 L .677 2-6 2 L .761	52 20 12 12 .20 .30 .50 5-6 5 L .267 4-6 6 R .333 3-6 6 R .399 2-6 6 R .492 2-6 6 R .553 1-6 6 R .492 1-6 6 R .50 1-6 8 R .50 1 1-6 8 R .50 1 1 1-6 8 R .50 1 1-6 8 R .50 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	52 20 12 .20 .40 .40 .40 2-3 2 L .320 2-4 2 L .387 2-5 2 L .527 2-6 2 L .581 2-6 2 L .581 2-6 8-6 8-7 8-6 8-7 8-7 8-7 8-7 8-7 8-7 8-7 8-7
White Ax Spare Hite Loss on Ax	10 20 30 40 50 60 80	E L XX C a1 a a a a G G NEE V	48 20 8 12 .10 .30 .60 5 6 5 L .320 4 6 6 R .440 2 6 6 R .533 2-6 6 R .625 1-6 6 R .625 1-6 8 .625 1-6 8 .637 1-6 1-6 8 .637 1-6 1-6 1-6 1-6 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7	48 20 8 12 .10 .40 .50 2-3 2 L .320 2-4 2 L .394 2-6 2 L .496 2-6 2 L .597 1-6 6 R .702	48 20 8 12 .10 .50 .40 2-3 2 L .400 2 4 2 L .477 2-6 2 L .648 2-6 2 L .648 2-6 2 L .732 2-6 2 L	48 20 8 12 .20 .30 .50 5-6 5-5 L. .267 4-6 6 R. .367 2-6 6 R. .451 2-6 6 R. .451 2-6 6 R. .538 1-6 6 R. .538 1-6 6 8 R. .538 1-6 6 8 8 .538 1-6 6 8 8 8 8 8 8 8 8 8 8 8 8 8	48 20 8 12 .20 .40 .40 2 3 2 4 2 L .387 2 6 2 L .553 2 6 2 L .603 2 6 2 L .603 2 6 8 R .723 1 6 6 R .723 1 6 6 6	52 20 12 12 12 .10 .60 5-6 5 5 1 .320 4-6 6 R .400 3-6 6 R .477 2-6 6 R .575 2-6 6 R .575 2-6 6 R .575 2-6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	52 20 12 12 12 10 .40 .50 2-3 2 1 .320 2-4 2 2 L .394 2-5 2 2 L .463 2-6 2 L .563 2-6 2 L .676 1-6 6 R	52 20 12 12 10 .50 .40 2-3 2 L .400 2-4 2 L .537 2-5 2 L .622 2-6 2 L .677 2-6 2 L .677 2-6 2 L .677 2-6 2 L .677 2-6 2 L .677 2-6 2 L .677 2-6 2 2 1 2-6 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	52 20 30 .30 .50 5-6 5 L .267 4-6 6 R .333 3-6 6 6 R .399 2-6 6 R .553 1-6 6 R .553 1-6 6 R	52 20 12 12 .20 .40 .40 2-3 2 L .320 2-4 2 L .387 2-5 2 L .444 2-6 2 L .527 2-6 2 L .527 2-6 2 L .581 1-6 6 R .687
White Ax Spare Hite Loss on Ax	10 20 40 60 60 60 60 60 60 60 60 60 60 60 60 60	E L X X Y C an an an an an an an an an an an an an	48 20 8 12103060 5 6 5 L320 4 6 6 R440 2 6 6 R533 2-6 6 R625 1-6 6 R537 1-6 6 R537 1-6 6 R537 1-6 6 R537 1-6 8 R	48 20 8 12 10 .40 .50 2-3 2 L .320 2-4 2 L .394 2 6 2 L .597 2 6 2 L .597 2 6 2 L .597 1-6 6 R .702 1-6 R .707 1-7 1-6 R .707 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1-	48 20 8 12 10 .50 .40 2-3 2 L .400 2-6 2 L .564 2-6 2 L .648 2-6 2 L .549 2-6 2 L .549 2-7 2-6 2 L .549 2-6 2-6 2-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1	48 20 8 12 20 30 50 5-6 5 L 267 4-6 6 R 367 2-6 6 R 451 2-6 6 R 451 2-6 6 8 8 1-6 6 8 8 1-6 6 8 8 8 1-6 1-6 1-6 1-6 1-6 1-6 1-6 1-6	48 20 8 12 .20 .40 .40 .23 .24 .2 .1 .320 .24 .2 .1 .387 .26 .2 .1 .553 .26 .2 .1 .553 .26 .2 .1 .636 .6	52 20 12 12 12 10 .30 .60 5-6 5 5 L .320 4-6 6 R .400 3-6 6 R .477 2-6 6 R .575 2-6 6 R .575 2-6 8 R .575 2-6 8 R .575 2-6 8 R .60 1-6 8 R .60 1-6 8 R .60 1-6 8 R .60 1-6 8 R .60 1-6 8 R .60 1-6 8 R .60 1-6 8 R .60 1-6 8 R .60 1-6 8 R .60 1-6 8 R .60 1-6 8 R .60 1-6 8 R .60 1-6 8 R .60 1-6 8 R .60 1-6 8 R .60 1-6 8 1-6 1-6 8 1-6 8 1-6 8 1-6 8 1-6 8 1-6 8 1-6 8 1-6 8 1-6 8 1-6 8 1-6 1-6 8 1-6 8 1-6 8 1-6 8 1-6 8 1-6 8 1-6 8 1-6 8 1-6 8 1-6 8 1-6 1-6 8 1-6 8 1-6 8 1-6 8 1-6 8 1-6 8 1-6 8 1-6 8 1-6 8 1-6 8 1-6 1-6 8 1-6 8 1-6 8 1-6 8 1-6 1-6 1-6 1-6 1-6 1-6 1-6 1-6 1-6 1-6	52 20 12 12 10 40 .50 2-3 2 1 .32 2-4 2 1 .394 2-5 2 1 .463 2-6 2 1 .563 2-6 2 1 .676 1-6 6 R. 743 1-6	52 20 12 112 112 1.0 .50 .40 2-3 2 L .400 2-4 2 L .477 2-5 2 L .587 2-6 2 L .622 2-6 2 L .714 2-6 2 L	52 20 30 .50 5-6 5 5 L .267 4-6 6 R .333 3-6 6 R .399 2-6 6 R .399 2-6 6 R .553 1-6 6 R .716 1-6 6 R	52 20 12 .20 .40 .40 2-3 2 L .320 2-4 2 L .387 2-5 2 L .444 2-6 2 L .527 2-6 2 L .527 2-6 2 L .527 2-6 2 L .527 2-6 1 .618 1 1 .618 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

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n xles	a:		.40 .50	.50 $.40$.30 .50	.40 .40	.80 .60	.40 .50	$.50 \\ .40$.30 .50	.4
1	G	5-6	2. 3	2-3	5-6	2 3	5 6	2 -3	23	5-6	2
.	10 E	$^{5}_{ m L}$	$^2_{f L}$	$_{\mathbf{L}}^{2}$	$\overset{5}{\mathbf{L}}$	2 I.	5 L	$^2_{ m L}$	2 L	5 L]
1-	<u>V</u>	.320	.320	.400 2-4	2 4	2 4	320 4 6	.320 4 6	2 4		
	N	6	2	2	6	2	6	2	2	6	
'	20 E V	$^{ m R}_{.360}$	$^{ m L}_{.394}$	L .477	$^{ m L}_{303}$	$^{ m L}_{387}$	R .440	$^{ m R}_{.367}$	$^{ m L}_{.450}$	$^{ m R}_{.367}$.3
	G	4-6	2-4	2-4	4–6	2. 4	3 6	2··5 2	25	3 6	2
;	30 E	$^{6}_{ m R}$	$^2_{ m L}$	$^2_{ m L}$	6 R	$^2_{ m L}$	6 R	L	$_{ m L}^2$	6 R	I
-	$\frac{\mathbf{v}}{\mathbf{G}}$	$\frac{.440}{2-6}$	2-6	.529 2-6	.367 2–6	$\frac{.435}{2-6}$	$\frac{.503}{2-6}$	2-6	.519 2-6	$\frac{.421}{2-6}$.4
	N	6	2	2	6	2	6	2	2	6	
. '	40 E V	$^{ m R}_{.525}$	$_{.530}^{ m L}$	L .595	R .445	$_{.500}^{ m L}$	$^{ m R}_{.595}$	$_{.547}^{ m L}$	$_{.608}^{ m L}$	$^{ m R}_{.508}$.5
	G	2-6	2-6	2-6	2-6	2-6	2.6	2-6	$\frac{2}{2}$ 6	2-6	2
	50 N	$^{6}_{\rm R}$	$^2_{f L}$	$^2_{ m L}$	6 R	L	$^{6}_{\rm R}$	$^2_{ m L}$	Ĺ	$^6_{ m R}$]
	- V G	.600 1-6	2-6	2 6	.516 1 6	2-6	.656 1 6	1-6	.667 26	$\frac{.567}{1-6}$.5
	N	6	2	2	6	2	6	2	2	6	
1 '	60 E V	R .657	$^{ m L}_{.653}$	$^{ m L}_{.697}$	R .577	.60 0	$_{.710}^{ m R}$	$_{.669}^{ m R}$	$^{ m L}_{.706}$	$^{ m R}_{.632}$.6
	G	16	26	26	1-6	1 6	1-6	1 6	2 6	1-6	1
	80 E	$^6_{ m R}$	\mathbf{L}^{2}	$^2_{ m L}$	$^{6}_{ m R}$	$^{6}_{\mathbf{R}}$	6 R	$^{6}_{\mathbf{R}}$	$^2_{ m L}$	$^{6}_{ m R}$]
-	V G	.743 1-6	.715 1- 6	2 6	.682 1-6	.650 1-6	.783 16	.752 16	.754 2-6	1 6	6 1
	N	6	6	2	6	6	6	6	2	6	
119	00 E V	R .794	$^{ m R}_{.768}$	1. .864	R .746	$^{ m R}_{.720}$	$^{ m R}_{-826}$	$^{ m R}_{.801}$	$^{ m L}_{.870}$	$^{ m R}_{.779}$.7
rucl	k No.	81	82	83	84	85	86	87	88	89	9
	3ase L	56	56	56	56	56	60	60	60	60	6
xle paci	ng X	, 20	$\frac{20}{12}$	20 12	$\frac{20}{12}$	$\frac{20}{12}$	$\frac{20}{16}$	$\frac{20}{16}$	20 16	$\frac{20}{16}$	2 1
itch		- Transa	16	16	16	16	16	16	16	16	1
oad n	a :		.10 .40	.10 .50	.20 .30	.20 .40	.10 .30	.10 .40	$.10 \\ .50$.20 .30	.2 .4
xles	a ₃	.60	.50	.40	.50	.40	.60	.50	.40	.50	.4
	G N	$_{5-6}^{5-6}$	$^{2-3}_{2}$	$^{2-3}_2$	5–6 5	$\frac{2\cdot -3}{2}$	5 6 5	$^{2-3}_{\underline{2}}$	$\frac{2-3}{2}$	5-6 5	2
	10 E V	$^{ m L}_{.320}$	$^{ m L}_{.320}$	$_{.400}^{ m L}$	$_{f .267}^{f L}$.320	$^{1}_{.320}$	$^{ m L}_{.320}$	$^{ m L}_{ m .400}$	$^{ m L}_{.267}$,3
-	G	4-6	2-4	2-4	4-6	2 4	4 6	24	2-4	5-6	2
	20 E	$^6_{ m R}$	$_{ m L}^2$	$^2_{f L}$	6 R	2 1.	6 R	$^2_{ m L}$	2 L	$^{5}_{ m L}$	
-	<u>V</u>	,400 4-6	.360 2-4	450 2_4	.333	$\frac{.360}{2.4}$.360 2-4	.450 2-4	301	.3
	G N	6	2	2	6	2	6	2	2	6	
	30 E V	R. .467	$_{.429}^{ m L}$	L .511	R .389	1. .418	R .440	$_{.429}^{ m L}$	L .511	$^{ m R}_{.367}$.4
-	G	2-6	2-6	2-6	2-6	2 6	2 6	2-5	2:-6	2-6	2
;	40 E	$^{6}_{\rm R}$	$_{ m L}^2$	$^2_{ m L}$	R R	1.	6 R	$^2_{ m L}$	$^2_{ m L}$	$^{6}_{ m R}$	
	<u>V</u>	2-6	2 6	.582 2-6	2 6	.487 2-6	$\frac{.495}{2-6}$	$\frac{.481}{2-6}$	$-\frac{.555}{2-6}$.415 2-6	
	G N	6	2 L	2	6	2	6	2	2	6	
4	50 E V	R .616	.591	$_{.645}$	R .529	L .549	R .576	L .564	I. .624	R .492	.5
	G	16	26	2-6	1-6	2 6	1 6	2 6	26	1 6	- 0
	60 E	$^{6}_{\rm R}$	$^2_{f L}$	$_{\mathbf{L}}^{2}$	6 R	$^2_{ m L}$	6 R	$^2_{ m L}$	$^2_{ m L}$	$^{6}_{\rm R}$	ے ۔
	v	.670	.642 1-6	.688	.588 16	.591 1 6	.630 1 6	2-6	.670		
	G N	1-6 6	6	2-6 2	6	6	6	2 L	2 6 2 L	6	1
	80 E	л	R .718	L .741	R .691	$^{ m R}_{.657}$	$^{ m R}_{.723}$	$^{ m L}_{.690}$	I. .727	R ,657	.6
1	V										
-	G N	.753 1-6 6	1-6	2-6	1-6 6	1- 6 6	1-6	1: 6 6	2-6	1 6	1

TABLE 7.13

CONTROLLING CONDITIONS AND MAXIMUM SHEARS IN SIMPLE SPANS PRODUCED BY THE TYPE 2-S1-2 TRUCKS WEIGHING ONE KIP EACH



Ninety-six variations in the Type 2-S1-2 truck are given in this table. Each truck number, from 1 to 96, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight on each axle.

Tr	uck N	0.	1	2	3	-4	5		7	8	9	10
Wh	. Bas	e L	36	36	36	36	40	40	40	40	44	44
Ax	le icing	X X'	8 10	8 10	8 10	8 10	8	8 12	8 12	8 12	8 14	8
Hit	ch	С	8	8	8	×	8	8	8	8	8	8
Los		aı aı	.10	.10 .30	.20	.20 .30	.10 .20	.10	.20 .20	.20 .30	.10 .20	.10
Ax	les	a;	.70	.60	.60	.50	.70	.60	.60	.50	.70	.60
	10	G N E V	$^{3-4}_{\ \ R}_{.280}$	$^{1-2}_{\ \ R}_{\ .320}$	3–4 3 L .240	1-2 2 R .340	3-4 4 R .280	1-2 2 R .320	$^{3-4}_{\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $	1-2 2 R .340	3-4 4 R .280	1- 2 2 R .320
	20	G N E V	3 5 3 L .397	2 4 2 L .420	2-4 4 R .340	1 2 2 R .420	2-4 4 R .374	24 2 L .380	2-4 4 R .320	1 2 2 R .420	3-4 4 R .374	$^{1-2}_{\ \ R}_{\ .360}$
	30	G N E V	3- 5 3 L .498	2 5 2 1, .527	1-4 1 L .453	1 4 1 L .509	3 -5 3 L .482	2-4 2 L .487	1-4 4 R .427	1 4 1 L .487	35 3 L .467	2-4 2 L .460
Feet	40	G N E V	1-5 5 R .607	2 5 2 I. .620	1 · 5 1 L .560	1 5 1 L .607	15 5 R .553	2-5 2 L .580	1-5 1 L .520	1-5 1 L .573	1-4 4 R .535	2-5 2 L .540
Span-Feet	50	G N E V	1-5 5 R .685	2 5 2 L .676	1 -5 1 L .648	1 5 1 L .685	1 -5 5 R .643	2-5 2 L .644	1- 5 1 L .616	1-5 1 L .659	15 5 R .600	2-5 2 L .612
	60	G N E V	1 5 5 R .738	2-5 2 L .713	1 5 1 L .707	1 5 1 L .738	1-5 5 R .702	2-5 2 L .687	1 5 1 L .680	1-5 1 L .716	1–5 Š R .667	2-5 2 L .660
	80	G N E V	1 5 5 R .803	1-5 5 R .780	1 5 1 L .780	1–5 I L .803	1. 5 5 R .777	1 5 1 L .750	1 5 1 L .760	1-5 1 L .787	1-5 5 R .750	1-5 1 L .730
	100	G N E V	1 5 5 R .843	1-5 5 R .824	1 5 1 L .824	1- 5 1 L .843	15 5 R .821	1 5 1 L .800	1-5 1 L .808	1-5 1 L .829	1- 5 5 R .800	1 5 1 L .784

a₁, a₂, and a₃-Represent the ratio of gross vehicle weight on axles.

G--Axle group causing maximum shear, thus, 1-3 means axles 1, 2, and 3.

N-Number of critical axle under which maximum shear occurs.

E-End of span at which critical axle is placed.

V--Maximum shear.

98 TA	BLE	7.13	METHC (Continu									
	ick N		11	12	13	14	15	16	17	18	19	20
Wh	. Bas	e L X	<u>44</u> 8	8	48	48 8	<u>48</u> 	48 8	52 8	- 52 - 8	52 8	- 52 8
	cing	χ̈́,	14	14	16	16	16	16	18	18	18	18
Hit		_C_	8	. 8	- 8	- 8	8	8	- 8	8	8	- 8
Loa	ıd	a_1 a_2	.20 .20	$.20 \\ .30$.10 .20	.10 .30	$.20 \\ .20$	$.20 \\ .30$	$.10 \\ .20$	$.10 \\ .30$.20 $.20$	$.20 \\ .30$
Ax	les	a 3	.60	.50	.70	.60	.60	.50	.70	.60	.60	.50
		G N	$_{3-4}^{3-4}$	$_{2}^{1-2}$	3-4 4	$^{1-2}_2$	34 3	$_{2}^{1-2}$	$\frac{3-4}{4}$	$^{1\!-\!2}_2$	$_{3}^{-4}$	$\frac{1-2}{2}$
	10	E V	$_{.240}^{ m L}$	\mathbf{R}	\mathbf{R}	$_{.320}^{ar{ m R}}$	\mathbf{L}	R	\mathbf{R}	$_{.320}^{ar{ m R}}$	\mathbf{L}	R
		G	3-4	.340 1-2	3-4	1.2	3-4	$\frac{.340}{1-2}$	3-4	1-2	3-4	$\frac{.340}{1-2}$
- 1	0.0	N	3	R R	4	2	3	$^{2}_{ m R}$	4	$^{2}_{ m R}$	3	$^2_{ m R}$
	20	$_{ m V}^{ m E}$	$_{.320}^{ m L}$.420	$^{ m R}_{.374}$	$^{ m R}_{.360}$	$^{ m L}_{.320}$.420	$^{ m R}_{.374}$.360	$^{ m L}_{.320}$.420
ľ		G	2-4	1-4	3–5	2-4	2-4	1-3	3–5	2-4	3-5	1-2
	30	N E	4 R	$^{1}_{\mathbf{L}}$	3	$\overset{2}{\mathbf{L}}$	$^4_{ m R}$	$^{1}_{\mathbf{L}}$	$^3_{ m L}$	$_{\mathbf{L}}^{2}$	$^3_{ m L}$	\mathbf{R}
1			.400	.465	.451	.433	.387	.454	.436	.407	.373	.447
		G N	$^{1-4}$	$^{1-4}$	1-4 4	$^{1-4}_{4}$	14 1	1-4 1	$^{1-4}_{\ \ 4}$	$^{1-4}_{4}$	1-4 1	$^{1-4}$
eet	40	$_{ m V}^{ m E}$.500	$_{.556}^{ m L}$	$_{.520}^{ m R}$	$^{ m R}_{.500}$	$_{.480}^{L}$	$_{.540}^{ m L}$	$^{ m R}_{.505}$	R .480	$_{.460}^{ m L}$	$_{.523}^{ m L}$
H-n		G	1-5	1-5	1-4	2-5	1-5	1-5	1-4	2–5	1-4	1-4
Span-Feet	50	N E	$^{ m l}_{ m L}$	$^1_{f L}$	$^4_{ m R}$	$^2_{\mathbf{L}}$	$^{1}_{ m L}$	$^{ m l}_{ m L}$	$^4_{ m R}$	$^2_{ m L}$	$^{1}_{\mathbf{L}}$	$_{\mathbf{L}}^{1}$
02		v	.584	.632	.570	.580	.552	605	.558	.548	.528	.585
		G N	$^{1-5}$	$^{1-5}$	$^{1-5}_{5}$	$\substack{2-5\\2}$	15 1	$^{1-5}_{1}$	$^{1-5}_{5}$	$^{2-5}_2$	15 1	$^{1-5}_{1}$
	60	\mathbf{E}	L	L	\mathbf{R}	\mathbf{L}	$_{\rm L}$	\mathbf{L}	\mathbf{R}	L	\mathbf{L}	\mathbf{L}
-		V G	.653 1~5	.693 1–5	1-5	.633 1-5	$\frac{.627}{1-5}$.671 1-5	.596 1-5	1-5	.600 15	$\frac{.649}{1-5}$
		N	1	1	5	1	1	1	5	1	1	1
	80	$_{ m V}^{ m E}$	$_{.740}^{ m L}$	$_{.770}^{ m L}$	$^{ m R}_{.723}$	$_{.710}^{ m L}$	$_{.720}^{ m L}$	$^{\mathrm{L}}_{.753}$	R .697	$_{.690}^{ m L}$	$_{.700}^{\mathbf{L}}$	$_{.737}^{ m L}$
ľ		G	1-5	1-5	1 5	1–5	1-5	1-5	1-5	1-5	1-5	1-5
	100	N E	$^{1}_{ m L}$	$^{1}_{\mathbf{L}}$	$^{5}_{ m R}$	$^{1}_{\mathbf{L}}$	$^{1}_{ m L}$	$^{1}_{ m L}$	$^{5}_{ m R}$	$^{1}_{ m L}$	$^{1}_{ m L}$	$^{1}_{ m L}$
		V	.792	.816	.779	.768	.776	.803	.757	.752	.760	.789
	ick N		21	22	23	24	25	26	27	28	29	30
	. Base	e L X	56 8	56 8	56 8	56 8	60 8	60	60 8	60 8	64 8	64
Wh Ax Spa	. Base le .cing	X X X'	56 8 20	56 8 20	56 8 20	56 8 20	60 8 22	60 8 22	60 8 22	60 8 22	64 8 24	64 8 24
Wh Ax Spa Hit	. Base le .cing ch	X X' C	56 8 20 8	56 8 20 8	56 8 20 8	56 8 20 8	8 22 8	60 8 22 8	60 8 22 8	60 8 22 8	64 8 24 8	8 24 8
Wh Axi Spa Hite Los On	. Base le .cing ch .d	E L X X' C a ₁ a ₂	56 8 20 8 .10 .20	56 8 20 8 .10 .30	8 20 8 .20 .20	56 8 20 8 .20 .30	8 22 8 .10 .20	8 22 8 .10 .30	8 22 8 .20 .20	8 22 8 .20 .30	8 24 8 .10 .20	8 24 8 .10 .30
Wh Axi Spa Hite Los	. Base le .cing ch .d	E L X X' C a ₁ a ₂ a ₃	8 20 8 .10 .20 .70	56 8 20 8 .10 .30 .60	8 20 8 .20 .20 .20	56 8 20 8 .20 .30 .50	8 22 8 .10 .20 .70	8 22 8 .10 .30 .60	8 22 8 .20 .20 .60	8 22 8 .20 .30 .50	8 24 8 .10 .20 .70	8 24 8 .10 .30 .60
Wh Axi Spa Hite Los On	. Base le cing ch d	E L X X' C a ₁ a ₂ a ₃ G	56 8 20 8 .10 .20 .70 3-4 4	56 8 20 8 .10 .30 .60 1-2 2	56 8 20 8 .20 .20 .60 3-4 3	56 8 20 8 .20 .30 .50 1–2 2	8 22 8 .10 .20 .70 3-4 4	8 22 8 .10 .30 .60 1-2 2	8 22 8 .20 .20 .60 3-4	60 8 22 8 .20 .30 .50	8 24 8 .10 .20 .70 3–4	$\begin{array}{r} 64 \\ 8 \\ 24 \\ \hline 8 \\ .10 \\ .30 \\ .60 \\ \hline 1-2 \\ 2 \\ \end{array}$
Wh Axi Spa Hite Los On	. Base le .cing ch .d	E L X X' C a ₁ a ₂ a ₃ G	56 8 20 8 .10 .20 .70 3-4	56 8 20 8 .10 .30 .60	56 8 20 8 .20 .20 .20 .60	56 8 20 8 .20 .30 .50	8 22 8 .10 .20 .70 3-4	8 22 8 .10 .30 .60	8 22 8 .20 .20 .60 3-4	8 22 8 .20 .30 .50	64 8 24 8 .10 .20 .70 3–4	$\begin{array}{r} 64 \\ 8 \\ 24 \\ \hline 8 \\ .10 \\ .30 \\ .60 \\ \hline 1-2 \\ \end{array}$
Wh Axi Spa Hite Los On	. Base le cing ch d	e L X X' C a ₁ a ₂ a ₃ G N E V	56 8 20 8 .10 .20 .70 3-4 4 R .280	56 8 20 8 .10 .30 .60 1-2 2 R .320	56 8 20 8 .20 .20 .60 3–4 3 L .240	56 8 20 8 .20 .30 .50 1–2 R .340 1·2	8 22 8 .10 .20 .70 3-4 4 R .280	8 22 8 .10 .30 .60 1-2 R .320	8 22 8 .20 .20 .60 3-4 3 L .240	60 8 22 8 .20 .30 .50 1–2 R .340	8 24 8 .10 .20 .70 3-4 4 R .280 3-4	8 24 8 .10 .30 .60 1-2 2 R .320
Wh Axi Spa Hite Los On	. Base le cing ch d	E L X X X C A1 A2 A3 G N E V G N E	56 8 20 8 .10 .20 .70 3-4 4 R .280 3-4 4 R	56 8 20 8 .10 .30 .60 1-2 R .320 1-2 R	56 8 20 8 .20 .60 3-4 3 L .240 3-4 3-4 3-4	56 8 20 8 .20 .30 .50 1–2 R .340 1 · 2 R	8 22 8 .10 .20 .70 3-4 R .280 3-4 4 R	8 22 8 .10 .30 .60 1-2 2 R .320 1-2 2 R	8 22 8 .20 .20 .60 3-4 3 L .240 3-4 3-4	8 22 8 .20 .30 .50 1–2 2 R .340 1–2 2 R	8 24 8 .10 .20 .70 3-4 R .280 3-4 R	8 24 8 .10 .30 .60 1-2 2 R .320 1-2 2 R
Wh Axi Spa Hite Los On	. Base le .cing ch id es	E V	8 20 8	56 8 20 8 .10 .30 .60 1-2 2 R .320 1-2 2 R	8 20 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .320	56 8 20 8 .20 .30 .50 1–2 2 R .340 1 · 2 2 R	8 22 8 .10 .20 .70 3-4 4 R .280 3-4 4 R	8 22 8 .10 .30 .60 1-2 2 R .320 1-2 2 R	8 22 8 .20 .20 .60 34 3 L .240 34 34 34 34 34 34 34 34	8 22 8 .20 .30 .50 1-2 2 R .340 1-2 2 R	8 24 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374	8 24 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360
Wh Axi Spa Hite Los On	. Base le .cing ch id les 10	E L X X' C a1 a2 a3 G N E V G N E V G N	56 8 20 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374	56 8 20 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 2-4	56 8 20 8 .20 .60 3-4 3 L .240 3-4 3 L .240 3-4 4	56 8 20 8 .20 .30 .50 1–2 2 R .340 1 · 2 2 R .420 1–2 2	8 22 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 4 2-4	8 22 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 1-2 2 2 2 2 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3	8 22 8 .20 .20 .60 3 -4 3 L .240 3 -4 3 L .320 2 -4 4	8 22 8 .20 .30 .50 1–2 2 R .340 1–2 2 R .420	8 24 8 .10 .20 .70 3-4 R .280 3-4 R	64 8 24 8 .10 .30 .60 1–2 2 R .320 1–2 2 R .360 1–2
Wh Axi Spa Hite Los On	. Base le .cing ch id es	E L X X Y C a1 a2 a3 G N E V G N E V G N E V G N E T E T E T E T E T E T E T E T E T E	56 8 20 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 3-5 3 L	56 8 20 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 2-4 2 L	56 8 20 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 2 4 4 R	56 8 20 8 .20 .30 .50 1-2 2 R .420 1-2 2 R	60 8 22 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 2-4 4 R	60 8 22 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360	60 8 22 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 2-4 4 R	60 8 22 8 .20 .30 .50 1-2 2 R .340 1-2 2 R .420	8 24 8 .10 .20 .70 3-4 4 R .374 -3-4 4 R	64 8 24 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 1-2
Wh Axi Spa Hite Los On	. Base le .cing ch id les 10	E L X X' C a1 a2 a3 G N E V G N E V G N	56 8 20 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374	56 8 20 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 2-4	56 8 20 8 .20 .60 3-4 3 L .240 3-4 3 L .240 3-4 4	56 8 20 8 .20 .30 .50 1–2 2 R .340 1 · 2 2 R .420 1–2 2	8 22 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 4 2-4	8 22 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 1-2 2 2 2 2 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3	8 22 8 .20 .20 .60 3 -4 3 L .240 3 -4 3 L .320 2 -4 4	8 22 8 .20 .30 .50 1–2 2 R .340 1–2 2 R .420	8 24 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374	64 8 24 8 .10 .30 .60 1–2 2 R .320 1–2 2 R .360 1–2
White Spaan Hite Loss On Axl	. Basele cing ch de les 10 20 30	E L X X X C a1 a2 a3 G N E V E V G R E V E V E V E V E V E V E V E V E V E	56 8 20 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 3-5 3 L .420 1-4	56 8 20 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 2-4 2 L .380 1-4	56 8 20 8 .20 .20 .20 .60 .60 .61 .1 .240 .3-4 .3 .4 .320 .2 .4 .4 .8 .360 .1 .4 .1	56 8 20 8 .20 .30 .50 1-2 2 R .340 1-2 2 R .420 1-2 2 R .427 1-4	60 8 22 8 .10 .20 .70 3-4 4 R .280 4 4 R .374 2-4 4 R .405 3-5 3	60 8 22 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 1-2 2 R .373 1-4	60 8 22 8 .20 .20 .60 3-4 3 L .240 3-4 3 4 4 R .320 2-4 4 R .347	60 8 22 8 .20 .30 .50 1-2 2 R .340 1-2 2 R .420 1-2 2 R .427 1-4	8 24 8 10 .20 .70 3-4 4 R .374 4 R .405 3-5 3	64 8 24 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 1-2 2 R .373 1-4
White Spanish	. Base le .cing ch id les 10	E L X X X C a ₁ a ₂ a ₃ G N E V G R E V R E V R	56 8 20 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 3-5 3 L .420	56 8 20 8 .10 .30 .60 1-2 2 R .320 2 R .360 2-4 2 L .380	56 8 20 8 .20 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 2 4 4 R 8.60 1-4	56 8 20 8 .20 .30 .50 1–2 2 R .340 1-2 2 R .420 1-2 2 R .447	60 8 22 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 2-4 4 R .405 3-5	60 8 22 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 1-2	60 8 22 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 2-4 4 R R347	60 8 22 8 .20 .30 .50 1–2 2 R .340 1–2 2 R .420 1–2 2 R	8 24 8 .10 .20 .70 3-4 4 R .374 4 R .405 3-5	64 8 24 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 1-2 2 R .373 1-4
White Ax Spaan Hite Loss On Axl	. Basele cing ch de les 10 20 30	e L	56 8 20 8 .10 .20 .70 3-4 R .280 3-4 4 R .374 3-5 3 L .420 1-4 4 40 11 40 11 41 41 42 40 11 41 41 42 43 44 44 44 44 44 44 44 44 44	56 8 20 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 2-4 2 L .380 1-4 4 R .460 1-4	56 8 20 8 .20 .20 .20 .60 .3-4 3 L .240 3-4 3 L .320 2 4 4 R .360 1-4 1 L .440	56 8 20 8 .20 .30 .50 1-2 2 R .340 1-2 2 R .420 1-2 2 R .427 1-4 1.50 1.50	8 22 8	60 8 22 8 .10 .60 1-2 2 R .320 1-2 2 R .360 1-2 2 R .373 1-4 4 R .440	60 8 22 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 2-4 4 R .347 1-4 1 L .420 1-4	60 8 22 8 .20 .30 .50 1-2 2 R .340 1-2 2 R .420 1-2 2 R .427 1-4 1 L .490 1-4	8 24 8 24 8 10 .20 .70 3-4 4 R .374 4 R .405 3-5 L .467 1-4	8 24 8 24 8 26 26 26 26 26 27 2 2 2 2 2 2 2 2 2 2 2
What Axis Spaar Hite Loss On Axis Axis In Axis	. Basele cing ch de les 10 20 30	B L X X X Y C a 1 a 2 a 3 G N E V C C C C C C C C C C C C C C C C C C	56 8 20 8 .10 .70 .70 3-4 4 R .280 3-4 4 4 .374 3-5 3 L .420 1-4 4 R .420 1-4 4 R .420 1-4 R .420 1-4 R .420 1-4 R .420 1-4 R .420 1-4 R .420 1-4 .420	56 8 20 8 .10 .30 .60 1-2 R .320 1-2 2 R R.320 1-4 2 L .380 1-4 4 R R	56 8 20 8 .20 .60 3-4 3 L .240 3-4 3 L .320 2 4 4 R .360 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	56 8 20 8 .20 .30 .50 1-2 2 R .420 1-2 2 R .427 1-4 1 L .507	8 22 8 1.10 .20 .70 3-4 4 R .280 3-4 4 4 R .374 2-4 4 R .405 3-5 3 L .478 1-4 4 R	60 8 22 8 .10 .60 1-2 2 R .320 1-2 2 R .360 1-2 2 R .360 1-4 4 R .440 1-4 4 R	60 8 22 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 2-4 4 R .347 1-4 1 .420 1-4 1 L	60 8 22 8 .20 .30 .50 1-2 2 R .340 1-2 2 R .420 1-2 2 R .447 1-4 1 L .490 1-4 1 L	8 24 8 24 8 1.10 .20 .70 3-4 4 R .280 3-4 4 R .374 3-4 4 R .405 3-5 3 L .467 1-4 4 R	8 24 8103060 1-2 2 R320 1-2 2 R360 1-2 4 R373 1-4 4 R429 1-4 4 R
White Ax Spaan Hite Loss On Axl	. Base le cing le cing le le cing le le cing le le le le le le le le le le le le le	e L XXX/ C a1 a2 a3 GN EV V GN EV GN EV GN EV GN EV	56 8 20 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 3-5 3 L .420 1-4 4 R .490 1-4 4 R .490 1-4 4 8 .400 .7000 .700 .700 .700 .700 .700 .700	56 8 20 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 2-4 2 L .380 1-4 4 R .460	56 8 20 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 2 4 4 R .360 1-4 1 L .40 1-4 1 L .40 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	56 8 20 8 .20 .30 .50 1-2 2 R .340 1-2 2 R .420 1-2 2 R .447 1-4 1 L .507 1-12 1-2 1-2 1-2 1-2 1-2 1-2 1-	8 22 8 10 20 70 8-4 4 R 280 4 4 R 405 3-5 3 L 478	60 8 22 8 .10 .60 1-2 2 R .320 1-2 2 R .360 1-2 2 R .373 1-4 4 R .440 1-4 4 R .512	60 8 22 8 .20 .60 3-4 3 L .240 3-4 3 4 8 .320 2-4 4 R .347 1-4 1 L .426 1-4 1 L	60 8 22 8 .20 .30 .50 1-2 2 R .340 1-2 2 2 R .420 1-2 2 R .420 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2	8 24 8 24 8 20 20 70 3-4 4 R 374 4 R 405 3-5 3 L 467 1-4 4 R 522	8 24 8 24 8 26 26 26 26 27 2 2 2 2 2 2 2 2 2 2 2 2
White Ax Spaan Hite Loss On Axl	. Base lecing check cing check	9 L	56 8 20 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 .374 .3-5 3 L .420 1-4 4 4 R .80 1-4 .40 .70 .70 .70 .70 .70 .70 .70 .7	56 8 20 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 2-4 2 L .380 1-4 4 R .460 1-4 4 R .528 .630 1-4 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3	56 8 20 8 .20 .60 3-4 3 L .240 3-4 3 L .320 2 4 4 R .360 1-4 1 L .440 1-4 1 L .512 1-5 1	56 8 20 8 .20 .30 .50 1-2 2 R .420 1-2 2 R .427 1-4 1 L .507 1-4 1 L .572	8 22 8 10 20 8 22 8 10 20 9 280 4 4 8 8 280 3 4 4 8 8 405 3 5 3 5 L 478 4 8 8 478 4 8 8 478 4 8 8 478 4 8 8 478 4 8 8 478 4 8 8 478 4 8 8 478 4 8 8 478 4 8 8 478 4 8 8 478 4 8 8 478 4 8 8 478 4 4 8 8 478 4 8 8 478 4 4 4 8 8 478 4 8 8 478 4 4 4 8 8 478 4 8 8 478 4 4 4 4 8 8 478 4 8 478 4 8 478 4 8 8 478 4 8 478 4 8 8 478 4 478 4 8 478 4 8 478 4 8 478 4 8 478 4 8	60 8 22 8 .10 .60 1-2 2 R .320 1-2 2 R .360 1-2 2 R .373 1-4 4 R .440 1-4 4 R .512 1-4 4	60 8 22 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 2-4 4 R .347 1-4 1 L .420 1-4 1 .496 1-5 1	60 8 22 8 .20 .30 .50 1-2 2 R .340 1-2 2 R .420 1-2 2 R .447 1-4 1 L .490 1-4 1 L .559 1-5 1-5 1-5 1-5 1-5 1-5 1-5 1-5	8 24 8 24 8 1.10 .20	8 24 8 24 8 26 26 26 2 2 2 2 2 2 2 2 2 2 2 2 2 2
White Ax Spaan Hite Loss On Axl	. Base le cing le cing le le cing le le cing le le le le le le le le le le le le le	B L XX X C a1 a2 A3 G NE V G S S S S S S S S S S S S S S S S S S	56 8 20 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 3-5 3 L .420 1-4 4 R .490 1-4 4 R .490 1-4 4 R	56 8 20 8 .10 .60 1-2 2 R .320 1-2 2 R .320 2-4 2 L .380 1-4 4 R .460 1-7 2 2 2 2 3 3 2 4 4 4 4 5 5 6 6 6 6 7 8 8 8 8 8 8 8 8 8 8 8 8 8	56 8 20 8 .20 .60 3-4 3 L .240 3-4 3 L .320 2 4 4 R .360 1-4 1 L .410 1-4 1 L .512 1-5 1 L	56 8 20 8 -20 30 -30 -50 1-2 2 R -340 1-2 2 R -447 1-4 L -507 1-4 1 L -572 1-5 1 L	8 22 8	60 8 22 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 1-2 2 R .373 1-4 4 R .440 1-4 4 R .512 1-4 4 R	60 8 22 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 2-4 4 R .347 1-4 1 L .426 1-5 1 L	60 8 22 8 .20 .30 .50 1-2 2 R .340 1-2 2 R .420 1-2 2 R .447 1-4 1 L .559 1-5 1-5 1-5	8 24 8 24 8 20 20 20 20 280 3 -4 4 R 3.74 3 -4 4 R 405 3 -5 3 L 467 1 -4 4 R R 2 22 1 -4 4 R R	8 24 8 24 8 26 24 8 26 26 2 8 26 2 2 8 26 2 2 8 26 2 2 8 2 2 8 26 2 2 8 2 2 2 8 2 2 2 8 2 2 2 8 2 2 2 8 2 2 2 8 2 2 2 8 2 2 2 8 2 2 2 8 2 2 2 8 2 2 2 8 2 2 2 8 2 2 2 8 2 2 2 2 8 2 2 2 2 2 8 2
White Ax Spaan Hite Loss On Axl	. Base lecing check cing check	B L X X Y C a 1 a 2 a 3 a 3 a 3 G N E E V G N E E V G N E E V G N E V G N E V G N E V G N E V G N E V G G	56 8 20 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 .374 .3-5 3 L .420 1-4 4 R .490 1-4 4 R .546 1-4 4 8 .546 1-4 1-4 8 .546 1-4 8 .546 1-4 8 .546 1-4 8 .546 1-4 8 .546 1-4 8 .546 1-4 8 .546 1-4 8 .546 1-4 8 .546 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	56 8 20 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 2-4 2 L .380 1-4 4 4 R .528 2-5 2 L .528 1-5 1-5 1-5 1-5 1-5 1-5 1-5 1-5	56 8 20 8 .20 .60 3-4 3 L .240 3-4 3 L .320 2 4 4 R .360 1-4 1 L .440 1-4 1 L .512 1-5 1-5 1-5 1-5 1-5 1-5 1-5 1-5	56 8 20 .20 .30 .50 1-2 2 R .340 1-2 2 R .420 1-2 2 R .447 1-4 1 L .507 1-4 1 L .507 1-4 1 .507 1-4 1 .507 1-4 1 .507 1-5 1 .507 1-5 1 .507 1-5 1 .507 1-5 1 .507 1-5 1 .507 .507 1 .507	8 22 8	60 8 22 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 1-2 2 R .373 1-4 4 R .440 1-4 4 R .512 1-4 4 8 .512 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	60 8 22 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 2-4 4 R .347 1-4 1 L .420 1-4 1 L .496 1-5 1 .547 1-5	60 8 22 8 .20 .30 .50 1-2 2 R .340 1-2 2 R .420 1-2 2 R .447 1-4 1 L .490 1-4 1 1 1 1 1 1 1 1 1 1 1 1 1	8 24 8 24 8 1.10 .20 8 8 8 8 8 8 8 10 280 8 4 4 R 374 4 R 405 3 -5 3 L 467 1 -4 4 R 522 1 -4 4 R 5525 1 -4 4 R 563 1 -5	8 24 8 24 8 26 26 26 26 27 2 2 2 2 2 2 2 2 2 2 2 2
White Ax Spaan Hite Loss On Axl	. Base let cing ch dd let s 10 20 30 40 50 60	e L XX X C a1 a2 G G NE V G S G NE V G S S S S S S S S S S S S S S S S S S	56 8 20 8 .10 .70 3-4 4 R .280 3-4 4 R .374 3-5 1-4 4 4 R .420 1-4 4 R .490 1 -4 4 R .588 .588 1-1 1-1 1-1 1-1 1-1 1-1 1-1 1	56 8 20 8 .10 .30 .60 1-2 2 R .32 2 R .360 2-4 2 L .380 1-4 4 R R.460 1-4 4 R R.528 2-5 2 L .580	56 8 20 .20 .60 .20 .60 .24 .240 .240 .240 .240 .240 .320 .24 .320 .24 .320 .25 .25 .25 .25 .25 .25 .25 .25	56 8 20 8 .20 .30 .50 1-2 2 R .420 1-2 2 R .420 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2	8 22 8 1.10 .20 .70 3-4 4 R .280 3-4 4 R .374 2-4 4 R .405 3-5 3 L .478 1-4 4 R .534 1-4 4 R .573 1-5 5	60 8 22 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 1-2 2 R .373 1-4 4 R .440 1-4 4 R .512 1-4 4 R .512 1-4 4 R .512 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	60 8 22 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 2-4 4 R .347 1-4 1 L .420 1-5 1 L .540 1-5 1 1 1 1 1 1 1 1 1 1 1 1 1	60 8 22 8 .20 .30 .50 1-2 2 R .340 1-2 2 2 R .420 1-2 2 R .447 1-4 1 L .559 1-5 1 L .604 1-5 1	8 24 8 24 8 24 8 20 20 20 20 280 3 -4 4 R 3.74 3 -4 4 R 4.05 3 -5 3 L 467 1 -4 4 R 8 563 1 -5 5	64 8 24 8 .10 .30 .60 1-2 2 R .360 1-2 2 R .360 1-2 4 R .420 1-4 4 R .496 1-4 4 R .496 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4
White Ax Spaan Hite Loss On Axl	. Base lecing check cing check	B L XX C A1 A2 A3 G G N E V G N E V G N E V G N E V C N E V C O N	56 8 20 8 .10 .20 .70 3-4 R .280 3-4 4 R .374 .374 .3-5 4 4 R .420 1-4 4 4 R .546 1-4 4 R .546 1-5 .556 1-5 .556 .5	56 8 20 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 2-4 2 L .380 1-4 4 4 R .528 2-5 2 L .528 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	56 8 20 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 2 4 4 R .360 1-4 1 L .512 1-5 1 L .512 1-5 1 L .512 1-54 1	56 8 8 20 8 .20 .30 .50 1-2 2 R .340 1-2 2 R .420 1-2 2 R .447 1-4 1 L .507 1-4 1 L .572 1-5 1 L .720	8 22 8 10 20 8 22 8 10 20 9 280 9 4 4 R 280 9 4 4 R 405 3 -5 3 L 478 1-4 4 R 534 1-4 4 R 534 1-5 5 R 643	60 8 22 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 1-2 2 R .373 1-4 4 R .440 1-4 4 R .512 1-4 4 R .512 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	8 22 82020	60 8 22 8 .20 .30 .50 1-2 2 R .420 1-2 2 R .420 1-2 2 R .420 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2	8 24 8 24 8 24 8 10 .20 .70 3-4 4 R .280 3-4 4 R .405 3-5 3 L .467 1-4 4 R .522 1-4 4 R .563 1-5 5 R .617	8 24 8 24 8 26 26 26 27 2 2 2 2 2 2 2 2 2 2 2 2 2 2
White Spanish	. Base let cing ch dd let s let cing ch dd let s let cing ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd le	EV GNE	56 8 20 8 .10 .70 3-4 4 R .280 3-4 4 R .374 3-5 3 L .420 1-4 4 R .490 1-4 4 R .583 1-5 5 R .670 1-5 R	56 8 20 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 2-4 2 L .380 1-4 4 4 R .528 2-5 2 L .528 1-54 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-	56 8 20 .20 .60 .20 .60 .21 .24 .32 .24 .320 .24 .320 .24 .320 .1-4 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1	56 8 20 8 .20 .30 .50 1-2 2 R .420 1-2 2 R .420 1-2 1-5 1 L .507 1-4 1 L .507 1-5 1 L .627 1-5 1 L .720 1-5	8 22 8 1.10 .20 .70 3-4 4 R .280 3-4 4 R .374 2-4 4 R .405 3-5 3 L .478 1-4 4 R .573 1-5 R .643 1-5	60 8 22 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 1-2 2 R .373 1-4 4 R .440 1-4 4 R .512 1-4 4 R .560 1-5 1-5 1-5 1-5 1-5 1-5 1-5 1-5	8 22 8 20 .20 .20 .60 3 -4 3 L .240 2-4 4 R .347 1-4 1 L .420 1-4 1 L .547 1-5 1 L .547 1-5 1 L .666 .666 1-5	60 8 22 8 .20 .30 .50 1-2 2 R .420 1-2 2 R .420 1-2 2 R .420 1-2 1 L .50 1-2 1 L .50 1-2 1 1 1 1 1 1 1 1 1 1 1 1 1	8 24 8 10 .20 .70 3-4 4 R .280 .374 3-4 4 R .405 3-5 3 L .467 1-4 4 R .563 1-5 5 R .617 1-5	8 24 8103060 1-2 2 R32022 R360 1-2 2 R360 1-12 4 R420 1-4 4 R420 1-4 4 R420 1-4 547 1-5 1 L630 1-5
White Spanish	. Base let cing ch dd let s let cing ch dd let s let cing ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd let s let ch dd le	B L XX C A1 A2 A3 G G N E V G N E V G N E V G N E V C N E V C O N	56 8 20 8 .10 .20 .70 3-4 R .280 3-4 4 R .374 .374 .3-5 4 4 R .420 1-4 4 4 R .546 1-4 4 R .546 1-5 .556 1-5 .556 .5	56 8 8 10 .30 .60 1-2 2 R .360 2-4 2-4 2-4 4 4 R .460 1-4 4 R .528 2-5 2 L .580 1-5 1-6 1-7 1-7 1-8 1-9 1-9 1-9 1-9 1-9 1-9 1-9 1-9	56 8 20 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 2 4 4 R .360 1-4 1 L .512 1-5 1 L .512 1-5 1 L .512 1-54 1	56 8 8 20 8 .20 .30 .50 1-2 2 R .340 1-2 2 R .420 1-2 2 R .447 1-4 1 L .507 1-4 1 L .572 1-5 1 L .720	8 22 8 10 20 8 22 8 10 20 9 280 9 4 4 R 280 9 4 4 R 405 3 -5 3 L 478 1-4 4 R 534 1-4 4 R 534 1-5 5 R 643	60 8 22 8 .10 .30 .60 1-2 2 R .320 1-2 2 R .360 1-2 2 R .373 1-4 4 R .440 1-4 4 R .512 1-4 4 R .512 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	8 22 82020	60 8 22 8 .20 .30 .50 1-2 2 R .420 1-2 2 R .420 1-2 2 R .420 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2	8 24 8 24 8 24 8 10 .20 .70 3-4 4 R .280 3-4 4 R .405 3-5 3 L .467 1-4 4 R .522 1-4 4 R .563 1-5 5 R .617	8 24 8 24 8 26 26 26 27 2 2 2 2 2 2 2 2 2 2 2 2 2 2

	ick N		31	32	33	34	35	36	37	38	39	40
Ax		X	8	8	12	12	12	12	12	12	12	12
Spa	cing ch	- X' C	8	<u>24</u> 8	$\frac{10}{8}$	$\frac{10}{8}$	10 8	10 8	$\frac{12}{8}$	12 8		<u>12</u>
Loa		a ₁	.20	.20	.10	.10	.20	.20	.10	.10	.20	.20
On Axl	les	a: a:	.20 .60	.30 .50	.20 .70	.30 .60	.20 .60	.30 .50	.20 .70	.30 .60	.20 .60	.30 .50
		G N	$\frac{1-2}{2}$	$^{1-2}_{2}$	3~4 4	$\frac{2-3}{2}$	3-4 3	2-3 2	$\frac{3-4}{4}$	$\frac{3-4}{3}$	$\substack{3-4\\3}$	$\frac{3-4}{3}$
	10	È V	$\overset{\mathbf{R}}{\overset{\mathbf{R}}{\mathbf{R}}}$	$_{.340}^{ m R}$	$\overset{\mathbf{\hat{R}}}{.280}$	$_{.300}^{ar{ ext{L}}}$	L .240	$_{.300}^{ ilde{ ilde{L}}}$	$\overset{\hat{\mathbf{R}}}{_{.280}}$	L .240	$\overset{ ext{L}}{ ext{.240}}$	$\overset{\mathbf{L}}{\mathbf{L}}$
-		G	1-2	1-2	3-5	2-4	2-4	2-4	3-4	2-3	3-4	12
	20	N E	$^2_{ m R}$	$_{\mathbf{R}}^{2}$	$^3_{ m L}$	$_{\mathbf{L}}^{2}$	$^4_{\rm R}$	$_{ m L}^2$	$^4_{ m R}$	$_{\mathbf{L}}^{2}$	$_{\rm L}^3$	$_{ m R}^2$
		V G	$\frac{.320}{1-2}$.420 1-2	397 3-5	.420 2-5	$\frac{.340}{2-4}$	2-5	$\frac{.374}{3-5}$	$\frac{.380}{2-4}$	$\frac{.320}{2-4}$	$\frac{.380}{2-4}$
	0.0	N	2 R	2	3	2	4	2	3	2	4	2
1	30	E V	.347	R .447	L .498	L .527	R .427	L .489	.482	L .487	R .413	$^{ m L}_{.456}$
- (G N	14	1-3 1	1–5 5	$\frac{2-5}{2}$	2-5 2	$^{2-5}_{2}$	$2\overline{-5}$	2-5 2	1-4 4	2-5 2
eet	40	E V	$\hat{\mathbf{L}}$.400	Ĺ .474	Ř .597	$_{.620}^{ar{ ext{L}}}$	$_{ m L}^{ m L}$	$ar{ ext{L}}_{.567}$	$\overset{\circ}{\mathrm{R}}$	$_{.580}^{ ilde{ ilde{ ilde{L}}}}$	$\overset{ ilde{R}}{.500}$	$\stackrel{ar{L}}{_{.533}}$
Span-Feet		G	1-4	1-4	1-5	2-5	1-5	1-5	1-5	2-5	1-5	1-5
Spa	50	N E	$^{1}_{ m L}$	$^{1}_{ m L}$	$^{5}_{ m R}$	$_{ m L}^2$	$^{5}_{ m R}$	$^{1}_{\mathbf{L}}$	$\overset{5}{\mathbf{R}}$	$_{ m L}^2$	$^{5}_{ m R}$	$^{1}_{ m L}$
-		V G	.480 1-4	.545 1-4	.677	2-5	1.5	.621 1-5	.635 15	$\frac{.644}{2-5}$	568 1-5	
į	co	N	1	1.	5	2	5	1	5	2	5	1
	60	E V	.533	$_{.593}^{\mathrm{L}}$	$^{ m R}_{.731}$.713	.680	$^{ m L}_{.684}$	$_{.696}^{ m R}$	$^{ m L}_{.687}$	$_{.640}^{ m R}$	$_{.662}^{ m L}$
		G N	$^{1-5}_{1}$	1.5	15 5	1-5 5	$^{1-5}_{5}$	1-5 1	1–5 5	1–5 5	1-5 5	1-5 1
	80	Ë	$ \stackrel{\hat{\mathbf{L}}}{.640}$	$^{ m L}_{.686}$.798	Ř .775	$^{ m R}_{.760}$	$^{ m L}_{.763}$	R .772	R .745	.730	L .747
		G	1-5	1-5	1 5	1-5	1-5	1-5	15	1-5	1-5	1-5
i	100	N E	1 I.	$^{1}_{ m L}$	$^{5}_{ m R}$	$^{5}_{ m R}$	$^{5}_{ m R}$	$^{1}_{ m L}$	5 R	$^{5}_{ m R}$	$^{5}_{ m R}$	$^{ m 1}_{ m L}$
_		<u>v</u>	.712	.749	.839	.820	.808	.811	.817	.796	.784	.797
	ick N . Bas		41	42	43	44	$\frac{45}{52}$	- 46 52	47 52	48 52	49 56	$\frac{50}{56}$
Ax	le	X X'	12	12	12	12	12	12	12	12	12	12
Spa Hit	cing	X'	14	14	14	14	16	16	16	16	18	18
Loa	ch	С	8	8	8	- 8	8	- 8	8	8	8	8
		C a ₁	.10	.10	.20	.20	.10	.10	.20	.20	.10	.10
On Axl	ıd											
	ıd	a ₁ a ₂ a ₃	.10 .20 .70	.10 .30 .60 3-4	.20 .20 .60	.20 .30 .50	.10 .20 .70	.10 .30 .60	.20 .20 .60	.20 .30 .50	.10 .20 .70 3-4	.10 .30 .60
	ıd	a ₁ a ₂ a ₃ G N E	.10 .20 .70 3-4 4 R	.10 .30 .60 3-4 3 L	.20 .20 .60 3 4 3 L	.20 .30 .50 3-4 3 L	.10 .20 .70 .3 4 4 R	30 .60 3-4 3 L	.20 .20 .60 3 4 3 L	.20 .30 .50 3-4 3 L	.10 .20 .70 .70 3-4 4 R	.10 .30 .60 3-4 3 L
	les	a ₁ a ₂ a ₃ G N E V	.10 .20 .70 3-4 4 R .280	30 .60 3-4 3 I .240	.20 .20 .60 3 4 3 L .240	.20 .30 .50 3-4 3 I. .200	.10 .20 .70 3 4 4 R .280	3-4 3 L .240	.20 .20 .60 3 4 3 L .240	.20 .30 .50 3-4 3 L .200	.10 .20 .70 3-4 4 R .280	.10 .30 .60 3-4 3 L .240
	les	a ₁ a ₂ a ₃ G N E V G N E	.10 .20 .70 3-4 4 R .280 3-4 4 R	.10 .30 .60 3-4 3 1 .240 2-3 2 L	.20 .20 .60 3 4 3 L .240 3 4	.20 .30 .50 3-4 3 L .200 1-2 2 R	.10 .20 .70 3 4 4 R .280 3 -4 4 R	.10 .30 .60 3-4 3 L .240 1-2 2 R	.20 .20 .60 3 4 3 L .240 3-4 3 L	.20 .30 .50 3-4 3 L .200 1-2 2 R	.10 .20 .70 3-4 4 R .280 3-4 4 R	.10 .30 .60 3-4 3 L .240 1-2 2 R
	les 10	a ₁ a ₂ a ₃ G N E V G N E V	.10 .20 .70 3-4 4 R .280 3-4 4 R .374	.10 .30 .60 3-4 3 I. .240 2-3 2 I. .360	.20 .20 .60 3 4 3 L .240 3 4 3 L .240	.20 .30 .50 3-4 3 L .200 1-2 2 R .380	.10 .20 .70 3 4 4 R .280 3 -4 4 R	.10 .30 .60 3-4 3 L .240 1-2 2 R	.20 .20 .60 3 4 3 L .240 3-4 3 L .320	.20 .30 .50 3-4 3 L .200 1-2 2 R	.10 .20 .70 3-4 4 R .280 3-4 4 R .374	.10 .30 .60 3-4 3 L .240 1-2 2 R .340
	10 20	a ₁ a ₂ a ₃ G N E V G N E V G N E N	.10 .20 .70 3-4 4 R .280 3-4 4 R .374 3-5 3	.10 .30 .60 3-4 3 1 .240 2-3 2 1 .360 2-4	.20 .20 .60 3 4 3 L .240 3 4 3 L .320 2-4	.20 .30 .50 3-4 3 L .200 1-2 2 R .380 2-4	.10 .20 .70 3 4 4 R .280 3 -4 4 R .374 3 5	.10 .30 .60 3-4 3 L .240 1-2 2 R .340 2-4	.20 .20 .60 3 4 3 L .240 3-4 3 I .320 2-4	.20 .30 .50 3-4 3 L .200 1-2 2 R .380	.10 .20 .70 3-4 4 R .280 3-4 4 R .374 3-5 3	.10 .30 .60 3-4 3 L .240 1-2 2 R .340 2-4
	les 10	a ₁ a ₂ a ₃ G N E V G N E V C O N E V	.10 .20 .70 3-4 4 R .280 3-4 4 R .374 3-5 3 1 L	.10 .30 .60 3-4 3 1 .240 2-3 1 .360 2-4 2 1 .460	.20 .20 .60 3 4 3 L .240 3 4 L .320 2-4 4 R	.20 .30 .50 3-4 3 L .200 1-2 R .380 2-4 L .433	.10 .20 .70 3 4 4 R .280 3 -4 4 R .374 3 5 3 L	.10 .30 .60 3-4 3 L .240 1-2 2 R .340 2-4 2 L	.20 .20 .60 3 4 3 L .240 3-4 3 L .320 2-4 4 R .387	.20 .30 .50 3-4 3 L .200 1-2 2 R .380 1-2 2 R	.10 .20 .70 3-4 4 R .280 3-4 4 R .374 3-5 3 L	.10 .30 .60 3-4 3 L .240 1-2 2 R .340 2-4 2 L
Axl	10 20 30	a ₁ a ₂ a ₃ G N E V G N E V G N E V G O G O G O G O G O G O G O G O G O G	.10 .20 .70 3-4 4 R .280 3-4 4 R .374 3-5 1	.10 .30 .60 3-4 3 1 .240 2-3 2 1 .360 2 4 2 1 .460 2-5 2	.20 .20 .60 3 4 3 L .240 3 4 3 L .320 2-4 4 R	.20 .30 .50 3-4 3 L .200 1-2 2 R .380 2-4 L	.10 .20 .70 3 4 4 R .280 3 -4 4 R .374 3 5	.10 .30 .60 3-4 3 L .240 1-2 2 R .340 2-4 L	.20 .20 .60 3 4 3 L .240 3-4 3 L .320 2-4 4 R .387	.20 .30 .50 3-4 3 L .200 1-2 2 R .380 1-2 2 R .420	.10 .20 .70 .70 3-4 R .280 3-4 4 R .374 3-5 3 L .436	.10 .30 .60 3-4 3 L .240 1-2 2 R .340 2-4 2 L .407
Axl	10 20	a ₁ a ₂ a ₃ G N E V G N E V C O N E V	.10 .20 .70 .3-4 4 R .280 3-4 4 R R .374 3-5 3 L .467 1 4 4 R	.10 .30 .60 3-4 3 1.240 2-3 2 L.360 2-4 2 L.460 2-5 2 L	.20 .20 .60 .3 4 .3 .240 .3 4 .3 L .320 .2-4 .4 R .400	.20 .30 .50 .50 3-4 3 L .200 1-2 2 R .380 2-4 2 L .433 2-5 2 L	.10 .20 .70 3 4 4 R .280 3 -4 4 4 R .374 3 5 3 L .451	.10 .30 .60 3-4 3 L .240 1-2 2 R .340 2-4 2 L .433 2-5 2 L	20 20 .60 3 4 3 L .240 3-4 3 L .320 2-4 4 R .387	.20 .30 .50 .50 .50 .50 .50 .50 .50 .50 .200 .50 .200 .22 .28 .380 .1-2 .28 .420 .420 .1-4 .1 .L	.10 .20 .70 .3-4 4 R .280 .3-4 4 R R R .374 .3-5 3 L .436	.10 .30 .60 3-4 3 L .240 1-2 2 R .340 2-4 2 L .407 2-4 2 L
Axl	10 20 30	a ₁ a ₂ a ₃ G N E V G N E V G N E V G N E V G N E V G N E V G	.10 .20 .70 .70 .70 .280 .280 .3-4 .4 .8 .374 .3-5 .3 .467 .467 .467 .525 .525 .1-5	.10 .30 .60 3-4 3 1 .240 2-3 2 1 .360 2 4 2 1 .460 2-5 2 1 .540	.20 .20 .60 3 4 3 L .240 3 4 3 L .320 2-4 4 R .400 1-4 4 R .480	.20 .30 .50 3-4 3 L .200 1-2 2 R .380 2-4 2 L .483 2-5 2 L .500 1-5	.10 .20 .70 3 4 4 R .280 3 -4 4 R .374 3 5 3 L .451 3 .5 3 L	.10 .30 .60 3-4 3 L .240 1-2 2 R .340 2-4 2 L .433 2-5 2 L .500 2-5	.20 .20 .60 .3 4 .3 L .240 .3-4 .3 L .320 .2-4 .4 R .387 .1 - 4 .4 R .460 .1 4	.20 .30 .50 3-4 3 L .200 1-2 2 R .380 1-2 2 R .420 1-4 1 L .477	.10 .20 .70 .70 .3-4 .4 .280 .3-4 .4 .374 .3-5 .3 .L .436 .3-5 .3 .L .502	.10 .30 .60 3-4 3 L .240 1-2 2 R .340 2-4 2 L .407 2-4 2 L .480 2-5
	10 20 30	a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEV	.10 .20 .70 .70 .70 .280 .280 .280 .374 .4 .8 .374 .374 .467 .1 .467 .525 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5	.10 .30 .60 .60 .60 .60 .60 .60 .60 .60 .60 .6	.20 .20 .60 3 4 3 L .240 3 4 3 L .320 2-4 4 R .400 1-4 4 R R	.20 .30 .50 .50 3-4 3 L .200 1-2 2 R .380 2-4 2 L .433 2-5 2 L	.10 .20 .70 .3 4 4 R .280 3 -4 4 4 R .374 3 5 3 L .451 3 -5 8 L .513	.10 .30 .60 3-4 3 L .240 1-2 R .340 2-4 2 L .433 2-5 2 L	.20 .20 .60 3.4 3. L .240 3-4 3. L .320 2-4 4. R .387 1-4 4. R .460	.20 .30 .50 3-4 3 L .200 1-2 R .380 1-2 2 R .420 1-4 1 L	.10 .20 .70 .70 .70 .70 .70 .70 .70 .70 .70 .7	.10 .30 .60 .3-4 .24 .24 .2 2 .340 .2-4 .2 L .407 .2-4 .2 L .480
Axl	10 20 30	a1 a2 a3 GNEV GNEV GNEV GNEV GNEV	.10 .20 .70 .70 .70 .70 .70 .70 .70 .70 .70 .7	.10 .30 .60 3-4 3 1 .240 2-3 2 1 .360 2-4 2 2 1 .460 2-5 2 1 .540	.20 .20 .60 3 4 3 L .240 3 4 3 L .320 2-4 4 R .400 1-4 4 R .480 1 4 R	.20 .30 .50 .50 .50 .50 .50 .50 .50 .50 .50 .5	.10 .20 .70 .70 .3 4 4 R .280 .3 -4 4 R .374 .3 5 .3 L .451 .3 -5 .8 L .513 .1 -4 4 R .562	.10 .30 .60 3-4 3 L .240 1-2 2 R .340 2-4 2 L .483 2-5 2 L .500 2-5 2 L	.20 .20 .60 3.4 3 L .240 3-4 3 L .320 2-4 4 R .387 1.4 4 R .460 1.4 4 R .528	.20 .30 .50 3-4 3 L .200 1-2 2 R .380 1-2 2 R .420 1-4 1 L .477 1-4 1 L	.10 .20 .70 .70 .70 .70 .70 .70 .70 .70 .70 .7	.10 .30 .60 3-4 3 L .240 1-2 2 R .340 2-4 2 L .40 2-4 2 L .40 2-5 2 L .548
Axl	10 20 30 40	a1 a2 83 GNEV GNEV GNEV GNEV GNEV GNEV GN	.10 .20 .70 .70 .70 .70 .70 .70 .70 .70 .70 .7	.10 .30 .60 .60 .60 .60 .60 .60 .60 .60 .60 .6	.20 .20 .60 3 4 3 L .240 3 L .320 2-4 4 R .400 1 -4 4 R .480 1 1 4 4 R .544 1 -5 1	.20 .30 .50 3-4 3 L .200 1-2 2 R .380 2-4 2 L .433 2-5 2 L .500 1-5 1 L .568	.10 .20 .70 .70 .70 .70 .70 .70 .70 .70 .70 .7	$\begin{array}{c} .10 \\ .30 \\ .60 \\ \end{array}$ $\begin{array}{c} .3-4 \\ 3 \\ L \\ .240 \\ \end{array}$ $\begin{array}{c} 1-2 \\ 2 \\ R \\ .340 \\ \end{array}$ $\begin{array}{c} 2-4 \\ 2 \\ L \\ .433 \\ \end{array}$ $\begin{array}{c} 2-5 \\ 2 \\ L \\ .500 \\ \end{array}$ $\begin{array}{c} 2-5 \\ 2 \\ L \\ .580 \\ \end{array}$	20 20 20 3-4 3 L 240 3-4 3 L 320 2-4 4 R 387 1-4 4 R 460 1-4 4 R 528 1-5 1	.20 .30 .50 .50 .50 .50 .50 .50 .200 .1-2 .2 .8 .380 .1-2 .2 .2 .8 .420 .1-4 .1 .477 .1-4 .1 .548 .1-5 .1	.10 .20 .70 .70 .70 .70 .70 .70 .70 .70 .70 .7	.10 .30 .60 3-4 3 1 L .240 1-2 2 R .340 2-4 2 L .407 2-4 2 L .480 2-5 2 L .548
Axl	10 20 30	a1 a2 G S S S S S S S S S S S S S S S S S S	.10 .20 .70 .70 .70 .70 .70 .70 .70 .70 .70 .7	.10 .30 .60 .60 .60 .60 .60 .60 .60 .60 .60 .6	.20 .20 .20 .60 3 4 3 L .240 3 L R .320 2-4 4 R .480 1 -4 4 R .480 1 1 4 4 R .544 1 1 .5 1 L	.20 .30 .50 .50 .50 .50 .50 .50 .20 .2 .8 .8 .3 .2 .4 .2 .2 .4 .4 .4 .3 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5 .5	.10 .20 .70 .70 .3 4 4 R .280 3 -4 4 R .374 .3 5 3 5 1 .451 .513 1 4 R .562 1-5	.10 .30 .60 3-4 3 L .240 1-2 2 R .340 2-4 2 L .433 2-5 2 L .500 2-5	.20 .20 .20 .60 3.4 3.L .240 3.4 3.L .320 2.4 4 R .387 1.4 4 R .460 1.4 4 R .528	.20 .30 .50 .50 .50 .50 .50 .50 .200 .1-2 .2 .8 .380 .1-2 .2 .2 .8 .420 .1-4 .1 .477 .1-4 .1 .548 .1-5 .1 .618	.10 .20 .70 .70 .70 .70 .70 .70 .70 .70 .70 .7	.10 .30 .60 .60 .3-4 .3 .1 .240 .2-2 .8 .340 .2-4 .2 .2 .1 .407 .2-5 .2 .2 .2 .480 .2-5 .2 .2 .548 .2-5 .2 .607
Axl	10 20 30 40	a ₁ a ₂ a ₃ G N E V G N E V G N E V G N E V G N E V G N E V G N E V G S S G S S S S S S S S S S S S S S S	.10 .20 .70 .70 .70 .70 .70 .70 .70 .70 .70 .7	.10 .30 .60 .60 .60 .60 .60 .60 .60 .60 .60 .6	.20 .20 .60 3 4 3 L .240 3 4 3 L .320 2-4 4 R .400 1 -4 4 R .544 1 -5 1 L .600 1 -5	.20 .30 .50 3-4 3 L .200 1-2 2 R .380 2-4 2 L .433 2-5 1 L .568 1-5 1 L .640 1 5	.10 .20 .70 3 4 4 R .280 3 -4 4 R .374 3 5 3 L .451 3 -5 8 L .513 1 -4 4 R .562 1 -5 8 .624	.10 .30 .60 3-4 3 L .240 1-2 2 R .340 2-4 2 L .433 2-5 2 L .500 2-5 2 L .580 2-5 2 L .580 2-5 2 L .580 2-5 2 L .580 2-5 2 L .580 2-5 2 L .580 2-5 2-5 2 L .580 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	20 20 20 3-4 3 L 240 3-4 3 L 320 2-4 4 R 387 1-4 4 R 4 R 528 1-5 1 L 528	.20 .30 .50 .50 .50 .50 .50 .50 .200 .1-2 .2 .8 .380 .1-2 .2 .2 .8 .420 .1-4 .1 .477 .1-4 .1 .548 .1-5 .1 .6 .6 .6 .6 .6 .6 .6 .6 .6 .6 .6 .6 .6	.10 .20 .70 .70 .70 .70 .70 .70 .70 .70 .70 .7	.10 .30 .60 3-4 3 L .240 1-2 2 R .340 2-4 2 L .407 2-4 2 L .407 2-5 2 L .548 2-5 2 L .548
Axl	10 20 30 40	a1 a2 GNEV GNEV GNEV GNEV GNEV GNEV GNEEV	.10 .20 .70 .70 .70 .70 .70 .70 .70 .70 .70 .7	.10 .30 .60 .60 .60 .60 .60 .60 .24 .24 .360 .24 .24 .25 .2 .2 .540 .2-5 .2 .2 .540 .2-5 .2 .2 .612 .2-5 .2 .612 .2-5 .2 .612 .2 .660 .660 .660 .660 .660 .660 .660	.20 .20 .20 .60 3 4 3 L .240 3 4 3 L .320 2-4 4 R .400 1-4 4 R .544 1 5 1 L .600 1-5 1 L	.20 .30 .50 .50 .50 .50 .50 .50 .20 .20 .380 .2-4 .2 .2 .433 .2-5 .2 .500 .1-5 .1 .568 .1-5 .1 .640 .1.5 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1	.10 .20 .70 .70 .70 .70 .70 .70 .70 .70 .70 .7	.10 .30 .60 .60 .60 .60 .60 .60 .60 .60 .60 .6	20 20 20 20 20 20 20 20 20 20 20 20 20 2	.20 .30 .50 .50 .50 .50 .50 .50 .50 .50 .50 .5	1.10 2.20 3.4 4 R 2.250 3.4 4 R 4 3.374 3.5 3.5 3.1 4.36 3.5 3.1 4.36 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5	.10 .30 .60 .60 .60 .60 .60 .7 .240 .240 .2-4 .2 .407 .2-4 .2 .480 .2-5 .2 .548 .2-5 .2 .607 .2-5 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2
Axl	10 20 30 40 50	a ₁ a ₂ G NEV G NEV G NEV G NEV G NEV G NEV G NEV G NEV G NEV G N E V E V G N E V E V E V E V E V E V E V E V E V E	.10 .20 .70 .70 .70 .70 .70 .70 .70 .70 .70 .7	.10 .30 .60 3-4 3 1 .240 2-3 2 1 .360 2-4 2 2 L .460 2-5 2 L .612 2-5 2 L .660 2-5 2 L .660 2-5 2 L .660 2-5 2 L .660 2-5 2 .660 2-5 2 .660 2-5 2 .660 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	.20 .20 .20 .60 3 4 3 L .240 3 4 3 L .320 2-4 4 R .400 1-4 4 R .480 1 4 1 5 1 L .544 1-5 1 L .600 1-5	.20 .30 .50 .50 .50 .50 .50 .50 .50 .50 .50 .5	.10 .20 .70 .3 4 R .280 3 -4 4 R .374 4 R .374 5 3 5 3 L .451 3 .5 4 4 R .562 1-5 5 R .624 1-5	$\begin{array}{c} .10 \\ .30 \\ .60 \\ \end{array}$ $\begin{array}{c} .3-4 \\ 3 \\ L \\ .240 \\ \end{array}$ $\begin{array}{c} 1-2 \\ 2 \\ R \\ .340 \\ \end{array}$ $\begin{array}{c} 2-4 \\ 2 \\ L \\ .483 \\ \end{array}$ $\begin{array}{c} 2-5 \\ 2 \\ L \\ .500 \\ \end{array}$ $\begin{array}{c} 2-5 \\ 2 \\ L \\ .580 \\ \end{array}$ $\begin{array}{c} 2-5 \\ 2 \\ L \\ .633 \\ \end{array}$ $\begin{array}{c} 2-5 \\ 2 \\ L \\ .633 \\ \end{array}$.20 .20 .60 3.4 3 L .240 3-4 3 L .320 2-4 4 R R .387 1.4 4 4 R R .528 1-5 1 L .573 1-5 1 .573	.20 .30 .50 .50 .50 .50 .50 .50 .50 .50 .50 .5	.10 .20 .70 .70 .70 .70 .70 .70 .70 .70 .70 .7	.10 .30 .60 3-4 3 L .240 1-2 2 R .340 2-4 2 L .407 2-4 2 L .480 2-5 2 L .548 2-5 2 L .548
Axl	10 20 30 40 50	a1 a2 GNEV GNEV GNEV GNEV GNEV GNEV CONEV	.10 .20 .70 .70 .70 .70 .70 .70 .70 .70 .70 .7	.10 .30 .60 3-4 3 1 .240 2-3 2 1 .360 2-4 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 1 .540 2-5 2 2 1 .540 2-5 2 2 2 2 2 2 2 2 2 2 2 2 2	.20 .20 .60 3 4 3 L .240 3 L .320 2-4 4 R .400 1-4 4 R .544 1-5 1 L .600 1-5 1 L .700	.20 .30 .50 3-4 3 L .200 1-2 2 R .380 2-4 2 L .483 2-5 1 .500 1-5 1 L .568 1-5 1 L .540 1-5 1 L .540 1-5 1 .550 1-5 1 .550 1-5 1 .550 1	.10 .20 .70 .70 .3 4 4 R .280 .3 -4 4 R .374 .3 5 3 L .451 .3 -5 8 L .451 .513 .1 -4 4 R .562 .562 .562 .718	.10 .30 .60 .60 .60 .60 .60 .60 .60 .60 .60 .6	.20 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 2-4 4 R .387 1-4 4 4 R .528 1-5 1 L .528 1-5 1 L .528	.20 .30 .50 .50 .50 .50 .50 .50 .50 .50 .50 .5	1.10 2.20 3.4 4 R 2.250 3.4 4 R 4 3.374 3.5 3.5 3.1 4.36 3.5 3.1 4.36 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5	.10 .30 .60 .60 .60 .60 .60 .7 .240 .240 .2-4 .2 .407 .2-4 .2 .480 .2-5 .2 .548 .2-5 .2 .607 .2-5 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2

TABLE 7.13 (Continued)

TA	BLE	7.13	(Continu	ed)								
	ick N		51	52	53	54	55	56	57	58	59	60
Axl	. Base	е <u>Б</u>	56 12	56 12	12	12	12	60 12	12	12	64 12	12
	eing	χ,	18	18	20	20	20	20	22	22	22	22
Hit	ch	C	8	8	8	8	- 8	8	- 8	8	8	8
Loa On	ıd	a 1 a 2	.20 .20	.20 .30	.10 .20	.10 .30	.20 $.20$.20 .30	.10 .20	$.10 \\ .30$	$.20 \\ .20$.20 .30
Axl	les	as	.60	.50	.70	.60	.60	.50	.70	.60	.60	.50
		G	3-4	3-4	3-4	3-4	3-4	34	3-4	3-4	3-4	3-4
	10	N E	$^3_{ m L}$	$^3_{ m L}$	$^4_{ m R}$	$^3_{ m L}$	3	3 L	$^4_{ m R}$	$^3_{ m L}$	$_{ m L}^{ m 3}$	$^3_{ m L}$
		V	.240	.200	.280	.240	.240	.200	.280	.240	.240	.200
		G N	3 - 4 3	$^{1-2}_{2}$	$_{4}^{3-4}$	$_{2}^{1-2}$	$_{3-4}^{3-4}$	$\frac{1-2}{2}$	34 4	1-2 2	$_{3}^{-4}$	12 2
Ì	20	\mathbf{E}	L	R	\mathbf{R}	\mathbf{R}	$_{ m L}$	\mathbf{R}	R	R	\mathbf{L}	R
-		V	.320	.380	.374	.340	.320	.380	.374	.340	.320	.380
-		G N	2 -4 4	$\frac{1}{2}$	3–5 3	$\frac{2-4}{2}$	$\frac{2-4}{4}$	$rac{1}{2}$	$^{2-4}_{4}$	1-2 2	$\frac{2-4}{4}$	$^{1-2}_2$
-	30	\mathbf{E}	R	R	L	$^{ m L}_{.380}$	R	R	R	\mathbf{R}	R	$^{\mathrm{R}}$
-		G	.373	$\frac{.420}{1-4}$	$\frac{.420}{3-5}$	2-4	.360 24	.420	$\frac{.405}{3-5}$.360 2-4	.347	$\frac{.420}{1-2}$
_		N	4	1	3	2	4	1	3	2	4	2
je	40	\mathbf{v}	R .440	L .460	$_{.490}^{ m L}$	$_{.460}^{ m L}$	$^{ m R}_{.420}$	L .444	$_{.478}^{ m L}$	$^{ m L}_{.440}$	R .410	$^{ m R}_{.440}$
Span-Feet		G	1 4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1 -4	1-4
pa	50	N E	$^4_{f R}$	$^1_{\mathbf{L}}$	$^4_{ m R}$	$^4_{f R}$	4 R	$^1_{f L}$	$^4_{ m R}$	$^4_{ m R}$	$^4_{ m R}$	$^{ m l}_{ m L}$
01	90	v	.512	.535	.538	.520	.496	.501	.526	.504	.480	.508
-		G	1 - 4	1-5	1-4	2-5	1-4	1-5	14	14	1-4	14
l	60	N E	$^4_{ m R}$	$^1_{\mathbf{L}}$	$^4_{ m R}$	$^2_{ m L}$	$^4_{ m R}$	$^{1}_{ m L}$	$^4_{ m R}$	4 R	$^{4}_{ m R}$	$^{ m l}_{ m L}$
		V	.560	.596	.576	.580	.547	.573	.566	.553	.533	.562
		G N	1 5 1	$\begin{smallmatrix}1&5\\&1\end{smallmatrix}$	$^{1-5}_{5}$	$^{2-5}_2$	1- 5 1	$^{1-5}_{1}$	1-5 5	$\frac{2-5}{2}$	$^{1-5}_{1}$	1-5 1
ı	80	\mathbf{E}	\mathbf{L}	\mathbf{L}	\mathbf{R}	$\mathbf L$	$_{ m L}$	\mathbf{L}	\mathbf{R}	$_{ m L}$	L	L
-		V	.660	.697	.665	.660	.640	.680	.638	.640	.620	.663
		$_{\mathbf{N}}^{\mathrm{G}}$	$^{1-5}$	$^{1-5}$	1 -5 5	25 2	15 1	1∵5 1	$^{1-5}_{5}$	$^{2-5}_2$	$^{1-5}_{1}$	15 1
- 1	100	\mathbf{E}	\mathbf{L}	L	\mathbf{R}	\mathbf{L}	L	L	R	\mathbf{L}	L	L
		v	.728	.757	.732	.708	.712	.744	.711	.692	.696	.731
Tru	ick N	0.	61	62	63	64	65	66	67	68	69	70
Wh	. Base	e L	68	68	68	68	56	56	56	56	60	60
Wh	. Base	ъ L Х										
Wh	. Base e cing	e L	68 12	68 12	68 12	68 12 24 8	56 16 16 8	56 16 16 8	56 16	56 16	60 16	60 16 18 8
Who Axl Spa Hite	. Base e cing ch	X X' C a ₁	68 12 24 8 .10	68 12 24 8	68 12 24 8 .20	68 12 24 8 .20	56 16 16 8 .10	56 16 16 8 .10	56 16 16 8 .20	56 16 16 8	60 16 18 8	16 18 8 .10
Wh Axl Spa Hite	e e cing ch	X X' C	68 12 24 8	68 12 24 8	68 12 24 8	68 12 24 8	56 16 16 8	56 16 16 8	56 16 16 8	56 16 16 8	60 16 18 8	60 16 18 8
Whand Axl Sparent Hite Load On	e e cing ch	E L X X' C a ₁ a ₂ a ₃ G	68 12 24 8 .10 .20 .70	68 12 24 8 .10 .30 .60 3-4	68 12 24 8 .20 .20 .60	68 12 24 8 .20 .30 .50	56 16 16 8 .10 .20 .70	56 16 16 8 .10 .30 .60	56 16 16 8 .20 .20 .60	56 16 16 8 .20 .30 .50	60 16 18 8 .10 .20 .70	60 16 18 8 .10 .30 .60
Whand Axl Sparent Hite Load On	e e cing ch	E L X X' C a ₁ a ₂ a ₃ G	68 12 24 8 .10 .20 .70 3-4 4	68 12 24 8 .10 .30 .60 3-4	68 12 24 8 .20 .20 .60 3-4	68 12 24 8 .20 .30 .50 3-4 3	56 16 16 8 .10 .20 .70	56 16 16 8 .10 .30 .60 3-4	56 16 16 8 .20 .20 .60 3-4 3	56 16 16 8 .20 .30 .50 3-4	60 16 18 8 .10 .20 .70 3-4 4	60 16 18 8 .10 .30 .60 3-4
Whand Axl Sparent Hite Load On	e e cing ch	E L X X X' C a1 a2 a3 G N E V	68 12 24 8 .10 .20 .70 3-4 4 R .280	68 12 24 8 .10 .30 .60 3–4 3 L	68 12 24 8 .20 .20 .60 3-4 3 L	68 12 24 8 .20 .30 .50 3–4 3 L .200	56 16 16 8 .10 .20 .70 3-4 4 R .280	56 16 16 8 .10 .30 .60 3-4 3 L	56 16 16 8 .20 .20 .60 3-4 3 L	56 16 16 8 .20 .30 .50 3-4 3 L	60 16 18 8 .10 .20 .70 3-4 4 R .280	60 16 18 8 .10 .30 .60 3–4 3 L
Whand Axl Sparent Hite Load On	e e cing ch	E L X X X' C a1 a2 a3 G N E V G	68 12 24 8 .10 .20 .70 3-4 4 R .280	68 12 24 8 .10 .30 .60 3-4 3 L .240 1-2	68 12 24 8 .20 .20 .60 3-4 3 L .240	68 12 24 8 .20 .30 .50 3–4 3 L .200 1–2	56 16 16 8 .10 .20 .70 3 4 4 R .280	56 16 16 8 .10 .30 .60 3-4 3 L .240	56 16 16 8 .20 .20 .60 3-4 3 L .240	56 16 16 8 .20 .30 .50 3-4 3 L .200	60 16 18 8 .10 .20 .70 3-4 4 R .280 3-4	60 16 18 8 .10 .30 .60 3-4 3 L .240
Whand Axl Sparent Hite Load On	e e cing ch	E L X X X' C a1 a2 a3 G N E V G N E	68 12 24 8 .10 .20 .70 3-4 4 R .280 3-4 4 R	68 12 24 8 .10 .30 .60 3-4 3 L .240 1-2 R	68 12 24 8 .20 .20 .60 3-4 3 L .240 3-4 3	68 12 24 8 .20 .30 .50 3–4 3 L .200 1–2 R	56 16 16 8 .10 .20 .70 3-4 4 R .280 3-4 4 R	56 16 16 8 .10 .30 .60 3-4 3 L .240 2-3 2	56 16 16 8 .20 .20 .60 3-4 3 L .240 3 -4 3 L	56 16 16 8 .20 .30 .50 3-4 3 L .200 1-2 2 R	60 16 18 8 .10 .20 .70 3-4 4 R .280 3-4 4 R	60 16 18 8 .10 .30 .60 3-4 3 L .240 3-4
Whand Axl Sparent Hite Load On	Base e cing ch id es	E L X X X' C a1 a2 a3 G N E V G N E V	68 12 24 8 .10 .20 .70 3-4 4 R .280 3-4 4 R	68 12 24 8 .10 .30 .60 3-4 3 L .240 1-2 2 R .340	68 12 24 8 .20 .60 3-4 3 L .240 3-4 3-4 3 L	68 12 24 8 .20 .30 .50 3–4 3 L .200 1–2 2 R	56 16 16 8 .10 .20 .70 3 4 4 R .280 3-4 4 R .374	56 16 16 8 .10 .30 .60 3-4 8 L .240 2-3 2 L	56 16 16 8 .20 .20 .60 3-4 3 L .240 3 .4 3 L	56 16 16 8 .20 .30 .50 3-4 3 L .200 1-2 2 R	60 16 18 8 .10 .20 .70 3-4 4 R .280 3-4 4 R	60 16 18 8 .10 .30 .60 3-4 3 L .240 3-4 3 L .320
Whand Axl Sparent Hite Load On	Base e ccing ch id es	X X' C a ₁ a ₂ a ₃ G N E V G N E V G N	68 12 24 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 4	68 12 24 8 .10 .30 .60 3-4 3 L .240 1-2 R .340 1-2 2	68 12 24 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .326 3-4 3 4 3	68 12 24 8 .20 .30 .50 3-4 3 L .200 1-2 2 R .38 .30 .50	56 16 16 8 .10 .20 .70 3 4 4 R .280 3-4 4 R .374 3 5	56 16 16 8 .30 .60 3-4 3 L .240 2-3 2 L .340 2-4 2	56 16 16 8 .20 .20 .60 3-4 3 L .240 3 -4 3 L .240 3 -4 3 -4 3 -4 4 -4 4	56 16 16 8 .20 .30 .50 3-4 3 L .200 1-2 2 R .340 .30 .50	60 16 18 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 3-5 3	60 16 18 8 .10 .30 .60 3-4 3 L .249 3-4 3 L .249 2-4 2
Whand Axl Sparent Hite Load On	Base e cing ch id es	X X, C a1 a2 a3 G N E V G N E V G N E	68 12 24 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374	68 12 24 8 .10 .30 .60 3-4 3 L .240 1-2 2 R .340 1-2 2 R	68 12 24 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 3 4	68 12 24 8 .20 .30 .50 3-4 3 L .200 1-2 2 R .380 1-2 2 R	56 16 16 8 .10 .20 .70 3 4 4 R .280 3-4 4 R .374 3 5 3	56 16 16 8 .10 .30 .60 3-4 3 L .240 2-3 2 L .340 2-4 2-4	56 16 16 8 .20 .20 .60 3-4 3 L .240 3 -4 3 -4 3 -4 3 -4 3 -4 3 -4 3 -4 8 -240 8 -4 8 -240 8 -4 8 -4 8 -4 8 -4 8 -4 8 -4 8 -4 8 -4	56 16 16 8 .20 .30 .50 3-4 3 L.200 1-2 2 R.340 2-4 2	60 16 18 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374	60 16 18 8 .10 .30 .60 3-4 3 L .240 3-4 3 L .320 2-4 2 L
Whand Axl Sparent Hite Load On	Base e ccing ch id es	E L X X X Y C a1 a2 a3 G N E V G N E V C S N E V C S N E V C S N E V C S N E V C S N E V C S N E V C S N E V C S N E V C S N E V C S N E V V C S N E V	68 12 24 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 4 R .374 4 R	68 12 24 8 .10 .30 .60 3-4 3 L .240 1-2 2 R .340 .1-2 2 R .360	68 12 24 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 3 4 3 L .347	68 12 24 8 .20 .30 .50 3-4 3 L .200 1-2 2 R .380 1-2 2 R .420	56 16 8 .10 .20 .70 3 4 4 R .280 3-4 4 R .374 3 5 3 L .451	56 16 16 8 .10 .30 .60 3-4 3 1 2.240 2-3 2 L 340 .240 2-4 2 L .433	56 16 8 .20 .20 .60 3-4 3 L .240 3 · 4 3 L .320 2-4 4 R .387	56 16 16 8 .20 .30 .50 3-4 3 L .200 1-2 R .340 2-4 2 L .411	60 16 18 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 3-5 3 L	60 16 18 8 .10 .30 .60 3-4 3 L .240 3-4 3 L .320 2-4 2 L .407
WhhAxl Spaa Hitt Load On Axl	Base e e cing ch id es 10	X X X C a1 a2 a3 G N E V G N E V G N E V G N	68 12 24 8 .10 .20 .70 3-4 4 R .280 4 4 R .374 4 4 R .405 3-5	68 12 24 8 .10 .30 .60 3-4 3 L .240 1-2 2 R .340 1-2 2 R .360	68 12 24 8 .20 .60 3-4 3 L .240 3-4 3 L .320 3 4 3 L .347 2 4	68 12 24 8 .20 .50 3-4 3 L .200 1-2 2 R .380 1-2 2 R .420 1-2	56 16 8 .10 .20 .70 3 4 4 4 .280 3-4 4 R .374 3-5 3 1 .451	56 16 8 .10 .30 .60 3-4 3 L .240 2-3 2 L .340 2-4 2 L .433 2-4 2	56 16 16 8 .20 .20 .60 3-4 3 L .240 3 4 3 4 R .320 2-4 4 R .387	56 16 16 8 .20 .30 .50 3-4 3 L .200 1-2 2 R .340 2-4 2 L .411	60 16 18 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 3-5 3 L .436 3-5 3	60 16 18 8 .10 .30 .60 3-4 3 L .240 3-4 3 L .320 2-4 2 L .407 2-4
WhhAxl Spaa Hitt Load On Axl	Base e ccing ch id es	X X' C a1 a2 a3 G N E V G N E V G N E V G O G O G O G O G O G O G O G O G O G	68 12 24 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 4 R .374 4 R .374 5 .4 S .4 S .4 S .4 S .5 S .7 S .7 S .7 S .7 S .7 S .7 S .7	68 12 24 8 .10 .30 .60 3-4 3 L .240 1-2 2 R .360 2-4 2 L	68 12 24 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .327 2 4 4 R	68 12 24 8 .20 .30 .50 3-4 3 L .200 1-2 2 R .380 1-2 2 R .420 1-2 2 R	56 16 16 8 .10 .20 .70 3 4 4 R .280 3-4 4 R .374 3 5 3 L .451	56 16 16 8 .10 .30 .60 3-4 3 L .240 2-3 2 L .340 2-4 2 L .433 2-4	56 16 16 8 .20 .20 .60 3-4 3 L .240 3 -4 3 -4 3 -4 3 -4 3 -4 3 -7 2-4 4 R 387 2-4	56 16 16 8 .20 .30 .50 3-4 3 L .200 1-2 2 R .340 2-4 2 L .411 2-4 2 L	60 16 18 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 3-5 3 L	60 16 18 8 .10 .30 .60 3-4 3 L .240 3-4 3 L .320 2-4 2 L .407 2-4
White Load On Axl	Base e e cing ch id es 10	3 L X X X C 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	68 12 24 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 3 4 4 R .405 3 -5 3 -1 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1	68 12 24 8 .10 .30 .60 3-4 3 L .240 1-2 2 R .340 1-2 2 R .360	68 12 24 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 3 4 3 4 4 R R R	68 12 24 8 .20 .50 3-4 3 L .200 1-2 2 R .420 1-2 2 R .420 1-2 2 R .420 1-2	56 16 8 .10 .20 .70 3 4 4 R .280 3-4 4 R R .374 3-5 3 1 .451 3-5 3 1 .518	56 16 8 .10 .30 .60 3-4 3 L .240 2-3 2 L .340 2-4 2 L .433 2-4 2 L .500 2-5	56 16 16 8 .20 .20 .60 3-4 3 L .240 3 -4 3 L .327 2-4 4 R R	56 16 16 8 .20 .30 .50 3-4 1. .200 1-2 2 R R. .340 2-4 2 L. .411 2-4 2 L. .467 2-5	60 16 18 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 3-5 3 L .436 3-5 3 L .502 1-4	60 16 18 8 .10 .60 3-4 3 L .249 3-4 3 L .320 2-4 2 L .407 2-4 2 L .407
White Load On Axl	Base e cling ch dd es 10 20 30	3 L X X X C 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	68 12 24 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 4 R .374 4 L .405 3-5 3-5 3-4 4	68 12 24 8 .10 .30 .60 3-4 3 L .240 1-2 2 R .340 1-2 2 R .360 2-4 1 2-4 1-4 4-4 4-4 4-4 4-4 4-4 4-4 4	68 12 24 8 .20 .60 3-4 3 L .240 3-4 3 L .320 .34 3 L .44 4 R .400 1-4 4	68 12 24 8 .20 .30 .50 3-4 3 L .200 1-2 R .380 1-2 2 R R .420 1-2 2 R .440 1-4	56 16 16 8 .10 .20 .70 3 4 4 R .280 3-4 4 R .374 4 R .374 5 3 1 .451 3 .5 3 1 .513 1	56 16 16 8 .10 .30 .60 3-4 3 L .240 2-3 2 L .340 2-4 2-1 .433 2-4 2 L .500	56 16 8 .20 .20 .60 3-4 3 L .240 3 -4 3 L .320 .60 2-4 4 R .887 2-4 4 R .440 1-4 440 1-4 440	56 16 16 8 .20 .30 .50 3-4 3 L .200 1-2 2 R .340 2-4 2 L .411 2-4 2 L .467 2-5 2	60 16 18 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 3-5 3 L .436 3.5 3 L .502 1-4 4	60 16 18 8 .10 .60 3-4 3 L .249 3-4 3 L .320 2-4 2 L .407 2-4 2 L .407
WhhAxl Spaa Hitt Loa On Axl	Base e e cing ch id es 10	3 L X X X C a1 a2 a3 G N E V G N E V G G N E V V G V V C V V V C V V V C V V C V V C V V V C V V C V V C V V C V V C V V	68 12 24 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 3 4 4 R .405 3 -5 3 -1 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1	68 12 24 8 .10 .30 .60 3-4 8 L .240 1-2 2 R .340 1-2 2 R .360 2-4 2 L .40 1-4 3-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1	68 12 24 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 3 4 3 4 4 R R R	68 12 24 8 .20 .50 3-4 3 L .200 1-2 2 R .420 1-2 2 R .420 1-2 2 R .420 1-2	56 16 8 .10 .20 .70 3 4 4 R .280 3-4 4 R R .374 3-5 3 1 .451 3-5 3 1 .518	56 16 8 .10 .30 .60 3-4 3 L .240 2-3 2 L .340 2-4 2 L .433 2-4 2 L .500 2-5	56 16 16 8 .20 .20 .60 3-4 3 L .240 3-4 4 R .387 2-4 4 R .40 1-4 4 R .512	56 16 16 8 .20 .30 .50 3-4 1. .200 1-2 2 R R. .340 2-4 2 L. .411 2-4 2 L. .467 2-5	60 16 18 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 3-5 3 L .436 3-5 3 L .502 1-4	60 16 18 8 .10 .60 3-4 3 L .249 3-4 3 L .320 2-4 2 L .407 2-4 2 L .407 2-5 2 L .548
White Load On Axl	Base e cling ch dd es 10 20 30	S L XX XY C a1 a2 a3 G NN E V G NE V G NE V G N E V C G R E V C G R E R E R E R E R E R E R E R E R E R	68 12 24 8 10 .70 3-4 4 R .280 3-4 4 4 R .374 3-4 4 4 R .405 3-5 3 4 4 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1	68 12 24 8 .10 .30 .60 3-4 3 L .240 1-2 2 R .340 1-2 2 R .340 2-4 2 L .420 1 4 4 8 .488	68 12 24 8 .20 .60 3-4 3 L .240 3-4 3 L .320 3 4 3 L .347 2 4 4 R .400 1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	68 12 24 8 20 30 .50 3-4 3 L .200 1-2 2 R .380 1-2 2 R .420 1-2 2 R .440 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	56 16 8 .10 .20 .70 3 4 4 R .280 3-4 4 R .374 3 -5 3 L .513 1 4 4 R .554 1 -5	56 16 8 .10 .30 .60 3-4 3 L .240 2-3 2 L .340 2-4 2-4 2-4 2-4 2-5 L .500 2-5 2-5 2-5 2-5	56 16 8 20 .20 .60 3-4 3 L .240 3 -4 3 L .320 2-4 4 R .387 2-4 4 R .440 1-4 .512 1-4 .512 1-4 .512 1-4 .612 .6	56 16 8 .20 .50 .50 3-4 1. .200 .1-2 2 R .340 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-5 2-5 2-5	60 16 18 8 .10 .70 3-4 4 R 280 3-4 4 4 R .374 3-5 3 L .502 1-4 4 R .502 1-4 .502 1-4 .502 1-4 .502 1-4 .503 1-5 .503 1-5 .503 1-5 .503 1-5 .503 1-5 .503 1-5 .503 1-5 .503 1-5 .503 1-5 .503 1-5 .503 1-5 .503 1-5 .503	60 16 18 8 .10 .30 .60 3-4 3 L .240 2-4 2 L .407 2-4 2 L .480 2 5 2 5 2 5
White Load On Axl	Base e e.cing ch dd ees 10 20 40 50	S L XX XY C a1 a2 a3 G NN E V G NE V G NE V G N E V C G R E V C G R E R E R E R E R E R E R E R E R E R	68 12 24 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 3-4 4 R .405 3-5 3 L .467 1-4 4 R .514 1-4	68 12 24 8 .10 .60 3-4 3 L .240 1-2 2 R .340 1-2 2 R .360 2-4 2 L .420 1 4 4 8 8 1 4 4 8 1 4 4 8 1 4 4 8 1 4 4 8 1 4 4 8 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4	68 112 24 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 3 4 3 4 R .400 1-4 4 R .464	68 12 24 8 .20 .30 .50 3-4 3 L .200 1-2 2 R .380 1-2 2 R .420 1-2 1 L .495	56 16 8 .10 .20 .70 3 4 4 4 R .280 3-4 4 4 R .374 3-5 3 1 .451 3-5 1 .518 1 4 4 R .554	56 16 8 .10 .30 .60 3-4 3 L .240 2-3 2 L .340 2-4 2 L .433 2-4 2 L .500 2-5 2 L	56 16 16 8 .20 .20 .60 3-4 3 L .240 3-4 4 R .387 2-4 4 R .40 1-4 4 R .512	56 16 8 .20 .30 .50 3-4 3 L .200 1-2 2 R .340 2-4 2 L .411 2-4 2 L .467 2-5 2 L .533 2-5 2	60 16 18 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 3-5 3 L .436 3-5 3 L .436 3-5 3-1 4 4 8 .280 .374 .375 .37	60 16 18 8 .10 .30 .60 3-4 3 L .240 2-4 2 L .407 2-4 2 L .480 2 5 2 5 2 5
White Load On Axl	Base e cling ch dd es 10 20 30	9 L X X C a1 a2 a3 G NE V G G NE V G NE V G NE V G NE V C G NE V C NE V C NE V C NE V C NE V C NE V C NE V C NE V C NE V C NE V C NE V C NE V C NE V C NE V	68 12 24 8 .10 .20 .70 3-4 4 R .280 3-4 4 4 R .374 3-4 4 R .405 3-5 3 L .467 1 4 4 R .514 4 R .5156	68 12 24 8 .10 .30 .60 3-4 3 L .240 1-2 2 R .340 1-2 2 R .340 1-2 4 4 4 4 4 8 .420 1-4 4 4 8 .420 1-4 1-4 1-4 1-4 1-4 1-4 1-4 1-4	68 12 24 8 .20 .60 3-4 3 L .240 3 -4 3 L .320 3 4 4 4 8 .400 1 4 4 4 4 8 .400 1 4 4 8 .400 1 4 4 8 .400 1 4 .400 1 5 .400 1 6 .400 1 7 .400 .40	68 112 24 8 -20 .30 .50 3-4 3 L .200 1-2 2 R .380 1-2 2 R .420 1-2 1 L .551	56 16 8 .10 .20 .70 3 4 4 R .280 3-4 4 R .374 3 -5 3 5 3 L .451 1 4 4 R .518	56 16 8 .10 .30 .60 3-4 3 L .240 2-3 2 L .340 2-4 2-4 2-4 2-5 2 L .500 2-5 2 L .500 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5	56 16 8 20 .20 .60 3-4 3 L .240 3-4 3 L .320 2-4 4 R .440 1-4 4 R .512 1 4 R .512 1 8 .512 1 8 .512 1 8 .512 1 8 .512 1 .512 .512 1 .512 .512 1 .512 1 .512 1 .512 1 .512 1 .512 1 .512 1 .512 1 .512 1 .512 1 .512 1 .512 1 .512 1 .512 1 .51	56 16 8 .20 .30 .50 3-4 .1 .20 .50 3-4 .1 .20 .20 .50 3-4 .20 .20 .20 .20 .20 .20 .20 .20	60 16 18 8 .10 .20 .70 3-4 4 R .8 .374 3-5 3 L .502 1-4 4 R .502 1-5 5 R	60 16 18 8 .10 .60 3-4 3 L .240 3-4 3 L .320 2-4 2 L .407 2-4 2 L .480 2.5 2 L .548 2.548
White Load On Axl	Base e e.cing ch dd ees 10 20 40 50	9 L	68 12 24 8 8 10 20 70 3-4 4 R 280 3-4 4 R 405 3-5 3 L 467 1 4 4 R 514 1 4 R 556	68 12 24 8 .10 .30 .60 3-4 8 L .240 1-2 2 R .340 1-2 2 R .360 2 -4 2 L 4 4 4 R .488 1 4 R .540 2 -5	68 112 24 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .3320 3 4 8 4 R .400 1-4 4 R .464 1-4 R .520 1-5	68 12 24 8 .20 .30 .50 3-4 3 .200 1-2 2 R .380 1-2 2 R .420 1-2 2 R .420 1-1 1 L .495 1 1 L .551 1 L .551	56 16 8 .10 .20 .70 3 4 4 R .280 3-4 4 R .374 3-5 3 L .451 3-5 1 4 4 4 R .554 1-5 5 6 8 .6 .6 .6 .6 .6 .6 .6 .6 .6 .6	56 16 8 .10 .30 .60 3-4 3 L .240 2-3 2 L .340 2-4 2 L .433 2-4 2 L .500 2-5 2 L .580 2-5 2 L .580	56 16 16 8 .20 .20 .60 3-4 3 L .24 3 2-4 4 R .387 2-4 4 R .440 1-4 4 R .512 1 4 R .512	56 16 8 .20 .30 .50 3-4 3 L .200 1-2 2 R R .340 2-4 2 L .411 2-4 2 L .538 2-5 2 L .538 2-5 2 L .54 .54 .55 .55 .55 .55 .55 .55	60 16 18 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 3-5 3 L .436 3 -5 3 L .502 1-4 4 R .542 1-5 5 8 .54 1-5 8 .54 1-5 8 .54 1-5 8 .55 8	60 16 18 8 .10 .60 3-4 3 L .240 3-4 3 L .320 2-4 2 L .407 2-4 2 L .480 2 5 2 L .548 2 5 2 L .60 .60 .60 .60 .60 .60 .60 .60
White Load On Axl	Base e e.cing ch dd ees 10 20 40 50	E L XX X/ C a1 a2 a3 G N E V G	68 12 24 8 .10 .20 .70 3-4 4 R .280 3-4 4 4 R .374 3-4 4 R .407 1-4 4 R .514 1-4 4 R .556 1-5 5 R	68 12 24 8 .10 .30 .60 3-4 3 L .240 1-2 2 R .340 1-2 2 L .420 1-4 4 R .488 1-4 8 R .540 2-5 2 L	68 12 24 8 .20 .60 3-4 3 L .320 3 4 3 L .320 3 4 4 R .400 1 4 4 4 R .520 1-5 1 L	68 12 24 8 .20 .30 .50 3-4 3 L .200 1-2 2 R .380 1-2 2 R .420 1-4 1 L .495 1 1 L .5551 1 L	56 16 8 .10 .20 .70 3 4 4 R .280 3-4 4 R .374 3 -5 3 L .451 3 -5 8 .513 1 4 R .554 1 -5 8 .618 1 - 5 8 R	56 16 8 .10 .30 .60 3-4 3 L .240 2-3 2 L .340 2-4 2 L .433 2-4 2 L .500 2-5 2 L .583 2-5 2 L	56 16 8 20 .20 .60 3-4 3 L .240 3 -4 4 R .320 2-4 4 R .387 2-4 4 R .512 1 -4 4 R .512 1 -5 5 R	56 16 8 .20 .30 .50 3-4 L .200 .50 3-4 L .200 .50 3-2 R .340 2-4 2 L .411 2-4 2 L .50 .50 2-7 2-7 1-2 2-7 1-2 2-7 1-2 2-7 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2	60 16 18 8 .10 .20 .70 3-4 4 R .280 3-4 4 4 R .374 3-5 3 L .436 3.5 3 1 .502 1-4 4 R .542 1-5 5 R	60 16 18 8 .10 .60 3-4 3 L .240 3-4 2 L .320 2-4 2 L .407 2-4 2 L .480 2.5 2 L .548 2.5 2 L .60 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5
White Load On Axl	. Base e e cing ch dd ees 10 20 40 50 60	S L XX C a1 a2 a3 G G N E V G N E V G N E V G N E V C R N E V C R N E V C R N E V C R R R R R R R R R R R R R R R R R R	68 12 24 8 .10 .20 .70 3-4 R .280 4 R .374 3 4 R .405 3 5 1 4 4 R .514 1 1 4 R .556 1 5 R .612	68 12 24 8 .10 .30 .60 3-4 3 L .240 1-2 2 R .340 1-2 2 R .360 2-4 4 4 4 R .488 1 4 4 8 8 .488 1 4 8 .540 1 5 .56 1 5 .66 1 5 .66 1 5 .66 1 5 .66 1 6 .66 1 6 .66 1 7 .66 1 7 .66 1 7 .66 1 8	68 112 24 8 .20 .20 .60 3-4 3 L .240 3 4 3 L .3320 3 4 4 R .400 1 4 4 R .464 1 1 4 R .520 1 5 1 L .600	68 12 24 8 .20 .30 .50 3-4 3 L .200 1-2 2 R .420 1-2 2 R .420 1-2 1 L .495 1 L .551 1 L .647	56 16 8 .10 .20 .70 3 4 4 4 8 .280 3-4 4 4 8 .374 3 5 3 L .451 3 5 8 .518 1 4 4 8 .554 1 -5 5 R .615 5 R .615 6 R .615 7 R .615 8	56 16 8 .10 .30 .60 3-4 3 L .240 2-3 2 L .433 2-4 2 L .500 2-5 2 L .580 2-5 2 L .60 2-1 .60 2-1 .60 2-1 .60 2-1 .60 2-1 .60 2-1 .60 2-1 .60 2-1 .60 .60 .60 .60 .60 .60 .60 .60	56 16 16 8 .20 .20 .60 3-4 3 L .240 3 -4 4 R .320 2-4 4 R .440 1-4 4 R .512 1 4 R .512 1 4 R .60 1 -5 5 6 6 6 6 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8	56 16 16 8 .20 .30 .50 3-4 3 L .200 1-2 2 R .340 2-4 2 L .411 2-4 2 L .533 2-5 2 L .533 2-5 2 L .54 .55 .55 .55 .55 .55 .55 .55	60 16 18 8 .10 .20 .70 3-4 4 R .280 3-4 4 R .374 3-5 3 L .436 3 -5 3 L .436 3 -5 3 .502 1-4 4 R .542 1-5 .542 1-5 .582 1-5 .687	60 16 18 8 .10 .60 3-4 3 L .240 3-4 3 L .320 2-4 2 L .407 2-4 2 L .480 2 5 2 L .548 2 5 2 L .60 .60 .60 .60 .60 .60 .60 .60
White Load On Axl	. Base e e cing ch d es 10 20 40 50 60 80	E L XX X/ C a1 a2 a3 G N E V G	68 12 24 8 .10 .20 .70 3-4 4 R .280 3-4 4 4 R .374 3-4 4 R .407 1-4 4 R .514 1-4 4 R .556 1-5 5 R	68 12 24 8 .10 .30 .60 3-4 3 L .240 1-2 2 R .340 1-2 2 L .420 1-4 4 R .488 1-4 8 R .540 2-5 2 L	68 12 24 8 .20 .60 3-4 3 L .320 3 4 3 L .320 3 4 4 R .400 1 4 4 4 R .520 1-5 1 L	68 12 24 8 .20 .30 .50 3-4 3 L .200 1-2 R .380 1-2 R .420 1-2 R .440 1-4 1 L .555 1 L .647 1-5 1	56 16 8 .10 .20 .70 3 4 4 R .280 3-4 4 R .374 3 -5 3 L .451 3 -5 8 .513 1 4 R .554 1 -5 8 .618 1 - 5 8 R	56 16 8 .10 .30 .60 3-4 3 L .240 2-3 2 L .340 2-4 2 L .433 2-4 2 L .500 2-5 2 L .583 2-5 2 L	56 16 8 20 .20 .60 3-4 3 L .240 3 -4 4 R .320 2-4 4 R .387 2-4 4 R .512 1 -4 4 R .512 1 -5 5 R	56 16 8 .20 .30 .50 3-4 L .200 .50 3-4 L .200 .50 3-2 R .340 2-4 2 L .411 2-4 2 L .50 .50 2-7 2-7 1-2 2-7 1-2 2-7 1-2 2-7 1-2 1-2 1-2 1-2 1-2 1-2 1-2 1-2	60 16 18 8 .10 .20 .70 3-4 4 R .280 3-4 4 4 R .374 3-5 3 L .436 3.5 3 1 .502 1-4 4 R .542 1-5 5 R	60 16 18 8 .10 .30 .60 3-4 3 L .240 3 L .320 2-4 2 L .407 2-4 2 L .480 2 5 2 L .548 2 5 L .680 2 5 5 2 L .680
White Load On Axl	. Base e e cing ch dd ees 10 20 40 50 60	S L XX C A1 A2 A3 G N E V G R E V R E V R	68 12 24 8 .10 .70 3-4 4 R .280 3-4 4 4 R .405 3-5 3 L .467 1 4 4 R .514 4 R .556 1 5 8 .612	68 12 24 8 .10 .30 .60 3-4 3 L .240 1-2 2 R .340 1-2 2 R .340 1-4 2 L .420 1 4 R .8 .488 .488 .488 .540 2.5 L .620 2-5	68 12 24 8 .20 .60 .60 .60 .60 .60 .60 .60 .6	68 12 24 8 20 30 .50 3-4 3 L .200 1-2 2 R .380 1-2 2 R .440 1-1 L .495 1 1 L .5551 1-5 1 L .647 1-5	56 16 8 .10 .70 3 4 4 R .280 .3-4 4 R .374 35 3 .1 .451 3 -5 3 L .513 i 4 R .554 R .5618 i -5 5 R .618 i -5 618 618 618 618 618 618 618 618	56 16 8 .10 .30 .60 3-4 3 L .240 2-3 2 L .340 2-4 2 L .500 2-5 2 2 L .500 2-5 2 2 2 L .500 2-5 2 2 2 2 2 2 2 2 2 2 2 2 2	56 16 8 20 .20 .60 3-4 3 L .240 3 -4 3 L .320 2-4 4 R .387 2-4 4 R .512 1 -4 4 R .560 1-5 8 8	56 16 8 20 30 .50 3-4 1.200 1-2 2 R .340 2-4 2 L .411 2-4 2 L .467 2-5 2 L .578 1-5 1 L .578	60 16 18 8 .10 .70 3-4 4 R 280 3-4 4 4 R .374 3-5 3 L .502 1-4 4 R .502 1-5 5 R .582 1-5 5 R .582 1-5 8 8 8 8 8 8 8 8 8 8 8 8 8	60 16 18 8 .10 .60 3-4 .240 3-4 .3 L .320 2-4 2-4 2-4 .480 2-5 2-5 2-5 L .607 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5

TABLE 7.13 (Continued)

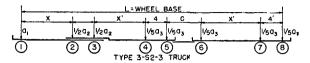
			(Continue									
	uck No		71 60	72 60	73 64	74 64	75 64	76 64	77 68	78 68	79 68	80 68
Ax	le	X	16	16	16	16	16	16	16	16	16	16
Hit	ch	X' C	18 8	<u>18</u>	8	20 8	20 8	8	22 8		22 8	$\frac{22}{8}$
Los		a ₁	.20	.20	.10	.10	.20	.20	.10	.10	.20	.20
On Ax		a ₂	.20 .60	.30 .50	.20 .70	.30 .60	.20 .60	.30 .50	$\frac{.20}{.70}$.30 .60	$.20 \\ .60$.30
		G	3-4	3-4	$^{3-4}$	3-4	3-4	3-4	34	3-4	3-4	3-4
	10	N E V	3 L .240	$^{3}_{ m L}$	4 R .280	$^{ m 3}_{ m L}$	3 L ,240	$^{3}_{ m L}$	$^{4}_{ m R}$	$^{ m 3}_{ m L}$	3 L .240	$^{3}_{ m L}$
		G	34	1 2	3 4	3 4	3-4	1-2	34	3-4	3-4	12
	20	N E	3 L	$^2_{ m R}$	$^4_{ m R}$	$^3_{ m L}$	$^3_{ m L}$	$^2_{ m R}$	$^4_{ m R}$	3	$_{\mathbf{L}}^{3}$	$^2_{ m R}$
	20	V	.320	.340	.374	.320	.320	.340	.374	.320	.320	.340
		G N	$\frac{2-4}{4}$	$^{1-2}$	$_{3-5}^{3-5}$	$\frac{2-4}{2}$	$\substack{2-4\\4}$	$^{1-2}_2$	$^{2-4}_{4}$	$_{2}^{-3}$	$^{2-4}_4$	$^{1-2}_2$
	30	\mathbf{E}	\mathbf{R}	$^2_{ m R}$	\mathbf{L}	\mathbf{L}	\mathbf{R}	\mathbf{R}	\mathbf{R}	$_{ m L}$	R	R
		V	.373	.394	.420	.380	.360	.394	.405	.354	.347	.394
		G N	2 4	2 4 2	3-5 3	$\frac{2\cdot 4}{2}$	$\frac{2}{4}$	$^{2-4}_{2}$	$_3^{-5}$	$^{2-4}_2$	$^{2-4}_{4}$	$_{2}^{1-2}$
eet	40	\mathbf{E}	R	L	\mathbf{L}	L	\mathbf{R}	L	L	\mathbf{L}	R	\mathbf{R}
Span-Feet		V G	1 -4	.450 2-5	3-5	2.5	$\frac{.420}{1-4}$.433 2-5	3-5	14	.410	2-4
pai		N	-1	2	3	2	4	2	3	4	4	2 L
Ω.	50	$_{ m V}^{ m E}$	$^{ m R}_{.496}$	$^{ m L}_{.507}$	$_{.532}^{ m L}$	$_{.516}^{ m L}$	$^{ m R}_{.480}$	$_{.480}^{ m L}$	$_{.523}^{ m L}$	$^{ m R}_{.496}$	R ,464	$_{.460}^{ m L}$
		G	1-4	2 -5	1 4	2-5	1-4	2-5	1-4	2-5	1-4	1-4
1	co	N	4	2	4	2	4	2	4	2	4	1
	60	$_{ m V}^{ m E}$	R .547	$_{.555}^{ m L}$	$^{ m R}_{.569}$	L .580	R .533	$_{.533}^{ m L}$	$^{ m R}_{.559}$	$_{.553}^{ m L}$	$^{ m R}_{.520}$	$_{.520}^{ m L}$
		G	1-5	1-5	1 5	2-5	1-5	1-5	1-5	2-5	14	1-5
	80	N E	5 R	$^{1}_{ m L}$	5 R	$^2_{ m L}$	$^{1}_{ m L}$	1 L	ã R	$^2_{ m L}$	$^{4}_{ m R}$	$^{1}_{ m L}$
	00	$\ddot{\mathbf{v}}$.630	.657	.660	.660	.600	.640	.633	.640	.590	.623_
		G	1-5	1.5	1.5	2-5	1-5	1-5	1_5	25	1-5	1-5
	100	$_{ m E}^{ m N}$	$^{5}_{ m R}$	1 L	5 R	$^2_{ m L}$	$^1_{ m L}$	1 T.	5 R	$^2_{\mathbf{L}}$	$^{1}_{ m L}$	$^{1}_{ m L}$
		V	.704	.725	.728	.708	.680	.712	.707	.692	.664	.699_
Tr	uck N	o.	81	82	83	84	85	86	87	88	89	90
A	uck N 1. Bas	e L	81 72	82 72	83 72	84 72	85 76	86 76	87 76	88 76	89 80	90 80
Wł Ax	ı. Bası le	e L	72 16	72 16	72 16	72 16	76 16	76 16	76 16	76 16	80 16	80
Ax Spa	n. Base le acing	e L X X'	72 16 24	72 16 24	72 16 24	72 16 24	76 16 26	76 16 26	76 16 26	76 16 26	80 16 28	80 16 28
Wł Ax	n. Base le acing tch	e L	72 16 24 8	72 16	72 16	72 16	76 16	76 16	76 16 26 8 .29	76 16	80 16	80
Mi Ax Sp: Hit Lo: On	n. Base le acing tch ad	E L X X' C a ₁ a ₂	72 16 24 8	72 16 24 8 .10 .30	72 16 24 8 .20 .20	72 16 24 8 .20 .30	76 16 26 8 .10 .20	76 16 26 8 .10 .30	76 16 26 8 .20 .20	76 16 26 8 .20 .30	80 16 28 8 .10 .20	80 16 28 8 .10 .30
MI Ax Sp: Hit	n. Base le acing tch ad	E L X X' C a ₁ a ₂ a ₃	72 16 24 8 .10 .20 .70	72 16 24 8 .10 .30 .60	72 16 24 8 .20 .20 .60	72 16 24 8 .20 .30 .50	76 16 26 8 .10 .20 .70	76 16 26 8 .10 .30 .60	76 16 26 8 .20 .20 .60	76 16 26 8 .20 .30 .50	80 16 28 8 .10 .20 .70	80 16 28 8 -10 .30 .60
Mi Ax Sp: Hit Lo: On	n. Base le acing tch ad les	E L X X' C a ₁ a ₂ a ₃ G	72 16 24 8 .10 .20 .70 3-4 4	72 16 24 8 .10 .30 .60 3-4	72 16 24 8 .20 .20 .60 3-4	72 16 24 8 .20 .30 .50 3-4 3	76 16 26 8 .10 .20 .70 8 4	76 16 26 8 .10 .30 .60	76 16 26 8 .20 .20 .60 3-4 3	76 16 26 8 .20 .30 .50 3-4	80 16 28 8 .10 .20 .70 3 4	80 16 28 8 .10 .30 .60 3-4 3
Mi Ax Sp: Hit Lo: On	n. Base le acing tch ad	E L X X X Y C a1 a2 a3 G N E	72 16 24 8 .10 .20 .70 3-4 4 R	72 16 24 8 .10 .30 .60 3-4 3 L	72 16 24 8 .20 .20 .60 3 4 3 L	72 16 24 8 .20 .30 .50 3 4 3 L	76 16 26 8 .10 .20 .70 3 4 4 R	76 16 26 8 .10 .30 .60 3 4	76 16 26 8 .20 .20 .60 3-4 3 L	76 16 26 8 .20 .30 .50 3-4 3 L	80 16 28 8 .10 .20 .70 3 4 4 R	80 16 28 8 .10 .30 .60 8-4 3 L
Mi Ax Sp: Hit Lo: On	n. Base le acing tch ad les	e L X X' C a ₁ a ₂ a ₃ G N E V	72 16 24 8 .10 .20 .70 3-4 4 R .280 3 4	72 16 24 8 .10 .30 .60 3 -4 3 L .240 3 4	72 16 24 8 .20 .20 .60 3 .4 3 L .240 3-4	72 16 24 8 .20 .30 .50 3-4 3 L .200	76 16 26 8 .10 .20 .70 8 4 4 R .280 3 -4	76 16 26 8 .10 .30 .60 3 4 3 L .240	76 16 26 8 .20 .20 .60 3-4 3 1, .240	76 16 26 8 .20 .30 .50 3-4 3 L .200	80 16 28 8 .10 .20 .70 3 4 4 R .280 3 4	80 16 28 8 .10 .30 .60 3-4 3 L .240 3-4
Mi Ax Sp: Hit Lo: On	n. Base le acing teh ad les	e L X X' C a ₁ a ₂ a ₃ G N E V	72 16 24 8 .10 .20 .70 3-4 4 R .280 3 4	72 16 24 8 .10 .30 .60 3 -4 3 L .240 3	72 16 24 8 .20 .60 .60 3 .4 3 L .240 .3 -4	72 16 24 8 .20 .30 .50 3 L .200 1-2 2	76 16 26 8 .10 .20 .70 3 4 4 R .280 3 -4	76 16 26 8 .10 .30 .60 3 4 3 L .240	76 16 26 8 .20 .20 .60 3-4 3 1, .240 3-4 3	76 16 26 8 .20 .30 .50 3-4 3 L .200	80 16 28 8 .10 .20 .70 3 4 4 R .280 3 4	80 16 28 8 .10 .30 .60 3-4 3 L .240 3-4 3
Mi Ax Sp: Hit Lo: On	n. Base le acing tch ad les	e L X X' C a ₁ a ₂ a ₃ G N E V	72 16 24 8 .10 .20 .70 3-4 4 R .280 3 4	72 16 24 8 .10 .30 .60 3 -4 3 L .240 3 4	72 16 24 8 .20 .20 .60 3 .4 3 L .240 3-4	72 16 24 8 .20 .30 .50 3-4 3 L .200	76 16 26 8 .10 .20 .70 8 4 4 R .280 3 -4	76 16 26 8 .10 .30 .60 3 4 3 L .240	76 16 26 8 .20 .20 .60 3-4 3 1, .240	76 16 26 8 .20 .30 .50 3-4 3 L .200	80 16 28 8 .10 .20 .70 3 4 4 R .280 3 4	80 16 28 8 .10 .30 .60 3-4 3 L .240 3-4
Mi Ax Sp: Hit Lo: On	n. Base le acing teh ad les	e L X X X C a ₁ a ₂ a ₃ G N E V G N E V G	72 16 24 8 .10 .20 .70 3-4 4 R .280 3 4 4 R .374 3 4	72 16 24 8 .10 .30 .60 3 L .240 3 L .240 3 4 3 L .320 .330 .340 .340 .340 .340 .340 .340 .350	72 16 24 8 .20 .20 .60 3 1 .240 3 1 .240 3 4 3 1 .320 .30 .30 .30 .30 .30 .30 .30 .3	72 16 24 8 .20 .30 .50 3 L .200 12 2 R .340 12	76 16 26 8 .10 .20 .70 8 4 R .280 3-4 4 R .374 3	76 16 26 8 .10 .30 .60 3 1 L .240 3 4 3 1 .320	76 16 26 8 .20 .20 .60 3-4 3 1 1. .240 3 -4 3 1 1. .320 3 -4	76 16 26 8 .20 .30 .50 3-4 3 L .200 1 2 R .340 1-2	80 16 28 8 .10 .20 .70 3 4 4 R .280 3 4 4 R .374 3 -4	80 16 28 8 .10 .60 3-4 3 L .240 3-4 3 .320 3-4
Mi Ax Sp: Hit Lo: On	n. Base le acing teh ad les	E L X X X C a1 a2 a3 G N E V G N E V G N	72 16 24 8 .10 .20 .70 3-4 4 R .280 3 4 4 R .374	72 16 24 8 .10 .30 .60 3-4 3 L .240 3 4 3 L	72 16 24 8 .20 .60 3 4 3 L .240 3 -4 3 L .320 3 -4 3 3 4 3 4 3 4 3 4 3 4 3 4 3 4	72 16 24 8 .20 .30 .50 3-4 3 L .200 1-2 2 R .340	76	76 16 26 8 .10 .30 .60 3 4 L .240 3 4 3 L .240 3 -4 3 3 -4 3 3	76 16 26 8 .20 .20 .60 3-4 3 L .240 3-4 3-4 3-4 3-4 3-4 3-4 3-4 3-4	76 16 26 8 .20 .30 .50 3-4 3 L .200 1 2 2 R	80 16 28 8 .10 .20 .70 3 4 4 R .280 3 4 4 R .374	80 16 28 8 .10 .30 .60 3-4 3 L .240 3-4 3 L
Mi Ax Sp: Hit Lo: On	n. Base le acing tch ad les 10	E L X X Y C a1 a2 a3 G N E V G N E V G N E V C C N E V C C C C C C C C C C C C C C C C C C	72 16 24 8 .10 .20 .70 3-4 4 R .280 3 4 R .374 4 R .374 4 R	72 16 24 8 .10 .30 .60 3 -4 3 L .240 3 4 3 3 L .320 3 -4 .320 3 -4 .34 .34 .35 .35 .35 .35 .36 .36 .36 .36 .36 .36 .36 .36	72 16 24 8 .20 .60 3 -4 3 L .240 3-4 2 L .320 .60 3 -4 3 L .240 3 -4 3 L .347	72 16 24 8 .20 .30 .50 3-4 3 L .200 12 2 R .340 12 2 R	76 16 26 8 .10 .20 .70 3 4 4 R .280 3 -4 4 R .374 4 R .374 4 R .374 4 R	76 16 26 8 .10 .30 .60 3 1 L .240 3 4 3 L .240 3 -4 3 L .320	76 16 26 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 3-4 3 L .320 3-4 3 L .347	76 16 26 8 .20 .30 .50 3-4 3 L .200 1 2 2 R .340 1-2 2 R .349	80 16 28 8 .10 .20 .70 3 4 4 R .280 3 4 4 R .374 4 4 R .40 .40 .40 .40 .40 .40 .40 .40	80 16 28 8 .10 .30 .60 3-4 3 L .240 3-4 3 L .320 3-4 3 L .320
Mi Ax Sp: Hit Lo: On	n. Base le acing tch ad les 10	G N E V G N E V G N E V G S N E V G S N E V G S N E V G S N E V G S N E V G S N E C V C C V C V C C V C V C V C V C V C	72 16 24 8 .10 .20 .70 3-4 4 R .280 .3 4 4 R .374 3 4 4 R .374 3 5	72 16 24 8 .10 .30 .60 3 -4 3 1 L .240 3 4 3 1 L .320 3 -4 3 1 L .320	72 16 24 8 .20 .20 .60 3 4 3 L .240 3-4 2 L .320 .62 3 4 .63 .64 3 L .64 .65 .65 .65 .65 .65 .65 .65 .65	72 16 24 8 .20 .30 .50 3-4 3 L .200 1-2 2 R .340 1-2 2 R .394 1-2	76 16 26 8 .10 .20 .70 3 4 4 R .280 3 -4 4 R .374 4 4 R .374 3 4 4 R	76 16 26 8 .10 .30 .60 3 1 3 L .240 3 4 3 L .320 3 -4 3 L .320	76 16 26 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 3-4 3 L .320 3-4 3 L .347	76 16 26 8 .20 .30 .50 3-4 .20 1 2 2 R .340 1-2 2 R .394 1 2 1 2	80 16 28 8 10 .20 .70 3 4 4 R .280 .3 4 4 R .374 3 -4 4 R .374 3 -4 4 R .374 3 -5	80 16 28 8 .10 .30 .60 3 L .240 3–4 3 L .320 3–4 3 L .320 3–4 3 L .320 3–4 3–4 3–4 3–4 3–4 3–4 3–4 3–4
WITAX Spp Hii Loo On Ax	n. Base le acing tch ad les 10	e L X X C a ₁ a ₂ a ₃ G N E V G N E V G N E V G N E V G N E E V G N E E V G N E E E E E E E E E E E E E E E E E E	72 16 24 8 .10 .20 .20 3-4 4 R .280 3 4 4 R .374 4 R .374 4 R .374 5 L	72 16 24 8 .10 .30 .60 3 -4 3 L .240 3 4 3 L .320 3 -4 .3 L .321 .347 2 -4 2 L	72 16 24 8 .20 .20 .60 3 -4 3 L .240 3 -2 4 L .320 3 -4 3 L .320 3 -4 4 R	72 16 24 8 .20 .30 .50 3-4 3 L .200 1-2 R .340 1-2 2 R .394 1-2 2 R	76 16 26 8 .10 .20 .70 3 4 4 R .280 3 -4 4 R .374 4 R .374 4 R .405 3 5 3 5 3 5	76 16 26 8 .10 .30 .60 3 \$\frac{4}{3}\$ L.240 3 -4 3 \$\frac{1}{3}\$ L.320 3 -4 4 \$\frac{3}{4}\$ L.327 4 \$\frac{1}{4}\$ R	76 16 26 8 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 3-4 4 4 R	76 16 26 8 .20 .30 .50 3-4 3 L .200 1 2 R .340 1-2 2 R .394 1 2 2 R	80 16 28 8 .10 .20 .70 3 4 4 R .280 3 - 4 4 R .374 4 R .374 4 R .374 5 1 1 1 1 1 1 1 1 1 1 1 1 1	80 16 28 8 .10 .30 .60 3-4 3 L .240 3-4 3 L .320 3-4 3 L .320 3-4 4 3 4 3 4 3 4 4 4 4 4 4 4 4 4 4 4 4 4
WITAX Spp Hii Loo On Ax	n. Bassele acing teh ad les 10 20 30	e L	72 16 24 8 .10 .20 .70 3-4 4 R .280 3 4 4 R 8 .374 3 4 4 R 8 .374 3 4 4 R .405 3 5 3 4 4 L 10 10 10 10 10 10 10 10 10 10 10 10 10	72 16 24 8 .10 .30 .60 3 -4 3 L .240 3 4 3 L .320 3 -4 3 L .320 3 -4 3 L .320 3 -4 3 L .320 3 -4 3 L .320 .330 .43	72 16 24 8 .20 .20 .60 3 4 1 .240 .240 3-4 2 L .320 8-4 3 L .347 2-4 4 R .400	72 16 24 8 20 30 30 50 8-4 2 L 20 1-2 2 R 340 1-2 2 R 4 1-2 2 R 4 420	76 16 26 8 .10 .20 .70 3 4 4 R .280 3 -4 4 R .374 3 4 4 R .374 3 5 3 5 3 5 3 L .455	76 16 26 8 .10 .30 .60 3 4 3 4 3 L .240 3 -4 3 L .320 3 -4 4 L .320 3 -4 8 L .320	76 16 26 8 .20 .20 .60 8-4 3 1 L .240 3-4 3 L .320 3-4 4 4 R 8 .390	76 16 26 8 .20 .30 .50 3-4 1.20 1.2 2 R .340 1-2 2 R .340 1-2 2 2 R .342 1.20 2 R .344 1.20	80 16 28 8 10 .20 .70 3 4 4 R .280 .34 4 R .374 3-4 4 R .374 3-4 4 R .374 3-4 4 1 1 1 1 1 1 1 1 1 1 1 1 1	80 16 28 8 .16 .30 .60 3-4 3 L .240 3-4 3 L .320 3-4 3 L .320 3-4 3 4 8 .347 2-4
WI Ax Sport Hit London Ax	n. Bassele acing teh ad les 10 20 30	e L X X C a1 a2 a3 G N E V G N E V G N E V G N E V G G N E V G G N E C G N E C G N E C G N E C G N E C G O G O G O G O G O G O G O G O G O G	72 16 24 8 .10 .20 .70 3-4 4 R .280 3 4 4 R .374 3 4 4 R .405 3 5 3 L 407 3 5	72 16 24 8 .10 .30 .60 3-4 3 L .240 3-4 3 L .320 3-4 3 L .347 2-4 2 L .447 2-4 2-4 1 .447 2-4 1 .447 2-4 1 .447 2-4 1 .447 2-4 1 .447 2-4 1 .447 2-4 1 .447 2-4 1 .447 2-4 1 .447 2-4 1 .447 2-4 1 .447 2-4 1 .447 2-4 1 .447 2-4 1 .447 2-4 1 .447 2-4 2-4 1 .447 2-4 1 .447 2-4 1 .447 2-4 1 .447 2-4 1 .447 2-4 1 .447 2-4 1 .447 2-4 1 .447 2-4 2-4 2-4 1 .447 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-4	72 16 24 8	72 16 24 8 .20 .30 .50 8 -4 3 L .200 1-2 2 R .340 1-2 2 R .394 1-2 2 R .420	76 16 26 8 .10 .20 .70 8 4 4 R .280 3 4 4 R .374 3 4 4 R .405 3 5 L .455 3 -5	76 16 26 8 .10 .30 .60 3 4 3 L .240 3 4 3 L .320 3-4 3 L .320 3-4 4 R .405 1 4	76 16 26 8 .20 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 3-4 4 R .390 1-4	76 16 26 8 .20 .30 .50 3-4 3 L .200 1 2 R .340 1-2 2 R .394 1 -2 2 R .420 1-2	80 16 28 8 .10 .20 .70 3 4 4 R .280 8 4 4 R .374 3 -4 4 R .405 3 -5 1 .444 .444 .444	80 16 28 8 .10 .60 3-4 3 L .240 3-4 3 L .320 3-4 3 L .347 2-4 4 R .890 2-4
WITAX Spp Hii Loo On Ax	n. Bassele acing teh ad les 10 20 30	e L	72 16 24 8 .10 .20 .70 3-4 4 R .280 4 4 R .374 4 4 R .405 3 4 R .405 3 4 R .405 3 4 R .406 7 8 .406 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	72 16 24 8 .10 .30 .60 3-4 3 L .240 3-4 3 L .320 3-4 3 L .320 3-4 3-4 3-4 3-4 3-4 3-4 3-4 3-4	72 16 24 8 .20 .20 .60 3 .4 3 L .240 3-4 3 L .320 3-4 4 R .400 1-4 4 R	72 16 24 8 .20 .30 .50 8 -4 3 L .200 12 2 R .340 12 2 R .420 2 -4 2 L	76 16 26 8 .10 .20 .70 3 4 4 R .280 8 .374 4 R .405 3 5 3 L .455 3-5 3 L	76 16 26 8 .10 .30 .60 3 4 3 4 .240 3 4 .4 .320 3 -4 3 L .347 2 -4 4 R	76 16 26 8 .20 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 3-4 4 R R 8 .390 1-4 4 R	76 16 26 8 20 30 3-4 3 L 200 1 2 2 R 340 1-2 2 R 394 1 2 2 R 420 1-2 2 R	80 16 28 8 .10 .70 3 4 4 R .280 3 4 4 4 R .374 3-4 4 R .405 3-5 3 L	80 16 28 8 .10 .60 3.4 3 L .240 3-4 3 L .320 3-4 4 1 8 14 .320 3-4 3 4 8 14 .320 3-4 3 4 8 8 8 8 8 8 8 8 8 8 8 8 8
WI Ax Sport Hit London Ax	n. Bass le acing teth ad les 10 20 30	e L	72 16 24 8 .10 .20 .70 3-4 4 R .280 3 4 4 R .374 3 4 4 R .405 3 5 3 L .467 .3-5 3 L .467	72 16 24 8 .10 .30 .60 3-4 3 L .240 3-4 3 L .320 3-4 3 L .347 2-4 2-4 2-4 2-4 4-4 .420 1-440 1-	72 16 24 8 .20 .20 .60 3-4 3 L .240 3-4 2 L .347 2 4 R .400 1-4 4 R R .448	72 16 24 8 .20 .30 .50 8-4 3 L .200 1-2 2 R 340 1-2 2 R .394 1-2 2 R .420 2-4 2 L .447	76 16 26 8 .10 .20 .70 3 4 4 R .280 3 -4 4 R .374 3 4 4 R .405 3 5 3 5 3 L .455 3 -5 3 L	76 16 26 8 .10 .30 .60 3 1 240 3 4 3 L .240 3-4 3 L .320 3-4 3 L .347 2-4 4 R .405 1 1 4 4 R .406	76 16 26 8 .29 .20 .20 .60 .4 3 L .240 3-4 3 L .320 3-4 4 R .390 1-4 4 R .390 1-4 4 R .492	76 16 26 8 .20 .30 .50 3-4 3 L .200 1 2 2 R .340 1-2 2 R .394 1 -2 2 R .420 1-2 R .420 1-2 R .420	80 16 28 8 .10 .20 .70 3 4 4 R .280 3 4 4 R .374 3 -4 4 R .405 3 -5 3 L .443-5 3 L	80 16 28 8 .10 .60 3-4 3 L .240 3-4 3 L .320 3-4 3 L .320 3-4 3 4 R .847 2-4 4 R .890 2-4 4 R .890 2-4 8-4 8-4 8-4 8-4 8-4 8-4 8-4 8
WI Ax Sport Hit London Ax	n. Bass le acing teth ad les 10 20 30	e L X X Y C a ₁ a ₂ a ₃ G N E V G N E V G S N E V G S S S S S S S S S S S S S S S S S S	72 16 24 8 .10 .20 .70 3-4 4 R .280 4 4 R .374 4 4 R .405 3 4 R .405 3 4 R .405 3 4 R .406 7 8 .406 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	72 16 24 8 .10 .30 .60 3-4 3 L .240 3-4 3 L .320 3-4 3 L .320 3-4 3-4 3-4 3-4 3-4 3-4 3-4 3-4	72 16 24 8202060 34 3 240 3-4 3 320 3-4 4 347 2-4 4	72 16 24 8 .20 .30 .50 8 -4 3 L .200 12 2 R .340 12 2 R .420 2 -4 2 L	76 16 26 8 .10 .20 .70 3 4 4 R .280 8 .374 4 R .405 3 5 3 L .455 3-5 3 L	76 16 26 8 .10 .30 .60 3 4 3 4 3 L .240 3 -4 3 L .320 3 -4 4 R 4 405 1 4 4 R .464 1 -4	76 16 26 8 .20 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 3-4 4 R R 8 .390 1-4 4 R	76 16 26 8 20 30 3-4 3 L 200 1 2 2 R 340 1-2 2 R 394 1 2 2 R 420 1-2 2 R	80 16 28 8 .10 .20 .70 3 4 R .280 4 R .374 3-4 4 R .405 3-5 3 L .444 3-5 3 L .495	80 16 28 8 .10 .30 .60 3-4 3 L .240 3-4 3 L .320 3-4 3 L .347 2-4 4 R .390 2-4 4 4 8 .40 .40 .40 .40 .40 .40 .40 .40
WI Ax Sport Hit London Ax	n. Bass le acing teth ad les 10 20 30	e L X X Y C a ₁ a ₂ a ₃ G N E V G N E V G S N E V G S S S S S S S S S S S S S S S S S S	72 16 24 8 .10 .20 .70 3-4 4 R .280 3 4 4 R .405 3 5 1 4 4 1 4 1 5 1 3 5 3 1 4 4 R .281 .374 .374 .4 R .4	72 16 24 8 .10 .30 .60 3-4 3 L .240 3 4 3 L .320 3-4 3 L .347 2-4 2 L .420 1 4 4 R R	72 16 24 8 .20 .20 .60 3 -4 3 L .240 3-4 2 L .347 2 -4 4 R .400 1-4 4 R R .448	72 16 24 8 .20 .30 .50 3-4 3 L .200 1-2 R .340 1-2 2 R .394 1-2 2 L .447 1 4 1 L	76 16 26 8 .10 .20 .70 3 4 4 R .280 3 -4 4 R .374 3 4 4 R .405 3 5 3 L .504 1-4 4 R	76 16 26 8 .10 .30 .60 3 1 240 3 4 3 L .240 3 -4 3 L .320 3 -4 4 R R .405 1 4 R .464 1 -4 4 R	76 16 26 8 .20 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 3-4 4 R 8 .390 1-4 4 R 4 R 4 R 4 R 4 R	76 16 26 8 .20 .30 .50 3-4 3 L .200 1 2 2 R .340 1-2 2 R .394 1 2 2 R .426 1-4 1 L	80 16 28 8 .10 .20 .70 3 4 R .280 3 -4 4 R .374 3-4 4 R .405 3-5 3 L .444 3-5 4 L .495 1-4 4 R	80 16 28 8 .10 .30 .60 3-4 3 L .240 3-4 3 L .320 3-4 3 L .320 2-4 4 R .390 2-4 4 R
WI Ax Sport Hit London Ax	n. Bass le acing ch acing reh ad les 20 20 20 50	e L XX C a1 a2 a3 G N E V G N E V G N E V G N E V G N E V C G N E C R E C	72 16 24 8 .10 .20 .70 3-4 4 R .280 3 4 4 R .374 3 4 4 R .405 3 5 3 L .467 3 -5 3 L .549	72 16 24 8 .10 .30 .60 3-4 3 L .240 3 4 3 L .320 3-4 2 L .420 1 4 4 R R R .480 .480	72 16 24 8 .20 .20 .60 3 -4 2 L .320 S-4 3 L .320 S-4 4 R .400 1-4 4 R R .448 R R .507	72 16 24 8 29 30 30 50 8-4 1-2 2 R 340 1-2 2 R 340 1-2 2 R 420 2-4 1-1 1 4 1 L 509	76 16 26 8 .10 .20 .70 3 4 4 R .280 3 -4 4 R .374 3 4 4 R .405 3 5 3 5 3 5 3 L .455 3 -5 3 L .504 1-4 4 R .539	76 16 26 8 .10 .60 8 3 4 3 4 3 1 L .320 3-4 3 4 4 4 4 R .405 1 4 4 R .464 1 4 R .465 1 4 4 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	76 16 26 8 .20 .20 .60 8-4 3 L .240 3-4 3 L .320 3-4 4 R .390 1-4 4 R .432 1 4 R .493	76 16 26 8 .20 .30 .50 3-4 .20 .1 2 2 R .340 1-2 2 R .340 1-2 2 R .420 1-2 2 R .420 1-4 1 L .498	80 16 28 8 .10 .20 .70 3 4 4 R .280 .374 3-4 4 R .374 3-5 3 L .444 3-5 1-4 4 R .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	80 16 28 8 .10 .30 .60 3-4 3 L .240 3-4 3 L .320 3-4 3 L .347 2-4 4 R .390 2-4 4 R .452 1-4 R .50 .50 .50 .50 .50 .50 .50 .50
WI Ax Sport Hit London Ax	10 and 10	e L XX C a1 a2 a3 G NE V G S E V G S S S S S S S S S S S S S S S S S S	72 16 24 8 .10 .20 .70 3-4 4 R .280 3 4 4 R .374 3 4 4 R .405 3 5 3 L .467 3 -5 3 1 4 R .405	72 16 24 8 .10 .30 .60 3-4 3 L .240 3 4 3 L .320 3-4 3 L .347 2-4 2 L .420 1 4 R .48 .480 1 -4 4 R .533 2 -5 2	72 16 24 8 .20 .20 .60 3 4 2 L .240 8 L .240 8 -4 2 L .320 8-4 3 L .347 2-4 4 R .400 1-4 4 R .448 1-4 4 R .507	72 16 24 8 20 30 .50 3 4 L .200 12 2 R .340 12 2 R .3420 2-4 1-2 L .447 1 L .509 1 5 1	76 16 26 8 10 .20 .70 8 4 R .280 .3-4 4 R .374 3 4 R .374 3 5 3 5 3 L .455 3 5 1 L .455 3 1 L .455 3 1 L .44 4 R .5339	76 16 26 8 .10 .30 .60 3	76 16 26 8 20 20 30 60 3-4 3 L 320 3-4 3 L 320 3-4 4 R 390 1-4 4 R 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	76 16 26 8 .20 .30 .50 3-4 .20 .1 2 2 R .340 1-2 2 R .340 1-2 2 R .420 1-2 4 1 L .498 1-4 1 L .498	80 16 28 8 .10 .20 .70 3 4 R .280 .374 4 R .374 3-4 4 R .405 3-5 3 L .444 3-5 3 L .495 1-4 4 R .529	80 16 28 8 .10 .60 3.4 3 L .240 3-4 3 L .320 3-4 4 R .390 2 4 4 R 4 R .507 2-5 2
WI Ax Sport Hit London Ax	n. Bass le acing ch acing reh ad les 20 20 20 50	e L XX C a1 a2 G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V	72 16 24 8 .10 .20 .70 3-4 R .280 3 4 R R .374 3 4 R R .405 3 5 3 L .513 1 4 R R .549 1-5 5 R	72 16 24 8 .10 .30 .60 3-4 3 L .240 3 4 3 L .320 3-4 3 L .347 2-4 2 L .420 1 4 4 R .480 1-4 R .533 2-5 2 L	72 16 24 8 .20 .20 .60 3 .4 3 L .240 3-4 2 L .320 3-4 4 R .400 1-4 4 R .448 1-4 R .507	72 16 24 8 20 30 30 50 8 4 1 20 10 10 10 10 10 10 10 10 10 10 10 10 10	76 16 26 8 .10 .20 .70 3 4 R .280 3 -4 4 R .374 3 4 4 R .405 3 5 3 5 3 .5 3 .1 .504 1-4 4 R .539	76 16 26 8 .10 .30 .60 3 4 3 L .240 3 -4 3 L .320 3 -4 4 R .405 1 4 R .464 1 -4 R .520 2 -5 2 L	76 16 26 8 .20 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 3-4 4 R .390 1-4 4 R .432 1 4 R .493 1-4 4 R	76 16 26 8 20 30 3-4 3 L 200 1 2 2 R 340 1-2 2 R 394 1 2 2 R 420 1-2 2 R 436 1-4 L 498 1-5 1 L	80 16 28 8 .10 .20 .70 3 4 4 R .280 3 4 4 R .374 3-4 4 R .405 3 L .4444 3-5 3 L .495 1-4 4 R .529	80 16 28 8 .10 .60 3-4 3 L .240 3-4 3 L .320 3-4 3 L .320 3-4 4 R .390 2-4 4 R .452 1-4 4 R .507 2-5 2-5 L
WI Ax Sport Hit London Ax	10 and 10	e L XX C a1 a2 a3 G NEV G NEV G NEV G NE V G	72 16 24 8 .10 .20 .70 3-4 4 R .280 3 4 4 R .374 3 4 4 R .405 3 5 1 L .513 1 4 R .549 1 5 R .607	72 16 24 8 .10 .30 .60 3-4 3 L .240 3-4 3 L .320 3-4 3 L .347 2-4 2 L 420 1 4 4 R .480 1-4 4 R .533 2-5 2 L .620	72 16 24 8 .20 .20 .60 3 -4 3 L .240 3-4 2 L .320 3-4 4 R .400 1-4 4 R .448 1-4 R R .587	72 16 24 8 .20 .30 .50 8-4 3 L .200 12 2 R .340 12 2 R .420 2-4 2 L .447 1 4 L .509 1 5 L .607	76 16 26 8 .10 .20 .70 3 4 R 2.80 3 -4 4 R 4 R .374 3 4 4 R .405 3 5 3 5 3 5 3 5 4 4 R .455 3 1 .455 3 1 .455 3 1 .455 3 1 .455 3 1 .455 3 1 .455 3 1 .455	76 16 26 8 .10 .30 .60 3 4 3 L .240 3 -4 3 L .320 3 -4 4 R .405 1 4 4 R .464 1 -4 R .520 2 -5 L .600	76 16 26 8 .20 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 3-4 4 R .390 1-4 4 R .432 1 4 R .493 1-4 4 R .493 1-4 4 R .493 1-4 4 R .493 1-4 4 R .493 1-4 4 R .493 1-4 4 R .493 1-4 4 R .493 1-4 4 R .493 1-4 4 R .493 1-4 4 R .493 1-4 4 R .493 1-4 4 R .493 1-4 4 R .493	76 16 26 8 .20 .30 .50 3-4 3 L .200 1 2 R .340 1-2 2 R .394 1 -2 2 R .420 1-2 1 L L L L L L L L L L L L L L L L L L	80 16 28 8 .10 .20 .70 3 4 R .280 3 4 R .374 3-4 4 R .405 3-5 3 L .444 3-5 3 L .495 1-4 R .589	80 16 28 8 .10 .30 .60 3-4 3 L .240 3-4 3 L .320 3-4 3 L .347 2-4 4 R .452 1-4 4 R .507 2-5 2 L .508
WI Ax Sport Hit London Ax	10 20 30 40 50 60 80 80	C A1 A2 G NEV G NE	72 16 24 8 .10 .20 .70 3-4 R .280 3 4 R R .374 3 4 R R .405 3 5 3 L .513 1 4 R R .549 1-5 5 R .607	72 16 24 8 .10 .30 .60 3-4 3 L .240 3-4 3 L .320 3-4 3 L .347 2-4 2 L .420 1 4 4 R .480 1-4 4 R .533 2-5 2 L .620 2-5 2	72 16 24 8 .20 .20 .60 3 4 3 L .240 3-4 2 L .320 3-4 4 R .400 1-4 4 R .448 1-4 R .507 1-4 4 R .580 1-5	72 16 24 8 20 30 .50 3-4 3 L .200 1-2 2 R .340 1-2 2 R .420 2-4 2 L .447 1 4 L .509 1 5 1 L .607 1-5 1	76 16 26 8 .10 .20 .70 3 4 4 R .280 3-4 4 R .374 3 4 4 R .405 3 5 3 L .455 3-5 3 L .504 1-4 4 R .539 1-4 4 R .596 1-5 5	76 16 26 8 .10 .30 .60 3 4 3 L .240 3 -4 3 L .320 3 -4 4 R .405 1 4 R .464 1 -4 R .520 2 -5 2 L .6000 2 -5 2	76 16 26 8 .20 .20 .20 .60 3-4 3 L .240 3-4 3 L .320 3-4 4 R .390 1-4 4 R .432 1 4 R .493 1-4 4 R .570 1-5 1	76 16 26 8 20 30 3-4 3 L 200 1 2 2 R 340 1-2 2 R 394 1 2 2 R 420 1-2 2 R 436 1-4 L 498 1-5 1 L 590 1-5 1	80 16 28 8 .10 .20 .70 3 4 4 R .280 3 4 4 R .374 3-4 4 R .405 3 -5 3 L .495 1-4 4 R .529 1-4 4 R .589 1-5	80 16 28 8 .10 .60 3-4 3 L .240 3-4 3 L .320 3-4 4 R .390 2-4 4 R .452 1-4 R .507 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5
WI Ax Sport Hit London Ax	10 and 10	e L XX C a1 a2 G NE V G	72 16 24 8 .10 .20 .70 3-4 4 R .280 3 4 4 R .374 3 4 4 R .405 3 5 3 L .467 3 5 1 1 4 4 R .549 1 5 R .607	72 16 24 8 .10 .30 .60 3-4 3 L .240 3 4 3 L .320 3-4 3 L .347 2-4 2 L .420 1 4 R .480 .1-4 4 R .533 2-5 2 L .620 2-5	72 16 24 8 .20 .20 .60 3 -4 2 L .320 8-4 3 L .320 8-4 4 R .400 1-4 4 R .507 1-4 4 R .580 1-5	72 16 24 8 20 30 .50 3-4 1-2 2 R .340 1-2 2 R .340 1-2 2 R .420 2-4 1-1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	76 16 26 8 10 .20 .70 3 4 R .280 .3-4 4 R .374 3 4 R .405 3 5 3 5 3 1 .455 3 -5 4 4 R .539 1-4 4 R .596 1-5	76 16 26 8 .10 .30 .60 3 3 L .240 3 -4 3 L .320 3 -4 4 R .405 1 -4 4 R .405 1 -4 4 R .405 1 -4 4 R .405 1 -4 1 -5 1 -	76 16 26 8 20 20 30 60 3-4 3 L 320 3-4 3 L 320 3-4 4 R 390 1-4 4 R 493 1-4 4 R 570 1-5	76 16 26 8 .20 .30 .50 3-4 .20 .1 2 2 R .340 1-2 2 R .340 1-2 2 R .420 1-1 2 2 R .436 1-4 1 L .498 1-5 1 L .590	80 16 28 8 .10 .20 .70 3 4 4 R .280 .374 4 R .374 3-4 4 R .405 3-5 3 L .444 3-5 3 L .49 1-4 4 R .529 1-4 8 .589	80 16 28 8 .10 .60 3-4 3 L .240 3-4 3 L .320 3-4 4 R .390 2 4 4 R .452 1-4 4 R .507 2-5 L .580

102 METHOD OF CONVERTING HEAVY MOTOR VEHICLE LOADS TABLE 7.13 (Continued)

TABL	LE	7.13	(Continue	ed)					
Truc	k N	о.	91	92	93	94	95	96	
Wh. I	Base	e L	80	80	84	84	84	84	
Axle Spaci		X X,	16 28	16 28	16 30	16 30	16 30	16 30	
Hitch	1	C	8	8	8	8	8	8	
Load		a_1	.20	.20	.10	.10	.20	.20	
On.		\mathbf{a}_2	.20	.30	.20	.30	.20	.30	
Axles	<u> </u>	a ₃	.60	.50	70	.60	.60	.50	
	10	G N E V	3–4 3 L .240	$^{3-4}_{\ \ \mathbf{L}}_{\ \ .200}$	3-4 4 R .280	3-4 3 L .240	$^{3-4}_{\ \ \mathrm{L}}_{\ \ .240}$	3-4 3 L .200	
	20	G N E V	3 -4 3 L .320	1-2 2 R .340	3-4 4 R .374	3-4 3 L .320	3-4 3 L .320	1-2 2 R .340	
	30	G N E V	3-4 3 L .347	1-2 2 R .394	3- 4 4 R .405	3-4 3 L .347	3-4 3 L .347	1-2 2 R .394	
Feet	40	G N E V	2 4 4 R .380	1 -2 2 R .420	3-5 3 L .432	2-4 4 R .375	2-4 4 R .370	1-2 2 R .420	
Span-Feet	50	G N E V	3-5 3 L .424	1-2 2 R .436	3-5 3 L .485	24 4 R .440	3–5 3 L .416	12 2 R .436	
	60	G N E V	1-4 4 R .480	1-4 1 L .487	3-5 3 L .521	1–4 4 R .493	1-4 4 R .467	1-4 1 L .476	
	80	G N E V	1-4 4 R .560	1-5 1 L .573	1-4 4 R .581	1-4 4 R .570	1-4 4 R .550	1-4 1 L .565	
1	100	G N E V	1–5 1 L .616	1-5 1 L .659	$^{1-5}_{5}\ \mathrm{R}_{.621}$	2-5 2 L .628	1-5 1 L .600	1-5 1 L .645	

TABLE 7.14

CONTROLLED CONDITIONS AND MAXIMUM SHEARS IN SIMPLE SPANS PRODUCED BY THE TYPE 3-S2-3 TRUCKS WEIGHING ONE KIP EACH



Eighty-four variations in the Type 3-S2-3 truck are given in this table. Each truck number from 1 to 84, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight on each axle.

Tri	ıck N	0.	1	2	3	4	5	6	7	8	9	10
$\overline{\mathbf{W}}\mathbf{h}$, Base	e L	44	44	44	44	48	48	48	48	52	52
Ax	le	X	8	- 8	8	8	8	8	8	8	8	8
Spa	cing	X'	8	8	8	8	10	10	10	10	12	12
Hit	ch	C	8	8	8	8	8	8	8	8	8	8
Los	ad	\mathbf{a}_1	.05	.05	.10	.10	.05	.05	.10	.10	.05	.05
On,		\mathbf{a}_2	.20	.30	.20	.30	.20	.30	.20	.30	.20	.30
Ax	ies	a ₃	.75	.65	.70	.60	.75	.65	.70	.60	.75	.65_
		G N	7-8	$\frac{2-3}{2}$	7-8 7	$^{2-3}_{2}$	7–8 7	$\frac{2-3}{2}$	$_{7-8}^{7-8}$	2-3 2	$\frac{7-8}{7}$	$^{2-3}_{2}$
- 1	10	E	Ĺ	Ĺ	Ĺ	Ĺ	Ĺ	Ĺ	Ĺ	Ĺ	Ĺ	Ĺ
	10	$\ddot{\mathbf{v}}$.240	.240	.224	.240	.240	.240	.224	.240	.240	.240
ľ		G	5-8	2-5	2-5	25	4-6	2-5	46	2-5	4 6	2-5
- 1		N	8	2	5	2	4	2	4	2	4	2
1	20	E	R	\mathbf{L}	R	L	L	\mathbf{L}	L	L	L	L
		V	.330	.348	.312	.342	.330	.322	.308	.318	.330	.296
		G	4 -8	2 -6	4-8	2-6	4-8	2-6	48	2-6	4-8	2-6
	30	N E	4 L	2 L	$^4_{ m L}$	$^2_{ m L}$	$^4_{ m L}$	2 L	$^4_{ m L}$	$^2_{ m L}$	$^4_{ m L}$	$_{ m L}^2$
	90	v	.450	.445	.420	.432	.430	.419	.401	.408	.410	.393
		Ġ	2.8	2-8	2-8	28	3-8	2-8	3 8	2-8	4-8	2-6
		Ň	- 8	2	- ี่ 8	2	8	2	8	2	4	2
ě	40	\mathbf{E}	\mathbf{R}	\mathbf{L}	\mathbf{R}	L	R	\mathbf{L}	R	L	\mathbf{L}	L
Span-Feet		V	.555	.545	.520	.525	.513	.500	.479	.483	.495	.467
Ė		\mathbf{G}	1-8	2-8	1-8	2-8	1-8	2-8	1 -8	2-8	2-8	2-8
ã	F0	N	8	2	8	$^2_{ m L}$	8	$^2_{ m L}$	8	2	8	2
3/2	50	E	$_{.640}^{ m R}$	L .626	$_{.608}^{ m R}$.600	$_{.602}^{ m R}$.590	$^{ m R}_{.567}$	$_{.566}^{ m L}$	$^{ m R}_{.566}$	$_{.553}$
ĺ		Ğ	18	2-8	1-8	2-8	1-8	2-8	18	2~8	1-8	2-8
		N	18 8	2~8 2	1-8 8	2 · 8 2	1–8 8	$\frac{2-8}{2}$	18 8	2-8	1-8 8	2-8
	60	Ë	Ř	Ĺ	Ř	Ĺ	$\hat{\mathbf{R}}$	Ĺ	Ŕ	Ĺ	Ř	$^2_{ m L}$
		$\bar{\mathbf{v}}$.700	.680	.673	.650	.668	.650	.639	.622	.637	.619
		G	1-8	1-8	1-8	1-8	1-8	2-8	1.8	1-8	1-8	2-8
		N	8	8	8	8	8	2	8	1	8	2
1	80	$_{ m V}^{ m E}$	R	R	R	R	R	L	R	L	R	L
			.775	.748	.755	.728	.751	.725	.730	.702	.728	.702
		G N	$^{1-8}_{8}$	$^{1-8}_{8}$	$^{1-8}_{8}$	$^{1-8}_{-8}$	1-8 8	1-8 8	1-8 8	1-8 1	$^{1-8}_{8}$	$^{1-8}_{8}$
	100	E	Ř	Ř	Ř	Ř	Ř	Ŕ	R.	Ĺ	Ř	Ř
ļ	130	$\vec{\mathbf{v}}$.820	.798	.804	.782	.801	.776	.784	.761	.782	.754
						-						

All dimensions are in feet and shears are in kips.

a1, a2, and a3-Represent the ratio of gross vehicle weight on axles.

G-Axle group causing maximum shear, thus, 1-3 means axles 1, 2, and 3.

N-Number of critical axle under which maximum shear occurs.

E-End of span at which critical axle is placed.

V--Maximum shear.

TABLE	7 14 ((Continued)

TABI												
Truck Wh. I			11 52	12 52	13 56	14 56	$\frac{15}{56}$	16 56	60	18 60		$\frac{20}{60}$
Axle	Dase	X	8	8	8	8	8	8	8	8	8	8
Spaci		X'	12	12	14 8	14	- 14 ×	14	16	16 8	16	16
Hitch Load	<u> </u>	C a ₁	$-\frac{8}{.10}$.10	.05	.05	.10	.10	.05	.05	.10	.10
On	_	a_2	.20	.30	.20	.30	.20	.30	.20	.30	.20	.30
Axles	;	a ₃		2 3	$\frac{.75}{7-8}$	$\frac{.65}{2-3}$.70 7-8	$\frac{.60}{2-3}$.75 7-8	2-3	$\frac{.70}{7-8}$	$\frac{.60}{2-3}$
	10	N	7	2	7	2	7	2	7	2	7	2
	10	\mathbf{v}	$^{ m L}_{.224}$	$^{ m L}_{.240}$	$_{.240}^{ m L}$	$^{ m L}_{.240}$	$^{ m L}_{.224}$	$_{.240}^{ m L}$	$^{ m L}_{.240}$	$^{ m L}_{.240}$	$^{ m L}_{.224}$	$_{.240}^{ m L}$
		G	4-6	1-3	46	1 3	46	1-3	4-6	1-3	4-6	1-3
	20	N E	$^4_{ m L}$	$_{\mathbf{R}}^{3}$	4 L	$^3_{ m R}$	4 L	$^3_{ m R}$	$^4_{ m L}$	$^{ m 3}_{ m R}$	$^4_{ m L}$	$^3_{ m R}$
		V	.308	$\frac{.310}{2.6}$	$-\frac{.330}{4.0}$.308	$\frac{.310}{2-5}$.330	$\frac{.290}{2.5}$.308	$\frac{.310}{2-5}$
		G N	$^{4-8}_{4}$	2	4 · 8 4	2	4 · 8 4	2	$\begin{smallmatrix}4&6\\&4\end{smallmatrix}$	2 2 L	$\begin{smallmatrix}4&6\\4\end{smallmatrix}$	2
	30	$_{ m V}^{ m E}$	$^{ m L}_{,383}$.384	L .390	$^{ m L}_{367}$	$^{ m L}_{.364}$	$^{ m L}_{.360}$	$^{ m L}_{.370}$	$^{ m L}_{.349}$	$^{ m L}_{.345}$	$_{.344}^{ m L}$
_		G	4-8	2-6	4 -8	2-6	4-8	26	4-8	2 6	4-8	2 6
et	40	N E	$^4_{ m L}$	$^2_{ m L}$	$^4_{ m L}$	$_{ m L}^2$	4 L	$_{ m L}^2$	4 L	2 L	4 L	2 L
- 무		v	.462	.453	.480	.448	.448	.435	.465	.428	.434	.417
Span-Feet		G N	2-8 8	28 2	4-8 4	2 8	2-8 8	2-8 2	4 8 4	$\frac{2\cdot\cdot7}{2}$	4-8 4	2 7
Š	50	E	R .530	L .533	$ m \stackrel{\hat{L}}{L}$	$_{.517}^{ar{ m L}}$	R .498	$ar{ ext{L}}$	$\stackrel{ ext{L}}{\text{L}}$	$_{.485}^{ ilde{ ilde{L}}}$	L .487	$\frac{1}{.470}$
		G	1-8	2 8	1-8	2.8	1-8	2-8	2 8	2-8	2-8	2.8
	60	N E	8 R	$^2_{ m L}$	8 R	$^2_{ m L}$	8 R	$^2_{ m L}$	8 R	$_{\mathbf{L}}^{2}$	8 R	$\stackrel{2}{ ext{L}}$
_	00	v	.605	.594	.605	.589	.571	.566	.574	.559	.537	.538
		G N	1-8 8	1-8 1	1-8 8	$rac{2}{2}$	1-8 8	18 1	1.8	2-8 2	1-8 8	1 8
	80	\mathbf{E}	R	L	R	L	R	\mathbf{L}	\mathbf{R}	L	R	L
		V G	1-8	.681 18	.704 1-8	1-8	1.8	.660 1-8	1.8	2 -8	$\frac{.653}{1-8}$	1-8
		N	8	1	8	8	8	1	8	2	8	1
1	.00	$_{ m V}^{ m E}$	$^{ m R}_{.763}$	$_{.744}^{ m L}$	R .763	$^{ m R}_{.733}$	R .743	$^{ m L}_{.728}$	R .744	$^{ m L}_{.715}$	$^{ m R}_{.722}$	$_{.711}^{ m L}$
				2.2		0.4						
Truck			64	22 64	23	24 64	25 68	26 68	27 68	28	29	30
Wh. I	Base	e L	64 8	8	64	8	68	68 8	68	68 8	48 12	12
Wh. I Axle Spaci	Base ing	X X X'	64 8 18	8 18	64 8 18	64 8 18	68 8 20	68 8 20	68 8 20	68 8 20	48 12 8	48 12 8
Wh. I	Base ing	e L	64 8 18 8 .05	8	8 18 8 .10	8 18 8 .10	68	68 8	68	68 8	48 12	12
Wh. I Axle Spaci Hitch Load On	Base ing 1	E L X X' C a ₁ a ₂	64 8 18 8 .05	64 8 18 8 .05 .30	8 18 8 .10 .20	8 18 8 .10 .30	68 8 20 8 .05 .20	8 20 8 .05 .30	8 20 8 .10 .20	8 20 8 .10 .30	48 12 8 8 .05 .20	48 12 8 8 .05 .30
Wh. I Axle Spaci Hitch Load	Base ing 1	E L X X' C a ₁ a ₂ a ₃ G	64 8 18 8 .05 .20 .75	64 8 18 8 .05 .30 .65	8 18 8 .10 .20 .70	64 8 18 8 .10 .30 .60	68 8 20 8 .05 .20 .75 7-8	68 8 20 8 .05 .30 .65	68 8 20 8 .10	8 20 8 .10 .30 .60 2-3	48 12 8 8 .05 .20 .75	48 12 8 8 .05 .30 .65 2-3
Wh. I Axle Spaci Hitch Load On Axles	Base ing 1	X X' C a ₁ a ₂ a ₃ G	64 8 18 8 .05 .20 .75 7–8	64 8 18 8 .05 .30 .65 2–3 2	8 18 8 .10 .20 .70 7-8 7	8 18 8 .10 .30 .60 2–3 2	68 8 20 8 .05 .20 .75 7–8 7	8 20 8 .05 .30 .65 2 3	68 8 20 8 .10 .20 .70 7 8	8 20 8 .10 .30 .60 2-3 2	48 12 8 8 .05 .20 .75 7 8	48 12 8 8 .05 .30 .65 2-3 2
Wh. I Axle Spaci Hitch Load On Axles	Base ing 1	E L X X' C a ₁ a ₂ a ₃ G N E V	8 18 8 .05 .20 .75 7-8 7 L	64 8 18 8 .05 .30 .65 2-3 1 .240	8 18 8 .10 .20 .70 7-8 7 L	64 8 18 8 .10 .30 .60 2-3 1 .240	68 8 20 8 .05 .20 .75 7-8 T L .240	8 20 8 .05 .30 .65 2 3 L .240	68 8 20 8 .10 .20 .70 7 8 7 L .224	8 20 8 .10 .30 .60 2-3 L .240	48 12 8 8 .05 .20 .75 7.8 7 L	48 12 8 8 .05 .30 .65 2-3 2 L
Wh. I Axle Spaci Hitch Load On Axles	Base ing 1	E L X X' C a ₁ a ₂ a ₃ G N E	64 8 18 8 .05 .20 .75 7–8 7	64 8 18 8 .05 .30 .65 2-3 1 .240 1-3	8 18 8 .10 .20 .70 7–8 7 L	8 18 8 .10 .30 .60 2-3 2	68 8 20 8 .05 .20 .75 7 L	8 20 8 .05 .30 .65 2 3	68 8 20 8 .10 .20 .70 7 8 7 I. .224 4 6	68 8 20 8 .10 .30 .60 2-3 2 L .240 1-3	48 12 8 8 .05 .20 .75 7 · 8 7 L .240 4-6	48 12 8
Wh. I	Base ing 1	E L X X X' C a1 a2 a3 G N E V G N E	8 18 8 .05 .20 .75 7-8 7 L .240 4-6 4	8 18 8 .05 .30 .65 2-3 1 .240 1-3 8	64 8 18 8 .10 .20 .70 7-8 7 L .224 4-6 4 L	64 8 18 8 .10 .30 .60 2-3 2 L .240 1-3 3	8 20 8 .05 .20 .75 7 L .240 4 6 4 L	68 8 20 8 .05 .30 .65 2 2 L .240 1–3 R	68 8 20 8 .10 .20 .70 7 8 7 1 .224 4 6 4 1	8 20 8 .10 .30 .60 2-3 2 L .240 1-3 3 R	48 12 8 8 .05 .20 .75 7 · 8 7 L .240 4-6 4 L	8 .05 .30 .65 2 L .240 2-5 2 L
Wh. I	Base ing ing	X X X' C a ₁ a ₂ a ₃ G N E V	8 18 8 .05 .20 .75 7-8 7 L .240 4-6	64 8 18 8 .05 .30 .65 2 L .240 1-3 8 .290 2-5	8 18 8 .10 .20 .70 7-8 7 L .224 4-6	64 8 18 8 .10 .30 .60 2–3 2 L .240 1–3 3	68 8 20 8 .05 .20 .75 7-8 7 I. .240 4-6 4	68 8 20 8 .05 .30 .65 2 3 2 L .240 1–3 3	68 8 20 8 .10 .20 .70 7 8 7 I. .224 4 6 4	8 20 8 .10 .30 .60 2-3 2 L .240 1-3 3	48 12 8 8 .05 .20 .75 7 L .240 4-6 4	48 12 8 8 .05 .30 .65 2-3 2 L .240 2-5 2
Wh. I	Base ing 1 1 20	X X X' C a ₁ a ₂ a ₃ G N E V G N E V	64 8 18 8 .05 .20 .75 7 L .240 4-6 4 L .330 4-6	64 8 18 8 .05 .30 .65 2 L .240 1-3 8 R .290 2-5	64 8 18 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-6 4-6	64 8 18 8 .10 .30 .60 2-3 2 L .240 1-3 3 R .310 1-3 3	8 20 8 20 .05 .20 .75 7 L .240 4 6 4 L .330 4 ·6 4	8 8 20 8 .05 .30 .65 2 L .240 1–3 R .290 4–6 4	8 20 8 .10 .20 .70 7 8 7 L .224 4 6 4 L .308 4 6 4	8 20 8 .10 .30 .60 2-3 2 L .240 1-3 3 R .310 1-3 3	48 12 8 .05 .20 .75 7.8 7 L .240 4-6 4 L .330 4-8 4	48 12 8 .05 .30 .65 2-3 L .240 2-5 2 L .348 2-6
Wh. I	Base ing ing	X X X' C a ₁ a ₂ a ₃ G N E V G N E V	8 18 8 .05 .20 .75 7-8 1 .240 4-6 4 L .330 4-6	64 8 18 8 .05 .65 2-8 L .240 1-3 8 R .290 2 -5 L .332	64 8 18 8 .10 .20 .70 .78 .7 L .224 4-6 4 L .308 4-6 4-4 L .345	64 8 18 8 .10 .30 .60 2-3 2 L .240 1-3 3 R .310	68 8 20 8 .05 .20 .75 7 L .240 4 - 6 4 L .330 4 - 6	68 8 20 8 .05 .30 .65 2 L .240 1–3 3 R .290	68 8 20 8 .10 .20 .70 7 8 7 1224 4 6 4 1 .308	68 8 20 8 .10 .30 .60 2-3 2 L .240 1-3 3 R .310	48 12 8 8 .05 .20 .75 7 L .240 4-6 4 L .330 4-8	8 8 .05 .30 .65 2-8 2 L .240 2-5 2 L .348
Wh. I	Base ing 1 1 20	C X X' C a1 a2 a3 G N E V G N E V G N E V G S N E V G S N E V G S N E V G S N E V G S N E V G S N E V G S N E V G S N E V G S N E V G S N E V G S N E V G S N E V G G S N E V G G S N E V G G S N E V G G S N E V G G S N E V G G S N E V G G S N E V G S N E V G S N E V G S N E V G S N E V G S N E V G S N E V G S N E V G S N E V C C C C C C C C C C C C C C C C C C	8 8 8 .05 .20 .75 7-8 7 L .240 4-6 4 L .330 4-6 4 L .370 4 8	64 8 18 8 .05 .65 2-3 2 L .240 1-3 3 R .290 2-5 2 L .332 2 -5 2 -	64 8 18 18 .10 .20 .70 .70 .70 .70 .70 .70 .70 .7	64 8 18 18 8 .10 .30 .60 2-3 2 L .240 1-3 3 R .310 1-3 3 R .310 2-40 1-3 3 1-3 1-3 1-3 1-3 1-3 1-3	68 8 20 8 .05 .20 .75 7–8 7 L .240 4 · 6 4 L .330 4 · 6 4 L .370 4 · 8	68 8 20 8 .05 .305 .65 2 3 2 L .240 1-3 3 R .290 4-6 4 L .321 2-6	68 8 20 8 .10 .20 .70 7 8 7 L .224 4 6 4 L .308 4 6 4 L .345 4 8	68 8 20 8 .10 .30 .60 2-3 2 L .240 1-3 3 R .310 1-3 3 R	48 12 8 8 .05 .20 .75 .78 .7 L .240 4-6 4 L .330 4-8 4 L .450 2-8	48 12 8 8 .05 .30 .65 2-3 2 L .240 2-5 2 L .348 2-6 2 L .445 2-8
Wh. I	Base ing 1 1 20	C X X' C a1 a2 a3 G N E V G N E V G N E V G N E V	64 8 18 8 .05 .20 .75 7–8 7 L .240 4–6 4 L .330 4–6 4 L .370 4 8 4 L	64 8 18 .05 .65 2-3 L .240 1-3 R .290 2 -5 L .332 2 6 2 L	64 8 18 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4 6 4 L .345 4-8 4 L	8 18 8 .10 .30 .60 2-3 2 L .240 1-3 3 R .310 .340 2-6 2 L	68 8 20 8 .05 .75 7–8 7 L .240 4–6 4 L .330 4–6 4 L .370 4–8	68 8 20 8 .05 .65 2 3 2 L .240 1-3 8 .290 4-6 4 L .321 2-6 2	68 8 20 8 .10 .70 7 8 7 L .224 4 6 4 L .308 4 -6 4 L .345 4 8 4 L	8 20 8 20 8	48 12 8 .05 .05 .75 7 · 8 7 L .240 4 - 6 4 L .330 4 - 8 4 L .450 2 - 8 8 R	48 12 8 8 .05 .65 2-3 2 L .240 2-5 2 L .348 2-6 2 L .445 2-8 2 L
Wh. I	Base ing 1 1 2 2 2 2 3 3 0	C X X' C a1 a2 a3 G N E V V G N E V C G N E V V C C M E V C M E V C M	8 8 8 .05 .20 .75 7-8 7 L .240 4-6 4 L .330 4-6 4 L .34 8 4 L .450	8 18 8 .05 .30 .65 2-3 2 L .240 2 2 6 2 L .409	64 8 18 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-6 4 L .345 4-8 4 L .342 4-8	8 18 8 .10 .30 .60 2-8 2 L .240 1-3 3 R .310 1-3 3 R .340 2-6 2 L .399	68 8 20 8 .05 .20 .75 7-8 1 .240 4 · 6 4 L .330 4 · 6 4 L .370 4 · 8 4 · L .340 .340 .3	68 8 20 8 .05 .30 .65 2 3 2 L .240 1-3 3 R .290 4-6 4 L .321 2-6 2-1 .389	68 8 20 8 10 .20 .70 7 8 7 L .224 4 6 4 L .308 4 6 4 L .345 4 8 4 L .346	8 8 20 8 1.10 .30 .60 2-3 2 L .240 1-3 3 R .310 1-3 3 R .340 4-8 4 L .348	48 12 8 8 .05 .20 .75 7 L .240 4-6 4 L .330 4-8 4 L .450 2-8 8 R .555	48 12 8 8 .05 .65 2-3 2 L .240 2-5 2 L .348 2-6 2 L .445 2-8 2 L .455 2-1 .555 2-1 .5
Wh. I	Base ing 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	E L X X X Y C a1 a2 a2 a2 a3 G NE E V G NE E V G NE E V G NE E V G NE E V G NE E V G NE E V G G NE	8 8 8 8 0.05 0.20 0.75 7-8 7 L 0.240 4-6 4 L 0.370 4-8 4 L 0.450 4-8 4	64 8 8 18 8 .05 .30 .65 2 L .240 13 3 R .290 2 -5 2 L .332 2 L .440 2 2 L .40 2 2 .40 .40 .40 .40 .40 .40 .40 .40	64 8 18 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-6 4 L .345 4-8 4 L .420 4-8 4-8	8 18 8	68 8 20 8 .05 .20 .75 .24 .44 .44 .43 .40 .40 .40 .40 .40 .40 .40 .40	68 8 20 8 .05 .65 2 3 2 L .240 1-3 3 R .290 4-6 4 L .321 2-6	68 8 20 8 10 20 70 7 8 7 L 224 4 6 4 1 308 4 6 4 1 345 4 8 4 L 406 4 8 4 8	8 20 8 20 8 10 30 60 2-3 2 L 240 1-3 3 R 310 1-3 3 R 340 4-8 4 L 348 2-6	48 12 8 .05 .20 .75 7 L .240 4-6 4 L .330 4-8 4 L .450 2-8 8 R .555 1-8	48 12 8 .05 .65 .65 2-8 2 L .240 2-5 2 L .348 2-6 2 L .445 2-8 2 L .445 2-8
Wh. I Axle Spacio	Base ing 1 1 2 2 2 2 3 3 0	C X X' C a1 a2 a3 G N E V V G N E V C G N E V V C C M E V C M E V C M	64 8 8 18 8 .05 .25 .75 7-8 7 L .240 4-6 4 L .330 4-6 4 L .370 4 4 L .370 4-6 4 L .370 4-6 4 L .370 4-6 4 4 L .370 4-6 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	64 8 18 8 .05 .30 .65 2-3 2 I .240 1-3 3 R .290 2-5 2 L .332 2 L .409 2-6 2 L	64 8 18 8 .10 .20 .70 7-8 7 L .224-4 4-6 4 L .308 4-6 4 L .345-4 4-1 .420-4 4-8 4-1 .420-4 .420-4 .430-4 .44	8 8 18 8 .10 .30 .60 2-3 2 L .310 .310 1-3 3 R .310 2-6 2 L .399 2-6 2 L	68 8 20 8 .05 .75 .75 .78 .7 .240 4 6 4 L .330 4 6 4 L .370 4 8 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4	68 8 20 8 .05 .30 .65 2 3 2 L .240 1-3 3 R 1-3 3 1-4-6 4 L .321 2-6 2-1 1-3 3-1 1-3 1-4-6 4-6 4-7 1-4-6 4-7 1-4-6 4-7 1-4-6	68 8 20 8 .10 .20 .70 7 8 7 L .224 4 6 4 L .308 4 6 4 L .345 4 8 4 L .406 4 -8 4 L	8 20 8 20 8 .10 .30 .60 2-3 2 L .240 1-3 3 R .310 1-3 3 R .340 4-8 4 L .348 2-6 2 L	48 12 8 8 .05 .75 .78 .7 L .240 4-6 4 L .330 4-8 4 L .450 2-8 8 R .555 1-8 8	48 12 8 8 .05 .30 .65 2-3 L .240 2-5 2 L .348 2-6 2 L .445 2-8 2 L .545 2-8 2 L
Wh. I	Base ing 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	XXX C a1 a2 a3 GN EV GN EV C NE V GN EV GN EV G O	8 8 8 .05 .20 .75 7-8 7 L .240 4-6 4 L .370 4 8 4 L .450 4-8 L .510 4-8	8 18 8 .05 .30 .65 2-3 2 L .240 2 2 6 2 L .409 2 -6 2 L .465 2 -8	64 8 18 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-6 4 L .345 4-8 4 L .420 4-8	64 8 18 8 .10 .30 .60 2-3 2 L .240 1-3 3 R .310 1-3 3 R .340 2-6 2 L .399 2-6 2-1 .451	68 8 20 8 .05 .20 .75 .24 .240 .46 .4 .4 .330 .4.6 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4	68 8 20 8 .05 .30 .65 2 2 L .240 1-3 3 R .290 4-6 4 L .321 2-6 2 L .389 2-4-6 4 L .389 2-4-6 4 L .390 4-6 4-6 4-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1	68 8 20 8 10 20 70 7 8 7 1 224 4 6 4 1 308 4 6 4 1 4 8 4 4 4 6 4 4 6 4 1 4 6 4 1 4 6 4 1 4 6 4 4 4 6 4 6	8 8 20 8 1.103060 2-3 2 L240 11-3 3 R310 11-3 3 R 448 4 L348 2-6 L437 1 6	48 12 8 8 .05 .20 .75 7 L .240 4-6 4 L .330 4-8 4 L .450 2-8 8 R .555 1-8 8 R .66 .66 .66 .66 .66 .66 .66	48 12 8 8 .05 .30 .65 2-3 2 L .240 2-5 2 L .348 2-6 2 L .445 2-8 2 L .545 2-8 2 L .455 2-8 2-1 .455 2-1 .555 2-
Wh. I Axle Spaci Hitch Load On Axles	Base ing 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	XXXY C a1 a2 G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V	64 8 18 8 .05 .25 .75 7–8 7 L .240 4–6 4 L .330 4–6 4 L .370 4 8 L .450 4 8 L .450 4 8 L .450 4 8 L .450 4 8 L .450 4 8 .450	64 8 18 18 8 .05 .30 .65 2-3 L .240 1-3 8 R .290 2-5 2 L .332 2 6 2 L .40 2 - 6 2 L .40 .40 .40 .40 .40 .40 .40 .40	64 8 18 18 .10 .20 .70 .7-8 .7 L .224 4-6 4 L .308 4-6 4 L .345 4-8 4 L .420 4-8 4 L .476 4-8 4 L	8 18 8	68 8 20 8 .05 .75 .78 T L .240 4·6 4 L .370 4·8 4 L .370 4·8 4 L .435 4·8 4 L .445 4·8 4·1 .446 .446 .4	68 8 20 8 .05 .65 2 3 2 L .240 1–3 R R290 4–6 4 L .321 2–6 2 L .389 2 L .449	68 8 20 8 .10 .20 .70 .78 .7 L .224 4 6 4 1. .308 4 - 6 4 1. .345 4 8 4 L .406 4 - 4 L .406 4 - 4 L .406 4 - 4 L .406 4 - 4 L .406 4 - 4 L .406 4 - 4 .406	68 8 20 8 .10 .60 2-3 2 L .240 1-3 3 R .310 1-3 3 R .340 4-8 4 1, 348 2-6 2 L .437	48 12 8 .05 .75 .75 .78 .7 L .240 4-6 4 L .330 4-8 4 L .450 2-8 R .555 1-8 R .636	48 12 8 .05 .65 2-3 2 L .240 2-5 2 L .445 2-8 2 L .545 2-8 2 L .65 2-8 2 L .65 2-1 .65 2-2 .65 2-3 2-5 2-5 2-5 2-5 2-5 2-5 2-5 2-5
Wh. I Axle Spaci Hitch Load On Axles	Base ing 1 1 20 20 40 50	XXY C a1 a2 a3 G NE V G NE V G NE V G NE V G NE V C	8 8 8 .05 .20 .75 7-8 7 L .240 4-6 4 L .330 4-6 4 L .450 4-8 4 L .510 4-8 4 L .556	8 8 8 8 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9	64 8 18 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-6 4 L .345 4-8 4 L .420 4-8 4 L .420 4-8 4 L .420 4-8 4-1 .420 4-8 4-1 .420 4-8 4-8 4-8 4-8 4-8 4-8 4-8 4-8	8 18 8 .10 .30 .60 2-3 2 L .240 1-3 3 R .310 1-3 3 R .340 2-6 2 L .399 2 6 2 L .451 2-8 2 L .510	68 8 20 8 .05 .20 .75 7-8 1 .240 4 · 6 4 L .330 4 · 6 4 L .340 4 · 8 4 L .435 4 - 8 4 L .4498 4 L .498	8 8 20 8	68 8 20 8 10 .20 .70 7 8 7 L .224 4 6 4 L .308 4 6 4 L .406 4 8 4 L .406 4 - 8 4 L .406 4 - 8 4 L .406 4 - 8 4 L .406	8 8 20 8 1.0 3.0	48 12 8 8 .05 .20 .75 7 8 7 L .240 4-6 4 L .330 4-8 4 L .450 2-8 8 R .555 1-8 8 R .696 1-8 8 R .697	48 12 8 8 .05 .30 .65 2-3 2 L .240 .2-5 2 L .348 2-6 2 L .445 2-8 2 L .545 2-8 2 L .545 2-8 2 L .65 2-6 2-7 1-7 1-7 1-7 1-7 1-7 1-7 1-7 1
Wh. I Axles Spacial Hitch Load On Axles	Base ing 1 20 30 40 50	E L XX C a1 a2 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	8 8 8 8 0.05 0.20 0.75 7-8 7 L 0.240 4-6 4 L 0.330 4-6 4 L 0.370 4-8 4 L 0.550 1-8 8 8	8 18 8 .05 .30 .65 .2-8 2 L .240 1-3 3 R .290 2-5 2 L .332 2 6 2 L .409 2-6 2 L .465 2-8 2 L .528 2-8	64 8 8 18 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-6 4 L .345 4-8 4 L .420 4-8 4 L .420 4-8 4 L .430 .440 .450	64 8 18 8 .10 .30 .60 2-3 .2 .1 .240 1-3 .3 .3 .3 .3 .3 .3 .3 .3 .3	68 8 20 8 .05 .20 .75 .24 .240 .46 .4 .4 .330 .4.6 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4	68 8 20 8 .05 .65 2 3 2 L .240 1-3 3 R 290 4-6 4 L .321 2-6 2 L .449 2 7 2 L .449 2 7 2 L .449 2 L .44	68 8 20 8 110 20 70 7 8 7 1 224 4 6 4 1 308 4 6 4 4 1 345 4 8 4 4 4 6 4 1 4 6 4 1 4 6 4 1 4 6 4 1 4 6 4 1 4 6 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1	8 8 20 8 1.0 3.0	48 12 8 8 .05 .75 .7-8 7 L .240 4-6 4 L .330 4-8 R 8 8 8 8 8 8 1-8 8 8 8 8 8 8 8 8 8 8 8 8 8	48 12 8 .05 .30 .65 .65 2-3 2 L .240 2-5 2 L .445 2-8 2 L .545 2-8 2 L .65 2-8 2 L .65 2-8 2 L .65 2-8 2-8 2-8 2-8 2-8 2-8 2-8 2-8
Wh. I Axles Spacial Hitch Load On Axles	Base ing 1 1 20 20 40 50	E L XX C a1 a2 G G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V G NE V	8 8 8 8 .05 .20 .75 7-8 7 L .240 4-6 4 L .330 4-6 4 L .370 4-8 4 L .510 4-8 4 L .550 1-8 8 R	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	64 8 18 8 .10 .20 .70 7-8 7 L .22 4-6 4 L .308 4-6 4 L .345 4-8 4 L .420 4-8 4 L .476 4-8 4 L .476 4-8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 18 8 .10 .30 .60 2-3 2 L .240 .310 .30 .3 R .310 1-3 3 R .340 2-6 2 L .451 2-8 L .510 1-8 1 L L	68 8 20 8 	68 8 20 8 .05 .30 .65 2 3 2 L .240 1-3 3 R .290 4-6 4 L .321 2-6 2 L .389 2-6 2 L .449 2-7 L .498 2-8 2-8 2-8 2-8 2-8 2-8 2-8 2-	68 8 20 8 10 .20 .70 7 8 7 1 .21 4 4 6 4 L .308 4 6 4 L .345 4 8 4 L .406 4 - 8 4 L .465 4 - 8 4 L .465 4 - 8 8 R .504 .504 .605 .60	8 8 20 8 20 8	48 12 8 8 .05 .20 .75 7 8 7 L .240 4-6 4 L .330 4-8 4 L .450 2-8 8 R .555 1-8 8 R .636 1-8 8 R .636 8 R .636 8 R .636 8 R .636 8 R	48 12 8 8 .05 .30 .65 2-3 2 L .240 2-5 2 L .348 2-6 2 L .445 2-8 2 L .545 2-8 2 L .626 2-8 2 L .626 2-8 2 L .626 2-8 2 L .626 2-8 2 L .626 2-8 2 L .626 2-8 2 L .626 2-8 2 L .626 2-8 2 2 2 2 2 2 2 2 2 2 2 2 2
Wh. I Axles Spacial Hitch Load On Axles	Base ing 1 20 30 40 50	E L XX C a1 a2 G G N E V G G N E V G G N E V G G N E V G G N E V G G N E V G G N E V G G N E V G G N E V G G N E V G G G N E V G G G G G G G G G G G G	8 8 8 .05 .20 .20 .75 7-8 7 L .240 4-6 4 L .370 4-8 4 L .510 4-8 4 L .556 1-8 8 R 6.656 1-8	8 8 8 8 8 8 8 8 8 8 8 8 9 9 9 9 9 9 9 9	64 8 8 18 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-6 4 L .345 4-8 4 L .420 4-8 4 L .420 4-8 8 4 L .513 1-8 8 8 8 8 8 8 8 8 8 8 8 8 8	64 8 18 8 .10 .30 .60 2-3 .2 .1 .240 1-3 .3 .3 .3 .3 .3 .3 .3 .3 .3	68 8 20 8 .05 .20 .75 .24 .240 .46 .4 .4 .330 .4.6 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4	68 8 20 8 .05 .30 .65 2 3 2 L .240 1-3 3 R .290 4-6 4 L .321 2-6 2 L .389 2-6 2 L .498 2-7 2 L .498 2 -6 1 L .498 2 L .498	68 8 20 8 110 20 70 7 8 7 1 224 4 6 4 1 308 4 6 4 4 1 345 4 8 4 4 4 6 4 1 4 6 4 1 4 6 4 1 4 6 4 1 4 6 4 1 4 6 4 1 4 1 4 1 4 1 4 1 4 1 4 1 4 1	8 8 20 8 1.0 3.0	48 12 8 8 .05 .75 .7-8 7 L .240 4-6 4 L .330 4-8 R 8 8 8 8 8 8 1-8 8 8 8 8 8 8 8 8 8 8 8 8 8	48 12 8 8 .05 .30 .65 2-3 2 L .240 2-5 2 L .348 2-6 2 L .445 2-8 2 L .545 2-8 2 L .65 2-8 2 L .45 .45 .45 .45 .45 .45 .45 .45
Wh. I Axlee Space Hitch Load On Axles	Base ing 1 1 20 30 40 60 80	E L XX C a1 a2 G G N E V G G N E V G G N E V G G N E V G G N E V G G N E V G G N E V G G N E V G G N E V G G N E V G G G N E V G G G G G G G G G G G G	64 8 8 18 8 .05 .20 .75 7-8 7 L .240 4-6 4 L .330 4-6 4 L .370 4-8 4 L .510 4-8 8 8 8 8 8 8 8 8 8 8 8 8 8	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	64 8 18 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-6 4 L .345 4-8 4 L .420 4-8 4 L .476 4-8 8 8 8 8 8 8 8 8 8 8 8 8 8	64 8 18 8 .10 .60 2-3 2 L .240 1-3 3 R .310 1-3 3 R .340 2-6 2 L .451 2-6 2 L .451 2-6 1-8 1-8 1-8 1-8 1-8 1-8 1-8 1-8	68 8 20 8 -05 .20 .75 7-8 1 .240 4 · 6 4 L .330 4 · 6 4 L .370 4 · 8 4 L .435 4 - 8 4 L .498 4 - 8 4 L .498 4 - 8 4 R .498 4 - 8 .498	68 8 20 8 .05 .30 .65 2 3 2 L .240 1-3 3 R .290 4-6 4 L .321 2-6 2 L .449 2-7 2 L .449 2-8 2-8 2-1 .498 2-8 2-8 2-8 2-8 2-8 2-8 2-8 2-	68 8 20 8 10 .20 .70 7 8 7 1 .21 4 6 4 1 .308 4 6 4 L .345 4 8 4 L .406 4-8 4 L .465 4-8 4 L .465 4-8 8 R .602 1-8 8 R .602	8 8 20 8 20 8	48 12 8 8 .05 .20 .75 7 L .240 4-6 4 L .330 4-8 8 R .555 1-8 8 R .636 1-8 8 R .636 1-8 8 R .773 1-8 8	48 12 8 8 .05 .30 .65 2-3 L .240 2-5 2 L .348 2-6 2 L .445 2-8 2 L .545 2-8 2 L .626 2-8 2 L .626 2-8 2 L .545 2-8 2 L .545 2-8 2 L .545 2-8 2 L .545 2-8 2 L .545 2-8 2 L .545 2-8 2 L .545 2-8 2 L .545 2-8 2-8 2-8 2-8 2-8 2-8 2-8 2-8
Wh. I Axlee Space Hitch Load On Axles	Base ing 1 20 30 40 50	E L XX C a1 a2 GNEV GNEV GNEV GNEV GNEV GNEV CNEV GNEV CNEV	8 8 8 .05 .20 .20 .75 7-8 7 L .240 4-6 4 L .370 4-8 4 L .510 4-8 4 L .556 1-8 8 R 6.656 1-8	8 8 8 8 8 8 8 8 8 8 8 8 9 9 9 9 9 9 9 9	64 8 8 18 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-6 4 L .345 4-8 4 L .420 4-8 4 L .420 4-8 8 4 L .513 1-8 8 8 8 8 8 8 8 8 8 8 8 8 8	64 8 8 18 8 .10 .30 .60 2-3 .2 .2 .2 .2 .2 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3	68 8 20 8 .05 .20 .75 .75 .75 .75 .75 .75 .75 .75	68 8 20 8 .05 .30 .65 2 3 2 L .240 1-3 3 R .290 4-6 4 L .321 2-6 2 L .389 2-6 2 L .498 2-7 2 L .498 2 -6 1 L .498 2 L .498	68 8 20 8 10 20 70 7 8 7 L 224 4 6 4 4 L 308 4 6 4 4 L 406 4 8 4 4 L 406 4 - 8 4 L 4 6 4 L 4 0 4 0 4 0 4 0 4 0 6 0 6 0 7 0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8	8 8 20 8 1.10 .30 .60 2-3 2 L .240 1-3 3 R .310 1-3 3 R .340 4-8 4 L .348 2-6 L .437 1 6 1 L .486 1-8 1 L .597 1 -8	48 12 8 .05 .20 .75 .78 .7 .1 .240 4-6 4 .1 .330 4-8 .4 .4 .4 .555 1-8 .8 .8 .8 .8 .8 .8 .8 .8 .8	48 12 8 8 .05 .30 .65 2-3 2 L .240 2-5 2 L .348 2-6 2 L .445 2-8 2 L .545 2-8 2 L .65 2-8 2 L .45 .45 .45 .45 .45 .45 .45 .45

TABLE 7.14 (Continued	1)	
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			(Continue				0.5	0.0		0.0	0.0	4.0
	ick No		31	32	38	34	35	36	37	38	39	40
	. Base		48	48	52	52	52	52	56	56	56	56
Axl	le lelng	Х Х′	12 8	12 8	12 10	12 10	12 10	12 10	12 12	12 12	$\frac{12}{12}$	12 12
Hit		C		- 8	8	8		- 8	8		8	8
Loa		a1	.10	.10	.05	.05	.10	.10	.05	.05	.10	10
On		a2	.20	.30	.20	.30	.20	.30	.20	.30	.20	.30
Ax	es	a 3	.70	.60	.75	.65	.70	.60	.75	.65	.70	.60
- 1		G N	7_8	$^{2-3}$	7_8	2-3	7:8	2 3 2	7_8	2-3 2	7 8 7	2:3
	10	E	$^{7}_{\mathbf{L}}$	$^2_{ m L}$	Ĺ	2 L	$^{7}_{ m L}$	Ĺ	$^{7}_{\mathbf{L}}$	Ĺ	Ĺ	$^2_{ m L}$
i		v	.224	.240	.240	.240	.224	.240	.240	.240	.224	.240
ļ		G	2.5	2-5	4 -6	2 5	4 -6	2 5	46	25	4 6	2-5
	20	N E	ă R	$\frac{2}{L}$	4	2 L	4 L	2	$^4_{ m L}$	$^2_{ m L}$	4 L	$^2_{ m L}$
	20	v	.312	.342	L .330	.322	.308	.318	.330	.296	.308	.294
		(4.8	2.6	4 8	26	4 8	2-6	4-8	2-6	4-8	2-6
		N	4	2	4	2	4	2	4	2	4	2
	30	E V	$_{.420}^{\mathrm{L}}$	1. .432	$_{.430}^{ m L}$	$_{.419}^{ m L}$	L .401	$_{.408}^{ m L}$	L .410	$^{ m L}_{.393}$	$_{.383}^{ m L}$	$_{.384}^{ m L}$
i		- v -G	2.8	2.8	3-8	2.8	3 8	2 7	4-8	2 7	4.8	2-7
		Ň	8	2	8	2	3, 13	2	4	2	4	2
ee	40	E	R	L	R	L	R	L	L	L	L	L
4		V	.520	.525	.513	500	.479	.483	.495	.467	.462	.453
Span-Feel		G N	1 8	2-8 2	2 -8	2 8	2 8 8	$\frac{2}{2}$ 8	$\frac{2}{8}$	$\frac{2-8}{2}$	$\frac{2-8}{8}$	$\frac{2-8}{2}$
ŝ	50	Ë	В	Ĺ	R	ĩ.	R	Ī.	R	Ĺ	R	Ĺ
		V	.609	.600	.600	.590	.563	.566	.566	.553	.530	.533
1		G	1.8	2 8	1.8	2 8	1⊀	$\frac{2}{2}$ 8	1-8	2 8	1 .8	$\frac{2-8}{2}$
	60	N F:	13 13	$_{ m L}^2$	R R	2 1.	R	L L	8 R	2 L	$^{8}_{ m R}$	L L
1	3,4.7	Ÿ	.667	.650	.665	.650	.633	.622	.633	.619	.599	.594
		G	1.8	1 8	1.8	2 ×	1 8	1.8	1.8	2-8	1.8	2-8
ł	0.0	N	Q D	8	ς.	2	8	8	8	2	8 R	2
	80	\mathbf{v}	R .750	R .728	R .749	1. .725	R .725	R .694	$^{ m R}_{.725}$	$^{ m L}_{.702}$.699	.671
		G	1 8	1.8	1.8	1 8	1 8	1.8	1.8	1-8	1. 8	1.8
		N	8	8	3	8	.8	8	8	8	8	8
	100	E	R	R	R	R	R	R	R	R	R	R
		V	.800	.778	.799	.774	.780	.755	.780	.752	.759	.732_
77	. ala NI		41	40					417	40	40	
	uck N		41	42	43	44	45	46	47	48	49	50
Wl	. Base	e L	60	60	60	60	64	64	64	64	68	68
Wł Ax	ı. Base le					2		64 12				
Wi Ax Spa	i. Base le icing	e L X	60 12 14	12 14	60 12	60 12 14	64 12	64	64 12 16	64 12	68 12	12 18
Wł Ax	i. Base le icing ch	e L X X'	60 12	60 12	60 12 14 8	60 12	64 12 16 8 .05	64 12 16 8	64 12	64 12 16	68 12 18	68
Ax Spa Hit Los On	le le icing ch ad	E L X X' C a ₁ a ₂	60 12 14 8 .05 .20	60 12 14 8 .05 .30	60 12 14 8 .10 .20	60 12 14 8 .10 .30	64 12 16 8 .05 .20	64 12 16 8 .05 .30	64 12 16 8 .10 .20	64 12 16 8 .10 .30	68 12 18 8 .05 .20	68 12 18 8 .05 .30
Ax Spa Hit Loa	le le icing ch ad	e L X X' C a ₁ a ₂ a ₃	60 12 14 8 .05 .20 .75	60 12 14 8 .05 .30 .65	60 12 14 8 .10 .20 .70	8 10 .30 .60	64 12 16 8 .05 .20 .75	64 12 16 8 .05 .30 .65	64 12 16 8 .10 .20 .70	64 12 16 8 .10 .30 .60	68 12 18 8 .05 .20 .75	68 12 18 8 .05 .30 .65
Ax Spa Hit Los On	le le icing ch ad	e L X X' C a ₁ a ₂ a ₃ G	60 12 14 8 .05 .20	60 12 14 8 .05 .30 .65	60 12 14 8 .10 .20 .70	60 12 14 8 .10 .30 .60 2-3	64 12 16 8 .05 .20 .75	64 12 16 8 .05 .30 .65	64 12 16 8 .10 .20 .70	64 12 16 8 .10 .30 .60 2-3	68 12 18 8 .05 .20 .75	68 12 18 8 .05 .30 .65 2-3
Ax Spa Hit Los On	le le icing ch ad	e L X X' C a ₁ a ₂ a ₃ G N E	60 12 14 8 .05 .20 .75 7 8 L	60 12 14 8 .05 .30 .65 2 3	60 12 14 8 .10 .20 .70 7 8	60 12 14 8 .10 .30 .60 2-3 2	64 12 16 8 .05 .20 .75 7 L	64 12 16 8 .05 .30 .65 2 3 L	64 12 16 8 .10 .20 .70 7-8 7	64 12 16 8 .10 .30 .60 2-3 2 L	68 12 18 8 .05 .20 .75 7–8 7 L	68 12 18 8 .05 .30 .65 2 3 L
Ax Spa Hit Los On	le le acing ch ad	e L X X' C a ₁ a ₂ a ₃ G N E V	60 12 14 8 .05 .20 .75 7 8 L .240	60 12 14 8 .05 .30 .65 2 3 L.240	60 12 14 8 .10 .20 .70 7 8 7 L	60 12 14 8 .10 .30 .60 2-3 L .240	64 12 16 8 .05 .20 .75 7 L .240	64 12 16 8 .05 .30 .65 2 3 L .240	64 12 16 8 .10 .20 .70 7-8 7 1 .224	64 12 16 8 .10 .30 .60 2-3 2 L	68 12 18 8 .05 .20 .75 7–8 7 L	68 12 18 8 .05 .30 .65 2 · 3 2 L .240
Ax Spa Hit Los On	le le acing ch ad	e L X X' C a ₁ a ₂ a ₃ G N E V	60 12 14 8 .05 .20 .75 7 8 7 L .240 4 6	60 12 14 8 .05 .30 .65 2 3 1 .240	60 12 14 8 .10 .20 .70 7 8 7 1 .224 4 6	60 12 14 8 .10 .30 .60 2-3 2 L .240 1 3	64 12 16 8 .05 .20 .75 7 8 7 L .240 4 6	64 12 16 8 .05 .30 .65 2 3 L .240 4 -6	64 12 16 8 .10 .20 .70 7-8 7 1, .224	64 12 16 8 .10 .30 .60 2-3 2 L .240	68 12 18 8 .05 .20 .75 7–8 7 L .240	68 12 18 8 .05 .30 .65 2 · 3 2 L .240 4 · 6
Ax Spa Hit Los On	le le ch ch les	e L X X' C a ₁ a ₂ a ₃ G N E V	60 12 14 8 .05 .20 .75 7 L .240 4 L	60 12 14 8 .05 .30 .65 2 3 1 .240 4-6	60 12 14 8 .10 .20 .70 7 1 .224 4 6 4	60 12 14 8 .10 .30 .60 2-3 2 L .240 1 3 3	64 12 16 8 .05 .20 .75 7 L .240	64 12 16 8 .05 .30 .65 2 I .240 4 6	64 12 16 8 .10 .20 .70 7 -8 7 L .224 4-6	64 12 16 8 .10 .30 .60 2-3 2 L .240 1 3 8	68 12 18 8 .05 .20 .75 7–8 7 L .240 4	68 12 18 8 .05 .30 .65 2 · 3 2 L .240 4
Ax Spa Hit Los On	le le acing ch ad	e L X X' C a ₁ a ₂ a ₃ G N E V	60 12 14 8 .05 .20 .75 7 L .240 4 6	60 12 14 8 .05 .30 .65 2 3 1 .240	60 12 14 8 .10 .20 .70 7 8 7 1 .224 4 6	60 12 14 8 .10 .30 .60 2-3 2 L .240 1 3	64 12 16 8 .05 .20 .75 7 L .240 4 6	64 12 16 8 .05 .30 .65 2 3 L .240 4 -6	64 12 16 8 .10 .20 .70 7-8 7 1, .224	64 12 16 8 .10 .30 .60 2-3 2 L .240	68 12 18 8 .05 .20 .75 7–8 7 L .240	68 12 18 8 .05 .30 .65 2 · 3 2 L .240 4 · 6
Ax Spa Hit Los On	le le ch ch les	e L	60 12 14 8 .05 .20 .75 7 L .240 4 1 .330 4 8	60 12 14 8 .05 .30 .65 2 L .240 4 L .286 2–5	60 12 14 8 .10 .20 .70 7 L .224 4 6 4 L .308 4 -8	60 12 14 8 .10 .30 .60 2-3 2 L .240 1 3 8 .290 2-6	64 12 16 8 .05 .20 .75 7 L .240 4 6 4 1 .330 4 6	64 12 16 8 .05 .30 .65 2 L .240 4 L .286 2 5	64 12 16 8 .10 .20 .70 7 .8 7 .1 .224 4-6 4 .1 .308 4-6	64 12 16 8 .10 .30 .60 2 L .240 1 3 R .290 2 5	68 12 18 8 .05 .20 .75 7 L .240 4 6 4 L .330 4-6	68 12 18 8 .05 .30 .65 2 L .240 4 L .286 2-5
Ax Spa Hit Los On	t. Basselle le acing ch ad les 10	E L X X X C A 1 A 2 A 3 A 5 C N E V C G N E V C G N	60 12 14 8 .05 .20 .75 7 1 .240 4 6 4 1 .330 4 8	60 12 14 8 .05 .30 .65 2 3 L .240 4-6 4 L .286 2-5 2	60 12 14 8 .10 .20 .70 7 L .224 4 6 4 L .308 4-8	60 12 14 8 .10 .30 .60 2-3 2 L .240 1 3 8 .290 2-6 2	64 12 16 8 .05 .20 .75 7 L .240 4 6 4 1 .30 4 6 4	64 12 16 8 .05 .30 .65 2 L .240 4 6 4 L .286 2 5	64 12 16 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-6 4	64 12 16 8 .10 .30 .60 2 -3 2 L .240 1 3 8 .290 2 5	68 12 18 8 .05 .20 .75 7–8 7 L .240 4 6 4 L .330 4–6	68 12 18 8 .05 .30 .65 2 L .240 4 6 4 L .286 2-5 2
Ax Spa Hit Los On	le le ch ch les	e L	60 12 14 8 .05 .20 .75 7 L .240 4 1 .330 4 8	60 12 14 8 .05 .30 .65 2 L .240 4 L .286 2–5	60 12 14 8 .10 .20 .70 7 L .224 4 6 4 L .308 4 -8	60 12 14 8 .10 .30 .60 2-3 2 L .240 1 3 8 .290 2-6	64 12 16 8 .05 .20 .75 7 L .240 4 6 4 1 .330 4 6	64 12 16 8 .05 .30 .65 2 L .240 4 L .286 2 5	64 12 16 8 .10 .20 .70 7 .8 7 .1 .224 4-6 4 .1 .308 4-6	64 12 16 8 .10 .30 .60 2 L .240 1 3 R .290 2 5	68 12 18 8 .05 .20 .75 7 L .240 4 6 4 L .330 4-6	68 12 18 8 .05 .30 .65 2 L .240 4 L .286 2-5
Ax Spa Hit Los On	t. Basselle le acing ch ad les 10	e L X X X C a ₁ a ₂ a ₃ G N E V G N E V G N E V	60 12 14 8 .05 .20 .75 7 8 7 L .240 4 6 4 L .330 4 8 4 L	60 12 14 8 .05 .30 .65 2 3 2 1 .240 4-6 4 L .286 2-5 L .367 2-1 2-1 2-1 2-1 2-1 2-1 2-1 2-1 2-1 2-1	60 12 14 8 .10 .20 .70 7 8 7 1 .224 4 6 4 L .308 4 -8 4 L	60 12 14 8 .10 .30 .60 2-3 2 L .240 1 3 8 .290 2 -6 2 -2 L .360 2 -6	64 12 16 8 .05 .20 .75 7 8 7 L .240 4 6 4 L .330 4 6 4 L	64 12 16 8 .05 .30 .65 2 3 2 L .240 4 6 4 4 L .286 2 5 2 1 .349	64 12 16 8 .10 .20 .70 7 -8 7 L .224 4 -6 4 L .308 4 6 4 L	64 12 16 8 .10 .30 .60 2-3 2 L .240 1 3 8 R .290 2 5 2 L	68 12 18 8 .05 .20 .75 7 L .240 4 6 4 L .330 4-6 4 L	68 12 18 8 .05 .30 .65 2 · 3 2 L .240 4 · 6 4 L .286 2 - 5 2 L .332 2 L
Wr Ax Spe Hit Loo On Ax	t. Baselle le le le le le le le le le le le le	E L X X X C at at at at at at at at at at at at at	60 12 14 8 .055 .250 .75 7 8 7 L .240 4 6 4 L .330 4 8 4 L .390 4 8	60 12 14 8 .05 .30 .65 2 3 2 L .240 4-6 4 L L 286 2-5 2 L .367 2 L	60 12 14 8 .10 .20 .70 7 8 7 L .224 4 6 4 L .308 4 -8 4 L .364 4 4 8	60 12 14 8 .10 .30 .60 2-3 2 L .240 1 3 8 .290 2-6 2 L .360 2-7 2 L .340 2 L	64 12 16 8 .05 .20 .75 7 8 7 L .240 4 6 4 L .330 4 6 4 L .370 4 8	64 12 16 8 .05 .30 .65 2 3 2 L .240 4 6 4 4 L .286 2 5 2 1 .349	64 12 16 8 .10 .20 .70 .7-8 .7 L .224 4-6 4 L .308 4-6 4 L .345 4-8	64 12 16 8 .10 .30 .60 2-3 2 L .240 1 3 8 R .290 2 5 L .344 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2-4 2	68 12 18 8 .05 .75 .75 .78 7 L .240 4 6 4 L .330 4-6 4 L .370 4-8	68 12 18 8 .05 .30 .65 2 · 3 2 L .240 4 · 6 4 L .286 2 - 5 2 L .332 2 L
Wr Ax Spe Hit Loo On Ax	t. Basselle le acing ch ad les 10	e L X X C a ₁ a ₂ a ₃ G N E V G N E V G N E V G N E V	60 12 14 8 -0.5 20 7.5 7 8 7 L 240 4 6 4 L 330 4 8 4 L 4 L 4 L 4 L	60 12 14 8 .05 .30 .65 2 1 .240 4-6 4 L .286 2-5 2 L .367 2-6 2-1	60 12 14 8 10 20 70 7 8 7 L 224 4 4 6 4 L 308 4 8 4 L 364 4 8 4 L	60 12 14 8 .10 .30 .60 2-3 2 L .240 1 3 8 .290 2-6 2 L .360 2-6 2 L	64 12 16 8 .05 .20 .75 7 L .240 4 6 4 1 .330 4 6 4 1 .370 4 8	64 12 16 8 .05 .30 .65 2 3 2 L .240 4 6 4 4 L .286 2 5 2 3 4 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	64 12 16 8 10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-6 4 L .345 4-8 4 L	64 12 16 8 .10 .30 .60 2-3 2 L 240 1 3 8 R .290 2 5 2 L .344 2-6 2 L	68 12 18 8 .05 .20 .75 7–8 7 L .240 4 6 4 L .330 4–6 4 L L .370	68 12 18 8 .05 .65 2 · 3 2 L .240 4 · 6 4 · L 2.86 2 - 5 2 L .332 2 - 6 2 · L
Wr Ax Spe Hit Loo On Ax	t. Baselle le le le le le le le le le le le le	e L X X' C a1 a2 a3 G N E V G N E V G N E V V G N E V V C G N E V V C G N E V V C G N E V V C G N E V V C G N E V V C G N E C V V C G N E C V V C C N E C V V C C N E C V V C C N E C V V C C N E C V V C C N E C V V C C N E C V V C C N E C V V C C N E C V V C C N E C V V C C N E C V V C C N E C V V C C N E C V V C C N E C V V C C N E C V V C C N E C V V C C N E C V V C C N E C V V C C N E C V C C C N E C V C C N E C V C C C C C C C C C C C C C C C C C	60 12 14 8 .05 .20 .75 7 8 7 1 .240 4 6 4 4 L .330 4 8 4 L .330 4 8 4 4 L .40 .40 .40 .40 .40 .40 .40 .40	60 12 14 8 .05 .30 .65 2 3 2 1 .240 4-6 4 L .286 2-5 2 L .367 2-1 2-1 2-1 2-1 2-1 2-1 2-1 2-1 2-1 2-1	60 12 14 8 	60 12 14 8 	64 12 16 8 .05 .75 7 L .240 4 6 4 L .330 4 6 4 L .370 4 8 4 L .370	64 12 16 8 .05 .30 .65 2 3 L .240 4 6 4 L .286 2 5 2 L .349 2 -6 L .428	64 12 16 8 10 .20 .70 7 -8 7 -7 L .224 4 -6 4 L .308 4 6 4 L .348 4 -8 4 L	64 12 16 8 .10 .60 2-3 2 L 24 .240 1 3 3 R .290 2 5 2 L .244 2-46 2 L .417	68 12 18 8 .05 .20 .75 7 L .240 4 6 4 L .330 4-6 4 L .370 4-8 4 L .450	68 12 18 8 .05 .30 .65 2 1 .240 4 4 L .286 2 -5 2 L .332 2 -6 2 L .409
Ru-Feet	t. Baselle le le le le le le le le le le le le	e L X X C a ₁ a ₂ a ₃ G N E V G N E V G N E V G N E V	60 12 14 8 -0.5 20 7.5 7 8 7 L 240 4 6 4 L 330 4 8 4 L 4 L 4 L 4 L	60 12 14 8 .05 .30 .65 2 1 .240 4-6 4 L .286 2-5 2 L .367 2-6 2-1	60 12 14 8 10 20 70 7 8 7 L 224 4 4 6 4 L 308 4 8 4 L 364 4 8 4 L	60 12 14 8 .10 .30 .60 2-3 2 L .240 1 3 8 .290 2-6 2 L .360 2-6 2 L	64 12 16 8 .05 .20 .75 7 L .240 4 6 4 1 .330 4 6 4 1 .370 4 8	64 12 16 8 .05 .30 .65 2 3 2 L .240 4 6 4 4 L .286 2 5 2 3 4 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	64 12 16 8 10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-6 4 L .345 4-8 4 L	64 12 16 8 .10 .30 .60 2-3 2 L 240 1 3 8 R .290 2 5 2 L .344 2-6 2 L	68 12 18 8 .05 .20 .75 7–8 7 L .240 4 6 4 L .330 4–6 4 L L .370	68 12 18 8 .05 .65 2 · 3 2 L .240 4 · 6 4 · L 2.86 2 - 5 2 L .332 2 - 6 2 · L
Wr Ax Spe Hit Loo On Ax	t. Baselle le le le le le le le le le le le le	e L X X C a ₁ a ₂ a ₃ G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V	60 12 14 8	60 12 14 8 .05 .30 .65 2 3 2 1 .240 4-6 4 4 L .286 2 -5 2 L .367 2-1 4-6 4 4 L .286 2-1 1 2-4 2-5 2 1 1 2-4 2 1 2-4 2 1 2-4 2 1 2-4 2 2 2 4 2 4 2 4 2 4 2 4 2 4 2 4 2 4	60 12 14 8 10 20 70 7 8 7 L 224 4 6 4 L 308 4 4 L 364 4 8 4 L 448 8 R	60 12 14 8 .10 .30 .60 2-3 2 L .240 1 3 8 R .290 2-6 2 L .360 2-8 2 L .240 2-8 2 L .240 2-8 2-9 2-10 2-1	64 12 16 8 .05 .75 .78 .7 .240 4 6 4 1 .330 4 6 4 4 .370 4 8 4 1 .465 4 8 4 1	64 12 16 8 .05 .30 .65 2 3 2 L .240 4 6 4 4 L .286 2 5 2 1 .349 2 -65 2 1 .240 4 4 4 4 4 4 4 4 4 4 4 4 4	64 12 16 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-6 4 L .345 4-8 4 L	64 12 16 8 .10 .30 .60 2 -3 2 L .240 1 3 8 R .290 2 5 2 L .344 2 -6 2 L .417 2 7 2 L	68 12 18 8 .05 .25 .75 7-8 7 L .240 4 6 4 L .330 4-6 4 L .370 4-8 4 L .450	68 12 18 8 .05 .30 .65 2-3 2 L .240 4-6 4 L .286 2-5 2 L .332 2 -6 2 L .409 2-6 2 L
Ru-Feet	1. Basic letter	e L	60 12 14 8 .05 .20 .75 .78 .7 .240 4 6 4 1 .330 4 8 4 L .390 4 8 4 L .480 4 8 4 L .480 4 8 4 L .480	60 12 14 8 .05 .30 .65 2 3 L .240 4-6 4 L .286 2-5 2 L .367 2-4 .44 .44 .44 .44 .45 .45 .45 .4	60 12 14 8 .10 .20 .70 7 8 7 L .224 4 6 4 L .308 4 -8 4 L .364 4 8 4 L .448 2 -8 8 R .498	60 12 14 8 .10 .60 2-3 2 L .240 1 3 8 R 2-6 2 L .360 2-6 2 L .445 2-5 2 L .445 2-5 2 L .455 2 L	64 12 16 8 .05 .75 .78 .7 L .240 4 6 4 1 .330 4 6 4 1 .370 4 8 4 L .465 4 L .346 4 L .352 .375	64 12 16 8 .05 .30 .65 2 3 2 L .240 4 6 4 L .286 2 5 2 L .349 2 - 6 2 L .428 2 - 7 2 L .485	64 12 16 8 .10 .20 .70 .7-8 .7 L .224 4-6 4 L .308 4-6 4 L .345 4-8 4 L .434 .4	64 12 16 8 .10 .30 .60 2-3 2 L .240 1 3 8 R .290 2 5 2 L .344 2-6 2 L .417 2 T 2 L .470	68 12 18 8 .05 .75 .78 7 L .240 4 6 4 L .370 4–6 4 L .370 4–8 4 L .45 .45 .45 .45 .45 .45 .45 .45	68 12 18 8 .05 .65 2 · 3 2 L .240 4 · 6 4 · L .286 2-5 2 L .332 2-6 2 L .409 2-6 2 L .409
Ru-Feet	1. Basic letter	C C A A A A A A A A A A A A A A A A A A	60 12 14 8	60 12 14 8 .05 .30 .65 2 3 L .240 4-6 4 L .286 2-5 L .367 2-6 2 L .348 2-7 L .348 2-7 L .350	60 12 14 8 .10 .20 .70 7 8 7 1 .224 4 6 4 L .308 4 -8 4 L .364 4 4 8 4 L .448 2 -8 8 R .49 8 R .49 8 A .40 8 A 8 A 8 A 8 A 8 A 8 A 8 A 8 A 8 A 8 A	60 12 14 8 10 30 60 2-3 2 1 3 3 8 290 2-6 2 L 435 2-8 2-1 1 3 1 3 1 3 4 4 4 4 4 4 5 6 6 6 6 6 6 6 6 6 6 6 6 6	64 12 16 8 .05 .75 .78 .7 .2 .2 .4 .4 .6 .4 .4 .3 .3 .4 .6 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4	64 11 8 05 .30 .65 2 3 L .240 4 6 4 L .286 2 5 L .349 2 -6 2 L .428 2 -7 L .428 2 -7 L .45 2 -8	64 12 16 8 10 .20 .70 7-8 7-8 1. .224 4-6 4 L. .308 4-6 4 L. .345 4-8 4 L. .434 4-8 4 L.	64 12 16 8 .10 .30 .60 2-3 2 L 24 .24 .290 2 5 2 L .344 2-6 2 L .417 2 7 2 4 L .417 2 7 2 4 L .417 2 7 2 4 L .417 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	68 12 18 8 .05 .75 7-8 7 L .240 4 6 4 L .330 4-6 4 L .370 4-8 4 L .450 4-8 4 L	68 12 18 8 .05 .30 .65 2 3 2 L 240 4 6 4 L 286 2-5 2 L 332 2-6 2 L 409 2-6 2 L 465 2 8
Ru-Feet	I. Bassler lette	C L X X Y C C at a a 2 a a 3 G N E V G	60 12 14 8 .05 .25 .25 .75 .7 8 .7 1 .240 4 4 .1 .330 4 8 4 .1 .390 4 8 4 .1 .480 4 .4 .480 4 .4 .480 8 4 .4 .480 8 8	60 12 14 8 .05 .30 .65 2 1 .240 4-6 4 L .286 2-5 2 L .367 2-6 2 L .448 2-8 2 L .517 2-8 2-8	60 12 14 8 .10 .20 .70 7 8 7 L .224 4 6 4 L .308 4 -8 4 L .364 4 8 8 8 8 8 8 8 .498 1 8	60 12 14 8 .10 .30 .60 2-3 2 L .240 1 3 8 R .290 2-6 2 L .360 2-8 2 L .485 2 8 2 L .485	64 12 16 8 .05 .20 .75 .78 .7 L .240 4 6 4 1 .330 4 6 4 1 .370 4 8 4 L .522 2-8 8	64 12 16 8 .05 .30 .65 2 3 2 L .240 4 6 4 L .286 2 5 2 L .349 2	64 12 16 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-6 4 L .345 4-8 4 L .434 4-8 4 L .487 2-8	64 12 16 8 .10 .30 .60 2 -3 2 L .240 1 3 8 R .290 2 5 2 L .344 2 -6 2 L .417 2 7 2 L .470 2 8	68 12 18 8 .05 .20 .75 .78 .7 L .240 4 6 4 L .330 4-6 4 L .370 4-8 4 L .450 4-8 4 L .510 4-8	68 12 18 8 .05 .30 .65 2-3 2 L .240 4 6 4 L .286 2-5 2 L .332 2 -6 2 L .409 2-6 2 L .465 2-8
Ru-Feet	1. Basic letter	C C A A A A A A A A A A A A A A A A A A	60 12 14 8	60 12 14 8 .05 .30 .65 2 3 L .240 4-6 4 L .286 2-5 L .367 2-6 2 L .348 2-7 L .348 2-7 L .350	60 12 14 8 .10 .20 .70 7 8 7 1 .224 4 6 4 L .308 4 -8 4 L .364 4 4 8 4 L .448 2 -8 8 R .49 8 R .49 8 A .40 8 A 8 A 8 A 8 A 8 A 8 A 8 A 8 A 8 A 8 A	60 12 14 8 10 30 60 2-3 2 1 3 3 8 290 2-6 2 L 435 2-8 2-1 1 3 1 3 1 3 4 4 4 4 4 4 5 6 6 6 6 6 6 6 6 6 6 6 6 6	64 12 16 8 .05 .75 .78 .7 .2 .2 .4 .4 .6 .4 .4 .3 .3 .4 .6 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4	64 12 16 8 .05 .30 .65 2 3 2 L .240 4 6 4 L .286 2 5 2 L .349 2 -6 2 L .428 2 -7 2 L .428 2 -7 2 L .428 2 -7 2 L .438 2 L .448 2 -7 2 L .458 2	64 12 16 8 10 .20 .70 7-8 7-8 1. .224 4-6 4 L. .308 4-6 4 L. .345 4-8 4 L. .434 4-8 4 L.	64 12 16 8 .10 .30 .60 2-3 2 L 24 .24 .290 2 5 2 L .344 2-6 2 L .417 2 7 2 4 L .417 2 7 2 4 L .417 2 7 2 L .417 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	68 12 18 8 .05 .20 .75 7-8 7 L .240 4 6 4 L .330 4-6 4 L .3450 4-8 4 L .510	68 12 18 8 .05 .30 .65 2 1 .240 4 6 4 L L 286 2 -5 2 L .332 2 -6 2 L .409 2 -6 2 L .465 2 L .528
Ru-Feet	I. Bassler lette	c L X X Y C a 1 a 2 a 3 G N E V G N E V G N E V G N E V G N E V G N E V G N E V G N E V G G N E V G G N E V G G N E C V G G N	60 12 14 8 .05 .25 .25 .75 .7 .8 .7 .1 .240 4 .4 .1 .330 4 .8 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .34 .1 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	60 12 14 8 .05 .30 .65 2 3 1 .240 4 -6 4 L .286 2 -5 2 L .367 2-6 L .448 2-8 2 L .517 2-8 2 L	60 12 14 8 .10 .20 .70 7 8 7 L .224 4 6 4 L .308 4 -8 4 L .364 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	60 12 14 8 .10 .30 .60 2-3 2 L .240 1 3 8 R .290 2-6 2 L .360 2-6 2 L .360 2-8 2 L .500 2-8 2 L .500 2-8 2-9 2-9 2-9 2-9 2-9 2-9 2-9 2-9	64 12 16 8 .05 .20 .75 .78 .7 L .240 4 6 4 1 .330 4 6 4 1 .370 4 8 4 1 .465 4 -8 4 1 .522 2 -8 8 R .574 .5	64 12 16 8 .05 .30 .65 2 3 2 L .240 4 6 4 L .286 2 5 2 L .349 2 - 6 2 L .428 2 - 7 2 L .485 2 - 7 2 L .485 2 - 8 2 L .485 2 L .586 2	64 12 16 8 .10 .20 .70 7 -8 7 L .224 4 -6 4 L .308 4 6 4 L .345 4 8 4 L .434 4 -8 4 L .487 2 -8 8 R .537 1 -8 8 7 1 -8 1	64 12 16 8 .10 .30 .60 2-3 2 L .240 1 3 8 R .290 2 5 2 L .344 2-6 2 L .417 2 7 2 L .470 2 -8 2 L .470 2 -8 2 L .470 2 -8 2 L .470 .470	68 12 18 8 .05 .20 .75 .78 7 L .240 4 6 4 L .330 4-6 4 L .370 4-8 4 L .450 4-8 4 L .510 4-8 4 L .510	68 12 18 8 .05 .30 .65 2.3 2 L .240 4.6 4 L .286 2-5 2 L .332 2-6 2 L .409 2-6 2 L .465 2 L .528
Ru-Feet	1. Bass le le carrier de la ca	C A A A A A A A A A A A A A A A A A A A	60 12 14 8	60 12 14 8 .05 .30 .65 2 .1 .240 4-6 4 L .286 2-5 2 .367 2-6 2 .1 .448 2-8 2 .1 .517 2-8 2 L .589 .65 .65 .65 .65 .65 .65 .65 .65	60 12 14 8 10 20 70 7 8 7 L 224 4 6 4 L 308 4 -8 4 L 448 2 -8 8 R R 8 8 R 565 1 -8	60 12 14 8 10 30 60 2-3 2 L 240 1 3 3 R 290 2-6 2 L 360 2-6 2 L 435 2 S L 435 2 S L 435 2 S L 40 2 S 2 L 40 40 40 40 40 40 40 40 40 40	64 12 16 8 05 7 1 1 240 4 6 4 1 1 330 4 6 4 1 4 330 4 6 4 1 4 6 4 1 4 6 4 1 4 6 4 1 5 2 6 2 7 7 8 7 8 7 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1	64 12 16 8 .05 .30 .65 2 3 2 L .240 2 4 6 4 L .286 2 5 2 L .349 2 - 6 2 L .428 2 - 7 2 L .428 2 - 7 2 L .5559 2 - 8 2 L	64 12 16 8 10 20 70 7-8 7-8 7-1 L .224 4-6 4 L .308 4-6 4 L .345 4-8 4 L .434 4-8 4 L .434 7-8 8 R .537	64 12 16 8 10 .30 .60 2-3 2 L .240 1 3 3 R .290 2 5 2 L .4417 2 7 2 L .417 2 7 2 L .417 2 2 L .41	68 12 18 8 .05 .75 7-8 7 L .240 4 · 6 4 · L .330 4-6 4 · L .370 .4-8 4 · L .450 4 · 8 4 · L .550 1 · 8 4 · L .550 .60 .60 .60 .60 .60 .60 .60 .6	68 12 18 8 .05 .30 .65 2.3 2 L .240 4.6 4 L .286 2-5 2 L .332 2-6 2 L .409 2-6 2 L .465 2 L .528
Ru-Feet	I. Bassler lette	C L X X Y C at at at at at at at at at at at at at	60 12 14 8	60 12 14 8 .05 .30 .65 2 3 2 1 .240 4-6 4 L .286 2-5 2 L .367 2-6 2 L .348 2-8 2-1 .448 2-8 2-1 .517 2-8 2-1 .517 2-8 2-8 2-8 2-8 2-8 2-8 2-8 2-8	60 12 14 8 10 20 70 7 8 7 1 224 4 6 4 L 308 4 -8 4 L 448 2 -8 8 R 498 1-8 8 R R 5665 1-8 8 R	60 12 14 8 .10 .30 .60 2-3 2 L .240 1 3 3 R .290 2-6 2 L .360 2-6 2 L .350 .60 2-3 2 L .240 2-40 2-5 2-6 2-7 2-7 2-7 2-7 2-7 2-7 2-7 2-7	64 12 16 8 .05 .75 .78 .7 .1 .240 4 6 4 1 .330 4 6 4 1 .330 4 6 4 1 .465 4 8 4 1 .465 4 8 4 1 .522 2 -8 8 8 .8	64 12 16 8 .05 .30 .65 2 3 2 L .240 4 6 4 L .286 2 5 2 1 .349 2-6 2 L .428 2-7 2 L .428 2-7 2 L .485 2 -8 2 L .559 2 -8 2 L .559 2 L .659 2 L	64 12 16 8 10 20 70 7-8 7 L .224 4-6 4 L .308 4-6 4 L .344 4-8 4 L .487 2-8 8 8 8 8 8 8 8 8 8 8 8 8 8	64 12 16 8 .10 .30 .60 2-3 2 L .240 1 3 3 R .290 2 5 2 L .417 2 7 2 L .470 2-8 2 L .538 2 8 2 L	68 12 18 8 .05 .20 .75 .78 .7 L .240 4 6 4 L .3330 4-6 4 L .370 4-8 4 L .450 4-8 4 L .510 4-8 8 8 8 R	68 12 18 8 .05 .30 .65 .23 L .240 4 6 4 L .286 2-5 2 L .332 2-6 2 L .409 2-6 2 L .465 2 L .528 2 L .528
Ru-Feet	1. Bass le le carrier de la ca	C L X X C A 1 A 2 A 3 A 3 A 3 A 3 A 3 A 3 A 3 A 3 A 3	60 12 14 8 .05 .20 .75 .7 8 .7 1 .240 4 4 .1 .330 4 8 4 .1 .390 4 8 4 .1 .534 1 1 8 8 R .602 1 8 R .701	60 12 14 8 .05 .30 .65 2 3 1 .240 4-6 4 L .286 2-5 2 L .367 2-6 L .448 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .528 2 L .538 2 L .549 2 .549	60 12 14 8 .10 .20 .70 7 8 7 L .224 4 6 4 L .308 4 -8 4 L .364 4 8 8 8 R .498 1-8 8 R .565 1-8 8 R .674	60 12 14 8 .10 .30 .60 2-3 2 L .240 1 3 8 R .290 2-6 2 L .360 2-6 2 L .360 2-8 2 L .500 2-8 2 L .500 2-8 2-1 .500 2-8 2-1 .500 2-8 2-8 2-8 2-8 2-8 2-8 2-8 2-8	64 12 16 8 .05 20 .75 7 8 7 L .240 4 6 4 1 .330 4 6 4 1 .370 4 8 4 L .522 2-8 8 R .574 1 8 R R .678	64 12 16 8 .05 .30 .65 2 3 2 L .240 4 6 4 L .286 2 5 2 L .349 2 - 6 2 L .428 2 - 7 2 L .485 2 - 8 2 L .55 2 L .65 2 L	64 12 16 8 .10 .20 .70 .78 .7 L .224 4-6 4 L .308 4-6 4 L .345 4-8 4 L .487 2-8 8 R .53 8 8 8 8 8 8 8 8 8 8 8 8 8	64 12 16 8 .10 .30 .60 2-3 2 L .240 1 3 8 R .290 2 5 2 L .344 2-6 L .417 2 7 2 L .470 2-8 2 L .470 2-8 2 L .470 2-8 2-1 .470 2-8 2-1 .470 2-8 2-8 2-8 2-8 2-8 2-8 2-8 2-8	68 12 18 8 .05 .20 .75 7-8 7 L .240 4 6 4 L .330 4-6 4 L .340 4-8 4 L .510 4-8 4 L .510 4-8 8 8 8 8 8 8 8 8 654	68 12 18 8 .05 .30 .65 2.3 2 L .240 4.6 4 L .286 2-5 2 L .332 2-6 2 L .465 2 L .465 2 L .528 2 L .528
Ru-Feet	1. Bass le le carrier de la ca	C L X X Y C at at at at at at at at at at at at at	60 12 14 8	60 12 14 8 .05 .30 .65 2 3 2 1 .240 4-6 4 4 L .286 2 -5 2 L .367 2-6 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 2 2 2 2 2 2 2 2 2 2 2 2	60 12 14 8 10 20 70 7 8 7 1 224 4 6 4 L 308 4 -8 4 L 448 2 -8 8 R 498 1-8 8 R R 5665 1-8 8 R	60 12 14 8 	64 12 16 8 .05 .75 .78 .7 .2 .4 .6 .4 .4 .3 .3 .4 .6 .4 .4 .4 .4 .4 .5 .2 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	64 112 8 .05 .30 .65 2 3 L .240 4 6 4 L .286 2 5 2 L .428 2 -7 2 L .428 2 -7 2 L .45 .559 2 - 8 2 L .656	64 12 16 8 10 20 70 7-8 7-8 7-8 7-8 1 1 224 4-6 4 4 1 1 345 4-8 4 4 4-8 4 4-8 4-8 4-8 8-8 8	64 12 16 8 .10 .30 .60 2-3 2 L .240 1 3 3 R .290 2 5 2 L .417 2 7 2 L .470 2-8 2 L .538 2 8 2 L	68 12 18 8 .05 .20 .75 .78 .7 L .240 4 6 4 L .330 4-6 4 L .370 4-8 4 L .510 4-8 4 L .550 1 8 8 R .654 1 8	68 12 18 8 .05 .30 .65 .2-3 2 L .240 4 6 4 L .286 2-5 2 L .332 2 -6 2 L .409 2-6 2 L .465 2 L .528 2 L .528 2 L .634 2 8 2
Ru-Feet	1. Bass le le carrier de la ca	C L XX C A A A A A A A A A A A A A A A A A	60 12 14 8 .05 .20 .75 7 8 7 L .240 4 6 4 L .330 4 8 4 L .480 4 8 4 L .534 1 1 8 8 R .602 1 8 8 R R .701 1 8 8 R	60 12 14 8 .05 .30 .65 2 .1 .240 4-6 4 L .286 2-5 L .367 2-6 2 L .448 2-8 2 L .517 2-8 2 L .589 2-8 2 L .589 2-8 2 L .589 2-8 2-8 2-8 2-8 2-8 2-8 2-8 2-8	60 12 14 8 10 20 70 7 8 7 L 224 4 6 4 L 308 4 8 4 L 448 2 8 R R 8 R R 8 R 8 R 8 R 8 R 8 R 8 R	60 12 14 8 10 30 60 2-3 2 L 240 1 3 3 R 290 2-6 2 L 435 2-8 2 L 566 2-8 2 L 566 2-8 8 R	64 12 16 8 05 7 7 1 24 4 6 4 1 330 4 6 4 4 1 370 4 8 4 4 1 465 4 4 5 2 2 8 8 8 8 8 8 8 8 8 8 8 8 8	64 12 16 8 .05 .30 .65 2 3 2 L .240 4 6 4 L .286 2 5 2 L .428 2 -6 2 L .428 2 -7 2 L .485 2 -8 2 L .5559 2 -8 2 L .6566 2 -8 2 L	64 112 16 8 10 .20 .70 7-8 7 L .224 4-6 4 L .308 4 6 4 L .434 4-8 4 L .434 -8 8 R .537 1-8 8 R .648 8 R	64 112 8 116 8 110 .30 .60 2-3 2 L 240 11 3 3 R .290 2 5 2 L .4477 2 7 2 L .4770 2-8 2 L .538 2 8 8 R	68 12 18 8 .05 .20 .75 7-8 7 L .240 4 6 4 L .330 4-6 4 L .370 4-8 4 L .510 4-8 4 L .5550 1 8 R R 654 1 - 8 R	68 12 18 8 .05 .30 .65 2 .3 2 .4 .240 4 6 4 L .286 2 -5 2 L .409 2 -6 2 L .409 2 -6 2 L .528 2 L .534
Ru-Feet	1. Bass le le le le le le le le le le le le le	C L X X Y C A 1 A 2 A 2 A 3 A 3 A 3 A 3 A 3 A 3 A 4 A 4 A 4 A 4	60 12 14 8	60 12 14 8 .05 .30 .65 2 3 1 .240 4-6 4 4 L .286 2 -5 2 L .367 2-6 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 L .517 2-8 2 2 2 2 2 2 2 2 2 2 2 2 2	60 12 14 8 10 20 70 7 8 7 1 224 4 6 4 4 L 308 4 4 4 L 448 2 -8 8 R 498 1 -8 8 R 674 1 -8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	60 12 14 8 	64 12 16 8 .05 .75 .78 .7 .2 .4 .6 .4 .4 .3 .3 .4 .6 .4 .4 .4 .4 .4 .5 .2 .8 .8 .8 .8 .8 .8 .8 .8 .8 .8	64 112 8 .05 .30 .65 2 3 L .240 4 6 4 L .286 2 5 2 L .428 2 -7 2 L .428 2 -7 2 L .45 .559 2 - 8 2 L .656	64 12 16 8 10 20 70 7-8 7-8 7-8 7-8 1 1 224 4-6 4 4 1 1 345 4-8 4 4 4-8 4 4-8 4-8 4-8 8-8 8	64 12 16 8 .10 .60 2-3 2 L .240 1 3 3 R .290 2 5 2 L .344 2-6 2 L .417 2 7 2 L .470 2 -8 2 L .420 2 -9 2 L .420 2 -9 2 L .420 2 -9 3 -9 2 -9 3 -9 3 -9 2 -9	68 12 18 8 .05 .20 .75 .78 .7 L .240 4 6 4 L .330 4-6 4 L .370 4-8 4 L .510 4-8 4 L .550 1 8 8 R .654 1 8	68 12 18 8 .05 .30 .65 .2-3 2 L .240 4 6 4 L .286 2-5 2 L .332 2 -6 2 L .409 2-6 2 L .465 2 L .528 2 L .528 2 L .634 2 8 2

TABLE 7.14 (Continued)

TA												
	ick N		68	52 68	53	54	55	56	57	58	59	60
Axl	. Bas	e L	12	12	72 12	$\frac{72}{12}$	$\frac{72}{12}$	72 12	16	16	60 16	16
Spa	cing	X,	18	18	20	20	20	20	12	12	12	12
Hit		С	8	8	8	8	- 8	- 8	8	8	8	8
Loa On	ıd	a 1 a 2	.10 .20	.10 .30	.05 .20	.05 .30	$.10 \\ .20$	$.10 \\ .30$.05 .20	$.05 \\ .30$.10 .20	$.10 \\ .30$
ĂxI	les	a ₃	.70	.60	.75	.65	.70	.60	.75	.65	.70	.60
1		G	7–8 7	$_{2}^{-3}$	7-8	$^{2-3}_{2}$	78	$^{2-3}_2$	7-8	23	7-8	2-3 2
- [10	N E	L	\mathbf{L}	$^{7}_{\mathbf{L}}$	Ĺ	7 L	L	$^{7}_{ m L}$	$^2_{ m L}$	$^{7}_{ m L}$	Ĺ
-			.224	.240	.240	.240	.224	.240	.240	.240	.224	.240
1		G N	$^{4-6}_{4}$	$^{1\!-\!3}_3$	$^{4-6}_4$	$^{4-6}_{4}$	$^{4-6}_{4}$	$\frac{1-3}{3}$	4∵6 4	$^{2-4}_2$	$_{4}^{4-6}$	24 2
	20	$_{ m V}^{ m E}$.308	$_{,290}^{\rm L}$.330	$_{.286}^{ m L}$	$^{ m L}_{308}$	$^{ m R}_{.290}$	$_{.330}^{ m L}$	$_{.296}^{ m L}$	$^{ m L}_{.308}$	L .294
-		G	4-6	2-5	4-6	46	4-6	1-3	4-8	2-6	4-8	2-6
	30	N	4	$^2_{ m L}$	4	4	4	3	4	2	4	2
1	90	$_{\mathbf{V}}^{\mathbf{E}}$	$^{ m L}_{.345}$.328	$^{ m L}_{.370}$	$^{ m L}_{.321}$	$^{ m L}_{.345}$	$^{ m R}_{.327}$	L .410	$^{ m L}_{.393}$	$^{ m L}_{.383}$	$_{.384}^{ m L}$
Ī		G	4-8	26	4-8	2-6	48	2-6	48	2-7	4-8	2-7
t l	40	N E	4 L	$_{\mathbf{L}}^{2}$	$^{4}_{ m L}$	$_{\mathbf{L}}^{2}$	4 L	$^2_{ m L}$	$^{4}_{ m L}$	2 L	4 L	$^2_{\rm L}$
육.		V	.420	.399	.435	.389	.406	.381	.495	.467	.462	.453
Span-Feet		G N	4-8 4	$^{2-6}_2$	4-8 4	$\frac{2-6}{2}$	$\frac{4-8}{4}$	$\frac{2\cdot 6}{2}$	2-8 8	$\frac{2-8}{2}$	2-8 8	2~8 2
ž	50	\mathbf{E}	${f L}$	\mathbf{L}	L	\mathbf{L}	L	2 L	R	L	\mathbf{R}	\mathbf{I}_{I}
-		G	.476 4-8	.451 2-8	.498 4-8	2-8	.465 4-8	2-8	.566 1-8	.553 2-8	1.8	
Ų	6.2	N	4	2	4	2	4	2	8	2	8	2
ĺ	60	$_{ m V}^{ m E}$	$_{.513}^{ m L}$	$_{.510}^{ m L}$	L .540	$_{.498}^{ m L}$	L .504	$^{ m L}_{.482}$	$_{.630}^{ m R}$	$^{ m L}_{.619}$	$^{ m R}_{.592}$	$_{.594}^{ m L}$
-		G	1-8	2-8	1-8	2-8	1-8	2-8	1-8	2.8	1-8	2-8
-	80	N E	8 R	$_{ m L}^2$	$^{8}_{ m R}$	$^2_{ m L}$	$^{8}_{ m R}$	2 L	8 R	$^2_{ m L}$	$^{8}_{ m R}$	$_{\rm L}^2$
		V	.623	.608	.630	.611	.597	.587	.723	.702	.694	.671
		G	1-8	2-8	$^{1-8}_{8}$	$^{2-8}_2$	$^{1-8}_{8}$	$\frac{2-8}{2}$	1-8 8	$\frac{2-8}{2}$	1-8	1-8 8
ĺ		N	8									
	100	N E	8 R	2 L	\mathbf{R}	L	R	L	\mathbf{R}	\mathbf{L}	R	R
	100	N E V		.666		.679		L .649			.755	.728
	ick N	N E V o.	.698 61	.666	R .704	.679 64	R .678	L .649	.778 .778	.751 68	.755	.728 70
Wh.	ick N Bas	N E V o.	61 64	.666 62 64	R .704	64 64	R .678	1. .649 66 68	R .778 67 68	L .751 68 68	.755 69 72	.728
Wh.	ick N Bas	N E V o.	.698 61	.666	R .704	.679 64	R .678	L .649	.778 .778	.751 68	.755	.728 70
Wh. Axl Spa Hite	ick N . Base e cing	o. e L X X C	61 64 16 14 8	.666 62 64 16 14 8	R .704 63 64 16 14 8	64 64 64 16 14 8	65 68 16 16 8	66 68 16 16 8	R .778 67 68 16 16 8	68 68 68 16 16 8	.755 69 72 16 18 8	.728 70 72 16 18 8
Wh. Axle Spa- Hite Loa	ick N . Base e cing	o. e L X X C a ₁	R .698	.666 62 64 16 14 8	R .704 63 64 16 14 8 .10	64 64 16 14 8	R .678 65 68 16 16 8 .05	L .649 66 68 16 16 8 .05	R .778 67 68 16 16 8	L751 68 68 16 16 810	.755 69 72 16 18 8	.728 70 72 16 18 8 .05
Wh.	e cing	O. e L X X' C a1 a2 a3	R .698 61 64 16 14 8 .05 .20 .75	.666 62 64 16 14 8 .05 .30 .65	R .704 63 64 16 14 8 .10 .20 .70	L .679 64 64 16 14 8 .10 .30 .60	R .678 65 68 16 16 8 .05 .20	L .649 66 68 16 16 8 .05 .30 .65	R .778 67 68 16 16 .10 .20 .70	L .751 68 68 16 16 8 .10 .30 .60	.755 69 72 16 18 8 .05 .20	.728 70 72 16 18 8 .05 .30 .65
Wh. Axle Spa- Hite Loa On	e cing	O. e L X X' C a1 a2 a3 G	R .698 61 64 16 14 8 .05 .20 .75 7-8	.666 62 64 16 14 8 .05 .30 .65 2-3	R .704 63 64 16 14 8 .10 .20 .70 7-8	L .679 64 64 16 14 8 .10 .30 .60 2-3	R .678 65 68 16 16 8 .05 .20 .75 7-8	L .649 66 68 16 16 8 .05 .30 .65 2-3	R .778 67 68 16 16 .10 .20 .70 7-8	L .751 68 68 16 16 .8 .10 .30 .60	.755 69 72 16 18 8 .05 .20 .75	.728 70 72 16 18 8 .05 .30 .65 2-3
Wh. Axle Spa- Hite Loa On	e cing	O. E L X X C A1 A2 A3 G N E	R .698 61 64 16 14 8 .05 .20 .75 7-8 7	.666 62 64 16 14 8 .05 .30 .65 2-3 2	R .704 63 64 16 14 8 .10 .20 .70 7-8 7	L .679 64 64 16 14 8 .10 .30 .60 2-3 2	R .678 65 68 16 16 8 .05 .20 .75 7-8 7	L .649 66 68 16 16 8 .05 .30 .65 2–3 2	R .778 67 68 16 16 .10 .20 .70 7-8 7	L .751 68 68 16 16 8 .10 .30 .60 2-3 2	.755 69 72 16 18 8 .05 .20 .75 7-8 7	70 72 16 18 8 .05 .30 .65 2-3 L
Wh. Axle Spa- Hite Loa On	e cing ch	O. e L X X/ C a1 a2 a3 G N E V	R .698	.666 62 64 16 14 8 .05 .30 .65 2-3 2 1	R .704 63 64 16 14 8 .10 .20 .70 7-8 7 L	L .679 64 64 16 14 8 .10 .30 .60 2-3 2 L	R .678 65 68 16 16 8 .05 .20 .75 7-8 7 L	L .649 66 68 16 16 8 .05 .30 .65 2-3 2 L .240	R .778 67 68 16 16 8 .10 .20 .70 7-8 7 L	L .751 68 68 16 16 8 .10 .30 .60 2-3 2 L	.755 69 72 16 18 8 .05 .20 .75 7-8 7 L .240	.728 70 72 16 18 8 .05 .30 .65 2 L .240
Wh. Axle Spa- Hite Loa On	e cing ch	O. e L X X C a ₁ a ₂ a ₃ G N E V G N	R .698 61 64 16 14 8 .05 .20 .75 7 8 7 L .240 4 6 4	.666 62 64 16 14 8 .05 .30 .65 2-3 2 L .240 4-6 4	R .704 63 64 16 14 8 .10 .20 .70 7-8 L .224 4-6	L .679 64 64 16 14 8 .10 .30 .60 2-3 2 L .240 2-4	R .678 65 68 16 16 20 .75 7-8 7 L .240 4-6	L .649 666 68 16 16 16 8 .05 .30 .65 2-3 2 L .240 4-6 4	R .778 667 68 16 16 .20 .70 7-8 7 L .224 4-6	L .751 688 688 16 16 16 .30 .60 .2-3 2 L .240 1 3 3	.755 69 72 16 18 8 .05 .20 .75 7 8 L .240 4 6	70 72 16 18 8 .05 .30 .65 2-3 2 L .240 4-6
Wh. Axle Spa- Hite Loa On	e cing ch	O. e L X X C a1 a2 a3 G N E V G N E	R698 61 64 16 14 8 .05 .20 .75 7–8 7 L240 4–6 4 L.	.666 62 64 16 14 8 .05 .30 .65 2-3 2 L .240 4-6 4 L	R .704 63 64 16 12 8 .10 .20 .70 7-8 7 L .224 4-6 4 L	L .679 64 64 16 14 8 .10 .30 .60 2 -3 2 L .240 2-4 2 L	R .678 65 68 16 16 8 .05 .20 .75 7-8 7 L .240 4-6 4 L	L .649 66 68 16 16 8 .05 .30 .65 .2-8 2 L .240 4-6 4 L	R .778 67 68 16 16 .10 .20 .70 7-8 7 L .224 4-6 4 L	L .751 68 68 16 16 18 .10 .30 .60 2-3 2 L .240 1 3 3 R	.755 69 72 16 18 8 .05 .20 .75 7-8 7 L .240 4-6 4 L	.728 70 72 16 18 8 .05 .30 .65 2 L .240 4-6 4 L
Wh. Axle Spa- Hite Loa On	e cing ch	O. e L X X C a1 a2 a3 G N E V G N E V G	R698 61 64 16 14 8 .05 .20 .75 7-8 7 L240 4-6 4 L330 4-8	.666 62 64 16 14 8 .05 .30 .65 2-3 2 L .240 4-6 4 L .286	R .704 63 64 16 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308	L679 64 64 16 14 8 .10 .30 .60 2 -3 2 L240 2 -4 2 L282	R .678 65 68 16 8 .05 .20 .75 7-8 7 L .240 4-6 4 1,330	L649 66 68 16 8 .05 .30 .65 2-3 2 L240 4-6 4 L286 2-5	R .778 67 68 16 8 .10 .20 .70 .70 .70 .72 4 .224 4-6 4 L.308 4-6	L .751 68 68 16 8 .10 .30 .60 2-3 2 L .240 1 3 8 R .270 2-5	755 69 72 16 18 8 .05 .20 .75 7-8 7 L .240 4-6 4 L .330 4-6	70 72 16 18 8 .05 .30 .65 2-3 2 L .240 4-6 4 L .286
Wh. Axle Spa- Hite Loa On	e cing ch dd es	o. e L X X C a1 a2 a3 G N E V G N E V G N E V G N E V G N E V G N	R .698 61 64 16 14 8 .05 .20 .75 7 -8 7 L .240 4-6 4 L .330 4-8 4	.666 62 64 16 14 8 .05 .30 .65 2-3 2 L .240 4-6 4 L .286 2-5 2	R .704 63 64 16 14 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-8	64 64 64 16 14 8 8 .10 .30 .60 2-3 2 L 240 2-4 2 L .2x2 2-6 2	R .678 65 68 16 8 .05 .20 .75 7-8 7 L .240 4 -6 4 L .330 4 -6 4	L649 66 68 16 8 .05 .30 .65 2-3 2 L240 4-6 4 L286 2-5	R .778 67 68 16 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-6 4	L .751 68 68 68 16 16 8 .10 .30 .60 2 .3 2 L .240 1 3 8 R .270 2 .5 2	.755 69 72 16 18 8 .05 .20 .75 7-8 7 L .240 4-6 4 L .330 4-6 4	70 72 16 18 8 .05 .30 .65 2 2 L .240 4 4 L .286 2 2 5
Wh. Axle Spa- Hite Loa On	e cing ch	O. e L X X C a1 a2 a3 G N E V G N E V G	R698 61 64 16 14 8 .05 .20 .75 7-8 7 L240 4-6 4 L330 4-8	.666 62 64 16 14 8 .05 .30 .65 2-3 2 L .240 4-6 4 L .286	R .704 63 64 16 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308	L679 64 64 16 14 8 .10 .30 .60 2 -3 2 L240 2 -4 2 L282	R .678 65 68 16 8 .05 .20 .75 7-8 7 L .240 4-6 4 1,330	L649 66 68 16 8 .05 .30 .65 2-3 2 L240 4-6 4 L286	R .778 67 68 16 8 .10 .20 .70 .70 .70 .72 4 .224 4-6 4 L.308 4-6	L .751 68 68 16 8 .10 .30 .60 2-3 2 L .240 1 3 8 R .270 2-5	755 69 72 16 18 8 .05 .20 .75 7-8 7 L .240 4-6 4 L .330 4-6	70 72 16 18 8 .05 .30 .65 2-3 2 L .240 4-6 4 L .286
Wh. Axle Spa- Hite Loa On	e cing ch dd es	N E V Oo. e L X X' C a1 a2 a3 G N E V V G G N E V V G G N E V V G G N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G N E V C G C N E V C G C N E V C G C N E V C G C N E V C G C N E V C G C N E V C G C N E V C G C N E V C G C N E V C G C N E V C G C C C C C C C C C C C C C C C C C	R .698 61 64 16 14 8 .05 .75 7-8 7 L .240 4-6 4 L .330 4-8 4 L .390 4-8	.666 62 64 16 14 8 .05 .30 .65 2-3 2 L .240 4-6 4 L .286 2-5 2 L .367 2-6	R .704 63 64 16 14 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-8 4 L .364 4-8	L679 64 64 64 16 14 8 .10 .30 .60 2.3 2 L. 240 2-4 2 L282 2 6 2 L360 26	R .678 65 68 16 8 .05 .20 .75 7-8 7 L 240 4-6 4 L .330 4-6 4 L .370 4-8	L649 66 68 16 16 8 .05 .30 .65 2 -3 2 L240 4 -6 4 L286 2 -5 2 L349	R .778 67 68 16 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-6 4 L .345	L .751 68 68 68 16 8 .10 .30 .60 2-3 2 L .240 1 3 3 R .270 2-5 2 L .344 2-6	.755	70 70 72 16 18 8 .05 .30 .65 2 2 2 L .240 4 L .286 2-85 2 L .240 2 .25 2 .25 4 .25 .25 .25 .25 .25 .25 .25 .25
Wh. Axl Spa Hitt Loa On Axl	e cing ch dd es	NEV O. O. E L X X C A1 A2 A2 A3 G N E V E V G N E V E V E V E V E V E V E V E V E V E	R .698 61 64 16 14 8 .05 75 7-8 7 L .240 4-6 4 L .330 4-8 4 L .390 4-8 4 L	.666 62 64 16 14 8 .05 .30 .65 2-3 2 L .240 4-6 4 L .286 2-5 2 L .367 2-6 2 L	R .704 63 64 16 14 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-8 4 L .364 4-8 4 L	64 64 64 16 14 8 .10 .30 .60 2-3 2 L .240 2-4 2 2 2 6 2 2 L .360 2-6 2 2 L	R .678 65 68 16 8 .05 .20 .75 7-8 7 L .240 4 6 4 L .330 4-6 4 L .370 4-8 4 L	L649 66 68 16 16 16 .30 .65 2-3 2 L240 4-6 4 L286 2-5 2 L349 2-6 2 L	R .778 67 68 16 16 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-6 4 L .345 4-8 4 L	L .751 68 68 68 16 16 16 8 .30 .60 2-3 2 L .240 1 3 R .270 2 .5 2 L .344 2-6 2 L	.755	70 70 71 16 18 8 .05 .30 .65 2 .2 L .240 4 L .286 2 L .332 2 L .332 L .32 L .332
Wh. Axl Spa Hitt Loa On Axl	ack N . Base e coing ch d es 10	N E V O. o. e L X X / C a1 a2 a3 G N E V G N E V G N E V G N E V V C M E V C M E V V C M E V V C M E V V C M E V V C M E V V C M E V V C M E V V C M E V V C M E V V C M E V V C M E V V C M E V V C M E V C M E V V C M E V V C M E V V C M E V V C M E V V C M E V V C M E V V C M E V V C M E V V C M E V V C M E V V C M E V V C M E V M E V V C M E V M E V M E V M E V M E V M E V M E V M E V M E V M	R698 61 64 16 14 8 .05 7 7 -8 7 1, 240 4-6 4 1, 330 4-8 4 1, 390 4-8 4 1, 480	.666 62 64 16 14 8 .05 .30 .65 2-3 2 1 .240 4-6 4 L .286 2-5 2 L .367 2-6 2 L .448	R .704 63 64 16 14 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-8 4 L .3448	L679 64 64 64 16 14 8 .10 .30 .60 2.3 2 L. 240 2-4 2 L2×2 2-6 2 L360 2-6 2 L3435	R .678 65 68 16 8 .05 75 7-8 7 L .240 4 -6 4 L .330 4 -6 4 L .3465	L649 666 68 16 16 18 .30 .65 2-3 2 L240 4-6 4 L286 2-5 2 L349 2-6 2 L428	R .778 67 68 16 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-6 4 L .345 4-8 4 L .434	L .751 68 68 68 16 8 .10 .30 .60 2-3 2 L .240 1 3 3 R .270 2-5 2 L .344 2-6 2 L .417	755 69 72 16 18 8 .05 .20 .75 7-8 7 L .240 4-6 4 L .330 4-6 4 L .370 4-8 4 L .450	728 70 72 16 18 8 .05 .30 .65 2-3 2 L .240 4-6 4 L .286 2-5 2 L .332 2 L .409
Wh. AxI Spaa Hitte Con Con Con Con Con Con Con Con Con Con	ack N. Bassecting child es	N E V O. 0. 0. 2 L X X Y C 2 a 3 G N E V V G N N E V V G N N E V V G G N E V V G G N E V V G G N E V V G G N E V V G G N E V C G C C C C C C C C C C C C C C C C C	R .698 61 64 16 14 8 .05 .20 .75 7 -8 7 L .240 4-6 4 L .330 4-8 4 L .480 4-8 4 4 L .480	.666 62 64 16 14 8 .05 .30 .65 2-3 2 L .240 4-6 4 L .286 2-5 2 L .367 2-6 2 L .448	R .704 63 64 16 14 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-8 4 L .448 2-8	64 64 64 16 11 10 30 60 2 3 2 L .240 2 4 2 2 1 .360 2 6 2 2 2 4 2 2 4 2 2 4 2 2 6 6 6 6 6 6 6	R .678 65 68 16 8 .05 .20 .75 7-8 7 L .240 4 6 4 L .330 4-6 4 L .370 4-8 4 L	L649 66 68 16 16 8 .05 .30 .65 .2-3 2 L240 4-6 4 L286 2-5 2 L349 2-6 2-1 4-2 2-7	R .778 67 68 16 16 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-6 4 L .345 4-8 4 L	L751 68 68 16 16 8 .30 .60 2.3 2 L240 1.3 R270 2.5 2 L344 2-6 2 4.17 2-7	.755	70 70 16 18 8 8 .05 .30 .65 2 2 L .240 4 4 4 L .286 2-5 2 L .332 2 .405 .405
Wh. AxI Spaa Hitte Con Con Con Con Con Con Con Con Con Con	ack N . Base e coing ch d es 10	NEV Coe L XY C a1 a2 a3 GNEV GNEV GNEV GNEV GNEV GNEEV	R .698 61 64 16 14 8 .05 7-8 7 L .240 4-6 4 L .330 4-8 4 L .390 4-8 4 L .480 4-8 4 L .480	.666 62 64 16 14 8 .05 .30 .65 2-3 2 1 .240 4-6 4 L .286 2-5 2 L .367 2-6 2 L .448 2-8 2 L	R .704 63 64 16 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-8 4 L .448 2-8 8 R	L679 64 64 64 16 14 8 .10 .30 .60 2-3 2 L240 2-4 2 L232 2-6 2 L360 2-6 2 L435 2-8 2 L	R .678 65 68 16 8 .05 .20 .75 7-8 7 L .240 4-6 4 L .330 4-6 4 L .370 4-8 4 L .465 4-8	L649 666 68 16 16 8 .05 .30 .65 2-3 2 L240 4-6 4 L286 2-5 2 L349 2-6 2 L428 2-7 2 L.	R .778	L .751	755 69 72 16 18 8 .05 .20 .75 7 8 7 L .240 4-6 4 L .330 4-6 4 L .340 4-8 4 L .450	728 70 70 72 16 18 8 8 05 30 65 5 22 1 240 4 4 L 286 2 2 L 332 2 4 40 2 4 40 2 L 40 2 L
Wh. AxI Spaa Hitte Con Con Con Con Con Con Con Con Con Con	ack N. Bassecting child es	NEV oo. e L X' C a1 a2 G NEV G NEV G NEV G NEV C	R .698 61 64 16 14 8 .05 .20 .75 7-8 7 L .240 4-6 4 L .330 4-8 4 L .480 4-8 4 L .534	.666 62 64 16 14 8 .05 .30 .65 2-3 2 L .240 4-6 4 L .286 2-5 2 L .367 2-6 2 L .448 2 L .517	R .704 63 64 16 14 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .364 4-8 4 L .448 8 R .8 R .8	64 64 64 16 14 8 .10 .30 .60 2 3 2 L .240 2 4 2 L .2×2 2 6 2 L .360 2 -6 2 L .435 2 L .500	R .678 65 68 16 16 8 .05 7-8 7 L .240 4 -6 4 L .370 4 -8 4 L .465 4 -8 4 L .465	L649 66 68 16 16 8 .05 .30 .65 .2-3 2 L240 4-6 4 L286 2-5 2 L349 2-6 2 L428 2-7 2 L485	R .778 67 68 16 16 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .345 4-8 4 L .484 4-8 4 L .487	L	755 69 72 16 18 8 .05 .20 .75 7-8 7 L .240 4-6 4 L .330 4-6 4 L .450 4-8 4 L .510	728 70 72 16 18 8 .05 .30 .65 2-3 2 L .240 4-6 4 L .286 2-5 2 L .332 2 -6 2 L .400 2 2 L .400 2 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
Wh. Axl. Spa. Hitcoa	nck N. Basse e cing chuld es 10 20 30 40	NEV Co. a1 a2 GNEV GNEV GNEV GNEV GNEV GNEV GNEV GNEV	R698 61 64 16 14 8 .05 7-8 7 L240 4-6 4 L330 4-8 4 L390 4-8 4 L480 4-8 4 L534	.666 62 64 16 14 8 .05 .30 .65 2-3 2 L .240 4-6 4 L .286 2-5 2 L .367 2-6 2 L .448 2-8 2 L .517	R .704 63 64 16 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-8 4 L .364 4-8 4 L .448 2-8 8 R .498 2-8 8 8	L679 64 64 64 16 14 8 .10 .30 .60 2-3 2 L240 2-4 2 2 L282 2-6 2 L360 2-6 2 L435 2 L500 2-8 2	R .678 65 68 16 8 .05 .20 .75 7-8 7 L .240 4 -6 4 L .330 4 -6 4 L .370 4 -8 4 L .522	L649 666 68 16 16 8 .05 .30 .65 2-3 2 L240 4-6 4 L286 2-5 2 L349 2-6 2-1 .428 2-7 2 L428 2-7 2 L485 2-8 2	R778 67 68 16 8 .10 .20 .70 7-8 7 L224 4-6 4 L308 4-6 4 L345 4-8 4 L484 4-8 4 L487 2-8 8	L .751 68 68 68 16 8 .10 .30 .60 2-3 2 L .240 1 3 8 R .270 2 .5 2 L .344 2-6 2 L .417 2-7 2 L .470 2-8 2	755 69 72 16 18 8 .05 .20 .75 7 -8 7 L .240 4-6 4 L .3370 4-8 4 L .450 4-8 4 L .510 4-8 4 L .510 4-8	728 70 72 16 18 8 .05 .30 .65 2-3 2 L .240 4-6 4 4 L .2866 2-5 2 L .3322 -6 2 L .449 2-6 2 L .449 2-6 2 L .455
Wh. Axl. Spa. Hitcoa	ack N. Bassecting child es	NEV Oo. e L X X C a1 a2 a3 G NEV G G NEV G S S S S S S S S S S S S S S S S S S	R .698 61 64 16 14 8 .05 .20 .75 7-8 7 L .240 4-6 4 L .330 4-8 4 L .390 4-8 4 L .480 4-8 4 L .584 4 L .584 4 L .584	.666 62 64 16 14 8 .05 .30 .65 2-3 2 1.240 4-6 4 L .286 2-5 2 L .448 2-8 2 L .517 2-8	R .704 63 64 16 14 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-8 4 L .448 2-8 8 R .498 2-8 8 R	L	R .678 65 68 16 16 8 .05 7-8 7 L .240 4 -6 4 L .330 4 -6 4 L .370 4 -8 4 L .465 4 -8 4 L .522 2 -8 8 R	L649 66 68 16 16 16 8 .05 .30 .65 2-3 2 L240 4-6 4 1286 2-5 2 L349 2-6 2 L428 2-7 2 4.485 2-8 2 L	R .778 67 68 16 16 16 .20 .70 7-8 7 L .224 4-6 4 L .348 4-8 4 L .484 4-8 4 L .4847 2-8 8 R	L751 688 688 16 16 8 .30 .60 2-3 2 L240 1 3 3 R270 2-5 2 L344 2-6 2 L417 2-7 2 L470 2-8 2 L	755 69 72 16 18 8 .05 .20 .75 7-8 7 L .240 4-6 4 L .330 4-6 4 L .370 4-8 4 L .510 4-8 4 L L	.72s 70 72 16 18 8 8 .05 .30 .65 .2-3 .24 .46 .46 .25 .25 .24 .24 .24 .25 .25 .24 .24 .25 .25 .24 .25 .24 .25 .26 .26 .27 .27 .27 .27 .28 .28 .29 .29 .29 .29 .29 .29 .29 .29
Wh. Axl. Spa. Hitcoa	nck N. Basse e cing chuld es 10 20 30 40	NEV oo. e L XY C a1 a2 GNEV G	R .698 61 64 16 14 8 .05 .20 .75 7 L .240 4-6 4 L .330 4-8 4 L .480 4 L .534 2-8 R .601 1-8	.666 62 64 16 14 8 .05 .30 .65 2-3 2 L .240 4-6 4 4 L .286 2-5 2 L .367 2-6 2 L .448 2-8 2 L .517 2-8 2 L .589	R .704 63 64 16 14 8 .10 .20 .70 7-8 7 L .224 4-6 4 4 L .308 4-8 4 L .364 4-8 4 8 8 R .498 2-8 8 R .498 2-8 8 R .564 1-8	64 64 64 16 16 11 10 30 60 2-3 2-1 2-4 2-2 1 2-4 2-2 2-6 2-6 2-6 2-1 360 2-8 2-8 2-1 1.500	R .678 65 68 16 16 8 .05 .20 .75 7-8 7 L .240 4-6 4 L .370 4-8 4 L .465 4-8 4 L .522 2-8 R R .574	L649 66 68 16 16 8 .05 .30 .65 .2-3 2 L240 4-6 4 L286 2-5 2 L349 2-6 2-1 L425 2 L425 2 L485 2-7 2 L485 2-7 2 L485 2-8 2-8 2-8	R .778 67 68 16 16 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .345 4-8 4 L .345 4-8 4 L .434 4-8 8 R .587 1-8	L751 68 68 16 16 8 .10 .30 .60 2-3 2 L240 1 3 3 R270 2 L L417 2 L .417 2 L .470 2 -8 2 L .470 2 -8 2 L .4538	755 69 72 16 18 8 .05 .20 .75 7-8 7 L .240 4-6 4 L .3370 4-8 4 L .450 4-8 4 L .510 4-8 4 L .510 4-8 4 L .510	728 70 70 72 16 18 8 .05 .30 .65 2-3 2 L .240 4-6 4 L .286 2-5 2 L .400 2 -6 1 -6 1 -6 1 -6 1 -6 1 -6 1 -6 1 -6
Wh. Axl. Spa. Hitcoa	20 30 40 60	NEV Oo. e L X X C a1 a2 a3 G NEV G G N E V E V G N E V G N E V E V G N E V E V E V E V E V E V E V E V E V E	R698 61 64 16 14 8 .05 7-8 7 L.240 4-6 4 L.330 4-8 4 L.390 4-8 4 L.480 4-8 4 L.534 2-8 8 R.601 1-8 8	.666 62 64 16 14 8 .05 .30 .65 2-3 2 L .240 4-6 4 L .286 2-5 2 L .367 2-6 2 L .448 2 L .517 2-8 2 L .589 2-8 2	R .704 63 64 16 14 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-8 4 L .448 2-8 8 R .498 2-8 8 R .564 1-8 8	L679 64 64 16 14 8 .10 .30 .60 2-3 2 L240 2-4 2 L28 2 L360 2-6 2 L435 2 L500 2-8 2 L506 2-8 2 L506 2-8 2 2 2 2 566 2-8 2 2 2 2 2 3 2 2 3 3 3 3 3 3 3 3 3 3 3	R .678 65 68 16 16 8 .05 .20 .75 7-8 7 L .240 4-6 4 L .370 4-8 4 L .465 4-8 4 L .522 2-8 R R .574	L649 66 68 16 16 8 .05 .30 .65 .2-3 2 L240 4-6 4 L286 2-5 2 L349 2-6 2-1 L425 2 L425 2 L485 2-7 2 L485 2-7 2 L485 2-8 2-8 2-8	R .778 67 68 16 16 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .345 4-8 4 L .345 4-8 4 L .434 4-8 8 R .587 1-8	L751 68 68 16 16 8 .10 .30 .60 2-3 2 L240 1 3 3 R270 2-5 2 L344 2-6 2 L417 2-7 2 L470 2-8 2 L538 2-8 2	.755	728 70 72 16 18 8 .05 .30 .65 2-3 2 L .240 4-6 4 4 L .286 2-5 2 L .332 2 -6 2 L .4009 2 -6 2 L .409 2 L .528 2 L .409 2 -6 2 L .528 2 L .528
Wh. Axl Spa Hitc Loa On Axl	nck N. Basse e cing chuld es 10 20 30 40	NEV oo. e L XY C a1 a2 GNEV G	R .698 61 64 16 14 8 .05 .20 .75 7 L .240 4-6 4 L .330 4-8 4 L .480 4-8 4 L .534 2-8 R .601 1-8 8 R .699	.666 62 64 16 14 8 .05 .30 .65 2-3 2 L .240 4-6 4 4 L .286 2-5 2 L .367 2-6 2 L .448 2-8 2 L .517 2-8 2 L .589	R .704 63 64 16 14 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-8 4 L .364 4-8 4 L .448 8 R .498 2-8 8 R .5669	64 64 64 16 16 11 10 30 60 2-3 2-1 2-4 2-2 1 2-4 2-2 2-6 2-6 2-6 2-1 360 2-8 2-8 2-1 1.500	R .678 65 68 16 16 8 .05 .20 .75 7-8 7 L .240 4 -6 4 L .370 4 -8 4 L .465 4 -8 4 L .522 2 -8 8 R .574 1 -8 8 R .575	L649 66 68 16 16 8 .05 .30 .65 2-3 2 L240 4-6 4 L28 2 L349 2-6 2 L428 2-7 2 L485 2-8 2 L556	R778 67 68 16 16 8 .10 .20 .70 7-8 7 L224 4-6 4 L345 4-8 4 L345 4-8 4 L484 4-8 4 L487 2-8 8 R537 1-8 8 R643	L751 68 68 16 16 8 .10 .30 .60 2-3 2 L240 1 3 3 R270 2 L L417 2 L .417 2 L .470 2 -8 2 L .470 2 -8 2 L .4538	755 69 72 16 18 8 .05 .20 .75 7-8 7 L .240 4-6 4 L .3370 4-8 4 L .450 4-8 4 L .510 4-8 4 L .510 4-8 4 L .510	728 70 72 16 18 8 .05 .30 .65 2-3 2 L .240 4-6 4 L .286 2-5 2 L .409 2-1 .32 2-2 .40 2-2 .40 2-2 .40 .40 .40 .40 .40 .40 .40 .40
Wh. AxI Spaa Hitte Con Con Con Con Con Con Con Con Con Con	20 30 40 60	NEV Oo. e L X Y C a1 a2 a3 G NEV G N	R .698 61 64 16 14 8 .05 7-8 7 L 240 4-6 4 L .330 4-8 4 L .480 4-8 4 L .534 2-8 8 R .601 1-8	.666 62 64 16 18 8 .05 .30 .65 2-3 2 1. 240 4-6 4 L .286 2-5 2 L .448 2-8 2 L .517 2-8 2 L .589 2-8 2 L .679 2-8	R .704 63 64 16 14 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-8 4 L .448 2-8 8 R .498 2-8 8 R .564 1-8 8 R .669 1-8	L679 64 64 16 14 8 .10 .30 .60 2-3 2 L240 2-4 2 2 2 6 2 L360 2-6 2 L435 2 L566 2-8 2 L566 2-8 2 L566 1-8	R .678 65 68 16 8 .05 .20 .75 7-8 7 L .240 4 -6 4 L .330 4 -6 4 L .465 4 -8 4 L .522 2 -8 8 R .574 1 -8 8 R .675 1 -8	L649 66 68 16 16 16 8 .05 .30 .65 2 L240 4 -6 4 L286 2 -5 2 L349 2 -6 2 L428 2 -7 2 L428 2 -7 2 L485 2 8 2 L559 2 -8 2 L656 2 -8	R .778 67 68 16 16 16 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-6 4 4 L .345 4-8 4 L .487 2-8 8 R .587 1-8 8 R .643 1-8	L751 68 68 68 16 16 16 8 .30 .60 2-3 2 L .240 1 3 3 R .270 2-5 2 L .417 2-7 2 L .417 2-7 2 L .470 2-8 2 L .538 2-8 2 L .538 2-8 2 .8 2-8 2 .8 2-8 2-8 2-8 2-8 2-8 2-8 2-8 2-8 2-8 2-	755 69 72 16 18 8 .05 .20 .75 7-8 7 L .240 4-6 4 L .330 4-6 4 L .450 4-8 4 L .510 4-8 4 L .550 1-8 8 R .651	728 70 72 166 18 8 8 .055 .30 .65 .65 .2-3 .2-40 .2-40 .2-40 .2-2 .2-2 .2-2 .2-2 .2-40 .2-2 .2-40 .2-2 .2-40 .2-2 .2-2 .2-40 .2-2 .2-40 .2-2 .2-40 .2-2 .2-40 .2-2 .2-40 .2-2 .2-40 .2-2 .2-40 .2-2 .2-40 .2-2 .2-40 .2-2 .2-40 .2-2 .2-40 .2-2 .2-40 .2-2 .2-40 .2-2 .2-40 .2-2 .2-40 .2-2 .2-40 .2-2 .2-40 .2-2 .2-40 .2-2 .2-40 .2-2 .2-2 .2-40 .2-2 .2-40 .2-2 .2-40 .2-2 .2-2 .2-40 .2-2
Wh. AxI Spaa Hitte Con Con Con Con Con Con Con Con Con Con	20 30 40 60	NEV o. e L X C a1 a2 GNEV GNEV GNEV GNEV GNEV GNEV GNEV CNEV GNEV GNEV CNE	R .698 61 64 16 14 8 .05 .20 .75 7 L .240 4-6 4 L .330 4-8 4 L .480 4-8 4 L .534 2-8 R .601 1-8 8 R .609	.666 62 64 16 14 8 .05 .30 .65 2-3 2 L .240 4-6 4 4 L .286 2-5 2 L .367 2-6 2 L .448 2-8 2 L .517 2-8 2 L .589	R .704 63 64 16 14 8 .10 .20 .70 7-8 7 L .224 4-6 4 L .308 4-8 4 L .364 4-8 4 L .448 8 R .498 2-8 8 R .5669	64 64 64 16 14 8 .10 .30 .60 2-3 2 L .240 2-4 2-2 L .242 2-6 2-6 2-1 .360 2-6 2-1 .435 2-8 2 L .500 2-8 2 L .5650	R .678 65 68 16 16 8 .05 .20 .75 7-8 7 L .240 4 -6 4 L .370 4 -8 4 L .465 4 -8 4 L .522 2 -8 8 R .574 1 -8 8 R .575	L649 66 68 16 16 8 .05 .30 .65 2-3 2 L240 4-6 4 L28 2 L349 2-6 2 L428 2-7 2 L485 2-8 2 L556	R778 67 68 16 16 8 .10 .20 .70 7-8 7 L224 4-6 4 L345 4-8 4 L345 4-8 4 L484 4-8 4 L487 2-8 8 R537 1-8 8 R643	L751 688 688 16 16 8 .10 .30 .60 2-3 2 L240 1 3 8 R270 2 .5 2 L344 2-6 2 L417 2-7 2 L470 2-8 2 L538 2 2 L538 2 8 2 L528	755 69 72 16 18 8 .05 .20 .75 7-8 7 L .240 4-6 4 L .3370 4-8 4 L .510 4-8 4 L .510 4-8 8 R R R R	728 70 72 16 18 8 .05 .30 .65 2-3 2 L .240 4-6 4 4 L .286 2 2 L .3322 2 -6 2 2 L .409 2 2 L .528 2 L .528 2 L .528 2 L .538

771 4 1	DI 13	7 14	/C	- 31	E	QUIVAL	ENT LO	DADS				107
	ick N		(Continu	ea) 72	73	74	75	76	77	78	79	80
-	. Bas		72	72	76	76	76	76	80	80	80	80
Axl Spa	e cing	X X'	16 18	16 18	$\frac{16}{20}$	$\frac{16}{20}$	$\frac{16}{20}$	$\frac{16}{20}$	$\frac{16}{22}$	$\frac{16}{22}$	$\frac{16}{22}$	$\frac{16}{22}$
Hite	ch	C	8	8	8	8	8	8	8	8	8	8
Loa On	.d.	a 1 a 2	.10 .20	$.10 \\ .30$.05 .20	.05 $.30$.10	$.10 \\ .30$.05 .20	$.05 \\ .30$.10 .20	.10
Axl	es	G G	$\frac{.70}{7-8}$	$\frac{.60}{2-3}$.75 7-8	.65 2-3	$-\frac{.70}{7.8}$	2-3	78	.65 2-3	7-8	23
	* ^	N	7	2	7	2	7	2 1.	7	2	7	2
	10	E V	L .224	$_{.240}^{ m L}$	$^{ m L}_{.240}$	$_{.240}^{ m L}$	L .224	.240	$^{ m L}_{.240}$	L .240	$_{.224}^{ m L}$	L .240
		G N	4-6 4	1-3 3	4-6 4	4·-6 4	4-6 4	1-3 3	4 6	4-6 4	4 6 4	1-3
	20	E V	$\overset{\mathbf{\dot{L}}}{.308}$	R .270	$ m_{.330}$	$\overset{\hat{\mathbf{L}}}{_{.286}}$	$\overset{\mathbf{L}}{.308}$	R ,270	.330	L .286	$ m_{.308}^{ m L}$	Ř .270
-		G	4-6	2-5	4-6	4 6	4-6	1-3	46	4-6	4-6	13
- 1	30	N E	4 L	2 L	4 I.	$^4_{ m L}$	4 L	$^3_{ m R}$	4 L	4 L	$^4_{ m L}$	$^3_{ m R}$
-		V	.345	.328	.370	.321	.345	.313 2-6	.370	.321	.345	313_
4		G N	4-8 4	26 2	4-8 4	$\frac{2-6}{2}$	4-8	2	48	$\frac{2-6}{2}$	4-8 4	2 6
Span-Feet	40	\mathbf{v}	$_{.420}^{ m L}$.399	1. .435	$^{ m L}_{.389}$	$^{1.}_{.406}$	$^{ m L}_{.381}$	1. .420	$^{ m L}_{.370}$	$^{ m L}_{.392}$	$^{ m L}_{.363}$
an-		G N	4-8	$\frac{2-6}{2}$	4-8	$\frac{2-6}{2}$	48 4	$\frac{2-6}{2}$	4-8 4	2-6	4-8 4	26
Sp	50	\mathbf{E}	L	L	\mathbf{L}	\mathbf{L}	\mathbf{L}	\mathbf{L}	L	2 L	L	L
-		V G	.476 4-8	.451 28	4-8	2-8	.465 4-8	$-\frac{.437}{2-7}$	4.8	2.7	.454 4-8	.422 2-7
i	60	N E	$^{4}_{\rm L}$	$^2_{ m L}$	$^4_{ m L}$	$^2_{ m L}$	4 L	$^2_{ m L}$	4 L	$^2_{ m L}$	$^4_{ m L}$	$^{2}_{ m L}$
		V	.513	.510	.540	.498	.504	.482	.530	.476	.495	.462
		G N	$\frac{1-8}{8}$	$_{2}^{2-8}$	1-8 8	2-8	18 8	$\frac{2-8}{2}$	$\frac{2-8}{8}$	$\frac{2-8}{2}$	$\frac{1-8}{8}$	$\frac{2-8}{2}$
	80	E V	R .618	$^{ m L}_{808}$	$^{ m R}_{.628}$	$_{.611}^{ m L}$	$^{ m R}_{.592}$	$_{.587}^{ m L}$	$_{.604}^{ m R}$	$_{.588}^{ m L}$	$^{ m R}_{.567}$	$^{ m L}_{.565}$
-		G	1-8	2-8	1-8	2-8 2	18	2-8	1-8	2-8	1-8 8	28
	100	N E	8 R	$_{ m L}^2$	R	\mathbf{L}	R	2 L	8 R	$^2_{ m L}$	R	2 L
		<u>v</u>	.694	.666	.702	.679	.674	.649	.683	.660	.653	.633
	ck N		81	82	83	84 84						
Wh.	Base	X X	84 16	84 16	84 16	16					a	
Spa	cing	X'	24	24	24 8	24 8						
Hite		C a ₁	.05	.05	.10	.10						
On Axle		a ₂	.20 .75	.30 .65	.20 .70	.30 .60						
T		G	7.8	2-3	7-8	2-3						
Ì	10	N E	7 L	2 L	7 L	2 L						
-		V G	.240 4-6	.240	.224 4-6	.240 1-3						
	20	N E	4 L	4 L	4 L	3 R						
	20	V	.330	.286	.308	.270						
		G N	$^{4-6}_{4}$	46 4	$\frac{4-6}{4}$	$^{1-3}_3$						
	30	E V	.370	L .321	$^{ m L}_{.345}$	R .313						
-		G	4-8	48	4-8	2-5						
Feet	40	N E	L L	L L	L L	$_{\mathbf{L}}^{2}$						
		V G	4.8	.351 2-6	.378 48	2-6						
par	50	G N E	4 L	2 L	4 L	2-6 2 L						
Span	90	V	.474	.418	.442	.408						
		G N	4 -8 4	$\frac{2-6}{2}$	4-8 4	$\frac{2-6}{2}$						
	60	E V	L .520	$^{2}_{ m L}_{.464}$	L .485	L .450						
-		G	2-8	2-8	2-8	2-8						
	80	N E	8 R	$_{ m L}^2$	8 R	L L						
-		v	.582	.565	.546	.545						
	100	G N	1-8 8	2-8 2	1-8 8	2-8 2 L						
	100	E V	R .664	$^{ m L}_{.642}$	R .633	.616		_				

8. SUMMARY OF MAXIMUM SHEARS PRODUCED BY VEHICLES OF UNIT WEIGHT ON SIMPLE SPAN BRIDGES

Tables 8.1 - 8.14 give the maximum shears produced by the 1303 variations of the 14 heavy vehicle types shown in the identification Tables 6.1 - 6.14 on simple spans of 10, 20, 30, 40, 50, 60, 80, and 100 feet in length. The maximum shears produced by each of the 1303 heavy vehicle types and loadings on 8 different span lengths makes a total of 10,424 maximum shears recorded in the Tables 8.1 - 8.14. The table number corresponding to each of the 14 heavy vehicle types is as follows:

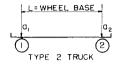
Table No.	Vehicle Type	Table No.	Vehicle Type
 8.1	2	8.8	3-S3
8.2	3	8.9	2-2
8.3	2-S1	8.10	2-3
8.4	2-S2	8.11	3-2
8.5	2-S3	8.12	3-3
8.6	3-S1	8.13	2-S1-2
8.7	3-S2	8.14	3-S2-3

The maximum shears given in these tables represent a summary of the maximum shears shown in Tables 7.1-7.14. This summary should prove to be convenient in those cases when one is only concerned with the comparison or determination of maximum shears since these tables (Tables 8.1-8.14) do not include the controlling conditions given in Tables 7.1-7.14.

A further description of these tables and how they are used is given in Articles 4 and 5.

TABLE 8.1

SUMMARY OF MAXIMUM SHEARS IN SIMPLE SPANS PRODUCED BY TYPE 2 TRUCKS WEIGHING ONE KIP EACH

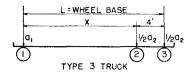


Thirty-six variations in the Type 2 truck are given in this table. Each truck number, from 1 to 36, represents a different combination of wheel base length, and ratios of gross vehicle weight on each axle.

All dimensions are in feet. Maximum shears are in kips, a₁ and a₂ represent the ratio of gross vehicle weight on axles,

Wheel Base Feet	Truck No.	A ₂	d On cles ips				Span	-Feet			
reet	Ę	aı	a2	10	20	30	40	50	60	80	100
	1	.45	.55	.550	.775	.850	.888	.910	.925	.944	.955
	2	.40	.60	.600	.800	.867	.900	.920	.933	.950	.960
L = 10	3	.35	.65	.650	.825	.883	.913	.930	.942	.956	.965
	4	.30	.70	.700	.850	.900	.925	.940	.950	.963	.970
	5	.25	.75	.750	.875	.917	.938	.950	.958	.969	.975
	6	.20	.80	.800	.900	.933	.950	.960	.967	.975	.980
	7	.45	.55	.550	.730	.820	.865	.892	.910	.933	.946
	8	.40	.60	.600	.760	.840	.880	.904	.920	.940	.952
L = 12	9	.35	.65	.650	.790	.860	.895	.916	.930	.948	.958
	10	.30	.70	.700	,820	.880	.910	.928	.940	.955	.964
	11	.25	.75	.750	.850	.900	.925	.940	.950	.963	.970
	12	.20	.80	.800	.800	.920	.940	.952	.960	.970	.976
	13	.45	.55	.550	.685	.790	.843	.874	.895	.921	.937
	14	.40	.60	.600	.720	.818	.860	.888	.907	.930	.944
L = 14	15	.35	.65	,650	.755	.837	.878	.902	.918	.939	.951
	16	.30	.70	.700	.790	.860	.895	.916	.930	.948	,958
	17	.25	.75	.750	.825	.883	.913	.930	.942	.956	.965
	18	.20	.80	.800	.860	.907	.930	.944	.953	.965	.972
	19	.45	.55	.550	.640	.760	.820	.856	.880	.910	.928
	20	.40	.60	.600	.680	.787	.840	.872	.893	.920	.936
L = 16	21	.35	.65	.650	.720	.813	.860	.888	.907	,930	.944
	22	.30	.70	.700	.760	.840	.880	.904	.920	.940	.952
	23	.25	.75	.750	.800	.867	.900	.920	.933	.950	.960
	24	.20	.80	.800	.840	.893	.920	.936	.947	.960	.968
	25	.45	.55	.550	.595	.730	.798	.838	.865	.899	.919
	26	.40	.60	.600	.640	.760	.820	.856	.880	.910	.928
L = 18	27	.35	.65	.650	.685	.790	.843	.874	.895	.921	.937
	28	.30	.70	.700	.730	.820	.865	.892	.910	.933	.946
	29	.25	.75	.750	.775.	.850	.888	.910	.925	.944	.955
	30	.20	.80	.800	.820	.880	.910	.928	.940	.955	.964
	31	.45	.55	.550	.550	.700	.775	.820	.850	.888	.910
	32	.40	.60	.600	.600	.733	.800	.840	.867	.900	.920
L = 20	33	.35	.65	.650	.650	.767	.825	.860	.883	.913	.930
	34	.30	.70	.700	.700	.800	.850	.880	.900	.925	.940
	35	.25	.75	.750	.750	.833	.875	.900	.917	.938	.950
	36	.20	.80	.800	.800	.867	.900	.920	.933	.950	.960

TABLE 8.2 SUMMARY OF MAXIMUM SHEARS IN SIMPLE SPANS PRODUCED BY TYPE 3 TRUCKS WEIGHING ONE KIP EACH



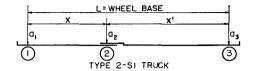
Forty-two variations in the Type 3 truck are given in this table. Each truck number, from 1 to 42, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight on each axle.

All dimensions are in feet. Maximum shears are in kips. a₁ and a₂ represent the ratio of gross vehicle weight on axles.

$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		repre	sent the	ratio oi	gross venic	cie weig	nt on a	xies.				
1	Base and Axle	uck No.	Ax	les				Span	-Feet			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		4	aı	a 2	10	20	30	40	50	60	80	100
$ \begin{array}{c} \mathbf{X} \\ \mathbf{L} = 14 \\ 4 \\ 4 \\ 2.5 \\ 75 \\ 5 \\ 600 \\ 750 \\ 800 \\ 7 \\ 7 \\ 10 \\ 5 \\ 5 \\ 20 \\ 80 \\ 80 \\ 6 \\ 15 \\ 85 \\ 80 \\ 80 \\ 80 \\ 80 \\ 80 \\ 810 \\ 80 \\ 810 \\ 873 \\ 890 \\ 905 \\ 924 \\ 936 \\ 993 \\ 920 \\ 993 \\ 996 \\ 996 \\ 90 \\ 90 \\ 35 \\ 65 \\ 65 \\ 520 \\ 655 \\ 520 \\ 655 \\ 570 \\ 600 \\ 700 \\ 10 \\ 990 \\ 90 \\ 35 \\ 65 \\ 5520 \\ 655 \\ 5700 \\ 690 \\ 520 \\ 690 \\ 700 \\ 388 \\ 868 \\ 888 \\ 898 \\ 910 \\ 90 \\ 90 \\ 35 \\ 65 \\ 5520 \\ 655 \\ 5700 \\ 690 \\ 700 \\ 888 \\ 862 \\ 885 \\ 885 \\ 914 \\ 931 \\ 931 \\ 938 \\ 845 \\ 862 \\ 885 \\ 914 \\ 931 \\ 931 \\ 932 \\ 938 \\ 845 \\ 867 \\ 897 \\ 923 \\ 938 \\ 931 \\ 945 \\ 545 \\ 861 \\ 90 \\ 930 \\ 930 \\ 930 \\ 930 \\ 940 \\ 952 \\ 930 \\ 940 \\ 952 \\ 940$		1	.40	.60	.480			.830	.864	.887	.915	.932
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		2				.690	.793				.923	.938
$ \begin{array}{c} \mathbf{X} = 10 \begin{array}{ccccccccccccccccccccccccccccccccccc$		3										
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$												
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	X = 10											
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		6			.680	.810	.873					
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				erymen m. 1 12000 i						W 2000-		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$.60								.924
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		9								.885		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		10								.897	.923	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\Gamma = 10$	11										
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	A - 12											
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$												
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$												
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		10			.480		747					
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$												
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	T 18	18								900	925	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$												
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	A - 11											
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$.820						.964
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				60								
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$.917
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		24										.926
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	L = 20		.25	.75	.600	.675	.783	.838	.870	.892		.935
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	X = 16	26	.20	.80			.813				.930	.944
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		27										.953
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		28	.10	.90	.720	.810	.873	.905	.924	.937	.953	.962
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$.900
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$.700				.888	.910
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$.900	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	L=22										.913	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	X = 18											
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$.680	.765	.833			.917		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$												
		36										.892
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$.65	.520				.806	.838		.903
$\overline{X} = 20$ 40 .20 .80 .640 .720 .787 .840 .872 .893 .920 .936 41 .15 .85 .680 .765 .823 .868 .894 .912 .934 .947							.713					.914
41 .15 .85 .680 .765 .823 .868 .894 .912 .934 .947				.75				.813				
	X = 20											
42 .10 .90 .720 .810 .860 .895 .916 .930 .948 .958					.680		.823					.947
		42	.10	.90	.720	.810	.860	.895	.916	.930	.948	.958

TABLE 8.3

SUMMARY OF MAXIMUM SHEARS IN SIMPLE SPANS PRODUCED BY TYPE 2-S1 TRUCKS WEIGHING ONE KIP FACH



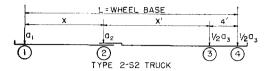
One hundred twenty-six variations in the Type 2-S1 truck are given in this table. Each truck number, from 1 to 126, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight of each axle.

All dimensions are in feet. Maximum shears are in kips. a1, a2, and a3 represent the ratio of gross vehicle weight on axles.

Wheel Base and Axle Spacing	Truck No.	I	oad O Axles Kips					Span	-Feet			
Feet	Ē	a ₁	\mathbf{a}_2	\mathbf{a}_3	10	20	30	40	50	60	80	100
	1	.10	.30	.60	.600	.720	.813	.860	-888	.907	.930	.944
	2	.10	.40	.50	.500	.660	.773	.830	.864	.887	.915	.932
L = 20	3	.10	.45	.45	.470	.630	.753	.815	.852	.877	.908	.926
$\mathbf{x} = 8$	4	.10	.50	.40	.520	.660	.740	.800	.840	.867	.900	.920
$\hat{\mathbf{x}}' = 12$	5	.20	.30	.50	.500	.620	.747	.810	.848	.873	.905	.924
	6	.20	.40	.40	.440	.560	.707	.780	.824	.853	.890	.912
	7	.20	.50_	.30	.540	.620	.680	.750	.800	.833	.875	.900
	8	.10	.30	.60	.600	.660	.760	.820	.856	.880	.910	.928
T	9	.10	.40	.50	.500	.581	.707	.780	.824	.853	.890	.912
L = 24	10	.10	.45	.45	.470	.540	.680	.760 $.740$.808 .792	.840	.880 .870	.904
X = 8 X' = 16	$\frac{11}{12}$.10 .20	.50	.40 .50	.520 .500	.581 $.560$.687 $.680$.740	.808	.827 $.840$.880	.896 $.904$
X = 16	13	.20	.30 .40	.40	.440	.520	.627	.720	.776	.813	.860	.888
	14	.20	.50	.30	.540	.620	.647	.720	.776	.813	.860	.888
	15	.10	.30	.60	.600	.600	.707	.780	.824	.853	.890	.912
	16	.10	.40	.50	.500	.500	.640	.730	.784	.820	.865	.892
L = 28	17	.10	.45	.45	.470	.510	.607	.705	.764	.803	.853	.882
$\mathbf{x} = 8$	18	.10	.50	.40	.520	.560	.634	.700	.744	.787	.840	.872
$\mathbf{X}' =: 20$	19	.20	.30	.50	.500	.500	.613	.710	.768	.807	.855	.884
	20	.20	.40	.40	,440	.520	.547	.660	.728	.773	.830	.864
	21	.20	.50	.30	.540	.620	.647	.690	.752	.793	.845	.876
	22	.10	.30	.60	.600	.600	.660	.740	.792	.827	.870	.896
	23	.10	.40	.50	.500	.500	.580	.680	.744	.787	.840	.872
L = 32	24	.10	.45	.45	.470	.510	.540	.650	.720	.767	.825	.860
$\mathbf{x} = 8$	25	.10	.50	.40	.520	.560	.580	.660	.708	.747	.810	.848
X' = 24	26	.20	.30	.50	.500	.500	.560	.660	.728	.773	.830	.864
	$\frac{27}{28}$.20 .20	.40	$.40 \\ .30$.440 .540	.520 $.620$.547 $.647$.600 .660	$.680 \\ .728$.733 .773	.800 .830	$.840 \\ .864$
	29	.10	.50	.60	.600	.600	.620	.700	.760	.800	.850	.880
	30	.10	.30 .40	.50	.500	.500	.527	.630	.704	.753	.815	.852
L = 36	31	.10	.45	.45	.470	.510	.524	.595	.676	.730	.798	.838
X = 8	32	.10	.50	.40	520	.560	.573	.620	.676	.714	.780	.824
X' = 28	33	.20	.30	.50	.500	.500	.520	.610	.688	.740	.805	.844
20	34	.20	.40	.40	.440	.520	.547	.560	.648	.707	.780	.824
	35	.20	.50	.30	.540	.620	.647	.660	.704	.753	.815	.852
	36	.10	.30	.60	.660	.780	.853	.890	.912	.927	.945	.956
	37	.10	.40	.50	.580	.740	.827	.870	.896	.913	.935	.948
L = 20	38	.10	.45	.45	.540	.720	.813	.860	.888	.907	.930	.944
X = 12 X' = 8	39	.10	.50	.40	.580	.740	.800	.850	.880	.900	.925	.940
$\mathbf{X'} = 8$	40	.20	.30	.50	.560	.680	.787	.840	.872	.893	.920	.936
	41	.20	.40	.40	.480	.640	.760	.820	.856	.880	.910	.928
	42	.20	.50	.30	.560	.680	.733	.800	.840	.867	.900	.920
	43	.10	.30	.60	.600	.720	.800	.850	.880	.900	.925	.940
* 0.	44	.10	.40	.50	.500	.660	.760	.820	.856	.880	.910	.928
L = 24 $X = 12$	45	.10	.45	.45	.450	.630	.740	.805	.844 $.832$.870 .860	.903 .895	.922
$X = 12 \\ X' = 12$	46	.10	.50	.40 .50	.500 .500	.660 .620	.740 .720	.790 .790	.832	.860	.895	.916
A' - 12	47 48	.20 .20	.30 .40	.40	.400	.560	.680	.760	.808	.840	.880	.904
	48	.20	.50	.30	.500	.620	.680	.730	.784	.820	.865	.892
	40	.20	.00	.00	.500	.020	.000	.100	.104	.020	.000	.002

TABLE	8.3 (C	ontinu	ied)									
L = 28 X = 12 X' = 16	50 51 52 53 54 55 56	.10 .10 .10 .10 .20 .20	.30 .40 .45 .50 .30 .40	.60 .50 .45 .40 .50 .40	.600 .500 .450 .500 .500 .400	.660 .580 .540 .581 .560 .480	.747 .693 .667 .687 .653 .600	.810 .770 .750 .740 .740 .700	.848 .816 .800 .784 .792 .760	.873 .847 .833 .820 .827 .800	.905 .885 .875 .865 .870	.924 .908 .900 .892 .896
L = 32 X = 12 X' = 20	57 58 59 60 61 62 63	.10 .10 .10 .10 .20 .20	.30 .40 .45 .50 .30 .40	.60 .50 .45 .40 .50 .40 .30	.600 .500 .450 .500 .500 .400	.600 .500 .490 .540 .500 .480	.700 .634 .600 .634 .600 .534 .620	.770 .720 .695 .700 .690 .640	.728 .816 .776 .756 .740 .752 .712 .688	.773 .847 .813 .797 .780 .793 .760 .740	.830 .885 .860 .848 .835 .845 .820 .805	.864 .908 .888 .878 .868 .876 .856
L = 36 X = 12 X' = 24	64 65 66 67 68 69 70	.10 .10 .10 .10 .20 .20 .20	.30 .40 .45 .50 .30 .40	.60 .50 .45 .40 .50 .40	.600 .500 .450 .500 .500 .400	.600 .500 .490 .540 .500 .480	.660 .580 .540 .580 .560 .520 .620	.730 .670 .640 .660 .640 .580	.784 .736 .712 .708 .712 .664 .664	.820 .780 .760 .740 .760 .720	.865 .835 .820 .805 .820 .790	.892 .868 .856 .844 .856 .832
L = 40 X = 12 X' = 28	71 72 73 74 75 76 77	.10 .10 .10 .10 .20 .20	.30 .40 .45 .50 .30 .40	.60 .50 .45 .40 .50 .40	.600 .500 .450 .500 .500 .400	.600 .500 .490 .540 .500 .480	.620 .527 .510 .560 .520 .520 .620	.690 .620 .585 .620 .590 .540	.752 .696 .668 .676 .672 .616	.793 .747 .723 .714 .727 .680 .700	.845 .810 .793 .775 .795 .760	.876 .848 .834 .820 .836 .808 .820
$L = 44 \ X = 12 \ X' = 32$	78 79 80 81 82 83 84	.10 .10 .10 .10 .20 .20 .20	.30 .40 .45 .50 .30 .40	.60 .50 .45 .40 .50 .40	.600 .500 .450 .500 .500 .400	.600 .500 .490 .540 .500 .480	.600 .500 .510 .560 .500 .520 .620	.661 .581 .540 .581 .560 .540	.720 .656 .624 .644 .632 .568	.767 .713 .687 .687 .693 .640	.825 .785 .765 .745 .770 .730 .760	.860 .828 .812 .796 .816 .784 .808
$L = 24 \ X = 16 \ X' = 8$	85 86 87 88 89 90	.10 .10 .10 .10 .20 .20	.30 .40 .45 .50 .30 .40	.60 .50 .45 .40 .50 .40	.660 .580 .540 .580 .560 .480	.780 .740 .720 .740 .680 .640	.840 .813 .800 .793 .760 .733 .720	.880 .860 .850 .840 .820 .800	.904 .888 .880 .872 .856 .840	.920 .907 .900 .893 .880 .867	.940 .930 .925 .920 .910 .900 .890	.952 .944 .940 .936 .928 .920
$egin{array}{l} L = 28 \ X = 16 \ X' = 12 \ \end{array}$	92 93 94 95 96 97 98	.10 .10 .10 .10 .20 .20	.30 .40 .45 .50 .30 .40	.60 .50 .45 .40 .50 .40	.600 .500 .450 .500 .500 .400	.720 .660 .630 .660 .620 .560	.787 .747 .727 .740 .693 .653	.840 .810 .795 .780 .770 .740 .710	.872 .848 .836 .824 .816 .792 .768	.893 .873 .863 .853 .847 .827 .807	.920 .905 .898 .890 .885 .870	.936 .924 .918 .912 .908 .896 .884
L = 32 X = 16 X' = 16	99 100 101 102 103 104 105	.10 .10 .10 .10 .20 .20	.30 .40 .45 .50 .30 .40	.60 .50 .45 .40 .50 .40 .30	.600 .500 .450 .500 .500 .400	.660 .580 .540 .581 .560 .480	.740 .687 .660 .687 .640 .587	.800 .760 .740 .740 .720 .680	.840 .808 .792 .776 .776 .744 .712	.867 .840 .827 .813 .813 .787 .760	.900 .880 .870 .860 .860 .840	.920 .904 .896 .888 .888 .872
L = 36 X = 16 X' = 20	106 107 108 109 110 111 112	.10 .10 .10 .10 .20 .20	.30 .40 .45 .50 .30 .40	.60 .50 .45 .40 .50 .40	.600 .500 .450 .500 .500 .400	.600 .500 .470 .520 .500 .440	.700 .634 .600 .634 .600 .534	.760 .710 .685 .700 .670 .620	.808 .768 .748 .740 .736 .696	.840 .807 .790 .773 .780 .747 .713	.880 .855 .843 .830 .835 .810	.904 .884 .874 .864 .868 .848
L = 40 X = 16 X' = 24	113 114 115 116 117 118 119	.10 .10 .10 .10 .20 .20	.30 .40 .45 .50 .30 .40	.60 .50 .45 .40 .50 .40	.600 .500 .450 .500 .500 .400	.600 .500 .470 .520 .500 .440	.660 .580 .540 .580 .560 .493 .594	.720 .660 .630 .660 .620 .560	.776 .728 .704 .708 .696 .648	.813 .773 .753 .740 .747 .707	.860 .830 .815 .800 .810 .780	.888 .864 .852 .840 .848 .824
L = 44 X = 16 X' = 28	120 121 122 123 124 125 126	.10 .10 .10 .10 .20 .20 .20	.30 .40 .45 .50 .30 .40	.60 .50 .45 .40 .50 .40	.600 .500 .450 .500 .500 .400	.600 .500 .470 .520 .500 .440	.620 .527 .497 .547 .520 .493 .594	.690 .620 .585 .620 .590 .520	.744 .688 .660 .676 .656 .600	.787 .740 .717 .714 .713 .667	.840 .805 .788 .770 .785 .750	.872 .844 .830 .816 .828 .800 .788

TABLE 8.4
SUMMARY OF MAXIMUM SHEARS IN SIMPLE SPANS
PRODUCED BY TYPE 2-S2 TRUCKS WEIGHING ONE KIP EACH



One hundred and eight variations in the Type 2-S2 truck are given in this table. Each truck number, from 1 to 108, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight of each axle.

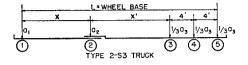
All dimensions are in feet. Maximum shears are in kips.

a₁, a₂, and a₃ represent the ratio of gross vehicle weight on axies.

Wheel Base and Axle Spacing	Truck No.	I	oad O Axles Kips	n				Span	Feet			
Feet	Į į	સા	a 2	a 3	10	20	30	40	50	60	80	100
L = 20 $X = 8$ $X' = 8$	1 2 3 4 5 6	.10 .10 .10 .20 .20	.30 .40 .50 .30 .40	.60 .50 .40 .50 .40	.480 .450 .540 .400 .440	.660 .650 .700 .570 .600	.773 .740 .767 .713 .680 .700	.830 .805 .800 .785 .760	.864 .844 .824 .828 .808	.887 .870 .853 .857 .840	.915 .903 .890 .893 .880	.932 .922 .912 .914 .904
L = 24 X = 8 X' = 12	7 8 9 10 11 12	.10 .10 .10 .20 .20	.30 .40 .50 .30 .40	.60 .50 .40 .50 .40	.480 .420 .520 .400 .440	.600 .550 .620 .510 .520 .620	.720 .673 .714 .647 .614	.790 .755 .760 .735 .700	.832 .804 .788 .788 .760 .788	.860 .837 .813 .823 .800	.895 .878 .860 .868 .850	.916 .902 .888 .894 .880
$L = 28 \ X = 8 \ X' = 16$	13 14 15 16 17 18	.10 .10 .10 .20 .20 .20	.30 .40 .50 .30 .40	.60 .50 .40 .50 .40 .30	.480 .420 .520 .400 .440	.540 .460 .560 .450 .520 .620	.667 .607 .660 .580 .560 .647	.750 .705 .720 .685 .660 .705	.800 .764 .756 .748 .728 .764	.833 .803 .780 .790 .773 .803	.875 .853 .830 .843 .830 .853	.900 .882 .864 .874 .864 .882
L = 32 $X = 8$ $X' = 20$	19 20 21 22 23 24	.10 .10 .10 .20 .20	.30 .40 .50 .30 .40	.60 .50 .40 .50 .40 .30	.480 .420 .520 .400 .440 .540	.540 .460 .560 .450 .520 .620	.620 .546 .607 .526 .547 .647	.710 .655 .680 .635 .620 .675	.768 .724 .724 .708 .696 .740	.807 .770 .753 .757 .747 .783	.855 .828 .800 .818 .810	.884 .862 .840 .854 .848
L = 36 $X = 8$ $X' = 24$	25 26 27 28 29 30	.10 .10 .10 .20 .20 .20	.30 .40 .50 .30 .40 .50	.60 .50 .40 .50 .40 .30	.480 .420 .520 .400 .440 .540	.540 .460 .560 .450 .520 .620	.580 .493 .574 .486 .547 .647	.670 .605 .640 .585 .580	.736 .684 .692 .668 .664	.780 .737 .726 .723 .720 .763	.835 .803 .780 .793 .790 .823	.868 .842 .824 .834 .832 .858
L = 40 $X = 8$ $X' = 28$	31 32 33 34 35 36	.10 .10 .10 .20 .20	.30 .40 .50 .30 .40 .50	.60 .50 .40 .50 .40 .30	.480 .420 .520 .400 .440	.540 .460 .560 .450 .520 .620	.560 .474 .574 .467 .547 .647	.630 .555 .600 .535 .560	.704 .644 .660 .628 .632 .692	.753 .703 .700 .690 .693 .743	.815 .778 .760 .768 .770 .808	.852 .822 .808 .814 .816
$L = 24 \ X = 12 \ X' = 8$	37 38 39 40 41 42	.10 .10 .10 .20 .20	.30 .40 .50 .30 .40	.60 .50 .40 .50 .40 .30	.480 .450 .540 .400 .440 .530	.660 .650 .700 .570 .600	.760 .734 .767 .687 .666 .700	.820 .795 .800 .765 .740 .725	.856 .836 .820 .812 .792 .772	.880 .863 .847 .843 .827 .810	.910 .898 .885 .883 .870 .858	.928 .918 .908 .906 .896 .886
	43 44 45 46 47 48	.10 .10 .10 .20 .20 .20	.30 .40 .50 .30 .40	.60 .50 .40 .50 .40 .30	.480 .400 .500 .400 .400 .500	.600 .550 .620 .510 .520 .590	.707 .667 .714 .620 .614 .660	.780 .745 .760 .715 .680 .695	.824 .796 .788 .772 .744 .724	.853 .830 .807 .810 .787 .770	.890 .873 .855 .858 .840 .828	.912 .898 .884 .886 .872 .862
L = 32 X = 12 X'= 16	49 50 51 52 53 54	.10 .10 .10 .20 .20 .20	.30 .40 .50 .30 .40	.60 .50 .40 .50 .40	.480 .400 .500 .400 .400 .500	.540 .450 .540 .450 .480 .580	.660 .600 .660 .566 .560	.740 .695 .720 .665 .620	.792 .756 .756 .732 .696 .700	.827 .797 .780 .777 .747 .750	.870 .848 .825 .833 .810 .813	.896 .878 .860 .866 .848 .850

TABLE	8.4 (C	ontinu	ıed)									
	55	.10	.30	.60	.480	.540	.620	.700	.760	.800	.850	.880
	56	.10	.40	.50	.400	.450	.546	.645	.716	.763	.823	.858
L = 36	57	.10	.50	.40	.500	.540	.607	.680	.724	.753	.795	.836
X = 12	58	.20	.30	.50	.400	.450	.526	.615	.692	.743	.808	.846
$\hat{\mathbf{x}}' = \hat{\mathbf{z}}_{0}$	59	.20	.40	.40	.400	.480	.520	.580	.648	.707	.780	.824
	60	.20	.50	.30	.500	.580	.620	.640	.676	.730	.798	.838
	61	.10	.30	.60	.480	.540	.580	.660	.728	.773	.830	.864
	62	.10	.40	.50	.400	.450	.493	.595	.676	.730	.798	.838
L = 40	63	.10	.50	.40	.500	.540	.560	.640	.692	.726	.770	.812
X = 12	64	.20	.30	.50	.400	.450	.486	.565	.652	.710	.783	.826
X' = 24	65	.20	.40	.40	.400	.480	.520	.540	.600	.667	.750	.800
	66	.20	.50	.30	.500	.580	.620	.640	.652	.710	.783	.826
	67	.10	.30	.60	.480	.540	.560	.630	.696	.747	.810	.848
	68	.10	.40	.50	.400	.450	.467	.555	.636	.697	.773	.818
L = 44	69	.10	.50	.40	.500	.540	.560	.600	.660	.700	.750	.788
X = 12	70	.20	.30	.50	.400	.450	.467	.535	.612	.677	.758	.806
X' = 28	71	.20	.40	.40	.400	.480	.520	.540	.568	.640	.730	.784
	72	.20	.50	.30	.500	.580	.620	.640	.652	.690	.768_	.814
	73	.10	.30	.60	.480	.660	.747	.810	.848	.873	.905	.924
	74	.10	.40	.50	.450	.650	.734	.785	.828	.857	.893	.914
L = 28	75	.10	.50	.40	.540	.700	.767	.800	.820	.840	.880	.904
X = 16	76	.20	.30	.50	.400	.570	.660	.745	.796	.830	.873	.898
X' = 8	77	.20	.40	.40	.440	.600	.666	.720	.776	.813	.860	.888
	78	.20	50	30	.530	650_	700_	.725	.756	.797	.848	.878
	79	.10	.30	.60	.480	.600	.700	.770	.816	.847	.885	.908
T 00	80	.10	.40	.50	.400	.550	.667	.735	.788	.823	.868	.894 .880
L = 32	81	.10	.50	.40	.500	.620	.714	.760	.788	.806	.850	
X = 16 $X' = 12$	82	.20	.30	.50	.400 .400	.510 .520	.606 $.614$.695 $.660$.756 $.728$.797 .773	.848 $.830$.878 .864
A' - 12	83 84	$.20 \\ .20$	$.40 \\ .50$.40 .30	.500	.520	.660	.695	.716	.750	.813	.850
							.660	.730	.784	.820		.892
	85	.10	.30	.60	.480	.540	.600	.685	.748	.790	$.865 \\ .843$.874
L = 36	86	.10 .10	.40 .50	.50 $.40$.400 .500	.450 $.540$.660	.720	.756	.780	.820	.856
X = 16	87 88	.10	.30	.50	.400	.450	.566	.645	.716	.763	.823	.858
X' = 16	89	.20	.40	.40	.400	.440	.560	.620	.680	.733	.800	.840
A - 10	90	.20	.50	.30	.500	.540	.620	.665	.692	.710	.778	.822
	₉₁	-10^{-10}			480	.540	.620	.690	.752	.793	.845	.876
	92	.10	.40	.50	.400	.450	.546	.635	.708	.757	.818	.854
L = 40	93	.10	.50	.40	.500	.520	.607	.680	.724	.753	.790	.832
X = 16	94	.20	.30	.50	.400	.450	.526	.595	.676	.730	.798	.838
$\mathbf{X'} = 20$	95	.20	.40	.40	.400	.440	.506	.580	.632	.693	.770	.816
12 20	96	.20	.50	.30	.500	.540	.594	.635	.668	.690	.758	.806
	97	.10	.30	.60	.480	.540	.580	.660	.720	.767	.825	.860
	98	.10	.40	.50	.400	.450	.493	.595	.668	.723	.793	.834
L = 44	99	.10	.50	.40	.500	.520	.554	.640	.692	.726	.770	.808
X = 16	100	.20	.30	.50	.400	.450	.486	.565	.636	.697	.773	.818
X'=24	101	.20	.40	.40	.400	.440	.493	.540	.592	.653	.740	.792
	102	.20	.50	.30	500_	.540_	.594	.620_	.644	.670	.743	.794
	103	.10	.30	.60	.480	.540	.560	.630	.688	.740	.805	.844
	104	.10	.40	.50	400	.450	.467	.555	.628	.690	.768	.814
L = 48	105	.10	.50	.40	.500	.520	.547	.600	.660	.700	.750	.784
X = 16	106	.20	.30	.50	.400	.450	.467	.535	.596	.663	.748	.798
X' = 28	107	.20	.40	.40	.400	.440	.493	.520	.560	.613	.710	.768
	108	.20	.50	.30	.500	.540	.594	.620	.636	.650	.728	.782

TABLE 8.5
SUMMARY OF MAXIMUM SHEARS IN SIMPLE SPANS
PRODUCED BY TYPE 2-S3 TRUCKS WEIGHING ONE KIP EACH



Ninety variations in the Type 2-S3 truck are given in this table. Each truck number, from 1 to 90, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight of each axle.

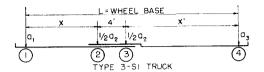
All dimensions are in feet. Maximum shears are in kips. a₁, a₂, and a₃ represent the ratio of gross vehicle weight on axles.

a ₁ , a ₂ , a ₁	nd a ₃	repres	sent th	e ratio	of gross	vehicle	weight o	n axles.				
Wheel Base and Axle Spacing	Truck No.		oad Or Axles Kips					Span-	van 12.0000			
Feet	1	a ₁	a ₂	a ₃	10	20	30	40	50	60	80	100
	1	.10	.225	.675	.405	.585	.710	.783	.826	.855	.891	.913
	2	.10	.30	.60	.360	.540	.680	.760	.808	.840	.880	.904
L = 24	3	.10 .20	.40 .20	.50 .60	.420	.599	.700	.750	.784	.820	.865	.892
$ \begin{array}{l} \mathbf{L} = 24 \\ \mathbf{X} = 8 \\ \mathbf{X'} = 8 \end{array} $	4 5	.20	.30	.50	$.360 \\ .340$.520 $.500$.653 $.614$.740 .710	$.792 \\ .768$.827 $.807$.870 .855	.896 .884
A == 0	6	.20	.40	.40	.440	.560	.640	.720	.776	.813	.860	.888
	7	.10	.225	.675	.405	.540	.667	.750	.800	.833	.875	.900
	8	.10	.30	.60	.360	.480	.627	.720	.776	.813	.860	-888
L = 28	9	.10	.40	.50	.420	.500	.633	.700	.744	.787	.840	.872
X = 8 $X' = 12$	10	.20	.20	.60	.360	.480	.600	.700	.760	.800	.850	.880
X' = 12	11	.20	.30	.50	.340	.420	.547	.660	.728	.773	.830	.864
	12	.20	.40	.40	.440	.520	.587	.680	.744	.787	.840	.872
	13	.10	.225	.675	.405	.540	.630	.718	.774	.812	.859	.887
L = 32	14 15	.10	.30 .40	.60 .50	.360 $.420$	$.480 \\ .460$.580 $.566$.680 $.650$.744 $.704$.787 .754	.840 $.815$.872 .852
$\mathbf{x} = \mathbf{s}$	16	.20	.20	.60	.360	.480	.560	.660	.728	.773	.830	.864
$\ddot{\mathbf{x}}' = \ddot{16}$	17	.20	.30	.50	.340	.420	.494	.610	.688	.740	.805	.844
	18	.20	.40	.40	.440	.520	.547	.640	.712	.760	.820	.856
	19	.10	.225	.675	.405	.540	.600	.685	.748	.790	.843	.874
	20	.10	.30	.60	.360	.480	.540	.640	.712	.760	.820	.856
$\Gamma = 36$	21	.10	.40	.50	.420	.460	.500	.599	.664	.720	.790	.832
	22	.20	.20	.60	.360	.480	.534	.620 $.560$.696 $.648$.747 $.707$.810	.848
X' 20	23 24	.20 .20	.30 .40	.50 .40	.340 $.440$.420 $.520$.454 $.547$.600	.680	.734	.780 $.800$.824 .840
	25			.675	.405	.540	.585	.653	.722	.768	.826	.861
	26	.10	.30	.60	.360	.480	.520	.600	.680	.733	.800	.840
L = 40	27	.10	.40	.50	,420	.460	.474	.550	.624	.687	.765	.812
x = 8	28	.20	.20	.60	.360	.480	.520	.580	.664	.720	.790	.832
$\mathbf{X}' = 24$	29	.20	.30	.50	.340	.420	.447	.510	.608	.674	.755	.804
••••	30	.20	.40	.40	.440	.520	.547	.560	.648	.707	.780	.824
	31	.10	.225	.675	.405	.585	.697	.773	.818	.848	.886	.909
T - 00	$\frac{32}{33}$.10	$.30 \\ .40$.60 .50	.360 .400	.540 .599	.667 $.700$.750 $.750$.800 .780	.833 $.813$.875 $.860$.900 .888
$egin{array}{l} L=28 \ X=12 \end{array}$	$\frac{35}{34}$.10 .20	.20	.60	.360	.520	.627	.720	.776	.813	.860	.888
$\mathbf{x}' = \mathbf{x}'$	35	.20	.30	.50	.300	,500	.600	.690	.752	.793	.845	.876
	36	.20	.40	.40	.400	.560	-640	.680	.728	.773	.830	.864
	37	.10	.225	.675	.405	.540	.660	.740	.792	.827	.870	.896
	38	.10	.30	.60	.360	.480	.620	.710	.768	.807	.855	.884
$ \begin{array}{l} L = 32 \\ X = 12 \\ X' = 12 \end{array} $	39	.10	.40	.50	.400	.500	.633	.700	.740	.780	.835	.868
X = 12	40	.20	.20	.60	.360	.480	.586	$.680 \\ .640$.744 $.712$.787 $.760$	$.840 \\ .820$.872 .856
X' = 12	41 42	.20 .20	$.30 \\ .40$.50 .40	.300 .400	.400 .480	.534 $.587$.649	.680	.734	.800	.840
			.225	.675	.405	.540	.630	.708	.766	.805	.854	.883
	43 44	.10 .10	.30	.60	.360	.480	.580	.670	.736	.780	.835	.868
L = 36	45	.10	.40	.50	.400	.440	.566	.650	.700	.747	.810	.848
X = 12	46	.20	.20	.60	.360	.480	.560	.640	.712	.760	.820	.856
X' = 16	47	.20	.30	.50	.300	.400	.494	.590	.672	.727	.795	.836
	48	.20	.40	.40	.400	.480	.534	.600	.648	.707	.780	.824
	49	.10	.225	.675	.405	.540	.600	.675	.740	.783	.838	.870
_	50	.10	.30	.60	.360	.480	.540	.630	.704	.753	.815	.852
L = 40	51	.10	.40	.50	.400	.440	.500	.599 .600	.660	.714	.785 $.800$.828 .840
$\begin{array}{c} X = 12 \\ X' = 20 \end{array}$	52 53	.20 .20	.20 .30	.60 .50	.360 .300	.480 .400	.534 .454	.540	.680 $.632$.733 $.694$.800 .770	.840
A - 20	54	.20	.40	.40	.400	.480	.520	.560	.616	.680	.760	.808
	- 01	.20	.70	.10	•100	*****						

TABLE	8.5	(Continued)	
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TABLE	8.5 (C	ontinu	ied)									
	55	.10	.225	.675	.405	.540	.585	.653	.714	.762	.821	.857
	56	.10	.30	.60	.360	.480	.520	.600	.672	.727	.795	.836
L = 44	57	.10	.40	.50	.400	.440	.460	.550	.620	.680	.760	.808
X = 12	58	.20	.20	.60	.360	.480	.520	.580	.648	.707	.780	.824
X' = 24	59	.20	.30	.50	.300	.400	.434	.510	.592	.660	.745	.796
	60	.20	.40	.40	.400	.480	.520	.540	.584	.654	.740	.792
	61	.10	.225	.675	.405	.585	.690	.763	.810	.842	.881	.905
_	62	.10	.30	.60	.360	.540	.660	.740	.792	.827	.870	.896
L = 32	63	.10	.40	.50	.400	.599	.700	.750	.780	.807	.855	.884
X = 16	64	.20	.20	.60	.360	.520	.614	.700	.760	.800	.850	.880
$\mathbf{x'} = 8$	65	.20	.30	.50	.300	.500	.600	.670	.736	.780	.835	.868
	66	.20	.40	.40	.400	.560	.640	.680	.712	.760	.820	.856
	67	.10	.225	.675	.405	.540	.660	.730	.784	.820	.865	.892
_	68	.10	.30	.60	.360	.480	.620	.700	.760	.800	.850	.880
$\overline{\Gamma}=36$	69	.10	.40	.50	.400	.500	.633	.700	.740	.773	.830	.864
X = 16	70	.20	.20	.60	.360	.480	.586	.660	.728	.773	.830	.864
X' = 12	71	.20	.30	.50	.300	.400	.534	.620	.696	.747	.810	.848
	72	.20	.40	.40	.400	.480	.587	.640	.672	.720	.790	.832
	73	.10	.225	.675	.405	.540	.630	.698	.758	.798	.849	.879
	74	.10	.30	.60	.360	.480	.580	.660	.728	.773	.830	.864
$\underline{\mathbf{L}} = 40$	75	.10	.40	.50	.400	.433	.566	.650	.700	.740	.805	.844
X = 16	76	.20	.20	.60	.360	.480	.560	.620	.696	.747	.810	.848
X' = 16	77	.20	.30	.50	.300	.400	.494	.570	.656	.714	.785	.828
	78	.20	.40	.40	.400	.440	.534	.600	.640	.680	.760	.808
	79	.10	.225	.675	.405	.540	.600	.675	.732	.777	.833	.866
_	80	.10	.30	.60	.360	.480	.540	.630	.696	.747	.810	.848
$\mathbf{L} = 44$	81	.10	.40	.50	.400	.420	.500	.599	.660	.707	.780	.824
X = 16	82	.20	.20	.60	.360	.480	.534	.600	.664	.720	.790	.832
X' = 20	83	.20	.30	.50	.300	.400	.454	.540	.616	.680	.760	.808
	84	.20	.40	.40	.400	.440	.493	.560	.608	.640	.730	.784
	85	.10	.225	.675	.405	.540	.585	.653	.706	.755	.816	.853
T 10	86	.10	.30	.60	.360	.480	.520	.600	.664	.720	.790	.832
L = 48	87	.10	.40	.50	.400	.420	.447	.550	.620	.674	.755	.804
X = 16	88	.20	.20	.60	.360	.480	.520	.580	.632	.693	.770	.816
X' = 24	89	.20	.30	.50	.300	.400	.434	.510	.576	.647	.735	.788
	90	.20	.40	.40	.400	.440	.493	.520	.576	.614	.700	.760

TABLE 8.6
SUMMARY OF MAXIMUM SHEARS IN SIMPLE SPANS
PRODUCED BY TYPE 3-S1 TRUCKS WEIGHING ONE KIP EACH



Ninety variations in the Type 3-S1 truck are given in this table. Each truck number, from 1 to 90, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight of each axle.

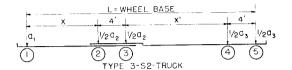
All dimensions are in feet. Maximum shears are in kips.
a1, a2, and a3 represent the ratio of gross vehicle weight on axles.

Wheel Base and Axle Spacing	Truck No.	T.	oad On Axles Kips	l				Span-l	Feet			
Feet	Ę.	a 1	a2	аз	10	20	30	40	50	60	80	100
	1 2 3	.10 .10	.40 .50	.50 .40	.500 .400	.620 .550	.733 .687	.800 .765	.840 .812	.867 .843	.900 .883	.920 .906
$ \begin{array}{c} L = 24 \\ X = 8 \end{array} $	3 4	$.10 \\ .20$.60 .40	.30 .40	.480 $.400$	$.600 \\ .520$.700 $.653$.780 $.740$.784 $.792$.820 $.827$.865 $.870$.892 .896
$\mathbf{\tilde{x}'} = 12$	5	.20	.50 .534	.30 .266	.400 .427	.530 .561	.607 .622	.705 .707	.764 .765	.803	.853	.882
	$-\frac{6}{7}$.10	.40	.50	.500	.540	.622	.750	.800	$\frac{.804}{.833}$.853	.900
* *	8	.10	.50	.40	.400	.490	.607	.705	.764	.803	.853	.882
$\mathbf{L} = 28$ $\mathbf{X} = 8$	$\frac{9}{10}$	$\frac{.10}{.20}$.60 .40	.30 $.40$.480 .400	$.580 \\ .440$	$.660 \\ .573$.720 $.680$.756 $.744$.780 $.787$	$.830 \\ .840$.864 .872
$\mathbf{X}' = 16$	11	.20	.50	.30	.400	.530	.587	.665	.732	.777	.833	.866
	12	.20	.534	.266	.427	.561	.619	.680	.744	.787	.840	.872
	13 14	.10 .10	.40 .50	.50 .40	.500 $.400$.500 $.490$	$.607 \\ .547$	$.700 \\ .645$.760 .716	.800 $.763$	$.850 \\ .823$.880 .858
L=32	15	.10	.60	.30	.480	.580	.620	.690	.732	.760	.805	.844
$\mathbf{x} = 8$	16	.20	.40	.40	.400	.440	.507	.626	.696	.744	.810	.848
X' = 20	17 18	.20 .20	.50 .534	$.30 \\ .266$	$.400 \\ .427$.530 $.561$.587 $.619$.635 $.653$.708 $.723$.757 .769	.818 $.827$.854 $.861$
	19	.10	.40	.50	.500	.500	.558	.650	.720	.767	.825	860
T 0.0	20	.10	.50 .60	.40 .30	.400	$.490 \\ .580$.527 $.620$.595 $.660$.668 $.708$.723 $.740$.793 .790	.834 .832
L = 36 X = 8	$\frac{21}{22}$.10 .20	.40	.40	.480 $.400$.440	.493	.560	.648	.707	.780	.824
$\mathbf{X}' = 24$	23	.20	.50	.30	.400	.530	.587	.615	.684	.737	.803	.842
	24	.20	.534	.266	.427	.561	.619	.647	.701	.751	.813	851
	$\frac{25}{26}$.10 .10	.40 .50	.50 .40	.500 .400	.500 $.490$	$.513 \\ .527$.600 $.555$	$.680 \\ .624$.733 $.683$	$.800 \\ .763$.840 .810
L = 40	27	.10	.60	.30	.480	.580	.620	.640	.684	.720	.775	.820
$\begin{array}{c} L = 40 \\ X = 8 \\ X' = 28 \end{array}$	28	.20	.40	.40	.400	.440	.493	.520	.600	.667	.750	.800
X' = 28	$\frac{29}{30}$.20 .20	.50 $.534$	$.30 \\ .266$	$.400 \\ .427$.530 $.561$.587 $.619$.615 $.647$.660 $.680$.717 $.733$.788 $.800$.830 .840
	31	.10	.40	.50	.500	.620	.720	.790	.832	.860	.895	.916
* ••	32	.10	.50	.40	.400	.550	.673	.755	.804	.837	.878	.902
L = 28	$\frac{33}{34}$.10 .20	.60 .40	.30 .40	.480 .400	$.600 \\ .520$	$.700 \\ .627$	$.750 \\ .720$	$.780 \\ .776$.813 $.813$	$.860 \\ .860$.888 .888
$\mathbf{X} = 12$ $\mathbf{X}' = 12$	35	.20	.50	.30	.400	.510	.607	.685	.748	.790	.843	.874
	36	.20	.534	.266	.427	.533	.622	.673	.739	.782	.837	.869
	37	.10	.40	.50	.500	.540	.660	$.740 \\ .695$	$.792 \\ .756$.827 .797	.870 $.848$.896 .878
I. = 32	$\frac{38}{39}$.10	.50 .60	$.40 \\ .30$.400 $.480$.470 $.560$.600 .660	.720	.756	.780	.825	.860
L = 32 $X = 12$	40	.20	.40	.40	.400	.440	.560	.660	.728	.773	.830	.864
X' = 16	41	.20	.50	.30	.400	.490	.567	.625	.692	.743	.808	.846
	42	.20	.534	.226	.427	.520	.592	.640	.680	.733	.800	$-\frac{.840}{.876}$
	43 44	.10	.40 .50	.50 .40	.500 .400	.500 470	.607 .547	.690 $.635$.752 .708	.793 .757	.845	.876
L = 36	45	.10	.60	.30	.480	.560	.620	.690	.732	.760	.795	.832
$ \begin{array}{l} L = 36 \\ X = 12 \\ X' = 20 \end{array} $	46	.20	.40	.40	.400	.400	.507	.600	.680	.733	.800	.840
X'=20	47	.20	.50 .534	.30 $.266$	$.400 \\ .427$.490 .520	.560 $.592$.595 .628	.644 $.659$.703 .715	.778 .787	.822 .829
	48	.20	.004	.200	.441	.040	.094	.046	.000	.110	1101	.040

T	Δ	RI	TC.	2.6	(Con	tinued)	

IABLE	0.0 (rea)									
	49	.10	.40	.50	.500	.500	.553	.640	.712	.760	.820	.856
	50	.10	.50	.40	.400	.470	.514	.595	.660	.717	.788	.830
L = 40	51	.10	.60	.30	.480	.560	.607	.660	.708	.740	.780	.804
X = 12	52	.20	.40	.40	.400	.400	.467	.540	.632	.693	.770	.816
X' = 24	53	.20	.50	.30	.400	.490	.560	.595	.620	.683	.763	.810
	54	.20	.534	.266	.427	.520	.592	.628	.649	.698	.773	.819
	55	.10	.40	.50	.500	.500	.513	.600	.672	.727	.795	.836
	56	.10	.50	.40	.400	.470	.514	.555	.624	.677	.758	.806
L = 44	57	.10	.60	.30	.480	.560	.607	.630	.684	.720	.765	.792
X = 12	58	.20	.40	.40	.400	.400	.467	.500	.584	.653	.740	.792
X' = 28	59	.20	.50	.30	.400	.490	.560	.595	.616	.663	.748	.798
	60	.20	.534	.266	.427	.520	.592	.628	.649	.680	.760	.808
	61	.10	.40	.50	.500	.620	.713	.780	.824	.853	.890	.912
	62	.10	.50	.40	.400	.550	.667	.645	.796	.830	.873	.898
L = 32	63	.10	.60	.30	.480	.600	.700	.750	.780	.807	.855	.884
X = 16	64	.20	.40	.40	.400	.520	.613	.700	.760	.800	.850	.880
X' = 12	65	.20	.50	.30	.400	.510	.607	.665	.732	.777	.833	.866
	66	.20	.534	.266	.427	.533	.622	.667	.723	.769	.827	.861
	67	.10	.40	.50	.500	.540	.660	.730	.784	.820	.865	.892
	68	.10	.50	.40	.400	.450	.600	.685	.748	.790	.843	.874
L = 36	69	.10	.60	.30	,480	.540	.660	.720	.756	.780	.820	.856
$\ddot{\mathbf{x}} = 16$	70	.20	.40	.40	.400	.440	.560	.640	.712	.760	.820	.856
X' = 16	71	.20	.50	.30	.400	.450	.567	.625	.676	.730	.798	.838
	72	.20	.534	.266	.427	.481	.587	.640	.672	.720	.790	.832
	73	.10	.40	.50	.500	.500	.607	.680	.744	.787	.840	.872
	74	.10	.50	.40	.400	.450	.547	.635	.700	.750	.813	.850
L = 40	$7\hat{5}$.10	.60	.30	.480	.540	.620	.690	.732	.760	.795	.828
$\tilde{\mathbf{x}} = \tilde{16}$	76	.20	.40	.40	.400	.400	.507	.580	.664	.720	.790	.832
$\ddot{\mathbf{x}}' = \ddot{\mathbf{z}}\ddot{0}$	77	.20	.50	.30	.400	.450	.533	.595	.636	.683	.763	.810
	78	.20	.534	.266	,427	.481	.565	.613	.651	.676	.753	.803
	79	.10	.40	.50	.500	.500	.553	.640	.704	.753	.815	.852
	80	.10	.50	.40	.400	.450	.500	.595	.656	.710	.783	.826
L = 44	81	.10	.60	.30	.480	.540	.594	.660	.708	.740	.780	.804
$\ddot{\mathbf{x}} = 16$	82	.20	.40	.40	.400	.400	.453	.540	.616	.680	.760	.808
$\mathbf{X}' = 24$	83	.20	.50	.30	.400	.450	.533	.575	.612	.643	.728	.782
	84	.20	.534	.266	.427	.481	.565	.607	.633	.658	.733	.787
	85	.10	.40	.50	.500	.500	.513	.600	.664	.720	.790	.832
	86	.10	.50	.40	.400	.450	.500	.555	.624	.670	.753	
L = 48	87	.10	.60	.30	.480	.540	.594	.630	.684	.720	.765	.802 $.792$
X = 16	88	.20	.40	.40	.400	.400	.440	.500	.568	.640	.730	.784
X' = 28	89	.20	.50	.30	.400	.450	.533	.575	.600	.623	.708	.766
21 20	90	.20	.534	.266	.427	.481	.565	.607	.633	.650	.720	.776
					.441	.401	1000		•090	1000	*****	.,,,,

TABLE 8.7
SUMMARY OF MAXIMUM SHEARS IN SIMPLE SPANS
PRODUCED BY TYPE 3-S2 TRUCKS WEIGHING ONE KIP EACH



One hundred twelve variations in the Type 3-S2 truck are given in this table. Each truck number from 1 to 112, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight of each axle.

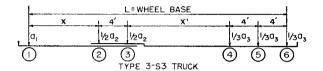
All dimensions are in feet. Maximum shears are in kips. a1, a2, and a3 represent the ratio of gross vehicle weight on axles.

a1, a2, a1	na 83	repres	ent the	ratio	or gross	venicie	weight of	a axies.				
Wheel Base and Axle Spacing	Truck No.	I	Load Or Axles Kips	1	_ 1464			Span-	Feet			
Feet	🛱 :	aı	\mathbf{a}_2	a ₃	10	20	30	40	50	60	80	100
	1	.10	.30	.60	.480	.570	.687	.765	.812	.843	.883	.906
_	2	.10	.40	.50	.400	.490	.633	.725	.780	.817	.863	.890
L = 28	3	.10	.45	.45	.360	.450	.607	.705	.764	.803	.853	.882
X = 8 $X' = 12$	4	.10	.50	.40	.400	.490	.626	.695	.748	.790	.843	.874
A - 12	5 6	.20 .20	.30 .40	$.50 \\ .40$.400 .320	.480 .440	$.600 \\ .547$.700 .660	.760 $.728$.800	.850 .830	$.880 \\ .864$
	7	.20	.50	.30	.400	.530	.587	.680	.744	.773 .787	.840	.872
***	- 8	.10	.30	.60	.480	.540	.640	.725	.780	.817	.863	.890
	9	.10	.40	.50	.400	.450	.573	.675	.740	.783	.838	.870
L = 32	10	.10	.45	.45	.360	.445	.540	.650	.720	.767	.825	.860
$\mathbf{\tilde{X}} = 8$ $\mathbf{X'} = 16$	11	.10	.50	.40	.400	.490	.573	.655	.704	.750	.813	.850
X' = 16	12	.20	.30	.50	.400	.450	.546	.650	.720	.767	.825	.860
	13	.20	.40	.40	.320	.440	.493	.600	.680	.733	.800	.840
	14	.20	.50	.30	.400	.530	.587	.650	.720	.767	.825	.860
	15	.10	.30	.60	.480	.540	.600	.685	.748	.790	.843	.874
	16	.10	.40	.50	.400	.450	.520	.625	.700	.750	.813	.850
$\Gamma = 36$	17	.10	.45	.45	.360	.445	.480	.595	.676	.730	.798	.838
$\mathbf{X} = \begin{array}{c} \mathbf{X} \\ \mathbf{X'} = \begin{array}{c} 8 \\ 20 \end{array}$	18	.10	.50	.40	.400	.490	.527	.615	.672	.710	.783	.826
$\mathbf{X} = 20$	19	.20	.30	.50	.400	.450	.506	.600	.680	.733	.800	.840
	$\frac{20}{21}$.20 .20	$.40 \\ .50$	$.40 \\ .30$.320 .400	.440 .530	.493 $.587$.560 $.620$.648 $.696$.707 $.747$.780 .810	.824 $.848$
	22	.10									.823	.858
	23	.10	.30 .40	.60 .50	.480 .400	.540 .450	.570 .480	.645 $.575$.716 $.660$.763 .717	.823	.830
T. == 40	24	.10	.45	.45	.360	.445	.480	.540	.632	.693	.770	.816
$\mathbf{L} = 40$ $\mathbf{X} = 8$	25	.10	.50	.40	.400	.490	.527	.575	.640	.683	.753	.802
X' = 24	26	.20	.30	.50	.400	.450	.476	.550	.640	.700	.775	.820
	27	.20	.40	.40	.320	.440	.493	.520	.616	.680	.760	.808
	28	.20	.50	.30	.400	.530	.587	.615	.672	.727	.795	.836
	29	.10	.30	.60	.480	.540	.560	.615	.684	.737	.803	.842
	30	.10	.40	.50	.400	.450	.467	.535	.620	.683	.763	.810
L = 44	31	.10	.45	.45	.360	.445	.480	.498	.588	.657	.743	.794
$\mathbf{X} = 8$ $\mathbf{X}' = 28$	32	.10	.50	.40	.400	.490	.527	.545	.608	.657	.728	.782
A - 28	$\frac{33}{34}$.20 .20	$.30 \\ .40$.50 $.40$.400 $.320$	$.450 \\ .440$.467 $.493$	$.520 \\ .520$.600 $.584$.667 $.653$.750 $.740$.800 $.792$
	35	.20	.50	.30	.400	.530	.587	.615	.648	.707	.780	.824
	36	.10	.30	.60	.480	.630	.727	.795	.836	.863	.898	.918
	37	.10	.40	.50	.400	.570	.687	.765	.812	.843	.883	.906
L = 28	38	.10	.45	.45	.360	.540	.667	.750	.800	.833	.875	.900
$\overline{\mathbf{x}} = \overline{12}$	39	.10	.50	.40	.400	.570	.680	.735	.788	.823	.868	.894
$\mathbf{X}' = 8$	40	.20	.30	.50	.400	.540	.640	.730	.784	.820	.865	.892
	41	.20	.40	.40	.320	.480	.600	.700	.760	.800	.850	.880
	42	.20	.50	.30	.400	.540	.626	.670	.736	.780	.835	.868
	43	.10	.30	.60	.480	.570	.680	.755	.804	.837	.878	.902
_	44	.10	.40	.50	.400	.490	.626	.715	.772	.810	.858	.886
$\mathbf{L} = 32$	45	.10	.45	.45	.360	.450	.600	.695	.756	.797	.848	.878
	46	.10	.50	.40	.400	.490	.626	.695	.740	.783	.838	.870
X = 12	47	.20	.30	.50	.400	.480	.586	.680	.744	.787	.840	.872
	48 49	.20 .20	.40	.40 .30	.320	.400	.534 .586	.640 .640	.712 $.680$.760 $.733$.820 .800	.856 .840
	47	.20	.50	.00	.400	.490	.000	.040	.000	.100	.000	.040

TABLE 8.7 (Continued	т	BLE 8.7 (C	continued	١
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			,									
	50	.10	.30	.60	.480	.540	0.40	715	770	010	050	000
					.400		.640	.715	.772	.810	.858	.886
	51	.10	.40	.50	.400	.450	.573	.665	.732	.777	.833	.866
T 9¢	52		.45	.45	0.00	405			.102		.000	.000
$ \begin{array}{l} L = 36 \\ X = 12 \\ X' = 16 \end{array} $.10	.40	.40	.360	.425 .470	.540	.640	.712	.760	.820 .808	.856 .846
X = 12	53	.10	.50	.40	.400	470	.573	.655		.743	000	0.40
T. 10		.10	.00	.40	.100	.410			.704	.140	.000	.840
X' = 16	54	.20	.30	.50	.400	.450	.546	.630	.704	.753	.815	.852
	55	.20				400	400				-010	.000
			.40	.40	.320	.400	.480	.580	.664	.720	.790	.832
	56	.20	.50	.30	.400	.490	.560	.610	.656	.713	.785	.828
					.400	.400	.000	.010	.000	.110	. 100	.040
	57	.10	.30	.60	.480	.540	.600	.675	.740	.783	000	050
					.400	.040	.000	.075			.838	.870
	58	.10	.40	.50	.400	.450	.520	.615	.692	.743	909	216
T 40				45		405	.000	.010	.032	43.40	$.808 \\ .793$	$.846 \\ .834$
L = 40	59	.10	.45	.45	.360	.425	.480	.585	.668	.723	.793	.834
$\bar{X} = 12$	60	.10	.50	.40	.400	.470	.520	.615	.672	.710	.778	.822 .832
77 - 1 20			.00	.40	*****	.410				. 110		.044
X = '20	61	.20	.30	.50	.400	.450	.506	.580	.664	.720	.790	832
	62	.20		.40					0.0			.002
			.40		.320	.400	.467	.520	.616	.680	.760	.808
	63	.20	.50	.30	.400	.490	.560	.595	.632	.693	.770	.816
										.035	0	.010
	64	.10	.30	.60	.480	.540	.570	.645	.708	.757	.818	.854
					.400					. (9)	-010	.004
	65	.10	.40	.50	.400	.450	.480	.575	.652	.710	.783	.826
T 14	66	.10	.45	.45	.360	405	405	F 40	201	40.		.010
11 - 44				.40	.560	.425	.467	.540	.624	.687	.765	.812
$egin{array}{l} L = 44 \ X = 12 \end{array}$	67	.10	.50	.40	.400	.470	.513	.575	.640	.683	.748	.798
$\mathbf{\tilde{X}}' = \mathbf{\tilde{24}}$.410	.010		.040	.000		
X = 24	68	.20	.30	.50	.400	.450	.476	.550	.624	.687	.765	.812
	69	.20	.40	.40	.320					0.40	700	704
					.020	.400	.467	.500	.568	.640	.730	.784
	70	.20	.50	.30	.400	.490	.560	.595	.616	.673	.755	.804
W												
	71	.10	.30	.60	.480	.540	.560	.615	.676	.730	.798	.838
					.400	.040		.010			. 100	.000
	72	.10	.40	.50	.400	.450	.467	.535	.612	.677	.758	.806
T 10	73	.10	.45	.45	.360	.425	100	405	500	450		
11 - 40					.500	.440	.467	.495	.580	.650	.738	.790
$egin{array}{c} \mathbf{L} = 48 \ \mathbf{X} = 12 \end{array}$	74	.10	.50	.40	.400	.470	.513	.535	.608	.657	.718	.774
377 - 30									.000	.001	.110	-114
X' = 28	75	.20	.30	.50	.400	.450	.467	.520	.584	.653	.740	.792
	76	.20	.40	.40	.320	.400	.467	.500	.520	000	500	
				.40	.040	.400			.520	.600	.700	.760
	77	.20	.50	.30	.460	.490	.560	.595	.616	.653	.740	.792
	78	.10	.30	.60	.480	.570	.680	.745	.796	.830	.873	.898
									.130	.000		.000
	79	.10	.40	.50	.400	.490	.626	.705	.764	.803	.853	.882
L = 36	80	.10	.45	.45	.360	.450	.600	.685	.748	.790	.843	.874
11 30								.000		. 790	.545	-8/4
X = 16	81	.10	.50	.40	.400	.490	.626	.695	.736	.777	.833	.866
X = 16 $X' = 12$				F0	400	100	500	.000		770	.000	
A 12	82	.20	.30	.50	.400	.480	.586	.660	.728	.773	.830	.864
	83	.20	.40	.40	.320	.400	.534	.620	.696	.747	.810	.848
					.020	.400	.004	.020	.050	.141	.010	.040
	84	.20	.50	.30	.400	.480	.586	.640	.672	.720	.790	.832
-												
	85	.10	.30	.60	.480	.540	.640	.705	.764	.803	.853	.882
					400					-000		
	86	.10	.40	.50	.400	.450	.573	.655	.724	.770	.828	.862
L = 40	87	.10	.45	.45	.360	.405	.540	.630	.704	.753	.815	.852
		• 1 0	.40	140	.000	.200	.040			.100	.010	
$ \begin{array}{l} L = 40 \\ X = 16 \\ X' = 16 \end{array} $	88	.10	.50	.40	.400	.450	.573	.655	.704	.737	.803	.842
V/- 10	89	.20	.30	.50			.546		000	7.40	005	.017
$\lambda = 10$.20		.00	.400	.450		.610	.688	.740	.805	.844
	90	.20	.40	.40	.320	.360	.480	.560	648	.707	.780	824
				0.0	100	450	5.40		040		.100	.024
	91	.20	.50	.30	.400	.450	.546	.610	.648 .648	.674	.755	.824 .804
	00	10		20								
	92	.10	.30	.60	.480	.540	.600	.675	.732	.777	.833	.866
	93	.10	.40	.50	.400	.450	.520	.615	.684	.737	.803	.842
·			. 7.0	.00	-400	.400	.020	.010	.004	. 101	.000	.042
$ \begin{array}{l} \text{L} = 44 \\ \text{X} = 16 \end{array} $	94	.10	.45	.45	.360	.405	.480	.585	.660	.717 $.710$.788	.830
$\mathbf{v} = 1c$	95	.10	.50	40	.400	.450	.520	.615	.672	710	.773	010
A - 10			.00	•**V	.400	.400	.020		.012	. 110	.110	.818
X' = 20	96	.20	.30	.40 .50	.400	.450	.506	.580	.648	.707 .667	.780 .750	.824 .800
	97	.20	.40	.40	000	0.00	446	200	000		750	.000
					.320	.360	.440	.520	.600	.667	.750	.800
	98	.20	.50	.30	.400	$.360 \\ .450$	$.440 \\ .533$.580	.624	.654	.730	.784
	99	.10	.30	.60	.480	.540	.570	.645	.700	.750	.813	.850
				.00	400					. 100	.010	.000
	100	.10	.40	.50	.400	.450	.480	.575	.644	.703	.778	.822
T 40	101	.10	.45	.45	.360	.405	459			690	760	
H - 40	101			.40	.000	.400	.400	.540	.616	.680	.760	.808
X = 16	102	.10	.50	.40	.400	.450	$.453 \\ .500$.575	.640	.683	.743	.794
$ \begin{array}{l} L = 48 \\ X = 16 \\ X' = 24 \end{array} $	100		9.0	50	400	450	4-0	550	000	000	755	004
A - 24	103	.20	.30	.50	.400	.450	.476	.550	.608	.673	.755	.804
	104	.20	.40	.40	.320	.360	.440	.480	.552	.627	.720	.804 $.776$
				140	.,,20	.000	-940			.041		1110
	105	.20	.50	.30	.400	.450	.533	.575	.600	.634	.715	.772
	106	.10	.30	.60	.480	.540	.560	.615	.672	.723	.793	.834
					400	450						
	107	.10	.40	.50	.400	.450	.467	.535	.608	.670	.753	.802
L = 52	108	.10	.45	.45	.360	.405	.453	.495	.576	.643	.733	700
02	100		.40	.40	.000	.400	.400				.100	.100
X = 16	109	.10	.50	.40	.400	.450	.500	.535	.608	.657	.717	.786 $.770$
	110			ĒŎ	400	450	405			0.10		
X' = 28	$\frac{109}{110}$.20	.30	.50	.400	.450	.467	.520	.576	.640	.730	.784
	111	.20	.40	.40	.320	.360	.440	.480	.512	.587	.690	.752
	***				.020	.000					.000	
	112	.20	.50	.30	.400	.450	.533	.575	.600	.617	.700	.760
			.50		. 200		1000	.010	.000	.011		

TABLE 8.8 SUMMARY OF MAXIMUM SHEARS IN SIMPLE SPANS PRODUCED BY TYPE 3-S3 TRUCKS WEIGHING ONE KIP EACH



One hundred and five variations in the Type 3-S3 truck are given in this table. Each truck number from 1 to 105, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight on each axle.

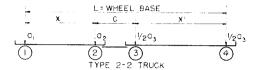
All dimensions are in feet. Maximum shears are in kips.
a1, a2, and a3 represent the ratio of gross vehicle weight on axles.

Wheel Base and Axle Spacing Feet	Truck No.	L	oad O Axles Kips	n				Span-l	Feet			
Feet	T.	aı	\mathbf{a}_2	\mathbf{a}_3	10	20	30	40	50	60	80	100
	1	.10	.30	.60	.360	.480	.600	.695	.756	.797	.848	.878
	2	.10	.36	.54	.324	.432	.564	.668	.734	.779	.834	.867
L = 32	3	.10	.40	.50	.320	.400	.540	.650	.720	.767	.825	.860
$ \widetilde{\mathbf{X}} = \widetilde{8} \\ \widetilde{\mathbf{X}}' = 12 $	4	.10	.50	.40	.400	.490	.600	.675	.720	.750	.802	.842
X = 12	5 6	.20	.30	.50	.300	.400	.514	.625	.700	.750	.813	.850
	7	.20	.40 .50	.40 .30	.320 $.400$.440 $.530$.507 $.587$	$.620 \\ .665$	$.696 \\ .732$.747 .777	.810 $.833$.848 .866
	8	.10	.30 .36	.60 .54	.360 $.324$	$.480 \\ .432$	$.560 \\ .516$.655 .622	.724 .698	.770 .748	.828 .811	.862 .849
L = 36	10	.10 .10	.40	.50	.324	.400	.487	.600	.680	.734	.800	.840
X = 8	11	.10	.50	.40	.400	.490	.547	.635	.688	.724	.778	.822
X' = 16	12	.20	.30	.50	.300	.400	.474	.575	.660	.717	.788	.830
11 10	13	.20	.40	.40	.320	.440	.493	.580	.664	.720	.790	.832
	14	.20	.50	.30	.400	.530	.587	.635	.708	.757	.818	.854
	15	.10	.30	.60	.360	.480	.530	.615	.692	.743	.808	.846
	16	.10	.36	.54	.324	.432	.480	.576	.661	.717	.788	.832
L = 40	17	.19	.40	.50	.320	.400	.447	.550	.640	.700	.775	.820
$\mathbf{x} = 8$	18	.10	.50	.40	.400	.490	.527	.595	.656	.697	.758	.806
X' = 20	19	.20	.30	.50	.300	.400	.443	.525	.620	.684	.763	.810
	20	.20	.40	.40	.320	.440	.493	.540	.632	.694	.770	.816
	21	.20	.50	.30	.400	.530	.587	.615	.684	.737	.803	.842
	22	.10	.30	.60	.360	.480	.520	.585	.660	.717	.788	.830
	23	.10	.36	.54	.324	.432	.468	.540	.624	.687	.765	.812
L = 44	24	.10	.40	.50	.320	.400	.434	.510	.600	.667	.750	.800
$\mathbf{x} = 8$	25	.10	.50	.40	.400	.490	.527	.555	.624	.670	.738	.790
X' = 24	$\frac{26}{27}$.20	.30	.50	.300 .320	.400	.433 $.493$.495 $.520$.580 $.600$.650 .667	.738 $.750$.790 .800
	28	.20 .20	.40 .50	$.40 \\ .30$.400	.440 $.530$.587	.615	.660	.717	.788	.830
	29			.60			.520			.690	.768	.814
	30	.10 .10	.30 .36	.54	.360 $.324$.480 $.432$.468	.555 $.504$	$.628 \\ .587$.656	.742	.794
L = 48	31	.10	.40	.50	.320	.400	.434	.470	.560	.634	.725	.780
$\mathbf{x} = 8$	32	.10	.50	.40	.400	.490	.527	.545	.592	.644	.718	.774
$\mathbf{X}' = 28$	33	.20	.30	.50	.300	.400	.433	.465	.540	.617	.713	.770
	34	.20	.40	.40	.320	.440	.493	.520	.568	.640	.730	.784
	35	.20	.50	.30	.400	.530	.587	.615	.636	.697	.773	.818
	36	.10	.30	.60	.360	.480	.600	.685	.748	.790	.843	.874
	37	.10	.36	.54	.324	.432	.564	.658	.726	.772	.829	.863
L = 36	38	.10	.40	.50	.320	.400	.540	.640	.712	.760	.820	.856
X = 12 $X' = 12$	39	.10	.50	.40	.400	.474	.600	.675	.720	.750	.797	.838
X'=12	40	.20	.30	.50	.300	.400	.514	.605	.684	.737	.803	.842
	41	.20	.40	.40	.320	.400	.507	.580	.648	.706	.780	.824
	42	.20	.50	.30	.400	.490	.567	.625	.668	.723	.793	.834
	43	.10	.30	.60	.360	.480	.560	.645	.716	.763	.823	.858
	44	.10	.36	.54	.324	.432	.516	.612	.690	.741	.806	.845
$ L = 40 \\ X = 12 $	45	.10	.40	.50	.320	.400	.487	.590	.672	.727	.795	.836
X = 12	46	.10	.50	.40	.400	.470	.547	.635	.688	.724	.768	.814
X' = 16	47	.20	.30	.50	.300	.400	.474	.555	.644	.704	.778	.822
	48	.20	.40	.40	.320	.400	.467 $.560$.540	.600 .644	.667 .703	.750 .778	.822
	49	.20	.50	.30	.400	.490	.000	.595	.044	. 103	.110	.044

TABLE	8.8 (C	ontint	ıed)									
	50	.10	.30	.60	.360	.480	.530	.615	.684	.737	.803	.842
	51	.10	.36	.54	.324	.432	.480	.576	.653	.711	.783	.826
L = 44	52	.10	.40	.50	.320	.400	.446	.549	.631	.693	.770	.816
X = 12 $X' = 20$	53	.10	.50	.40	.400	.470	.514	.595	.656	.697	.748	.790
X' = 20	54	.20	.30	.50	.300	.400	.443	.525	.603	.669	.752	.802
	55	.20	.40	.40	.320	.400	.467	.500	.568	.640	.730	.784
	56	.20	.50	.30	.400	.490	.560	.595	.620	.683	.763	.810
	57	.10	.30	.60	.360	.480	.520	.585	.652	.710	.783	.826
T - 40	58	.10	.36	.54	.324	.432	.468	.540	.616	.680	.760	.808
L = 48 X = 12	59	.10	.40	.50	.320	.400	.433	.509	.591	.659	.745 $.728$.796 .766
X' = 12 X' = 24	60	.10	.50	.40	.400	.470	.514 .433	.555	$.624 \\ .563$	$.670 \\ .636$.727	.782
A - 24	$\begin{array}{c} 61 \\ 62 \end{array}$.20 .20	.30 .40	.50	$.300 \\ .320$.400	.467	.495 $.500$.536	.614	.710	.768
	63	.20	.50	$.40 \\ .30$.400	.400 $.490$.560	.595	.616	.663	.748	.798
	64	.10	.30	.60	.360	.480	.520	.555	.624	.683	.763	.810
	65	.10	.36	.54	.324	432	.468	.504	.583	.649	.737	.790
L = 52	66	.10	.40	.50	.320	.400	.433	.470	.555	.626	.720	.776
X = 12	67	.10	.50	.40	.400	.470	.514	.535	.592	.644	.707	.746
X = 12 $X' = 28$	68	.20	.30	.50	.300	.400	,433	.465	.531	.603	.702	.762
	69	.20	.40	.40	.320	,400	.467	.500	.520	.587	.690	.752
	70	.20	.50	.30	.400	.490	.560	.595	.616	.643	.733	.786
	71	.10	.30	.60	.360	.480	.600	.675	.740	.783	.838	.870
	72	.10	.36	.54	.324	.432	.564	.648	.718	.765	.824	.859
L = 40	73	.10	.40	.50	.320	.400	.541	.630	.704	.753	.815	.852
X = 16	74	.10	.50	.40	.400	.474	.600	.675	.720	.750	.792	.834
X' = 12	75	.20	.30	.50	.300	.400	.513	.585	.668	.723	.792	.834
	76	.20	.40	.40	.320	.384	.507	.580	.632	.693	.770	.816
	77	.20	.50	.30	.400	.470	.566	.625	.660	.683	.753	.802
	78	.10	.30 .36	.60	.360 .324	$.480 \\ .432$.560 .516	$.645 \\ .612$.708 $.682$.757 $.735$.818 $.801$.854 .841
L = 44	79 80	.10 .10	.40	$.54 \\ .50$.320	.400	.486	.590	.663	.720	.790	.832
X = 16	81	.10	.50	.40	.400	.450	.547	.635	.688	.724	.768	.810
X' = 16	82	.20	.30	.50	.300	.400	.473	.555	.627	.690	.767	.814
21 10	83	.20	.40	.40	.320	.360	454	.540	.592	.653	.740	.792
	84	.20	.50	.30	.400	.450	.533	.595	.636	.663	.738	.790
****	85	.10	.30	.60	.360	.480	.530	.615	.676	.730	.798	.838
	86	.10	.36	.54	.324	.432	.480	.576	.645	.704	.778	.822
L = 48	87	.10	.40	.50	.320	.400	.446	.549	.623	.686	.765	.812
X = 16	88	.10	.50	.40	.400	.450	.500	.595	.656	.697	.748	.786
X' = 20	89	.20	.30	.50	.300	.400	.443	.525	.587	.656	.742	794
	90	.20	.40	.40	.320	.360	.440	.500	.560	.613	.710	.768
	91	.20	.50	.30	.400	.450	.533	.575	.612	.643	.723	.778
	92	.10	.30	.60	.360	.480	.520	.585	.648	.703	.778	.822
	93	.10	.36	.54	.324	.432	.468	.540	.612	.673	.755	.804
L = 52	94	.10	.40	.50	.320 .400	.400	.434 .500	.509 $.555$.587 .624	.653 $.670$.740 $.728$.792 .847
X = 16 $X' = 24$	95 9 6	.10 .20	.50 .30	.40 .50	.300	.450 $.400$.434	.494	.556	.623	.717	.774
$\lambda = 24$	96 97	.20	.40	.40	.320	.360	.440	.480	.528	.574	.680	.744
	98	.20	.50	.30	.400	.450	.533	.575	.600	.623	.708	.766
	99	.10	.30	.60	.360	,480	.520	.555	.624	.677	.758	.806
	100	.10	.36	.54	.324	.432	.468	.504	.583	.643	.732	.786
L = 56	101	.10	.40	.50	.320	.400	.433	.470	.555	.619	.715	.772
X = 16	102	.10	.50	.40	.400	.450	.500	.525	.592	.644	.707	.746
X = 16 X' = 28	103	.20	.30	.50	.300	.400	.433	.465	.531	.589	.692	.754
_5	104	.20	.40	.40	.320	.360	.440	.480	.504	.547	.650	.790
	105	.20	.50	.30	.400	.450	,533	.575	.600	.617	.693	.754

TABLE 8.9

SUMMARY OF MAXIMUM SHEARS IN SIMPLE SPANS PRODUCED BY TYPE 2-2 TRUCKS WEIGHING ONE KIP EACH



One hundred forty-four variations in the Type 2-2 truck are given in this table. Each truck number, from 1 to 144, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight on each axle.

All dimensions are in feet. Maximum shears are in kips. a:, a2, and a3 represent the ratio of gross vehicle weight on axles.

Wheel Base and Axle Spacing	Fruck No.	C Load On Axles Kips a1 a2 a3 1 .10 .20 .70							Span-l				
Feet						10	20	30	40	50	60	80	100
T 90						.420	.600	.707	.780	.824	.853	.890	.912
L 28 Y 19	$\frac{2}{3}$.10 .10	.30	.60 .60		.360	.540	.667	.750	.800	.833	.875	.900
X' = X'	4	.20	.20	.60		$.450 \\ .360$.600 $.520$	$.700 \\ .627$.750 $.720$.780 .776	.813 .813	.860 $.860$.888 .888
L = 28 $X = 12$ $X' = 8$ $C = 8$	5	.20	.30	.50		.350	.500	.600	.690	.752	.793	.845	.876
-	6	.20	.40	.40		.440	.560	.640	.680	.728	.773	.830	.864
	7	.10	.20	.70		.390	.490	.627	.715	.772	.810	.858	.886
L = 32	8	.10	.30	.60		.360	.480	.620	.690	.744	.787	.840	.872
X = 12 X' = 12 C = 8	9	.10	.40	.50		.450	.550	.667	.725	.760	.783	.823	.858
X' = 12	10	.20	.20	.60		.340	.420	.547	.650	.720	.767	.825	.860
c = s	11	.20	.30	.50		.350	.450	.567	.625	.692	.743	.808	.846
	12	.20	.40	.40		.440	.520	.613	.660	.696	.747	.810	.848
_	13	.10	.20	.70		.390	.470	.553	.650	.720	.767	.825	.860
L = 36	14	.10	.30	.60		.360	.480	.580	.660	.708	.740	.805	.844
X = 12	15	.10	.40	.50		.450	.550	.633	.700	.740	.767	.820	.828
	16 17	.20	.20	.60		.340	.420	.513	.580	.664	.720	.790	.832
C – 5	18	.20 .20	.30 .40	$.50 \\ .40$.350 $.440$.450 $.520$.537 $.587$.600	.648	.707	.780	.824
	19								.640	.680	.733	.800	.840
L = 40	19 20	.10	.20 .30	.70 .60		.390 $.360$	$.470 \\ .480$.530 .553	.585 $.630$.668	.723 $.720$.793	.834
X = 12	21	.10	.40	.50		.450	.550	.600	.675	.684 $.720$.720	.770 $.788$.816 $.810$
$\ddot{X}' = \ddot{20}$	$\frac{21}{22}$.20	.20	.60		.340	.420	.513	.560	.608	.673	.755	.804
C == 8	23	.20	.30	.50		.350	.450	.537	.590	.628	.690	.768	.814
	24	.20	.40	.40		.440	.520	.560	.620	.664	.720	.790	.832
	25	.10	.20	.70		.420	.560	.673	.750	.800	.833	.875	.900
L = 32	26	.10	.30	.60		.360	.480	.620	.710	.768	.807	.855	.884
X = 12	27	.10	.40	.50		.400	.500	.634	.670	.736	.780	.835	.868
X'== 8	28	.20	.20	.60		.360	.480	.586	.680	.744	.787	.840	.872
C = 12	$\frac{29}{30}$	$.20 \\ .20$.30	.50		.300	.400	.533	.640	.712	.760	.820	.856
			.40	.40		.400	.480	.586	.640	.680	.733	.800	.840
L = 36	31 32	.10	.20 .30	.70 .60		.350 $.300$.490	.600 $.540$.685	.748	.790	.843	.874
X == 12	33	.10	.40	.50		.400	.420 $.500$.600	.640 $.675$	$.712 \\ .720$.760 $.750$.820 $.798$.856 $.838$
$\ddot{X}' = 12$	34	.20	.20	.60		.300	.420	.520	.610	.688	.740	.805	.844
C = 12	35	.20	.30	.50		.300	.400	.500	.575	.652	.710	.783	.826
	36	.20	.40	.40		.400	.480	.560	.620	.664	.720	.790	.832
	37	.10	.20	.70		.350	.430	.527	.620	.696	.747	.810	.848
L = 40	38	.10	.30	.60		.300	.420	.500	.600	.660	.713	.785	.828
X = 12 $X' = 16$	39	.10	.40	.50		.400	.500	.567	.650	.700	.733	.775	.808
X' = 16	40	.20	.20	.60		.300	.380	.460	.540	.632	.693	.770	.816
C = 12	41	.20	.30	.50		.300	.400	.470	.550	.608	.673	.755	.804
	42	.20	.40	.40		.400	.480	.533	.600	.648	.707	.780	.824
	43	.10	.20	.70		.350	.430	.490	.565	.644	.703	.778	.822
L = 44	44	.10	.39	.60		.300	.420	.500	.570	.636	.680	.750	.800
$\begin{array}{c} \mathbf{X} = 12 \\ \mathbf{X'} = 20 \end{array}$	45	.10	.40	.50		.400	.500	.550	.625	.680	.717	.763	.790
C = 12	$\frac{46}{47}$.20 .20	.20	.60 .50		008.300	.380 $.400$	$.460 \\ .470$.520 $.540$.576 $.588$.647 .657	.735 $.743$.788 . 794
J 12	48	.20	.40	.40		.400	.480	.520	.580	.632	.693	.770	.816
	49	.10	.20	.70		.420	.600	.700	.770	.816	.847	.885	.908
L = 32	50	.10	.30	.60		.360	.540	.660	.740	.792	.827	.885	.896
$\ddot{\mathbf{x}} = 16$	51	.10	.40	.50		.450	.600	.700	.750	.780	.807	.855	.884
$\mathbf{X} = 16$ $\mathbf{X}' = 8$	52	.20	.20	.60		.360	.520	.613	.700	.760	.800	.850	.880
$\ddot{c} = \ddot{s}$	53	.20	.30	.50		.350	.500	.600	.670	.736	.780	.835	.868
	54	.20	.40	.40		.440	.560	.640	.680	.712	.760	.820	.856

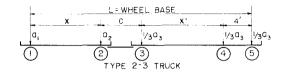
TABLE 8.9 (Continued)

	•••		,									
	55	.10	.20	.70	.390	.490	.627	.705	.764	.803	.853	.882
L = 36	56	.10	.30	.60	.360	.480	.620	.690	.736	.780	.835	.868
$\ddot{\mathbf{x}} = 16$	57	.10	.40	.50	.450	.550		.725				
X 10		.10		.00			.667		.760	.783	.818	.854
X' = 12	58	.20	.20	.60	.340	.420	.547	.630	.704	.753	.815	.852
C = 8	59	.20	.30	.50	.350	.450	.567	.625	.676	.730	.798	.838
	60	.20	.40	.40	.440	.520	.613	.660	.688	.707	.780	.824
	61	.10	.20	.70	.390	.470	.553	.640	.712	.760	.820	.856
T 40									.712	.760		
L = 40	62	.10	.30	.60	.360	.480	.580	660	.708	.740	.800	.840
X = 16	63	.10	.40	.50	.450	.550	.633	.700	.740	.767	.800	.824
X' = 16	64	,20	.20	.60	.340	,420	.487	.560	.648	.707	.780	.824
C = 8	65	.20	.30	.50	.350	,450	.533	.600	.640	.680	.760	.808
	66	.20	.40	.40	.440	.520	.587	.640	.672	.694	.760	.808
	67	.10	.20	.70	.390	.470	.517	.585	.660	.717	.788	.830
L = 44	68	.10	.30	.60	.360	.480	.540	.630	.684	.720	.765	.812
X = 16 X' = 20	69	.10	.40	.50	.450	.550	.600	.675	.720	.750	.788	.810
X' = 20	70	.20	.20	.60	.340	.420	.487	.540	.592	.660	.745	.796
$\ddot{c} = 8$	71	.20	.30	.50	.350	.450	.510	.575	.620	.650	.728	.782
0 - 0	$7\overline{2}$.20	.40	.40	.440	.520	.560	.620			.750	.800
									.656	.680		
	73	.10	.20	.70	.420	.560	.673	.740	.792	.827	.870	.896
L = 36	74	.10	.30	.60	.360	.480	.620	.700	.760	.800	.850	.880
X = 16	75	.10	.40	.50	.400	.500	.634	.700	.740	.773	830	.864
$ \begin{array}{l} L = 36 \\ X = 16 \\ X' = 8 \end{array} $	76	.20	.20	.60	.360	.480	.587	.660	.728	.773	$.830 \\ .830$.864
$\stackrel{\Lambda}{C} = 12$.00	.000	400	.001	.000	.140		.880	.004
C = 12	77	.20	.30	.50	.300	.400	.533	.620	.696	.747	.810	.848
	78	.20	.40	.40	.400	.480	.586	.640	.672	.720	.790	.832
	79	.10	.20	.70	.350	.490	.600	.675	.740	.783	.838	.870
L = 40	80	.10	.30	.60	.300	.420	.540	.630	704	.753	.815	.852
X = 16	81		.40	.50	.400	.500	.600	.675	790	750	.793	.834
X = 16 $X' = 12$.10	.40						.720	.750		
X'=12	82	.20	.20	.60	.300	.420	.520	.590	.672	.727	.795	.836
C = 12	83	.20	.30	.50	.300	.400	.500	.575	.636	.697	.773	.818
	84	.20	.40	.40	.400	.480	.560	.620	.656	.680	.750	.800
	85	.10	.20	.70	.350	.430	.527	.620	.688	.740	.805	.844
L = 44			.30	.60	.300	.420	.500	.600		.707	.780	.824
	86	.10							.660			.844
X = 16	87	.10	.40	.50	.400	.500	.567	.650	.700	.733	.775	.804
X' = 16	88	.20	.20	.60	.300	.380	.453	.540	.616	.680	.760	.808
C = 12	89	.20	.30	.50	.300	.400	.467	.550	.600	.647	.735	.788
	90	.20	.40	.40	.400	.480	.533	.600	.640	.667	.740	.792
					,350	.430	.476	.565	,636	.697		.818
	91	.10	.20	.70							.773	
L = 48	92	.10	.30	.60	.300	.420	.487	.570	.636	.680	.745	.796
X = 16	93	.10	.40	.50	.400	.500	.550	.625	.680	.717	.763	.790
X' = 20	94	.20	.20	.60	.300	.380	.433	.500	.560	.633	.725	.780
C = 12	95	.20	.30	.50	.300	.400	.450	.525	.580	.617	.703	.762
	96	.20	.40	.40	.400	.480	.520	,580	.624	.653	.730	.784
-												
	97	.10	.20	.70	.420	.600	.700	.760	.808	.840	.880	.904
$ \begin{array}{l} L = 36 \\ X = 20 \end{array} $	98	.10	.30	.60	.360	.540	.660	.730	.784	.820	.865	.892
X = 20	99	.10	.40	.50	.450	.600	.700	.750	.780	.800	.850	.880
$\mathbf{X'} = 8$	100	.20	.20	.60	.360	.520	.613	.680	.744	.787	.840	.872
C = 8	101	.20	.30	.50	.350	.500	.500	.650	.720	.767	.825	.860
	102	.20	.40	.40	,440	.560	.640	.680	.704	.747	.810	.848
_	103	.10	.20	.70	.390	.490	.627	.695	.756	.797	.848	.878
L = 40	104	.10	.30	.60	.360	.480	.620	.690	.732	.773	.830	.864
X = 20	105	.10	.40	.50	.450	.550	.667	.725	.760	.783	.813	.850
X' = 12	106	.20	.20	.60	.340	.420	.547	.610	.688	.740	.805	.844
C = 8	107	.20	.30	.50	.350	.450	.567	.625	.660	.717	.788	.830
	108	.20	.40	.40	.440	.520	.613	.660	.688	.707	.770	.816
	109	.10	.20 .30	.70	.390	.470	.553	.640	.704	.753	.815	.852
$L = 44 \\ X = 20 \\ X' = 16$	110	.10	.30	.60	.360	.480	.580	.660	.708	.740	.795	.836
X = 20 $X' = 16$	111	.10	.40	.50	.450	.550	.633	.700	.740	.767	.800	.820
X' = 16	112	.20	.20	.60	.340	.420	.480	.560	.632	.693	.770	.816
C = 8	113	.20	.30	.50	.350	.450	.533	.600	.640	.667	.750	.800
	114	.20	.40	.40	.440	.520	.587	.640	.672	.694	.730	.784
_	115	.10	.20	.70	.390	.470	.503	.585	.652	.710	.783	.826
L = 48	116	.10	.30	.60	.360	.480	.540	.630	.684	.720	.765	.808
X = 20	117	.10	.40	.50	.450	.550	.600	.675	.720	.750	.788	.810
X' = 20	118	.20	.20	.60	.340	.420	.460	.530	.584	.647	.735	.788 .770
C = 8	119	.20	.30	.50	.350	.450	.500	.575	.620	.650	.713	.770
0 0	120	.20	.40	.40	.440	.520	.560	.620	.656	.680	.710	.768
	121	.10	.20	.70	.420	.560	.673	.730	.784	.820	.865	.992
L = 40	122	.10	.30	.60	.360	.480	.620	.690	.752	.793	.845	.876
X = 20	123	.10	.40	.50	.400	.500	.634	.700	.740	.767	.825	.860
X = 20 $X' = 8$	124	.20	.20	.60	.360	.480	.587	.640	.712	760	.820	.856
$\hat{C} = 12$	125	.20	.30	.50	.300	.400	.533	.600	.680	$.760 \\ .733$.800	.840
J 12	126	.20	40	40	400	400	500	640		707	700	0040
			.40	.40	.400	.480	.586	.640	.672	.707	.780	.824
	127	.10	.20	.70	.350	.490	.600	.675	.732	.777 .747	.833	.866
L = 44	128	.10	.30	.60	.300	.420	.540	.630	.696	.747	.810	.848
$\ddot{\mathbf{x}} = 20$	129	.10	.40	.50	.400	.500	.600	.675	.720	.750	.788	.830
X' = 12	130	.20	.20	.60	.300	.420	.520	.590	.656	.713	.785	.828
C = 12		.20	.20	.50	.300	400	.500		200			010
$G \rightarrow 12$	131		.30			.400	.500	.575	.620	.683	.763	.810
	132	.20	.40	.40	.400	.480	.560	.620	.656	.680	.740	.792

TABLE 8.9 (Continued)

	133	.10	.20	.70	.350	.430	.527	.620	.680	.733	.800	.840
L = 48	134	.10	.30	.60	.300	.420	.500	.600	.660	.700	.775	.820
X = 20	135	.10	.40	.50	.400	.500	.567	.650	.700	.733	.775	.800
X' = 16	136	.20	.20	.60	.300	.380	.453	.540	.600	.667	.750	.800
C = 12	137	.20	.30	.50	.300	.400	.467	.550	.600	.633	.725	.780
	138	.20	.40	.40	.400	.480	.533	.600	.640	.667	.700	.760
	139	.10	.20	.70	.350	.430	.470	.565	.632	.690	.768	.814
L = 52	140	.10	.30	.60	.300	.420	.480	.570	.636	.680	.740	.792
X = 20	141	.10	.40	.50	.400	.500	.550	.625	.680	.717	.763	.790
X' = 20	142	.20	.20	.60	.300	.380	.420	.490	.552	.620	.715	.772
C = 12	143	.20	.30	.50	.300	.400	.450	.525	.580	.617	.688	.750
	144	.20	.40	.40	.400	.480	.520	.580	.624	.653	.690	.752

TABLE 8.10 SUMMARY OF MAXIMUM SHEARS IN SIMPLE SPANS PRODUCED BY TYPE 2-3 TRUCKS WEIGHING ONE KIP EACH



Ninety variations in the Type 2-3 truck are given in this table. Each truck number, from 1 to 90, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight of each axle.

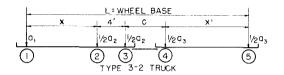
All dimensions are in feet. Maximum shears are in kips. a1, a2, and a3 represent the ratio of gross vehicle weight on axles.

Wheel Base and Axle	Truck No.	I	oad O Axles Kips	n		-		Span-	Feet			
Spacing Feet	14	a ₁	82	a ₃	10	20	30	40	50	60	80	100
	1	.10	.20	.70	.374	.513	.642	.727	.781	.818	.863	.891
L = 32	2	.10	.30	.60	.340	.460	.607	.690	.752	.793	.845	.876
$L = 32 \\ X = 12 \\ X' = 8$	3	.10	.40	.50	.433	.533	.656	.717	.753	.778	.827	.861
$\mathbf{X}' = 8$	4	.20	.20	.60	.320	.440	.560	.660	.728	.773	.830	.864
C = 8	5	.20	.30	.50	.333	.433	.556	.623	.699	.749	.812	.849
T 00	6	.10	.20	.70	.374	.467	.585	.673	.739	.782	.837	.869
L = 36	7	.10	.30	.60 .50	.340 .433	.420 $.500$.553 .611	.640	.704 $.727$.753	.815	.852
X = 12 $X' = 12$	8 9	.10 .20	.40 .20	.60	.320	.400	.506	.683	.680	.756 $.733$.793 $.800$.835 .840
$\mathbf{c} = \frac{12}{8}$	10	.20	.30	.50	.333	.400	.511	.583	.645	.704	.778	.823
	11	-10	.20	.70	.374	,420	.527	.620	.696	.747	.810	.848
L = 40	12	.10	.30	.60	.340	.420	.500	.600	.660	.713	.785	.828
X = 12	$\tilde{13}$.10	.40	.50	.433	.500	.567	.650	.700	.733	.775	.808
X' = 16	14	.20	.20	.60	.320	.360	.453	.540	.632	.693	.770	.816
C = 8	15	.20	.30	.60	.333	.400	.467	.550	.608	.673	.755	.804
	16	.10	.20	.70	.374	.513	.615	.697	.757	.798	.848	.879
L = 36	17	.10	.30	.60	.320	.440	.553	.650	.720	.767	.825	.860
$\mathbf{X} = 12$ $\mathbf{X}' = 8$	18 19	$.10 \\ .20$	$.40 \\ .20$.50 .60	.400 .320	$.467 \\ .440$.589 $.533$.667 $.620$.713 $.696$.744 $.747$.802 $.810$.841 $.848$
$\overset{\mathbf{A}}{\mathbf{C}} = \overset{\mathbf{S}}{12}$	20	.20	.30	.50	.300	.380	.489	.573	.659	.716	.787	.829
	21	.10	.20	.70	.374	.467	.558	.643	.715	.762	.822	.857
L = 40	22	.10	.30	.60	.320	.400	.487	.590	.672	.727	.789	.836
	23	.10	.40	.50	.400	.467	.545	.633	.687	.722	.768	.815
X' = 12	24	.20	.20	.60	.320	.400	.480	.560	.648	.707	.780	.824
C = 12	25	.20	.30	.50	.300	.380	.445	.533	.605	.671	.753	.803
_	26	.10	.20	.70	.374	.420	.513	.600	.672	.727	.795	.836
$\mathbf{L} = 44$	27	.10	.30	.60	.320	.380	.440	.540	.624	.687	.765	.812
X = 12	$\frac{28}{29}$.10	.40	.50	.400	.467	.511	.600	.660	.700	.750	.788 .800
	29 30	$.20 \\ .20$.20 .30	.60 $.50$.320 .300	$.360 \\ .380$.440 $.420$.520 $.500$	$.600 \\ .568$	$.667 \\ .640$	$.750 \\ .730$.784
0 - 12	31	.10	.20	.70	.374	.513	.642	.717	.773	.811	.858	.887
T. = 26	$\frac{31}{32}$.10	.30	.60	.340	.460	.607	.680	.744	.787	.840	.872
L = 36 X = 16	33	.10	.40	.50	.433	.533	.656	.717	.753	.778	.822	.857
$\mathbf{X}' = 8$	34	.20	.20	.60	.320	.440	.560	.640	712	.760	.820	.856
C = 8	35	.20	.30	.50	.388	.433	.556	.617	.683	.736	.802	.841
	36	.10	.20	.70	.374	.467	.585	.663	.731	.776	.832	.865
L = 40	37	.10	.30	.60	.340	.420	.553	.640	.696	.747	.810	.848
X = 16 X' = 12	38	.10	.40	.50	.433	.500	.611	.683	.727	.756	.792	.831
$X' = 12 \\ C = 8$	39	.20	.20	.60	.320	.400	.506	.580	.664	.720	.790	.832
C = 8	40	.20	.30	.50	.333	.400	.511	.583	.629	.691	.768	.815
T - 44	41	.10	.20	.70	.374	.420	.527	.620	.688	.740	.805	.844
V - 44	42 43	.10 .10	.30 .40	$.60 \\ .50$.340 $.433$.420 $.500$	$.500 \\ .567$.600 $.650$.660 .700	.707 $.733$.780 .775	.824 $.804$
$ L = 44 \\ X = 16 \\ X' = 16 $	44	.20	.20	.60	.320	.360	.453	.540	.616	.680	.760	.808
$\ddot{c} = \ddot{8}$	45	.20	.30	.50	.333	.400	.467	.550	.600	.647	.735	.788
	46	.10	.20	.70	.374	.513	.615	.687	.749	.791	.843	.875
L = 40	47	.10	.30	.60	.320	.440	.553	.640	.712	.760	.820	.856
$\mathbf{X} = 16$	48	.10	.40	.50	.400	.467	.589	.667	.713	.744	.797	.837
$\mathbf{x'} = 8$	49	.20	.20	.60	.320	.440	.533	.600	.680	.733	.800	.840
C = 12	50	.20	.30	.50	.300	.367	.489	.567	.643	.702	.777	.821

TABLE :	· · · · · · · · · · · · · · · · · · ·											
- 44	51	.10	.20	.70	.374	.467	.558	.643	.707	.756	.817	.853
= 44	52	.10	.30	.60	.320	.400	.487	.590	.664	.720	.790	.832
$egin{array}{l} \zeta = 16 \ \zeta' = 12 \end{array}$	53 54	.10 $.20$	$.40 \\ .20$.50 .60	.400 .320	.467 $.400$.545	.633 .5 60	.687 .632	.722	.767	.811
$\frac{12}{2} = 12$	55	.20	.30	.50	.320	.367	.480 $.445$.533	.589	.693	.770	.816 .795
_ 12					and the second second second second		the street of the second of			.658	.743	
	56	.10	.20	.70	.374	.420	.513	.600	.664	.720	.790	.832
L = 48	57	.10	.30	.60	.320	.380	.440	.540	.616	.680	.760	.808
$\zeta = 16$ $\zeta' = 16$	58	.10	.40	.50	.400	.467	.511	.600	.660	.700	.750	.784
C = 16 C = 12	59 60	.20	.20	.60	.320	.360	.440	.520	.584	.653	.740	.792
, — 12		.20	.30	.50	.300	.367	.411	.500	.560	.613	.710	.768
	61	.10	.20	.70	.374	.513	.642	.707	.765	.804	.853	.883
= 40	62	.10	.30	.60	.340	.460	.607	.680	.736	.780	.835	.868
$\zeta = 20$	63	.10	.40	.50	.433	.533	.656	.717	.753	.778	.817	.85
C = 8 $C = 8$	64	.20	$.20 \\ .30$.60	.320	.440	.560	.620	.696	.747	.810	.848
<u> </u>	65	.20		.50	.333	.433	.556	.617	.667	.722	.792	.833
	66	.10	.20	.70	.374	.467	.585	.663	.723	.769	.827	.861
L = 44	67	.10	.30	.60	.340	.420	.553	.640	.692	.740	.805	.844
$\zeta = 20$	68	.10	.40	.50	.433	.500	.611	.683	.727	.756	.792	.827
$\zeta' = 12$	69	.20	.20	.60	.320	.400	.506	.580	.648	.707	.780	.824
c = 8	70	.20	.30	.50	.333	.400	.511	.583	.627	.678	.758	.807
	71	.10	.20	.70	.374	.420	.527	.620	.680	.733	.800	.840
$_{*} = 48$	72	.10	.30	.60	.340	.420	.500	.600	.660	.700	.775	.820
= 20	73	.10	.40	.50	.433	.500	.567	.650	.700	.733	.775	.800
C' = 16	74	.20	.20	.60	.320	.360	453	.540	.600	.667	.750	.800
c = 8	75	.20	.30	.50	.333	.400	.467	.550	.600	.633	.725	.780
	76	.10	.20	.70	.374	.513	.615	.687	.741	.784	.838	.871
$_{-} = 44$	77	.10	.30	.60	.320	.440	.553	.640	.704	.753	.815	.852
$\zeta = 20$	78	.10	.40	.50	.400	.467	.589	.667	.713	.744	.792	.833
$\zeta' = 8$	79	.20	.20	.60	.320	.440	.533	.600	.664	.720	.790	.832
r = 12	80	.20	.30	.50	.300	.367	.489	.567	.627	.689	.767	.813
	81	.10	.20	.70	.374	.467	.558	.643	.699	.749	.812	.849
J = 48	82	.10	.30	.60	.320	.400	.487	.590	.656	.713	.785	.828
$\zeta = 20$	83	.10	.40	.50	.400	.467	.545	.633	.687	.722	.767	.807
$\zeta' = 12$	84	.29	.20	.60	.320	.400	.480	.560	.616	.680	.760	.808
c = 12	85	.20	.30	.50	.300	.367	.445	.533	.587	.644	.733	.787
	86	.10	.20	.70	.374	.420	.513	.600	.660	.713	.785	.828
$_{-} = 52$	87	.10	.30	.60	.320	.380	.440	.540	.612	.673	.755	.804
$\zeta = 20$	88	.10	.40	.50	.400	.467	.511	.600	.660	.700	.750	.780
ζ′≕ 16	89	.20	.20	.60	.320	.360	.440	.520	.576	.640	.730	.784
c = 12	90	.20	.30	.50	.300	.367	.411	.500	.560	.600	.700	.760

TABLE 8.11

SUMMARY OF MAXIMUM SHEARS IN SIMPLE SPANS PRODUCED BY TYPE 3-2 TRUCKS WEIGHING ONE KIP EACH



Ninety variations in the Type 3-2 truck are given in this table. Each truck number, from 1 to 90, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight of each axle.

All dimensions are in feet. Maximum shears are in kips. a₁, a₂, and a₃ represent the ratio of gross vehicle weight on axles.

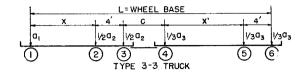
Wheel Base and Axle Spacing	Truck No.	1	oad O Axles Kips	n				Span-	Feet			
Feet	F	A 1	\mathbf{a}_2	a 3	10	20	30	40	50	60	80	100
	1	.10	,40	.50	.320	.460	.573	.655	.704	.743	.808	.846
L = 36	2	.10	.50	.40	.400	.530	.626	.695	.736	.763	.797	.830
X = 12	3	.10	.60	.30	.480	.600	.680	.735	.768	.790	.817	.834
$\mathbf{X'} = 12$	4	.20	.40	.40	.320	.440	.534	.600	.648	.707	.780	.824
C = 8	5	.20	.50	.30	.400	.510	.586	.640	.680	.733	.800	.840
	6	.10	.40	.50	.320	.460	.540	.630	.684	.720	.770	.816
L = 40	7	.10	.50	.40	.400	.530	.600	.675	.720	.750	.788	.810
	8	.10	.60	.80	.480	.600	.660	.720	.756	.780	.810	.828
X' = 16	9	.26	.40	.40	.320	.440 .510	.506	.580	.632	.693	.770	.816
C = 8	10	.20	.50	.30	.400		.566	.625	.668	.723	.793	.834
	11	.10	.40	.50	.320	.460	.537	.605	.664	.703	.752	.786
L = 44	12	.10	.50	.40	.400	.530	.587	.655	.704	.737	.778	.802
X = 12 $X' = 20$	13 14	$.10 \\ .20$	$.60 \\ .40$.30 .40	$.480 \\ .320$.600	$.650 \\ .506$.705 $.580$.744	.770	.803 $.760$.822
C = 8	15	.20	.50	.30	.400	.510	.560	.610	.624 $.656$.680 $.713$.785	.808 .828
0 - 0	16	.10	.40	.50	.320	.410	.507	.605	.664	.710	.783	.826
L = 40	17	.10	.50	.40	.400	.490	.573	.655	.704	.737	.778	.806
X = 12	18	.10	.60	.30	.480	.570	.640	.705	.744	.770	.803	.822
$\mathbf{X}' = 12$	19	.20	.40	.40	.320	.400	.480	.560	.616	.680	.760	.808
C = 12	20	,20	.50	.30	.400	.490	.560	.610	.656	.713	.785	.828
	21	.10	.40	.50	.320	.410	.490	.580	.644	.687	.745	.796
L = 44	22	.10	.50	.40	.400	.490	.560	.635	.688	.724	.768	.794
X = 12	23	.10	.60	.30	.480	.570	.630	.690	.732	.760	.795	.816
X' = 16 C = 12	24	.20	.40	.40	.320	.400	.467	.540	.600	.667	.750	.800
C = 12	25	.20	.50	.30	.400	.490	.560	.595	.644	.703	.778	.822
	26	.10	.40	.50	.320	.410	.490	.555	.624	.670	.727	.766
$ \begin{array}{l} L = 48 \\ X = 12 \\ X' = 20 \end{array} $	27	.10	.50	.40	.400	.490	.560	.615	.672	.710	.758	.786
X = 12	28	.10	.60	.30	.480	.570	.630	.675	.720	.750	.788	.810
X = 20 C = 12	29 30	.20	.40 .50	$.40 \\ .30$.320 .400	.400 $.490$.467 $.560$.520 $.595$	$.584 \\ .632$.653 $.693$.740 .770	.792 $.816$
C = 12		.20				.460			.704			
T 10	31 32	.10	.40 .50	.50 .40	.320 .400	.530	.573 .626	.655 .695	.736	.737 $.763$.803 $.797$.842 .826
L = 40	33	.10 .10	.60	.30	.480	.600	.680	.735	.768	.790	.817	.834
X - 10 Y'- 19	34	.20	.40	.40	.320	.440	.534	.600	.640	.680	.760	.808
X = 16 X' = 12 C = 8	35	.20	.50	.30	.400	.510	.586	.640	.672	.694	.760	.808
	36	.10	.40	.50	.320	.460	.540	.630	.684	.720	.765	.812
L = 44	37	.10	.50	.40	.400	.530	.600	.675	.720	.750	.788	.810
$\dot{x} = 16$	38	.10	.60	.30	.480	.600	.660	.720	.756	.780	.810	.828
$\mathbf{X} = 16$ $\mathbf{X}' = 16$	39	.20	.40	.40	.320	.440	.506	.580	.624	.654	.730	.784
C = 8	40	.20	.50	.30	.400	.510	.566	.625	.660	.683	.753	.802
	41	.10	.40	,50	,320	.460	.524	.605	.664	.703	.752	.782
L = 48	42	.10	.50	.40	.400	.530	.587	.655	.704	.737	.778	.802
X = 16 X' = 20	43	.10	.60	.30	.480	.600	.650	.705	.744	.770	.803	.822
X' = 20	44	.20	.40	.40	.320	.440	.493	.560	.608	.640	.720	.776
$\overline{c} = 8$	45	.20	.50	.30	.400	.510	.557	.610	.648	.674	.745	.796
	46	.10	.40	.50	.320	.410	.507	.605	.664	.703	.778	.822
L = 44	47	.10	.50	.40	.460	.490	.573	.655	.704	.737	.778	.802
X = 16	48	.10	.60	.30	.480	.570	.640	.705 .560	.744	.770	.803	.822
X' = 12 C = 12	49 50	.20 .20	.40 .50	.40 .30	,320 .400	.400 $.480$	$.480 \\ .546$.610	$.608 \\ .648$.640 $.674$.730 $.745$.784 .796
C = 12	- 00	.20			.400		.540	.010	.040	.014	. (40	.190

TABLE 8.11 (Continued)

	51	.10	.40	.50	.320	.410	.490	.580	.644	.687	.740	.792
L = 48	52	.10	.50	.40	.400	.490	.560	.635	.688	.724	.768	.794
X = 16	53	.10	.60	.30	.480	.570	.630	.690	.732	.760	.795	.816
X' = 16	54	.20	.40	.40	.320	.400	.467	.540	.592	.626	.710	.768
C = 12	55	.20	.50	.30	.400	.480	.537	.595	.636	.663	.738	.790
	56	.10	.40	.50	.320	.410	.490	.555	.624	.670	.727	.762
L = 52	57	.10	.50	.40	.400	.490	.560	.615	.672	.710	.758	.786
X = 16	58	.10	.60	.30	.480	.570	.630	.675	.720	.750	.788	.810
X' = 20	59	.20	.40	.40	.320	.400	.467	.520	.576	.614	.700	.760
C = 12	60	.20	.50	.30	.400	.480	.537	.580	.624	.654	.730	.784
	61	.10	.40	.50	,320	.460	.573	.655	.704	.737	.798	.838
L = 44	62	.10	.50	.40	.400	.530	.626	.695	.736	.763	.797	.822
X = 20	63	.10	.60	.30	.480	.600	.680	.735	.768	.790	.817	.834
$\ddot{\mathbf{X}}' = \ddot{12}$	64	.20	.40	.40	.320	.440	.534	.600	,640	.667	,750	.800
$\ddot{c} = 8$	65	.20	.50	.30	.400	.510	.586	.640	.672	.694	.730	.784
	66	.10	.40	.50	.320	.460	.540	.630	.684	.720	.765	.808
L = 48	67	.10	.50	.40	.400	.530	.600	.675	.720	.750	.788	.810
X = 20	68	.10	.60	.30	.480	.600	.660	.720	.756	.780	.810	.828
X' = 16	69	.20	.40	.40	.320	.440	.506	.580	.624	.654	.710	.768
$\hat{\mathbf{c}} = \hat{\mathbf{s}}$	70	.20	.50	.30	.400	.510	.566	.625	.660	.683	.713	.770
	71	.10	.40	.50	.320	.460	.523	.605	.664	.703	.752	.782
L = 52	72	.10	.50	.40	.400	.530	.587	.655	.704	.737	.778	.802
$\bar{x} = 20$	73	.10	.60	.30	.480	.600	.650	.705	.744	.770	.803	.822
$\ddot{\mathbf{x}}' = 20$	74	.20	.40	.40	.320	.440	.493	.560	.608	.640	.680	.744
C = 8	75	.20	.50	.30	.400	.510	.557	.610	.648	.674	.707	.764
	76	.10	.40	.50	.320	.410	.507	.605	.664	.703	.773	.818
L = 48	77	.10	.50	.40	.400	.490	.573	.655	.704	.737	.778	.802
$\bar{X} = 20$	78	.10	.60	.30	.480	.570	.640	.705	.744	.770	.803	.822
X' = 12	79	.20	.40	.40	.320	.400	.480	.560	.608	.640	.720	.776
$\overline{C} = \overline{12}$	80	.20	.50	.30	.400	.480	.546	.610	.648	.674	.705	.764
	81	.10	.40	.50	.320	.410	.490	.580	.644	.687	.740	.788
L = 52	82	.10	.50	.40	.400	.490	.560	.635	.688	.724	.768	.794
X = 20	83	.10	.60	.30	.480	.570	.630	.690	.732	.760	.795	.816
$\hat{\mathbf{X}}' = \hat{16}$	84	.20	.40	.40	.320	.400	.467	.540	.592	.626	.680	.744
C = 12	85	.20	.50	.30	.400	.480	.537	.595	.636	.663	.698	.758
	86	.10	.40	.50	.320	.410	.490	.555	.624	.670	.727	.762
L = 56	87	.10	.50	.40	.400	.490	.560	.615	.672	.710	.758	.786
$\ddot{\mathbf{x}} = 20$	88	.10	.60	.30	.480	.570	.630	.675	.720	.750	.788	.810
$\ddot{\mathbf{x}}' = \ddot{\mathbf{z}}_0$	89	.20	.40	.40	.320	,400	.467	,520	.576	.614	.660	.728
C = 12	90	.20	.50	.30	.400	.480	.537	.580	.624	.654	.690	.752

TABLE 8.12

SUMMARY OF MAXIMUM SHEARS IN SIMPLE SPANS PRODUCED BY TYPE 3-3 TRUCKS WEIGHING ONE KIP EACH



Ninety variations in the Type 3-3 truck are given in this table. Each truck number, from 1 to 90, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight of each axle.

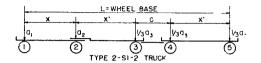
All dimensions are in feet. Maximum shears are in kips. a1, a2, and a3 represent the ratio of gross vehicle weight on axles.

		repres		ie ratio	or gross	venitie	weight	on daics.				
Wheel Base and Axle Spacing	Truck No.	I	oad O Axles Kips	;				Span-	Feet			
Feet	F	aı	\mathbf{a}_2	a ₃	10	20	30	40	50	60	80	100
	1	.10	.30	.60	.320	.440	,533	.625	.700	.750	.813	.850
L = 40	$\frac{2}{3}$.10	.40	.50	.320	.394	.496	.597	.659	.716	.787	.829
X = 12		.10	.50	.40	.400	.477	.564	.648	.699	.732	.774	.809
$\mathbf{x}' = 8$	4	.20	.30	.50	.267	.367	.451	.538	.631	.692	.769	.815
C = 12	5	.20	.40	.40	.320	.400	.471	.553	.611	.676	.757	.805
-	6	.10	.30	.60	.320	.400	.477	.575	.652	.710	.783	.826
L = 44 X = 12	7	.10	.40	.50	.320	.394	.463	.563	.631	.676	.753	.803
$X = 12 \\ X' = 12$	8 9	$.10 \\ .20$.50	.40 .50	.267	.477 $.333$.537 .399	$.622 \\ .492$.677	.714	.761 .736	.876
$\stackrel{\Lambda}{\text{C}} = \stackrel{12}{12}$	10	.20	.30 $.40$.40	.320	.400	.467	.527	.577 .589	.648 .658	.743	.789 .795
0 - 12	11	.10	.30	.60	.320	.360	.440					.802
L = 48	12	.10	.40	.50	.320	.394	.451	.525 .530	.604 .604	$.670 \\ .653$.753 $.720$.802
Y - 19	13	.10	.50	.40	.400	.477	.529	.595	.656	.697	.747	.864
X' = 16	14	.20	.30	.50	.267	.310	.374	.445	.524	.603	.702	.762
C = 12	15	.20	.40	.40	.320	.400	.467	.500	.568	.640	.730	.784
	16	.10	.30	.60	.320	.440	.503	.595	.668	.723	.793	.834
L = 44	17	.10	.40	.50	.320	.380	.441	.547	.619	.682	.762	.809
X = 12	18	.10	.50	.40	.400	.470	.519	.608	.667	.706	.754	.785
X' = 8 C = 16	19	.20	.30	.50	.267	.367	.421	.508	.591	.659	.744	.795
C = 16	20	.20	.40	.40	.320	.400	.467	.513	.579	.649	.737	.789
	21	.10	.30	.60	.320	.400	.467	.545	.620	.683	.763	.810
$egin{array}{l} L=48 \ X=12 \end{array}$	22	.10	.40	.50	.320	.380	.429	.513	.591	.642	.728	.783
X = 12	23	.10	.50	.40	.400	.470	.514	.582	.645	.688	.741	.858
X' = 12 $C = 16$	24	.20	.30	.50	.267	.333	.389	.462	.537	.614	.711	.769
C = 16	25	.20	.40	.40	.320	.400	.467	.500	.557	.631	.723	.779
	26	.10	.30	.60	.320	.360	.440	.495	.576	.643	.733	.786
$egin{array}{l} L=52 \ X=12 \end{array}$	$\frac{27}{28}$.10	.40	.50 .40	.320 .400	.380	.429	.481	.564	.620	.695	.756
$X - 12 \\ X' = 16$	$\frac{28}{29}$.10 .20	$.50 \\ .30$.50	.267	$.470 \\ .310$.514	.555 .428	$.624 \\ .492$.670	.727	.847 $.742$
C = 16	30	.20	.40	.40	.320	.400	$.374 \\ .467$.500	.541	.570 $.613$.677 $.710$.768
0 10	31	.10	.30	.60	,320	,440	.533	.625	.692	.743	.808	.846
$I_{*} = 44$	32	.10	.40	.50	.320	.394	.496	.597	.657	.743	.808	.846 $.825$
X = 16	33	.10	.50	.40	.400	.477	.564	.648	.699	.732	.774	.805
$\mathbf{X}' = 8$	34	.20	.30	.50	.267	.367	.451	.538	.615	.679	.759	.807
$\hat{C} = 12$	35	.20	.40	.40	.320	.387	.471	.553	.603	.644	.733	.787
	36	.10	.30	.60	.320	.400	.477	.575	.644	.703	.778	.822
L = 48	37	.10	.40	.50	.320	.394	.463	.563	.631	.676	.748	.799
$ \begin{array}{c} X = 16 \\ X' = 12 \end{array} $	38	.10	.50	.40	.400	.477	.537	.622	.677	.714	.761	.876
X' = 12	39	.20	.30	.50	.267	.333	.399	.492	.561	.634	.726	.781
C = 12	40	.20	.40	.40	.320	.387	.444	.527	.581	.618	.703	.763
	41	.10	.30	.60	.320	.360	.440	.525	.600	.663	.748	.798
L = 52	42	.10	.40	.50	.320	.394	.451	.530	.604	.653	.715	.772
X = 16	43	.10	.50	.40	.400	.477	.529	.595	.656	.697	.747	.864
X' = 16	44	.20	.30	.50	.267	.303	.367	.445	.516	.590	.692	.754
C = 12	45	.20	.40	.40	.320	.387	.440	.500	.560	.600	.690	.752
	46	.10	.30	.60	.320	.440	.503	.595	.660	.717	.788	.830
L = 48	47	.10	.40	.50	.320	.367	.441	.547	.617	.676	.757	.805
X = 16	48	.10	.50	.40	.400	.450	.519	.608	.667	.706	.754	.870
$\mathbf{x}' = 8$	49	.20	.30	.50	.267	.367	.421	.508	.575	.646	.734	.787
C = 16	50	.20	.40	.40	.320	.360	.426	.513	.571	.609	.703	.763

TABLE 8.12 (Continued)

	51	.10	.30	.60	,320	.400	.467	.545	.616	.677	.758	.806
L = 52	52	.10	.40	.50	.320	.360	.429	.513	.591	.642	.723	.779
X = 16	53	.10	.50	.40	.400	.450	.511	.582	.645	.688	.741	.858
X' = 12	54	.20	.30	.50	.267	.333	.389	.462	.529	.601	.701	.761
C = 16	55	.20	.40	.40	.320	.360	.440	.487	.549	.591	.683	.747
	56	.10	.30	.60	.320	.360	.440	.495	.576	.637	.728	.782
L = 56	57	.10	.40	.50	.320	.360	.429	.481	.564	.620	.690	.752
X = 16	58	.10	.50	.40	.400	.450	.511	.555	.624	.670	.727	.847
X' = 16	59	.20	.30	.50	.267	.301	.367	.415	.492	.557	.667	.734
C = 16	60	.20	.40	.40	.320	.360	.440	.480	.528	.573	.670	.736
	61	.10	.30	.60	.320	.440	.533	.625	.684	.737	.803	.842
L = 48	62	.10	.40	.50	.320	.394	.496	.597	.657	.702	.777	.821
X = 20	63	.10	.50	.40	.400	.477	.564	.648	.699	.732	.774	.801
X' = 8	64	.20	.30	.50	.267	.367	.451	.538	.599	.666	.749	.799
C = 12	65	.20	.40	.40	.320	.387	.471	.553	.603	.636	.723	.779
	66	.10	.30	.60	.320	.400	.477	.575	.640	.697	.773	.818
L = 52	67	.10	.40	.50	.320	.394	.463	.563	.631	.676	.743	.795
X = 20	68	.10	.50	.40	.400	.477	.537	.622	.677	.714	.761	.876
X' = 12	69	.20	.30	.50	,267	.333	.399	.492	.553	.621	.716	.773
C = 12	70	.20	.40	.40	.320	.387	.444	.527	.581	.618	.687	.749
	71	.19	.30	.60	.320	.360	.440	.525	.600	.657	.743	.794
$ m L \simeq 56$	72	.10	.40	.50	.320	.394	.451	.530	.604	.653	.715	.768
X = 20	73	.10	.50	.40	.400	.477	.529	.595	.656	.697	.747	.864
X' = 16	74	.20	.30	.50	.267	.303	.367	.445	.516	.577	.682	.746
C = 12	75	.20	.40	.40	.320	.387	.435	.500	.560	.690	.650	.720
	76	.16	.30	.60	.320	.440	.503	.595	.656	.710	.783	.826
L = 52	77	.10	.40	.50	.320	.367	.441	.547	.617	.669	.752	.801
X = 20	78	.10	.50	.40	.400	.450	.519	.608	.667	.706	.754	.870
$\mathbf{X}' = -8$	79	.20	.30	.50	.267	.367	.421	.508	.567	.632	.724	.779
C = 16	80	.20	.40	.40	.320	.360	.426	.513	.571	.609	.693	.755
	81	.10	.30	.60	.320	.400	.467	.545	.616	.670	.753	.802
L = 56	82	.10	.40	.50	.320	.360	.429	.513	.591	.642	.718	.775
X = 20	83	.10	.50	.40	.400	.450	.511	.582	.645	.688	.741	.858
X' = 12	84	.20	.30	.50	.267	.888	.389	.462	.529	.588	.691	.753
C = 16	85	.20	.40	.40	.320	.360	.418	.487	.549	.591	.657	.725
<u> </u>	86	.10	.30	.60	.320	.360	.440	.495	.576	.630	.723	.778
$\Gamma = 60$	87	.10	.40	.50	.320	.360	.429	.481	.564	.620	.690	.748
X == 20	88	.10	.50	.40	.400	.450	.511	.555	.624	.670	.727	.847
X' = 16	89	.20	.30	.50	.267	.301	.367	.415	.492	.543	.657	.726
C = 16	90	.20	.40	.40	.320	.360	.418	.460	.528	.573	.630	.704

TABLE 8.13 SUMMARY OF MAXIMUM SHEARS IN SIMPLE SPANS PRODUCED BY TYPE 2-S1-2 TRUCKS WEIGHING ONE KIP EACH



Ninety-six variations in the Type 2-S1-2 truck are given in this table. Each truck number, from 1 to 96, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight of each axle.

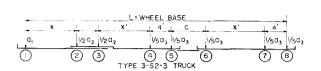
All dimensions are in feet. Maximum shears are in kips, a1, a2, and a3 represent the ratio of gross vehicle weight on axles.

Wheel Base and Axle Spacing	Truck No.	I	oad O Axles Kips					Span-	Feet			
Feet	Į.	\mathbf{a}_{1}	\mathbf{a}_2	a3	10	20	30	40	50	60	80	100
L = 36	1	.10	.20	.70	.280	.397	.498	.607	.685	.738	.803	.843
$\mathbf{X} = 8$ $\mathbf{X'} = 10$	$\bar{2}$.10	.30	.60	.320	.420	.527	.620	.676	.713	.780	.824
X' = 10 $C = 8$	3 4	.20	$.20 \\ .30$.60 .50	.240 .340	$.340 \\ .420$	$.453 \\ .509$	$.560 \\ .607$	$.648 \\ .685$.707 .738	$.780 \\ .803$.824 $.843$
L = 40	5	.10	.20	70	.280	.374	.482	.558	.643	.702	.777	.821
X = 8	6	.10	.30	.60	.320	.380	.487	.580	.644	.687	.750	.800
X'=12	7	.20	.20	.60	.240	.320	.427	.520	.616	.680	.760	.808
C = 8	8	.20	.30	.50	.340	.420	.487	.573	.659	.716	.787	.829
L = 44	9	.10	.20	.70	.280	.374	.467	.535	.600	.667	.750	.800
X = 8 X' = 14	10 11	.10 .20	$.30 \\ .20$.60	.320 .240	$.360 \\ .320$.460 .400	.540 $.500$.612 $.584$	$.660 \\ .653$.730 $.740$.784 $.792$
C = 8	12	.20	.30	.50	.340	.420	.465	.556	.632	.693	.770	.816
L = 48	13	.10	.20	.70	.280	.374	.451	.520	.570	.631	.723	.779
$\mathbf{x} = 8$	14	.10	.30	.60	.320	.360	.433	.500	.580	.633	.710	.768
X' = 16	15	.20	.20	.60	.240	.320	.387	.480	.552	.627	.720	.776
C = 8	16	.20	.30	.50	.340	.420	.454	.540	.605	.671	.753	.803
$ \begin{array}{l} L = 52 \\ X = 8 \end{array} $	17 18	.10 .10	.20 .30	.70 .60	.280 .320	.374 $.360$.436 $.407$.505 .480	.558 .548	.596 .607	.697 .690	.757 .752
$\hat{\mathbf{x}}' = \hat{\mathbf{x}}$	19	.20	.20	.60	.240	.320	.373	.460	.528	.600	.700	.760
C = 8	20	.20	.30	.50	.340	.420	.447	.523	.585	.649	.737	.789
L = 56	21	.10	.20	.70	.280	.374	.420	.490	.546	.583	.670	.736
$\mathbf{x} = 8$	22	.10	.30	.60	.320	.360	.380	.460	.528	.580	.670	.736
X' = 20 C = 8	$\frac{23}{24}$.20	$.20 \\ .30$.60 .50	.240 .340	.320 $.420$	$.360 \\ .447$	$.440 \\ .507$.512 $.572$	$.573 \\ .627$	$.680 \\ .720$.744 .776
$\frac{U}{L} = 60$	25	.10	.20	.70	.280	.374	.405	.478	.534	.573	.643	.715
$\bar{\mathbf{x}} = 8$	26	.10	.30	.60	.320	.360	.373	.440	.512	.560	.650	.720
X'=22	27	.20	.20	.60	.240	.320	.347	.420	.496	.547	.660	.728
C = 8	28	.20	.30	.50	.340	.420	.447	.490	.559	.604	.703	.763
$ \begin{array}{c} L = 64 \\ X = 8 \end{array} $	29	.10	.20	.70	.280 .320	.374	.405	.467	.522	.563	.617	.693
X = 8 X' = 24	$\frac{30}{31}$	$.10 \\ .20$.30	.60	.320	$.360 \\ .320$	$.373 \\ .347$.420 .400	.496 .480	.547 $.533$.630 $.640$.704 .712
C = 8	32	.20	.30	.50	.340	.420	.447	.474	.545	.593	.686	.749
L = 40	33	.10	.20	.70	.280	.397	.498	.597	.677	.731	.798	.839
X = 12	34	.10	.30	.60	.300	.420	.527	.620	.676	.713	.775	.820
X' = 10	35	.20	.20	.60	.240	.340	.427	.520	.616	.680	.760	.808
c = 8	36	.20	.30	.50	.300	.400	.489	.567	.621	.684	.763	.811
L = 44 X = 12	$\frac{37}{38}$.10 .10	.20 .30	.70 .60	.280 .240	.374 $.380$.482 $.487$.553 .580	.635 $.644$.696 $.687$.772 .745	.817 .796
X' = 12	39	.20	.20	.60	.240	.320	.413	.500	.568	.640	.730	.784
C = 8	40	.20	.30	.50	.200	.380	.456	.533	.595	.662	.747	.797
L = 48	41	.10	.20	.70	.280	.374	.467	.525	.592	.660	.745	.796
X = 12	42	.10	.30	.60	.240	.360	.460	.540	.612	.660	.720	.772
X' = 14 C = 8	43 44	.20 .20	.20	$.60 \\ .50$.240 .200	$.320 \\ .380$.400 .433	.480 .500	.544 $.568$	$.600 \\ .640$.700 .730	.760 .784
$\frac{C = 8}{L = 52}$	45	.10	.20	.70	.280	.374	.451	.513	.562	.624	.718	.775
X = 12	46	.10	.30	.60	.240	.340	.433	.500	.580	.633	.700	.748
X' = 16	47	.20	.20	.60	.240	.320	.387	.460	.528	.573	.680	.744
C = 8	48	.20	.30	.50	.200	.380	.420	.477	.548	.618	.713	.771
L = 56	49	.10	.20	.70	.280	.374	.436	.502	.550	.589	.692	.753
X = 12	50	.10	.30	.60	.240	.340	.407	.480	.548	.607	.680	.724
$X' = 18 \\ C = 8$	$\frac{51}{52}$.20 .20	.20 .30	.60 $.50$.240 .200	.320 $.380$.373 .420	.440 .460	.512 $.535$.560 $.596$.660 $.697$.728 $.757$

TABLE 8.13 (Continued)

IADDI	3.13	Contin	iueu,									
L = 60	53	.10	.20	.70	.280	.374	.420	.490	.538	.576	.665	.732
X = 12	54	.10	.30	.60	.240	.340	.380	.460	.520	.580	.660	.708
X' = 20	55	.20	.20	.60	.240	.320	.360	.420	.496	.547	.640	.712
C = 8	56	.20	.30	.50	.200	.380	.420	.444	.501	.578	.680	.744
L = 64	57	.10	.20	.70	.280	.374	.405	.478	.526	.566	.638	.711
X = 12	58	.10	.30	.60	.240	.340	.360	.440	.504	.553	.640	.692
X' = 22	59	.20	.20	.60	.240	.320	.347	.410	.480	.533	.620	.696
c = s	60	.20	.30	.50	.200	.380	.420	.440	.508	.562	.663	.731
L = 68	61	.10	.20	.70	.280	.374	.405	.467	.514	.556	.612	.689
X = 12	62	.10	.30	.60	.240	.340	.360	.420	488	.540	.620	.676
X' = 24	63	.20	.20	.60	.240	.320	.347	.400	.464	.520	.600	.680
c = s	64	.20	.30	.50	.200	.380	.420	.440	.495	.551	.647	.717
L = 56	65	.10	.20	.70	.280	.374	.451	.513	.554	.618	.713	.771
X = 16	66	.10	.30	.60	.240	.340	.433	.500	.580	.633	.700	.744
X' = 16	67	.20	.20	.60	.240	.320	.387	.440	.512	.560	.660	.728
c = s	68	.20	.30	.50	.200	.340	.411	.467	.533	.578	.673	.739
L = 60	69	.10	.20	.70	.280	.374	.436	.502	.542	.582	.687	.749
X = 16	70	.10	.30	.60	.240	320	.407	.480	.548	.607	.680	.724
X' = 18	71	.20	.20	.60	.240	.320	.373	.430	.496	.547	.630	.704
c = s	72	.20	.30	.50	.200	.340	.394	.450	.507	.555	.657	.725
L = 64	73	.10	.20	.70	.280	.374	.420	.490	.532	.569	.660	.728
X = 16	74	.10	.30	.60	.240	.320	.380	.460	.516	.580	.660	.708
X' = 20	75	.20	.20	.60	.240	.320	.360	.420	.480	.533	.600	.680
c = s	76	.20	.30	.50	,200	.340	.394	,433	.480	.533	.640	.712
L = 68	77	.10	.20	.70	.280	.374	.405	.478	.523	.559	.633	.707
X = 16	78	.10	.30	.60	.240	.320	354	.440	.496	.553	.640	.692
X' = 22	79	.20	.20	.60	.240	.320	.347	.410	.464	.520	.590	.664
C = 8	80	.20	30	.50	.200	.340	.394	.420	.460	.520	.623	.699
L = 72	81	.10	.20	.70	.280	.374	.405	.467	.513	.549	.607	.685
X = 16	82	.10	.30	.60	.240	.320	.347	.420	.480	.533	.620	.676
X' = 24	83	.20	.20	.60	.240	.320	.347	.400	.448	.507	.580	-648
C = 8	84	.20	.30	.50	.200	.340	.394	.420	.447	.509	.607	.685
L = 76	85	.10	.20	.70	.280	.374	.405	.455	.504	.539	.596	.664
X = 16	86	.10	.30	.60	.240	.320	.347	.405	.464	.520	.600	.660
X' = 26	87	.20	.20	.60	.240	.320	.347	.390	.432	.493	.570	.632
c = s	88	.20	.30	.50	.200	.340	.394	.420	.436	.498	.590	.672
L = 80	89	.10	.20	.70	.280	.374	.405	.444	.495	.529	.589	.643
X = 16	90	.10	.30	.60	.240	.320	.347	.390	.452	.507	.580	.644
X' = 28	91	.20	.20	.60	.240	.320	.347	.380	.424	.480	.560	.616
C = 8	92	.20	.30	.50	.200	.340	.394	.420	.436	.487	.573_	.659
L = 84	93	.10	.20	.70	.280	.374	.405	.432	.485	.521	.581	.621
X = 16	94	.10	.30	.60	.240	.320	.347	.375	.440	.493	.570	.628
X' = 30	95	.20	.20	.60	.240	.320	.347	.370	.416	.467	.550	.600
C = 8	96	.20	.30	.50	.200	.340	.394	.420	436	.476	.565	.645

TABLE 8.14 SUMMARY OF MAXIMUM SHEARS IN SIMPLE SPANS PRODUCED BY TYPE 3-S2-3 TRUCKS WEIGHING ONE KIP EACH



Eighty-four variations in the Type 3-S2-3 truck are given in this table. Each truck number, from 1 to 84, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight of each axle.

All dimensions are in fect. Maximum shears are in kips. a_1 , a_2 , and a_3 represent the ratio of gross vehicle weight on axles.

a1, a2, and	n a ₃ re	preser	it the	ratio o	if gross veh	icie weig	nt on ax	ies.				
Wheel	1 . !											
Base	9	T	oad O	7)								
and	14	-	Axles					Span-	Feet			
Axle	X		Kips									
Spacing	į											
Feet	Truck No.	a_1	\mathbf{a}_2	\mathbf{a}_3	10	20	30	40	50	60	80	100
L = 44	1	.05	.20	.75	.240	.330	.450	.555	.640	.700	.775	.820
	$\hat{2}$.05	.30	.65	.240	.348	.445	.545	.626	.680	.748	.798
$\begin{array}{ccc} \mathbf{x} = & 8 \\ \mathbf{x'} = & 8 \end{array}$	3	.10	.20	.70	.224	.312	.420	.520	.608	.673	.755	.804
$\hat{C} = 8$	4	.10	.30	.60	.240	.342	.432	.525	.600	.650	.728	.782
T 10	5	.05	.20	.75	.240	.330	.430	,513	.602	.668	.751	.801
X = 8	6 6	.05	.30	.65	.240	.322	.419	.500	.590	.650	.731 $.725$.776
$\mathbf{X}' = 10$	7	.10	.20	.70	.224	.308	.401	.479	.567	.639	.730	.784
C = 8	8	.10	.30	.60	.240	.318	.401	.483	.566	.622	.702	.761
L = 52	9	.05	.20	.75	.240	.330	.410	.495	.566	.637	.728	.782
$\mathbf{x} = 8$	10	.05	.30	.65	.240	.296	.393	.467	.553	.619	.702	.754
X' = 12	11	.10	.20	.70	.224	.308	.383	.462	.530	.605	.704	.763
$\mathbf{c} = 8$	12	.10	.30	.60	.240	.310	.384	.453	.533	.594	.681	.744
L = 56	13	.05	.20	.75	.240	.330	.390	.480	.534	.605	.704	.763
$\mathbf{X} = 8$	14	.05	.30	.65	.240	.290	.367	.448	.517	.589	.679	.733
X' = 14	15	.10	.20	.70	.224	.308	.364	.448	.498	.571	.679	.743
C = 8	16	.10	.30	.60	.240	.310	.360	.435	.500	.566	.660	.728
L = 60	17	.05	.20	.75	.240	.330	.370	.465	.522	.574	.680	.744
X = 8 $X' = 16$	18	.05	.30	.65	.240	.290	.349	.428	.485	.559	656	.715
X' = 16	19	.10	.20	.70	.224	.308	.345	.434	.487	.537	.653	.722
C = 8	20	.10	.30	.60	.240	.310	.344	.417	.470	.538	.639	.711
$I_{\star} = 64$	21	.05	.20	.75	,240	.330	.370	.450	.510	.550	.656	.725
	22	.05	.30	.65	.240	.290	.332	.409	.465	.528	.634	.697
X = 8 X' = 18	23	.10	.20	.70	.224	.308	.345	.420	.476	.513	.628	.702
c = 8	24	.10	.30	.60	.240	.310	.340	.399	.451	.510	.618	.694
L = 68	25	.05	.20	75		.330	.370		.498	.540		.706
	25 26	.05		.65	.240	.290	.321	.435	.498	.498	.633 .611	.679
$\mathbf{X} = \begin{array}{c} 8 \\ \mathbf{X'} = 20 \end{array}$	26 27	.10	.30	.70	.224	.308	.345	.389 $.406$.465	.504	.602	.682
C = 8	28	.10	.30	.60	.244	.310	.345	.348	.437	.486	.597	.677
L = 48	29	.05	.20	.75	.240	.330	.450	.555	.636	.697	.773	.818
X = 12	30	.05	.30	.65	.240	.348	.445	.545	.626	.680	.748	.796
$\mathbf{x}' = 8$	31	.10	.20	.70	.224	.312	.420	.520	.600	.667	.750	.800
$\overline{\mathbf{c}} = 8$	32	.10	.30	.60	.240	.342	.432	.525	.600	.650	.723	.778
L = 52	33	.05	.20	.75	.240	.330	.430	.513	.600	.665	.749	.799
	34	.05	.30	.65	.240	.322	.419	.500	.590	.650	.725	.774
	35	.10	.20	.70	.224	.308	.401	.479	.563	.633	.725	.780
c = s	36	.10	.30	.60	.240	.318	.408	.483	.566	.622	.694	.755
L = 56	37	.05	.20	.75	.240	.330	.410	.495	.566	.633	.725	.780
X = 12	38	.05	.30	.65	.240	.296	.393	.467	.553	.619	.702	.752
$\hat{\mathbf{X}}' = \hat{12}$	39	.10	.20	.70	.224	.308	.383	.462	.530	.599	.699	.759
$\tilde{C} = 8$	40	.10	.30	.60	.240	.294	.384	.453	.533	.594	.671	.732
L = 60	41	.05	.20	.75	.240	.330	.390	.480	.534	.602	.701	.761
X = 12	42	.05	.30	.65	,240	.286	.367	.448	.517	.589	.679	.733
$X - 12 \\ X' = 14$.10	.20	.70	.224	.308	.364	.448	.498	.565	.674	.739
C = 8	$\frac{43}{44}$.10	.30	.60	.240	.290	.360	.435	.500	.566	.650	.708
L = 64	45	.05	.20	.75	.240	.330	.370	.465	.522	.574	.678	.742
X = 12	46	.05	.30	.65	.240	.286	.349	.428	.485	.559	.656	.715
X' = 16	47	.10	.20	.70	.224	.308	.345	.434	.487	.537	.648	.718
c = s	48	.10	.30	.60	.240	.290	.344	.417	.470	.538	.628	.685
L = 68	49	.05	.20	.75	.240	.330	.370	.450	.510	.550	.654	.723
X = 12	50	.05	.30	.65	.240	.286	.332	.409	.465	.528	.634	.697
X' = 18	51	.10	.20	.70	.224	.308	.345	.420	.476	.513	.623	.698
c = s	52	.10	.30	.60	.240	.290	.328	.399	.451	.510	.608	.666

TABLE 8.14 (Continued)

L = 72	53	.05	.20	.75	.240	.330	.370	.435	.498	.540	.630	.704
X = 12	54	.05	.30	.65	.240	.286	.321	.389	.449	.498	.611	.679
X' = 20	55	.10	.20	.70	.224	.308	.345	.406	.465	.504	,597	.678
c = s	56	.10	.30	.60	.240	.290	.327	.381	.437	.482	.587	.649
L = 60	57	.05	.20	.75	.240	.339	.410	.495	.566	.630	.723	.778
X = 16	58	.05	.30	.65	.240	.296	.393	.467	.553	.619	.702	.751
X' = 12	59	.10	.20	.70	.224	.308	.388	.462	.530	.592	.694	.755
c = s	60	.10	.30	.60	.240	.294	.384	.453	.533	.594	.671	.728
L = 64	61	.05	.20	.75	.240	.330	.390	.480	.534	.601	.699	.759
X = 16	62	.05	.30	.65	,240	.286	.367	.448	.517	.589	.679	.733
X' = 14	63	.10	.20	.70	.224	.308	.364	.448	.498	.564	.669	.735
C = 8	64	.10	.30	.60	.240	.282	.360	.435	.500	.566	.650	.704
L = 68	65	.05	.20	.75	.240	.330	.370	.465	.522	.574	.675	.740
X = 16	66	.05	.30	.65	.240	.286	.349	.428	.485	.559	.656	.715
X' = 16	67	.10	.20	.70	.224	.308	.345	.434	.487	.537	.643	.714
$\mathbf{c} = 8$	68	.10	.30	.60	.240	.270	.344	.417	.470	.538	.628	.683
L = 72	69	.05	.20	.75	.240	.330	.370	.450	.510	.550	.651	.721
X = 16	70	.05	.30	.65	.240	.286	.332	.409	.465	.528	.634	.697
X' = 18	71	.10	.20	.70	.224	.308	.345	.420	.476	.513	.618	.694
c = s	72	.10	.30	.60	.240	.270	328	.399	.451	.510	.608	.666
L = 76	73	.05	.20	.75	.240	.330	.370	.435	.498	.540	.628	.702
X = 16	74	.05	.30	.65	.240	.286	.321	.389	.449	.498	.611	.679
X' = 20	75	.10	.20	.70	.224	.308	.345	.406	.465	.504	.592	.674
C = 8	76	.10	.30	.60	.240	.270	.313	.381	.437	.482	.587	.649
L = 80	77	.05	.20	.75	.240	.330	.370	.420	.486	.530	,604	.683
X = 16	78	.05	.30	.65	.240	.286	.321	.370	.434	.476	.588	.660
X' = 22	79	.10	.20	.70	.224	.308	.345	.392	.454	.495	.567	.653
C = 8	80	.10	.30	.60	.240	.270	.313	.363	.422	.462	.565	.633
L = 84	81	.05	.20	.75	.240	.330	.370	,405	.474	.520	.582	.664
X = 16	82	.05	.30	.65	.240	.286	.321	.351	.418	.464	.565	.642
X' = 24	83	.10	.20	.70	.224	.308	.345	.378	.442	.485	.546	.633
C = 8	84	.10	.30	.60	.240	.270	.313	.345	.408	.450	.545	.616

9. EQUIVALENT H TRUCK LOADINGS FOR VEHICLES OF UNIT WEIGHT ON SIMPLE SPAN BRIDGES

Tables 9.1-9.14 give the equivalent H truck loading corresponding to each of the 1303 variations of the 14 heavy vehicle types weighing 1.0 kip each, as shown in identification Index Tables 6.1-6.14, on spans of 10, 20, 30, 40, 50, 60, 80, and 100 feet in length. The equivalent H truck loadings corresponding to each of the 1303 heavy vehicle types and loadings on each of the 8 different span lengths makes a total of 10,424 H truck loading equivalents recorded in Tables 9.1-9.14. The table numbers corresponding to each of the 14 heavy vehicle types are as follows:

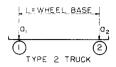
Table No.	Vehicle Type	Table No.	Vehicle Type	
9.1	2	9.8	3S	
9.2	3	9.9	2-2	
9.3	2-S1	9.10	2-3	
9.4	2-S2	9.11	3-2	
9.5	2 S3	9.12	3-3	
9.6	3-S1	9.13	2 · S1- 2	
9.7	3-S2	9.14	2 - S2 - 3	

An equivalent H truck loading is defined as the gross weight—either in pounds, kips, or tons—on a standard H truck required to produce the same maximum shear on a given span as that produced by the particular heavy vehicle under consideration on the same span. The equivalent H truck loadings given for various span lengths by Tables 9.1 - 9.14 are those that would result if the particular vehicle under consideration had a gross weight of one kip. Thus, the equivalent H truck loading for any particular vehicle type and loading on a given span may be obtained simply by multiplying the H truck loading equivalent indicated for a gross vehicle weight of one kip by the number of kips carried by the vehicle under consideration.

The use of Tables 9.1 - 9.14 for converting any particular heavy vehicle type and loading into an equivalent H truck loading on a given span is discussed in some detail in Articles 4 and 5.

TABLE 9.1

SUMMARY OF EQUIVALENT H TRUCK LOADINGS IN SIMPLE SPANS PRODUCED BY TYPE ${\scriptsize 2}$ TRUCKS WEIGHING ONE KIP EACH

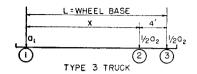


Thirty-six variations in the Type 2 truck are given in this table. Each truck number, from 1 to 36, represents a different combination of wheel base length, and ratios of gross vehicle weight of each axle.

All dimensions are in feet. Equivalent H truck loadings are in kips. a1 and a2 represent the ratio of gross vehicle weight on axles.

Wheel Base Feet	Truck No.	Ax	d On des ips				Span	-Feet			
1100	1.5	aı	a 2	10	20	30	40	50	60	80	100
	1	.45	.55	.688	.901	.937	.955	.964	.970	.978	.983
	2	.40	.60	.750	.930	.956	.968	.975	.979	.984	.988
L = 10	3	.35	.65	.813	.959	.974	.982	.985	.988	.991	.993
	4	.30	.70	.875	.988	.993	.995	.996	.997	.998	.998
	5	.25	.75	.938	1.017	1.011	1.009	1.006	1.005	1.004	1.003
	6	.20	.80	0.000	1.047	1.029	1.022	1.017	1.014	1.010	1.008
	7	.45	.55	.688	.849	.904	.930	.945	.955	.967	.973
	8	.40	.60	.750	.884	.926	.946	.958	.965	.974	.979
L = 12	9	.35	.65	.813	.919	.949	.962	.970	.976	.982	.986
	10	.30	.70	.875	.953	.971	.978	.983	.986	.990	.992
	11	.25	.75	.938	.988	.993	.995	.996	.997	.998	.998
	12	.20	.80	1.000	1.023	1.015	1.011	1.008	1.007	1.005	1.004
	13	.45	.55	.688	.797	.871	.907	.926	.939	.954	.964
	14	.40	.60	.750	.837	.897	.925	.941	.951	.964	.971
L =: 14	15	.35	.65	.813	.878	.923	.944	.956	.963	.973	.978
	16	.30	.70	.875	.919	.949	.962	.970	.976	.982	.986
	17	.25	.75	.938	.959	.974	.982	.985	.988	.991	.993
	18	.20	.80	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
	19	.45	.55	.688	.744	.838	.882	.907	.923	.943	.955
	20	.40	.60	,750	.791	.868	.903	.924	.937	.953	.963
L = 16	21	.35	.65	.813	.837	.897	.925	.941	.951	.964	.971
	22	.30	.70	.875	.884	.926	.946	.958	.965	.974	.979
	23	.25	.75	.938	.930	.956	.968	.975	.979	.984	.988
	24	.20	.80	1.000	.977	.985	.989	.992	.993	.995	.996
	25	.45	.55	.688	.692	.805	.858	.888	.907	.932	.945
	26	.40	.60	.750	.744	.838	.882	.907	.923	.943	.955
L = 18	27	.35	.65	.813	.797	.871	.906	.926	.939	.954	.964
	28	.30	.70	.875	.849	.904	.930	.945	.955	.967	.973
	29	.25	.75	.938	.901	.937	.955	.964	.970	.978	.983
	30	.20	.80	1.000	.953	.971	.978	.983	.986	.990	.992
•	31	.45	.55	.688	.640	.772	.833	.869	.892	.920	.936
	32	.40	.60	.750	.698	.808	.860	.890	.909	.933	.947
L=20	33	.35	.65	.813	.756	.846	.887	.911	.926	.946	.957
	34	.30	.70	.875	814	.882	.914	.932	.944	.959	.967
	35	.25	.75	.938	.872	.919	.941	.953	.962	.972	.977
	36	.20	.80	1.000	.930	.956	.968	.975	.979	.984	.988

TABLE 9.2 SUMMARY OF EQUIVALENT H TRUCK LOADINGS IN SIMPLE SPANS PRODUCED BY TYPE 3 TRUCKS WEIGHING ONE KIP EACH

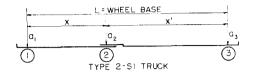


Forty-two variations in the Type 3 truck are given in this table. Each truck number, from 1 to 42, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight on each axle.

All dimensions are in feet. Equivalent H truck loadings are in kips. a_1 and a_2 represent the ratio of gross vehicle weight on axles.

Wheel Base and Axle	Truck No.	Load Ax Ki	les				Span-	Feet			
Spacing Feet	Ė	a 1	a ₂	10	20	30	40	50	60	80	100
	1	.40	.60	.600	.767	.853	.892	.915	.930	.948	.959
	2	.35	.65	.650	.802	.875	.909	.928	.941	.956	.965
L = 14	3	.30	.70	.700	.837	.897	.925	.941	.951	.964	.971
	4	.25	.75	.750	.872	.919	.941	.953	.962	.972	.977
X = 10	5	.20	.80	.800	.907	.941	.957	.966	.972	.979	.984
	6	.15	.85	.850	.942	.963	.973	.979	.983	.988	.990
	7	.10	.90	.900	.977	.985	.989	.992	.993	.995	.996
	8	.40	.60	.600	.721	.824	.871	.898	.916	.938	.951
	9	.35	.65	.650	.762	.849	.890	.913	.928	.947	.958
L = 16	10	.30	.70	.700	.802	.875	.909	.928	.941	.956	.965
	11	.25	.75	.750	.843	.901	.928	.943	.952	.965	.972
X = 12	12	.20	.80	.800	.884	.926	.946	.958	.965	.974	.979
	13	.15	.85	.850	.924	.952	.966	.972	.978	.983	.987
	14	.10	.90	.900	.965	.978	.984	.987	.989	.993	.994
	15	.40	.60	.600	.674	.794	.849	.881	.902	.927	.942
	16	.35	.65	.650	.721	.824	.871	.898	.916	.938	.951
L = 18	17	.30	.70	.700	.767	.853	.892	.915	.930	.948	.959
	18	.25	.75	.750	.814	.882	.914	.932	.944	.959	.967
X = 14	19	.20	.80	.800	.860	.912	.935	.949	.958	.969	.975
	20	.15	.85	.850	.907	.941	.957	.966	.972	.979	.984
	21	.10	.90	.900	.953	.971	.978	.983	.986	.990	.992
	22	.40	.60	.600	.628	.764	.828	.864	.888	.917	.934
	23	.35	.65	.650	.680	.797	.853	.883	.904	.928	.943
L = 20	24	.30	.70	.700	.733	.831	.876	.903	.920	.941	.953
	25	.25	.75	.750	.785	.864	.901	.922	.936	.952	.962
X = 16	26	.20	.80	.800	.837	.897	.925	.941	.951	.964	.971
	27	.15	.85	.850	.890	.930	.949	.960	.967	.975	.980
	28	.10	.90	.900	.942	.963	.973	.979	.983	.988	.990
	29	.40	.60	.600	.628	.736	.806	.847	.874	.907	.926
	30	.35	.65	.650	.680	.772	.833	.869	.892	.920	.936
L = 22	31	.30	.70	.700	.733	.808	.860	.890	.909	.933	.947
	32	.25	.75	.750	.785	.846	.887	.911	.926	.946	.957
X = 18	33	.20	.80	.800	.837	.882	.914	.932	.944	.959	.967
	34	.15	.85	.850	.890	.919	.941	.953	.962	.972	.977
	35	.10	.90	.900	.942	.956	.968	.975	.979	.984	.988
	36	.40	.60	.600	.628	.706	.785	.831	.860	.896	.918
	37	.35	.65	.650	.680	.747	.815	.854	.879	.911	.929
L = 24	38	.30	.70	.700	.733	.786	.844	.877	.899	.925	.940
	39	.25	.75	.750	.785	.827	.874	.900	.918	.939	.952
X = 20	40	.20	.80	.800	.837	.868	.903	.924	.937	.953	.963
	41	.15	.85	.850	.890	.908	.933	.947	.957	.968	.974
	42	.10	.90	.900	.942	.949	.962	.970	.976	.982	.986

TABLE 9.3
SUMMARY OF EQUIVALENT H TRUCK LOADINGS IN SIMPLE SPANS
PRODUCED BY TYPE 2-S1 TRUCKS WEIGHING ONE KIP EACH



One hundred twenty-six variations in the Type 2-S1 truck are given in this table. Each truck number, from 1 to 126, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight on each axle.

All dimensions are in feet. Equivalent H truck loadings are in kips. $a_1, a_2,$ and a_3 represent the ratio of gross vehicle weight on axles.

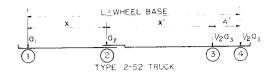
Wheel Base and Axle Spacing Feet	Truck No.	. 1	Joad O Axles Kips					Span-	Feet			
	Į.	aı	a 2	a 3	10	20	30	40	50	60	80	100
	1	.10	.30	.60	.750	.837	.897	.925	.941	.951	.964	.971
	2	.10	.40	.50	.625	.767	.853	.892	.915	.930	.948	.959
L = 20	3	.10	.45	.45	.588	.733	.831	.876	.903	.920	.941	.953
	4	.10	.50	.40	.650	.767	816	.860	.890	.909	.933	.947
X' = 12	5	.20	.30	.50	.625	,721	.824	.871	.898	.916	.938	.951
	6	.20	.40	.40	.550	.651	.780	.839	.873	.895	.922	.938
	7	.20	.50	.30	.675	.721	.750	.806	.847	.874	.907	.926
	8	.10	.30	.60	.750	.767	.838	.882	.907	.923	.943	.955
T - 01	9	.10	.40	.50	.625	.676	.780	.839	.873	.895	.922	.938
$ \begin{array}{l} L = 24 \\ X = 8 \\ X' = 16 \end{array} $	10	.10	.45	.45	.588	.628 $.676$.750 $.758$.817 .796	.856 $.839$.881	.912 $.902$.930 $.922$
X - 8 V'- 10	$\frac{11}{12}$.10 .20	$.50 \\ .30$.40 .50	.650 $.625$.676	.758	.796	.856	.867 $.881$.902 $.912$.922
A - 16	13	.20	.40	.40	.629 .550	.605	.692	.817	.822	.853	.891	.914
	14	.20	.50	.30	.675	.721	.714	.774	.822	.853	.891	.914
	15		.30	.60	.750	.698	.780	.839	.873	.895	.922	.938
	16 16	.10	.40	.50		.581	.780 $.706$.869	.873	.895	.896	.918
L = 28	17	$.10 \\ .10$.45	.45	.625 .588	.593	.669	.758	.809	.842	.884	.907
Y - 20	18	.10	.50	.40	.650	.651	.699	.753	.788	.826	.870	.897
$\mathbf{X} = 8$ $\mathbf{X}' = 20$	19	.20	.30	.50	.625	.581	.676	.763	,814	.847	.886	.909
21 20	20	.20	.40	.40	.550	.605	.603	.710	.771	.811	.860	.889
	21	.20	.50	.30	.675	.721	.714	.742	.797	.832	.876	.901
	22	.10	.30	.60	.750	.698	.728	.796	.839	.867	.902	.922
	23	.10	.40	.50	.625	.581	.640	.731	.788	.826	.870	.897
L = 32	24	.10	.45	.45	.588	.593	.596	.699	.763	.805	.855	.885
$\mathbf{x} = \mathbf{s}$	25	.10	.50	.40	.650	.651	.640	.710	.750	.784	.839	.872
$\tilde{\mathbf{X}}' = 24$	26	.20	.30	.50	.625	.581	.618	.710	.771	.811	.860	.889
	27	.20	.40	.40	.550	.605	.603	.645	.720	.769	.829	.864
	28	.20	.50	.30	675	.721	.714	.710	.771	.811	.860	.889
	29	.10	.30	.60	.750	.698	.684	.753	.805	.839	.881	.905
	30	.10	.40	.50	.625	.581	.581	.677	.746	.790	.845	.877
$\mathbf{L} = 36$ $\mathbf{X} = 8$	31	.10	.45	.45	.588	.593	.578	.640	.716	.766	.827	.862
X = 8 X' = 28	32	.10	.50	.40	.650	.651	.632	.667	.716	.749	.808	.848
X = 28	33 34	.20	.30 .40	.50 .40	.625 $.550$.581 $.605$.574 $.603$.656 $.602$.729 $.686$.776 $.742$.834 .808	.868
	35	.20	.50	.30	.675	.721	.714	.710	.746	.790	.845	.877
												.984
	36	.10	.30	.60	.825	.907	.941	.957	.966	.972	.979	.984
T 00	$\frac{37}{38}$.10	$.40 \\ .45$.50 .45	.725 $.675$.860 $.837$.912 $.897$.935 $.925$.949 .941	.958 $.951$.969 $.964$.971
$\begin{array}{c} \mathbf{L} = 20 \\ \mathbf{X} = 12 \end{array}$	39	.10	.50	.40	.725	.860	.882	.914	.932	.944	.959	.967
$\mathbf{X}' = \mathbf{X}'$	40	.20	.30	.50	.700	.791	.868	.903	.924	.937	.953	.968
$\lambda - \delta$	41	.20	.40	.40	.600	.744	.838	.882	.907	.923	.943	.955
	42	.20	.50	.30	.700	.791	.808	.860	.890	.909	.933	.947
	43	.10	.30	.60	.750	.837	.882	.914	.932	.944	.959	.967
	44	.10	.40	.50	.625	.767	.838	.882	.907	.923	.943	.955
L = 24	45	.10	.45	.45	.563	.733	.816	.866	.894	.913	.936	.949
$\bar{x} = \bar{1}2$	46	.10	.50	.40	.625	.767	.816	.849	.881	.902	.927	.942
$ \widetilde{\mathbf{X}} = 12 \\ \mathbf{X}' = 12 $	47	.20	.30	.50	.625	.721	.794	.849	.881	.902	.927	.942
	48	.20	.40	.40	.500	.651	.750	.817	.856	.881	.912	.930
	49	.20	.50	.30	.625	.721	.750	.785	.831	.860	.896	.918

TABLE 9.3 (Continued)

	50	.10	.30	.60	.750	.767	.824	.871	.898	.916	.938	.951
						.101	.824					
	51	.10	.40	.50	.625	.674	.764	.828	.864	.888	.917	.934
L = 28	52	.10	.45	.45	.563	.628	.736	.806	.847	.874	.907	.926
11 20		.10		.40	.000	.040		.000				
X = 12 $X' = 16$	53	.10	.50	.40	.625	.676	.758	.796	.831	.860	.896	.918
X' = 16	54	.20	.30	.50	.625	.651	.720	700	.839	over	000	.922
A - 10		.20						.796	.800	.867	.902	
	55	.20	.40	.40	.500	.558	.662	.753	.805	.839	.881	.905
				0.0	205		500					
	56	.20	.50	.30	.625	.674	.706	.731	.771	.811	.860	.889
		3.0		0.0	ar.	400						
	57	.10	.30	.60	.750	.698	.772	.828	.864	.888	.917	.934
	58	.10	.40	.50	.625	.581	.699	.774	.822	.853	.891	.914
•						.001			.044			
L = 32	59	.10	.45	.45	.563	.570	.662	.747	.801	.836	.879	.903
L = 32 X = 12 X' = 20	60	.10	.50	.40	.625	.628	.699	.753	.784	.818	.865	.893
A - 12				.40		.040	.000	. (95	.104	.010	.805	.090
X' = 20	61	.20	.30	.50	.625	.581	.662	.742	.797	.832	.876	.901
	62	.20	.40	.40	.500	550	.589		.754	.797		
			.40	.40	.500	.558	.000	.688			.850	.881
	63	.20	.50	.30	.625	.674	.684	.699	.729	.776	.834	.868
	64	.10	.30	.60	.750	.698	.728	.785	.831	.860	.896	.918
		10				F01			500			
	65	.10	.40	.50	.625	.581 $.570$.640	.720	.780	.818	.865	.893
L = 36 X = 12	66	.10	.45	.45	.563	.570	.596	.688	.754	.797	.850	.881
X = 12	67	10	EO	40	205	600	0.40	710	250	222	004	0.00
		.10	.50	.40	.625	.628	.640	.710	.750	.776	.834	.868
X' = 24	68	.20	.30	.50	.625	.581	.618	.688	.754	.797	.850	.881
		.20						00.4	700			05.0
	69		.40	.40	.500	.558	.574	.624	.703	.755	.819	.856
	70	.20	.50	.30	.625	.674	.684	.688	.703	.755	.819	.856
	71	.10	.30	.60	.750	.698	.684	.742	.797	.832 .784	.876	.901
										504		
	72	.10	.40	.50	.625	.581	.581	.667	.737	. 84	.839	.872
L = 40	73	.10	.45	.45	.563	.570	.562	.629	.708	.758	.822	.858
v - 10					200	000			710	7.40	000	.000
X = 12	74	.10	.50	.40	.625	.628	.618	.667	.716	.749	.803	.844
X = 12 $X' = 28$	75	.20	.30	.50	.625	.581	.574	.634	.712	.763	.824	.860
AT - 40	70		40	.00	.020		.574 $.574$				#000	
	76	.20	.40	.40	.500	.558	.574	.581	.653	.713	.788	.831
	77	.20	.50	.30	.625	.674	.684	.688	.691	.374	.803	.844
				emorro de vers			.004			.014		
	78	.10	.30	.60	.750	.698	.662	.711	.763	.805	.855	.885
	79	.10	.40	.50	.625	.581	.551	.625	.695	.748	.813	.852
L = 44	80	.10	.45	.45	.563	.570	.562	.581	.661	.721	.793	.835
L = 44		.10	.40	.40	.000	.010	.004	*90T	.001	. 141	. (90	.000
X = 12 $X' = 32$	81	.10	.50	.40	.625	.628	.618	.625	.682	.721	.772	.819
37/ 90										507	700	.840
A - 32	82	.20	.30	.50	.625	.581	.551	.602	.669	.727	.798	.840
	83	.20	.40	.40	.500	.558	.574	.581	.602	.671	.756	,807
		20					001	200		610		000
	84	.20	.50	.30	.625	.674	.684	.688	.691	.713	.788	.831
	0.5	4.0		0.0		0.0 #	0.20		~			0.50
	85	.10	.30	.60	.825	.907	.926	.946	.958	.965	.974	.979
	86	.10	.40	.50	.725	.866	.897	.925	.941	.951	.964	.971
T - 01							.000		000		.004	0.07
L = 24	87	.10	.45	.45	.675	.837	.882	.914	.932	.944	.959	.967
X = 16	88	.10	.50	.40	.725	.860	.875	.963	.924	.937	.953	.963
X - 10		.10			.120							
$\mathbf{X} = 16$ $\mathbf{X'} = 8$	89	.20	.30	.50	.700	.791	.838	.882	.907	.923	.943	.955
	90	.20	.40	.40	.600	.744	.808	.860	.890	.909	.933	.947
			.40	.40	.000				.000			
	91	.20	.50	.30	.700	.791	.794	.839	.873	.895	.922	.938
	92	.10	.30	.60	.750	.837	.868	.903	.924	.937	.953	.963
	93	.10	.40	.50	.625	.767	.824	.871	.898	.916	.938	.951
*					.020	.101	.024	.011		.010		
L = 28	94	.10	.45	.45	.563	.733	.802	.855	.886	.905	.931	.944
X = 16	95	.10	.50	.40	.625	.767	.816	.839	.873	.895	.922	.938
$X = 16 \\ X' = 12$.10		.40								
X'=12	96	.20	.30	.50	.625	.721	.764	.828	.864	.888	.917	.934
	97	.20	.40	.40	.500	.651	.720	.796	.839	.867	.902	.922
		.20		.40		.0.71	-120	700	01.6	0.47		
	98	.20	.50	.30	.625	.721	.750	.763	.814	.847	.886	.909
	0.0	1.0	0.0		750	505	010	600	000	0.00	000	0.47
	99	.10	.30	.60	.750	.767	.816	.860	890	.909	.933	.947
	100	.10	.40	.50	.625	.674	.758	.817	.856	.881	.912	.930
T 00	101					000	700	500	200	00-	000	000
L = 32	101	.10	.45	.45	.563	.628	.728	.796	.839	.867	.902	.922
$\begin{array}{c} X = 16 \\ X' = 16 \end{array}$	102	$\frac{.10}{.20}$.50	.40	.625	.676	.758	.796	.822	,853	.891 $.891$.914
V/ 10		0.5	.30	FA	208		700	.774	.822	,853	001	.914
A - 10	103	.211		.50	.625	651	.706	.114	-044	.000	.001	.714
	104	.20	.40	.40	.500	.558	.647	.731	.788	.826	.870	.897
	105	.20	.50	.30	.625	.651	.766	.731	.754	.797	.850	.881
	100	.29	.00	.00	.023	.001	.100	. ()) 1		- 4 17 4	.000	.001
	106	.10	.30	.60	.750	.698	.772	.817	.856	.881	.912	.930
									.000	*00T	-715	
	107	.10	.40	.50	.625	.581	.699	.763	.814	.847	.886	.909
T - 90	100	3.5	45			7.45			700	.829	.874	.899
$\Gamma = 36$	108	.10	.45	.45	.563	.547	.662	.737	.792			
X = 16 $X' = 20$	109	.10	.50	.40	.625	.605	.699	.753	.784 .789	.811	.860	.889
774 00									M CLO	0.10		000
X' = 20	110	.20	.30	.50	.625	.581	.662	.720	.789	.818	.865	.893
	111	.20	.40	.40	.500	.512	.589	.667	.737	.784	.839	.872
		-419	.40	.40		.012		7001	-100	-104	.000	.0.0
	112	.20	.50	.30	.625	.628	.662	.699	.720	.748	.813	.852
									.522 .771 .746 .750			
	113	.10	.30	.60	.750	.698	.728	.774 .710	.822	.853	.891	.914
	114	.10	.40	.50	.625	.581	.640	710	701	.811 .790 .776	.860	.889
_								.110	-111	.0.1	.000	.000
L = 40	115	.10	.45	.45	.563	.547	.596	.677	.746	.790	.845	.877
X = 16		1.0	.50	40	005	CO-		.710	770	756	.829	.864
A -= 16	110		.au	.40	.625	.605	.640		. (30	.776	.829	
	116	.10			.625	.581	.618	.667	.737	.784	.839	.872
	116			50								
$\tilde{X}' = 24$	$\frac{116}{117}$.20	.30	.50					0.04	E 10	000	0.10
	116	$\frac{.20}{.20}$.40	.500	.512	.544	.602	.686	.742	.808	.848
	116 117 118	$\frac{.20}{.20}$.30 .40	.40	.500	.512			.686	.784 .742	.808	.848
	116 117 118 119	.20	.30 .40 .50	.40 .30		.512 .628	.655	.667	.68 6 .605	.713	.808 .777	.848 .823
	116 117 118 119	.20 .20 .20	.30 .40 .50	.40 .30	.500 .625	.628	.655	.667	.68 6 .605	.713	.808 .777	.848 .823
	116 117 118 119 120	.20 .20 .20 .10	.30 .40 .50	.40 .30 .60	.500 .625 .750	.628	.655 .684	.667	.68 6 .605 .788	.713	.808 .777 .870	.848 .823 .897
	116 117 118 119 120	.20 .20 .20 .10	.30 .40 .50	.40 .30	.500 .625	.628	.655	.667 .742 .667	.686 .605 .788 .729	.713	.808 .777 .870 .834	.848 .823 .897 .868
X' = 24	116 117 118 119 120 121	.20 .20 .20 .10 .10	.30 .40 .50 .30 .40	.40 .30 .60	.500 .625 .750 .625	.628 .698 .581	.655 .684 .581	.667 .742 .667	.686 .605 .788 .729	.713 .826 .776	.808 .777 .870 .834	.848 .823 .897 .868
X' = 24 $L = 44$	116 117 118 119 120 121 122	.20 .20 .20 .10 .10 .10	.30 .40 .50 .30 .40 .45	.40 .30 .60 .50 .45	.500 .625 .750 .625 .563	.628 .698 .581 .547	.655 .684 .581 .548	.667 .742 .667 .629	.686 .605 .788 .729 .609	.713 .826 .776 .759	.808 .777 .870 .834 .817	.848 .823 .897 .868 .854
X' = 24 $L = 44$	116 117 118 119 120 121 122	.20 .20 .20 .10 .10 .10	.30 .40 .50 .30 .40 .45	.40 .30 .60 .50 .45	.500 .625 .750 .625 .563	.628 .698 .581 .547	.655 .684 .581 .548	.667 .742 .667 .629	.686 .605 .788 .729 .609	.713 .826 .776 .759	.808 .777 .870 .834 .817	.848 .823 .897 .868 .854
X' = 24 $L = 44$ $X = 16$	116 117 118 119 120 121 122 123	.20 .20 .20 .10 .10 .10 .10	.30 .40 .50 .30 .40 .45	.40 .30 .60 .50 .45 .40	.500 .625 .750 .625 .563 .625	.628 .698 .581 .547 .605	.655 .684 .581 .548 .603	.667 .742 .667 .629 .667	.686 .605 .788 .729 .609 .716	.826 .776 .752 .749	.808 .777 .870 .834 .817 .798	.848 .823 .897 .868 .854 .840
X' = 24 $L = 44$	116 117 118 119 120 121 122	.20 .20 .20 .10 .10 .10 .10 .20	.30 .40 .50 .30 .40 .45 .50	.40 .30 .60 .50 .45	.500 .625 .750 .625 .563 .625 .625	.628 .698 .581 .547 .605 .581	.655 .684 .581 .548	.667 .742 .667 .629 .667 .634	.686 .605 .788 .729 .609 .716 .695	.713 .826 .776 .752 .749 .748	.808 .777 .870 .834 .817 .798	.848 .823 .897 .868 .854 .840 .852
X' = 24 $L = 44$ $X = 16$	116 117 118 119 120 121 122 123 124	.20 .20 .20 .10 .10 .10 .10 .20	.30 .40 .50 .30 .40 .45 .50	.40 .30 .60 .50 .45 .40 .50	.500 .625 .750 .625 .563 .625 .625	.628 .698 .581 .547 .605 .581	.655 .684 .581 .548 .603 .574	.667 .742 .667 .629 .667 .634	.686 .605 .788 .729 .609 .716 .695	.713 .826 .776 .752 .749 .748	.808 .777 .870 .834 .817 .798	.848 .823 .897 .868 .854 .840 .852
X' = 24 $L = 44$ $X = 16$	116 117 118 119 120 121 122 123 124 125	.20 .20 .20 .10 .10 .10 .10 .20 .20	.30 .40 .50 .30 .40 .45 .50 .30 .40	.40 .30 .60 .50 .45 .40 .50	.500 .625 .750 .625 .563 .625 .625 .500	.628 .698 .581 .547 .605 .581 .512	.655 .684 .581 .548 .603 .574	.667 .742 .667 .629 .667 .634	.686 .605 .788 .729 .609 .716 .695	.713 .826 .776 .752 .749 .748 .700	.808 .777 .870 .834 .817 .798 .813 .777	.848 .823 .897 .868 .854 .840 .852 .323
X' = 24 $L = 44$ $X = 16$	116 117 118 119 120 121 122 123 124	.20 .20 .20 .10 .10 .10 .10 .20	.30 .40 .50 .30 .40 .45 .50	.40 .30 .60 .50 .45 .40 .50	.500 .625 .750 .625 .563 .625 .625	.628 .698 .581 .547 .605 .581	.655 .684 .581 .548 .603 .574	.667 .742 .667 .629 .667 .634	.686 .605 .788 .729 .609 .716 .695	.713 .826 .776 .752 .749 .748	.808 .777 .870 .834 .817 .798	.848 .823 .897 .868 .854 .840 .852

EQUIVALENT LOADS TABLE 9.4

SUMMARY OF EQUIVALENT H TRUCK LOADINGS IN SIMPLE SPANS PRODUCED BY TYPE 2-S2 TRUCKS WEIGHING ONE KIP EACH



One hundred and eight variations in the Type 2-S2 truck are given in this table. Each truck number, from 1 to 108, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight of each axle.

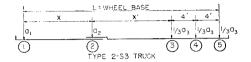
All dimensions are in feet. Equivalent H truck loadings are in kips. a1, a2, and a3 represent the ratio of gross vehicle weight on axles.

Wheel Base and Axle Spacing	Truck No.	1	Load C Axles Kips					Span-	Feet			
Spacing Feet	T.	a ₁	a:	aз	10	20	30	40	50	60	80	100
	1	.10	.30	.60	.600	.767	.853	.892	.915	.930	.948	.959
$\begin{array}{l} L=20 \\ X=8 \\ X'=8 \end{array}$	2	.10	.40	.50	.563	.756	.816	.866	.894	.913	.936	.949
$\mathbf{x} = \mathbf{s}$	3	.10	.50	.40	.675	.814	.846	.860	.873	.895	.922	.938
X' = 8	4	.20	.30	.50	.500	.663	.786 $.750$.844	.877	.899	.925	.940
	5	.20	.40	.40	.550	.698	.759	.817	.856	.881	.912	.930
	6	.20	.50	.30	.675	.756	.772	.823	.860	.884	.915	.932
T 0.	7	.10	.30	.60	.600	.698	.794	.849	.881	.902	.927	.942
L = 24	8	.10	.40	.50	.525 $.650$	$.640 \\ .721$.742	.812	.852	.878	.910	.928
X = 8 X' = 12	9 10	.10 .20	.50 .30	.40 .50	.500	.593	.787 .714	.817 $.790$.835 $.835$.853	.891	.914
A - 12	11	.20	.40	.40	.550	.605	.677	.753	.805	.863 $.839$.899 $.881$.920 .905
	12	.20	.50	.30	.675	.721	.728	.790	.835	.863	.899	.920
				.60	.600	.628	.736					
L = 28	13 14	.10 .10	.30	.50	.000 595	.048 535	669	.806 $.758$.847 $.809$.874 $.842$.907 .884	.926 $.907$
$X = \frac{1}{8}$	15	.10	.50	.40	.525 $.650$	$.535 \\ .651$.669 $.728$.774	.801	.818	.860	989
X = 8 X' = 16	16	.20	.30	.50	.500	.523	.640	.737	.792	.829	.874	.889 .899
	17	.20	.40	.40	.550	.605	.618	.710	.771	.811	.860	.889
	18	.20	.50	.30	.675	.721	.714	.758	.809	.842	.884	.907
	19	.10	.30	.60	.600	.628	.684	.763	.814	.847	.886	.909
L = 32	20	.10	.40	.50	.525	$.535 \\ .651$.602	.704	.767	.808	.858	.887
X = 8	21	.10	.50	.40	.650	.651	.669	.731	.767	.790	.829	.864
X' = 20	22	.20	.30	.50	.500	.523 .605	.580	$.683 \\ .667$.750	.794	.848	.879
	23	.20	.40	.40	.550	,605	.603	.667	.737	.784	-839	.872
	24	.20	.50	.30	.675	.721	.714	.726	.784	.821	.868	.895
	25	.10	.30	.60	.600	.628	.640	.720	.780	.818	.865	.893
L = 36	26	.10	.40	.50	.525 .650	.535 $.651$.544	.651	.725	.773	.832	.866
X = 8 X' = 24	$\frac{27}{28}$.10 .20	$.50 \\ .30$	$.40 \\ .50$.500	.528	.633 $.536$.688 $.629$.733 $.708$	$.762 \\ .758$.808 $.822$.848
A 24	29	.20	.40	.40	.550	.605	.603	.624	.703	.755	.819	.858 .856
	30	.20	.50	.30	.675	.721	.714	.710	.758	.800	.853	.883
	31	.10	.30	.60	.600	.628	.618	.677	.746	.790	.845	
L = 40	32	.10	.40	.50	.525	.535	.523	.597	.682	.737	.806	.846
$\ddot{\mathbf{x}} = \ddot{\mathbf{s}}$	33	.10	.50	.40	.650	.651	.633	.645	.699	734	.788	.831
X = 8 $X' = 28$	34	.20	.30	.50	.500	.523	.515	.575	.665	.724	.788 $.796$.837
	35	.20	.40	.40	.550	.605	.603	.602	.669	.727	.798	.840
	36	.20	.50	.30	.675	.721	.714	.710	.733	.779	.837	.870
	37	.10	.30	.60	.600	.767	.838	.882	.907	.923	.943	.955
L = 24	38	.10	.40	.50	.563	.756	.810	.855	.886	.905	.931	.944
X = 12 $X' = 8$	39	.10	.50	.40	.675	.814	.846	.860	.869	.888	.917	.934
X' = 8	40	.20	.30	.50	.500	.663	.758	.823	.860	.884	.915	.932
	41	.20	.40	.40 .30	.550 $.663$.698 $.756$.735	.796	.839	.867	.902	.922
	42	.20	.50				.772	.780	.818	.850	.889	.912
T 00	43	.10	.30	.60	.600	.698	.780	.839	.873	.895	.922	.938 .924
L = 28	44	.10 .10	.40	.50 $.40$.500 .625	$.640 \\ .721$.736 $.787$	$.801 \\ .817$.843	.871	.905	.924
X = 12 X' = 12	$\frac{45}{46}$.20	.50 .30	.50	.500	.593	.684	.769	.835 .818	.847 $.850$.886	.909 .912
A — 12	47	$.20 \\ .20$.40	.40	.500	.605	.677	.731	.788	.826	.889 $.870$.897
	48	.20	.50	.30	.625	.686	.728	.747	.767	.808	.858	.887
	49	.10	.30	.60	.600	.628	.728	.796	.839	.867	.902	.922
L = 32	50	.10	.40	.50	.500	.523	.662	.747	.801	.836	.879	.903
$\mathbf{X} := 12$	51	.10	.50	.40	.625	.628	.728	.774	.801	.818	.855	.885
$ \begin{array}{r} $	52	.20	.30	50	.500	.523	.624	.715	.775	.815	.863	.891
	53	.20	.40	.40	.500	.558	.618	.667	.737	.784	.839	.872
	54	.20	.50	.30	.625	.674	.684	.715	.742	.787	.842	.874

TABLE 9.4 (Continued)

			•									
•	55	.10	.30	.60	.600	.628	.684	.753	.805	.839	.881	,905
L = 36	56	.10	.40	.50	.500	.523	.602	.694	.758	.800	.853	.883
Y - 19	57	.10	.50	.40	.625	.628	.669	.731	.767	.790	.824	.860
X = 12 $X' = 20$	58	.20	.30	.50	.500	.523	.580					
$\Lambda = 20$.661	.733	.779	.837	.870
	59	.20	.40	.40	.500	.558	.574	.624	.686	.742	.808	.848
_	60	.20	.50	.30	.625	.674	.684	.688	.716	.766	.827	.862
	61	.10	.30	.60	.600	.628	.640	.710	.771	.811	.860	.889
L = 40	62	.13	.40	.50	.500	.523	.544	.640	.716	.766	.827	.862
Y 19	63	.10	.50	.40	.625	.628	.618	.688	.733	.762	.798	.835
	64	.20	.30	.50	.500	.523	.536			.745		
A - 24								.608	.691		.811	.850
	65	.20	.40	.40	.500	.558	.574	.581	.636	.700	.777	.823
	66	.29	.50	.30	6_5	.674	.684	.688	.691	.745	.811	.850
	67	.10	.30	.60	.609	.628	.618	.677	.737	.784	.839	.872
$L = 44 \ X = 12 \ X' = 28$	68	.10	.40	.50	.500	.523	.515	.597	.674	.731	.801	.842
$\tilde{\mathbf{x}} = \hat{1}\hat{2}$	69	.10	.50	.40	.625	.628	.618	.645	.699	.734	.777	.811
V' - 20	70	.20	.30	.50	.500	.523	.515	.575	.648	.710	.785	.829
A 20		.20		.40								.049
	71		.40		.500	.558	.574	.581	.602	.671	.756	.807
	72	.20	.50	.30	.625	.674	.684	.688	.691	.724	.796	.837
	73	.10	.30	.60	.600	.767	.824	.871	.898	.916	.938	.951
L=28 $X=16$	74	.19	.40	.50	.563	.756	.810	.844	.877	.899	.925	.940
X = 16	75	.10	.50	.40	.675	.814	.846	.860	.869	.881	.912	.930
$\hat{\mathbf{X}}' = \hat{8}$	76	.20	.30	.50	.500	.663	.728	.801	.843	.871	.905	.924
2s. — 0	77	.20	.40	.40	.550	.698	.735	.774	.822	.853	.891	.914
	78	.20	.50	.30							070	
					.663	.756	.772	.780	.801	.836	.879	.903
	79	.10	.30	.60	.600	.698	.772	.828	.864	.888	.917	.934
L = 32	80	.10	.40	.50	.500	.640	.736	.790	.835	.863	.899	.920
X = 16	81	.10	.50	.40	.625	.721	.787	.817	.885	.845	.881	.905
X' = 12	82	.20	.30	.50	.500	.593	.668	.747	.801	.836	.879	.903
	83	.20	.40	.40	.500	.605	.677	.710	.771	.811	.860	.889
	84	.20	.50	.30	.625	.686	.728	.747	.758	.787	.842	.874
	85	.10	.30	.60	.600	.628	.728	.785	.831	.860	.896	.918
$\Gamma = 36$	86	.19	.40	.50	.500	.523	.662	.737	.792	.829	.874	.899
$ \begin{array}{c} $	87	.10	.50	.40	.625	.628	.728	.774	.801	.818	.850	.881
X' = 16	88	.20	.30	.50	.500	.523	.624	.694	.758	.800	.853	.883
	89	.20	.40	.40	.500	.512	.618	.667	.720	.769	.829	.864
	90	.20	.50	.30	.625	.628	.684	.715	.733	.745	.806	.846
	91	.10	.30	.60	.600	.628	.684	.742	.797	.832	.876	.901
T 40				.50	.500	.523						
L = 40	92	.10	.40				.602	.683	.750	.794	.848	.879
$ \begin{array}{l} $	93	.10	.50	.40	.625	.605	.669	.731	.767	.790	.819	.856
X = 20	94	.20	.30	.50	.500	.523	.580	.640	.716	.766	.827	.862
	95	.20	.40	.40	.500	.512	.558	.624	.669	.727	.798	.840
	96	.20	.50	.30	.625	.628	.655	.683	.708	.724	.785	.829
-	97	.10	.30	.60	.600	.628	.640	.710	.763	.805	.855	.885
L = 44	98	.10	.40	.50	.500	.523	.544	.640	.708	.758	.822	.858
$\tilde{\mathbf{x}} = \tilde{16}$	99	.10	.50	.40	.625	.605	.611	.688	.733	.762	.798	.831
$\mathbf{X'} = 24$	100	.20	.30	.50	.500	.523	,536	.608	.674	.731	.801	.842
A. — 24	101	.20	.40	.40	.500	.512	.544					
								.581	.627	.685	.767	.815
	102	.20	.50	.30	.625	.628	.655	.667	.682	.703	.770	.817
	103	.10	.30	.60	.600	.628	.618	.677	.729	.776	.834	.868
L = 48 $X = 16$	104	.10	.40	.50	.500	.523	.515	.597	.665	.724	.796	.837
X = 16	105	.10	.50	.40	.625	.605	.603	.645	.699	.734	.777	.807
$\hat{\mathbf{x}}' = \hat{\mathbf{z}}$	106	.20	.30	.50	.500	.523	.515	575	.631	.695	.775	.821
21 - 20	107	.20	.40	.40	.500	.512	.544	,559	.593	.643	.736	.790
	108	.20	.50	.30	.625	.628	.655	.667				
	100	.20	.00	.50	.048	.025	660.	.007	.674	.682	.754	.805

TABLE 9.5
SUMMARY OF EQUIVALENT H TRUCK LOADINGS IN SIMPLE SPANS
PRODUCED BY TYPE 2-S3 TRUCKS WEIGHING ONE KIP EACH



Ninety variations in the Type 2-S3 truck are given in this table. Each truck number, from 1 to 90, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight of each axle.

All dimensions are in feet. Equivalent H truck loadings are in kips. $a_1, a_2,$ and a_3 represent the ratio of gross vehicle weight on axles.

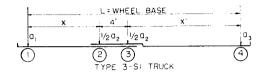
Wheel Base and Axle Spacing	Truck No.	I	oad O Axles Kips	n				Span	-Feet	-		
Feet	Ë	\mathbf{a}_1	\mathbf{a}_2	23	10	20	30	40	50	60	80	100
	1	.10	.225	.675	.506	.680	.783	.842	.875	.897	.923	.939
$ \begin{array}{l} L = 24 \\ X = 8 \\ X' = 8 \end{array} $	$\frac{1}{2}$.10	.30	.60	.450	.628	.750	.817	.856	.881	.912	.930
$\begin{array}{ccc} \mathbf{X} = & 8 \\ \mathbf{X'} = & 8 \end{array}$	3	.10	.40	.50	.525	.697	.772	.806	.831	.860	.896	.918
$\mathbf{x} = \mathbf{s}$	4 5	.20 $.20$	$.20 \\ .30$.60 .50	.450 .425	.605 $.581$	$.720 \\ .677$.796 $.763$.839 $.814$.867 .847	.902	.922
	6	.20	.40	.40	.550	.651	.706	.774	.822	.853	.886 $.891$.909 $.914$
	7	.10	.225	.675	.506	.628	.736	.806	.847	.874	.907	.926
$ \begin{array}{l} L = 28 \\ X = 8 \\ X' = 12 \end{array} $	8	.10	.30	.60	.450	.558	.692	.774	.822	.853	.891	.914
$\mathbf{x} = \mathbf{s}$	9	.10	.40	.50	.525	.581	.698	.753	.788	.826	.870	.897
X' = 12	10 11	.20 .20	.20	.60 .50	.450 $.425$.558	.662	.753	.805	.839	.881	.905
	12	.20	.40	.40	.550	.488 $.605$.603 $.647$	$.710 \\ .731$.771 .788	.811 $.826$.860 .870	.889 .897
•	13	.10	.225	.675	.506	.628	.695	.772	.820	.852	.890	.913
L = 32	14	.10	.30	.60	.450	.558	.640	.731	.788	.826	.870	.897
$ \begin{array}{l} L = 32 \\ X = 8 \\ X' = 16 \end{array} $	15	.10	.40	.50	.525	.535	.624	.699	.746	.791	.845	.877
X' = 16	16	.20	.20	.60	.450	.558	.618	.710	.771	.811	.860	.889
	17 18	.20	.30 .40	.50 .40	.425 .550	.488 $.605$	$.545 \\ .603$.656 $.688$.729 $.754$.77 6 .797	.834 $.850$.868 .881
•	19	.10	.225	.675	.506	.628	.662	.737	.792	.829	.874	.899
L = 36	20	.10	.30	.60	.450	.558	.596	.688	.754	.797	.850	.881
L == 8	21	.10	.40	.50	.525	.585	.551	.644	.703	.755	.819	.856
X'=20	22	.20	.20	.60	.450	.558	.589	.667	.737	.784	.839	.872
	$\frac{23}{24}$.20 .20	.30	$.50 \\ .40$.425 $.550$	$.488 \\ .605$.501 $.603$.602	.686 $.720$.742	.808	.848
	25	.10	.40	.675	.506	.628	.645	.702	.765	.770	.829	.864
L = 40	26	.10	.30	.60	.450	.558	.574	.645	.720	.769	.856 .829	.886 $.864$
X = 8 X' = 24	27	.10	.40	.50	.525	.535	.523	.591	.661	.721	.793	.835
X' = 24	28	.20	.20	.60	.450	.558	.574	.624	.703	.755	.819	.856
	29	.20	.30	.50	.425	.488	.493	.548	.644	.707	.782	.827
	30	.20	.40	.40	.550	.605	.603	.602	.686_	.742	.808	.848
T - 90	$\frac{31}{32}$.10 .10	.225 $.30$.675 $.60$.506 $.450$.680 $.628$.769	.831 .806	.867 .84 7	$.890 \\ .874$.918 $.907$.935 .926
$\ddot{\mathbf{x}} = 12$	33	.10	.40	.50	.500	.697	.772	.806	.826	.853	.891	.914
$ \begin{array}{l} L = 28 \\ X = 12 \\ X' = 8 \end{array} $	34	.20	.20	.60	.450	.605	.692	.774	.822	.853	.891	.914
	35	.20	.30	.50	.375	.581	.662	.742	.797	.832	.876	.901
	36	.20	.40	.40	.500	.651	.706	.731	.771	.811	.860	.839
L = 32	37 38	.10	.225 $.30$.675 .60	.506 .450	.628 $.558$.728 .684	.796 $.763$.839 .814	.867	.902	.922
X = 12	39	.10	.40	.50	.500	.581	.698	.753	.784	.847 .818	.886 $.865$.909 898.
$\mathbf{X}' = 12$	40	.20	.20	.60	.450	.558	.646	.731	.788	.826	.870	.897
	41	.20	.30	.50	.375	.465	.589	.688	.754	.797	850	.881
	42	.20	.40	.40	.500	.558	.647	.688	.720	.770	.829	.864
	43	.10	.225	.675	.506	.628	.695	.761	.811	.844	.885	.908
L = 36	44	.10	.30	.60	.450	.558	.640	.720	.780	.818	.865	.893
	$\frac{45}{46}$.10	.40 .20	.50 .60	.500 .450	.512 .558	.624 $.618$.699 $.688$.742 $.754$.784 .797	.839 .850	.872 .881
A - 10	47	.20	.30	.50	.375	.465	.545	.634	.712	.763	.824	.860
	48	.20	.40	.40	.500	.558	.589	.645	.686	.742	.808	.848
	49	.10	.225	.675	.506	.628	.662	.726	.784	.821	.868	.895
$\mathbf{L} = 40$	50	.10	.30	.60	.450	.558	.596	.677	.746	.790	.845	.977
$X = 12 \\ X' = 20$	$\frac{51}{52}$	$.10 \\ .20$.40 .20	.50 .60	.500 .450	.512 .558	.551 .589	.644 .645	.699 $.720$.749 $.769$.813 .829	.852 $.864$
A = 20	52 53	.20	.30	.50	.375	.465	.501	.581	.720	.769	.829	.840
	54	.20	.40	.40	.500	.558	.574	.602	.653	.713	.788	.831
									i			

TABLE 9.5 (Continued)

	55	.10	.225	.675	.506	.628	.645	.702	.756	.799	.851	.882
L = 44	56	.10	.30	.60	.450	.558	.574	.645	.712	.763	.824	.860
X = 12	57	.10	.40	.50	.500	.512	.507	.591	.657	.713	.788	.831
X' = 24	58	.20	.20	.60	.450	.558	.574	.624	.686	.742	.808	.848
	59	.20	.30	.50	.375	.465	.479	.548	.627	.692	.772	.819
	60	.20	.40	.40	.500	.558	.574	.581	.619	.686	.767	.815
	61	.10	.225	.675	.506	.680	.761	.820	.858	.883	.913	.931
L = 32	62	.10	.30	.60	.450	.628	.728	.796	.839	.867	.902	.922
X = 16	63	.10	.40	.50	.500	.697	.772	.806	.826	.847	.886	.909
$\mathbf{x}' = 8$	64	.20	.20	.60	.450	.605	.677	.753	.805	.839	.881	.905
	65	.20	.30	.50	.375	.581	.662	.720	.780	.818	.865	.893
	66	.20	.40	.40	.500	.651	.706	.731	.754	.797	.850	.881
	67	.10	.225	.675	.506	.628	.728	.785	.831	.860	.896	.918
L = 36	68	.10	.30	.60	.450	.558	.684	.753	.805	.839	.881	.905
X = 16	69	.10	.40	.50	.500	.581	.698	.753	.784	.811	.860	.889
X' = 12	70	.20	.20	.60	.450	.558	.646	.710	.771	.811	.860	.889
	71	.20	.30	.50	.375	.465	.589	.667	.737	.784	.839	.872
	72	.20	.40	.40	.500	.558	.647	.688	.712	.755	.819	.856
	73	.10	.225	.675	.506	.628	.695	.751	.803	.837	.880	.904
L = 40	74	.10	.30	.60	.450	.558	.640	.710	.771	.811	.860	.889
X = 16	75	.10	.40	.50	.500	.503	.624	.699	.742	.776	.834	.868
X' = 16	76	.20	.20	.60	.450	.558	.618	.667	.737	.784	.839	.872
	77	.20	.30	.50	.375	.465	.545	.613	.695	.749	.813	.852
	78	.20	.40	.40	.500	.512	.589	.645	.678	.713	.788	.831
	79	.10	.225	.675	.506	.628	.662	.726	.775	.815	.863	.891
L = 44	80	.10	.30	.60	.450	.558	.596	.677	.737	.784	.839	.872
X = 16	81	.10	.40	.50	.500	.488	.551	.644	.699	.742	.808	.848
X' = 20	82	.20	.20	.60	.450	.558	.589	.645	.703	.755	.819	.856
	83	.20	.30	.50	.375	.465	.501	.581	.653	.713	.788	.831
	84	.20	.40	.40	.500	.512	.544	.602	.644	.671	.756	.807
	85	.10	.225	.675	.506	.628	.645	.702	.748	.792	.846	.878
L = 48	86	.10	.30	.60	.450	.558	.574	.645	.703	.755	.819	.856
X = 16	87	.10	.40	.50	.500	.488	.493	.591	.657	.707	.782	.827
X' = 24	88	.20	.20	.60	.450	.558	.574	.624	.669	.727	.798	.840
	89	.20	.30	.50	.375	.465	-479	.548	.610	.679	.762	.811
	90	.20	.40	40	.500	.512	.544	.559	.610	.644	.725	.782

TABLE 9.6

SUMMARY OF EQUIVALENT H TRUCK LOADINGS IN SIMPLE SPANS PRODUCED BY TYPE 3-S1 TRUCKS WEIGHING ONE KIP EACH



Ninety variations in the Type 3-S1 truck are given in this table. Each truck number, from 1 to 90, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight of each axle.

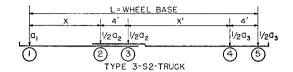
All dimensions are in feet. Equivalent H truck loadings are in kips. a_1 , a_2 , and a_3 represent the ratio of gross vehicle weight on axles.

Wheel Base and Axle Spacing	Truck No.	I	oad Or Axles Kips	n				Span-	Feet			
Feet	#	a 1	\mathbf{a}_2	\mathbf{a}_3	10	20	30	40	50	60	80	100
2	1	.10	.40	.50	.625	.721	.808	.860	.890	.909	.932	.947
$ \mathbf{L} = 24 \\ \mathbf{X} = 8 $	2	.10	.50	.40	.500	.640	.758	.822	.860	.884	.915	.932
$\mathbf{x} = 8$	3	.10	.60	.30	.600	.698	.772	.839	.830	.860	.896	.918
X' = 12	4	.20	.40	.40	.500	.605	.720	.796	.839	.868	.901	.922
	5	.20	.50	.30	.500	.616	.670	.758	.809	.842	.884	.908
	6	.20	.534	.266	.534	.652	.686	.760	.810	.843	-884	.909
T 00	7	.10	.40	.50	.625	.628	.736	.806	.847	.874	.907	.926
$ \begin{array}{l} L = 28 \\ X = 8 \\ X' = 16 \end{array} $	8 9	.10 .10	.50 .60	$.40 \\ .30$.500 $.600$	$.570 \\ .675$	$.670 \\ .728$.758 $.774$.809 $.801$.842 .818	.884 .860	.908 $.889$
X' = 16	10	.20	.40	.40	.500	.512	.632	.731	.788	.826	.870	.897
A - 10	11	.20	.50	.30	.500	.616	.647	.715	.775	.815	.863	.891
	12	.20	.534	.266	.534	.652	.683	.731	.788	.826	.870	.897
	13	.10	.40	.50	.625	.582	.670	.753	.805	.839	.881	.906
L = 32	14	.10	.50	.40	.500	.570	.603	.693	.758	.800	.853	.883
X = 8	15	.10	.60	.30	.600	.675	.684	.742	.775	.797	.834	.868
X' = 20	16	.20	.40	.40	.500	.512	.559	.667	.737	.780	.839	.873
	17	.20	.50	.30	.500	.616	.647	.683	.750	.794	.847	.879
	18	.20	.534	.266	.534	.652	.683	.702	.766	.807	.857	.886
7 . 00	19	.10	.40	.50	.625	.582	.610	.699 .640	.762	.805	.855	.885
$\mathbf{x} = 36$ $\mathbf{x} = 8$	$\frac{20}{21}$	$.10 \\ .10$.50 .60	$.40 \\ .30$.500 .600	.570 $.675$	$.581 \\ .684$.710	.707 $.750$.758 .776	.822 .818	.858 $.856$
$\mathbf{X}' = 24$	22	.20	.40	.40	.500	.512	.544	.602	.686	.742	.808	.848
A - 24	23	.20	.50	.30	.500	.616	.647	.661	.724	.773	.832	.866
	24	.20	.534	.266	.534	.652	.683	.696	.742	.788	.842	.876
	25	.10	.40	.50	.625	.582	.566	.645	.720	.769	.829	.864
$\mathbf{L} = 40$	26	.10	.50	.40	.500	.570	.581	.597	.661	.716	.790	.833
$\mathbf{X} = 8$ $\mathbf{X}' = 28$	27	.10	.60	.30	.600	.675	.684	.688	.724	.755	.803	.844
X' = 28	28	.20	.40	.40	.500	.512	.544	.559	.635	.700	.777	.823
	$\frac{29}{30}$	$.20 \\ .20$.50 $.534$	$.30 \\ .266$.500 .534	$.616 \\ .652$.647 .683	.661 $.696$.699 $.720$.752 $.769$.816 $.829$	$.854 \\ .864$
	31	.10	.40	.50	.625	.721	.794	.849	.881	.902	.927	.943
L = 28	32	.10	.50	.40	.500	.640	.742	.812	.851	.878	.927	.928
X = 12	33	.10	.60	,30	.600	.698	.772	.806	.826	.853	.891	.914
$\ddot{X}' = \ddot{1}\ddot{2}$	34	.20	.40	.40	.500	,605	.692	.774	.822	.853	.891	.914
	35	.20	.50	.30	.500	.593	.670	.736	.792	.829	.873	.899
	36	.20	.534	.266	.534	.620	.686	.723	.783	.820	.867	.894
	37	.10	.40	.50	.625	.628	.728	.796	.839	.868	.901	.922
$ \begin{array}{r} L = 32 \\ X = 12 \end{array} $	38	.10	.50	.40	.500	.547	.662	.747	.801	.836	.879	.903
$X = 12 \\ X' = 16$	39	.10	.60 .40	.30 $.40$.600 .500	$.651 \\ .512$.728 .618	.774 $.710$.801	.818	.855	.885
X = 16	40 41	.20 .20	.50	.30	.500	.570	.625	.672	.771 .733	.811 .779	.860 $.837$.889 $.871$
	42	.20	.534	.266	.534	.605	.653	.688	.720	.769	.829	.864
	43	.10	.40	.50	.625	.582	.670	.742	.796	.832	.875	.901
$t_1 = 36$	44	.10	.50	.40	.500	.547	.603	.683	.750	.794	.847	.879
L = 36 X = 12	45	.10	.60	.30	.600	.651	.684	.742	.775	.797	.824	.856
X' = 20	46	.20	.40	.40	.500	.465	.559	.645	.720	.769	.829	.864
	47	.20	.50	.30	.500	.570	.618	.640	.682	.737	.806	.846
	48	.20	.534	.266	.534	.605	.653	.675	.698	.750	.815	.853
	49	.10	.40	.50	.625	.582	.610	.688	.754	.797	.850	.881
$I_i = 40$	50	.10	.50	.40	.500	.547	.567	.640	.699	.752	.816	.854
X = 12	51	.10	.60	.30	.600	.651	.670	.710	.750	.776	.808	.827
$\tilde{\mathbf{X}}' = 24$	52	.20	.40 .50	.40 .30	.500 .500	$.465 \\ .570$.515	.581 $.640$.669	.727	.798	.840
	53 54	.20 .20	.534	.266	.534	.605	.618 $.653$.675	.657 $.687$.716 $.732$.790 $.801$.833 .843
	- 54	.20	.004	.200	.0.94	.000	.000		1901		.001	.040

TABLE 9.6 (Continued)

	55	.10	.40	.50	.625	.582	.566	.645	.712	.763	.824	.860
L = 44	56	.10	.50	.40	.500	.547	.567	.597	.661	.710	.785	.829
X = 12	57	.10	.60	.30	.600	.651	.670	.677	.724	.755	.793	.815
X' = 28	58	.20	.40	.40	.500	.465	.515	.538	.618	.685	.767	.815
	59	.20	.50	.30	.500	.570	.618	.640	.652	.695	.775	.821
	60	.20	.534	.266	.534	.605	.653	.675	.687	.713	.787	.831
	61	.10	.40	.50	.625	.721	.786	.839	.873	.895	.922	.938
L = 32	62	.10	.50	.40	.500	.640	.736	.693	.843	.871	.904	.924
X = 16	63	.10	.60	.30	.600	.698	.772	.806	.826	.847	.886	.910
X' = 12	64	.20	.40	.40	.500	.605	.676	.753	.805	.839	.881	.906
	65	.20	.50	.30	.500	.593	.670	.715	.775	.815	.863	.891
	66	.20	.534	.266	.534	.620	.686	.717	.766	.807	.857	.886
	67	.10	.40	.50	.625	.628	.728	.785	.830	.860	.896	.918
L = 36	68	.10	.50	.40	.500	.523	.662	.736	.792	.829	.873	.899
X = 16	69	.10	.60	.30	.600	.628	.728	.774	.801	.818	.850	.881
X' = 16	70	.20	.40	.40	.500	.512	.618	.688	.754	.797	.850	.881
	71	.20	.50	.30	.500	.523	.625	.672	.716	.766	.827	.862
	72	.20	.534	.266	.534	.559	.647	.688	.712	.755	.818	.856
	73	.10	.40	.50	.625	.582	.670	.731	.788	.826	.870	.897
L = 40	74	.10	.50	.40	.500	.528	.603	.683	.741	.787	.842	.875
X = 16	75	.10	.60	.30	.600	.628	.684	.742	.775	.797	.824	.852
X' = 20	76	.20	.40	.40	.500	.465	.595	.624	.703	.755	.818	.856
	77	.20	.50	.30	.500	.523	.588	.640	.674	.716	.790	.833
	78	.20	.534	.266	.534	.559	.623	.659	.689	.709	.780	.826
	79	.10	.40	.50	.625	.582	.610	.688	.746	.790	.844	.877
L = 44	80	.10	.50	.40	.500	.523	.552	.640	.695	.745	.811	.850
X = 16	81	.10	.60	.30	.600	.628	.655	.710	.750	.776	.808	.827
X' = 24	82	.20	.40	.40	.500	.465	.500	.581	.652	.713	.787	.831
	83	.20	.50	.30	.500	.523	.588	.618	.648	.675	.754	.805
	84	.20	.534	.266	.534	.559	.623	.653	.670	.690	.759	.810
	85	.10	.40	.50	.625	.582	.566	.645	.703	.755	.818	.856
L = 48	86	.10	.50	.40	.500	.523	.552	.597	.661	.703	.780	.825
X = 16	87	.10	.60	.30	.600	.628	.655	.677	.724	.755	.793	.815
X' = 28	88	.20	.40	.40	.500	.465	.485	.538	.602	.671	.756	.807
	89	.20	.50	.30	.500	.523	.588	.618	.635	.654	.733	.788
	90	.20	.534	.266	.534	.559	.623	.653	.670	.682	.746	.799

TABLE 9.7
SUMMARY OF EQUIVALENT H TRUCK LOADINGS IN SIMPLE SPANS
PRODUCED BY TYPE 3-S2 TRUCKS WEIGHING ONE KIP EACH



One hundred and twelve variations in the Type 3-S2 truck are given in this table. Each truck number, from 1 to 112, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight of each axle.

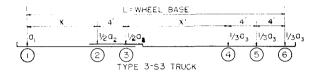
All dimensions are in feet. Equivalent H truck loadings are in kips. $a_1,\,a_2,\,and\,a_3$ represent the ratio of gross vehicle weight on axles.

Wheel Base and Axle Spacing Feet	Truck No.	r	Load O Axles Kips					Span-	·Feet			
	L.	aı	81.2	\mathbf{a}_3	10	20	30	40	50	60	80	100
	1	.10	.30	.60	.600	.663	.758	.823	.860	.884	.915	.932
	2	.10	.40	.50	.500	.570	.698	.780	.826	.857	.894	.916
L = 28	3	.10	.45	.45	.450	.523	.669	.758	.809	.842	.884	.907
	4	.10	.50	.40	.500	.570	.690	.747	.792	.829	.874	.899
X = 12	5	.20	.30	.50	.500	.558	.662	.753	.805	.839	.881	.905
	8 7	.20	.40	.40	.400	.512	.603	.710	.771	.811	.860	.889
		.20	.50	.30	.51,0	.616	.647	.731	.788	.826	.870	.897
	8	.10	.30	.60	.600	.628	.706	.780	.826	.857	.894	.916
L = 32	9	.10	.40	.50	.500	.523	.632	.726	.784	.821	.868	.895
$\mathbf{X} = 8$	$\frac{10}{11}$.10	.45 .50	.45 .40	.450	.517	.596	.699 $.704$.763	.805	.855	.885
$\mathbf{X}' = 16$	12	.20	.30	.50	.500 .500	.570 $.523$	$.632 \\ .602$.699	.763	.787 $.805$.842 $.855$.874 .885
A - 10	13	.20	.40	.40	.400	.512	.544	.645	.720	.769	.829	.864
	14	.20	.50	.30	.500	.616	.647	.699	.763	.805	.855	.885
	15	.10	.30	.60	.600	.628	.662		.792		.874	.899
	16	.10	.40	.50	.500	.523	.574	.737 $.672$.742	.829 .787	.842	.874
L = 36	17	.10	.45	.45	.450	.517	.529	.640	.716	.766	.827	.862
Y == 8	18	.10	.50	.40	.500	.570	581	.661	.712	.745	.811	.850
$\mathbf{X}' = 20$	19	.20	.30	.50	.500	.523	.558	.645	.720	.769	.829	.864
	20	.20	.40	.40	.400	.512	.544	.602	.686	.742	.808	.848
	21	.20	.50	.30	.500	.616	.647	.667	.737	.784	.839	.872
	22	.10	.30	.60	.600	.628	.629	.694	.758	.800	.853	.883
	23	.10	.40	.50	.500	.523	.529	.618	.699	.752	.817	.854
L = 40	24	.10	.45	.45	,450	.517	.529	.581	.669	.727	.798	.840
X = 8 $X' = 24$	25	.10	.50	.40	.500	.570	.581	.618	.678	.716	.780	.825
X' = 24	26	.20	.30	.50	.500	.523	.525	.591	.678	.734	.803	.844
	27	.20	.40	.40	.400	.512	.544	.559	.653	.713	.788	.831
	28	.20	.50	.30	.500	.616	.647	.661	.712	.763	.824	.860
	29	.10	.30	.60	.600	.628	.618	.661	.725	.773	.832	.866
-	30	.10	.40	.50	.500	.523	.515	.575	.657	.716	.791	.833
L = 44	31	.10	.45	.45	.450	.517	.529	.535	.623	.689	.770	.817
$\mathbf{X} = 8$ $\mathbf{X'} = 28$	32	.10	.50	.40	.500	.570	.581	.586	.644	.689	.754	.805
A — 48	$\frac{33}{34}$.20 .20	.30 .40	.50 .40	.500 .400	.523 $.512$.515 .544	.559 $.559$.636 $.619$	$.700 \\ .685$.777 .767	.823 .815
	35	.20	.50	.30	.500	.616	.647	.661	.686	.742	.808	.848
	36	.10	.30	.60	.600	.733	.802	.855	.886	.905	.931	.944
	37	.10	.40	.50	.500	.663	.758	.823	.860	.884	.915	.932
L = 28	38	.10	.45	.45	.450	.628	.736	.806	.847	.874	.907	.926
X = 12	39	.10	.50	.40	.500	.663	.750	.790	.835	.863	.899	.920
$\mathbf{x}' = \frac{12}{8}$	40	.20	.30	.50	.500	.628	.706	.785	.831	.860	.896	.918
	41	.20	.40	.40	.400	.558	.662	.753	.805	.839	.881	.905
	42	.20	.50	.30	.500	.628	.620	.720	.780	.818	.865	.893
	43	.10	.30	.60	.600	.663	.750	.812	.852	.878	.910	.928
	44	.10	.40	.50	.500	.570	.690	.769	.818	.850	.889	.912
L = 32	45	.10	.45	.45	.450	.523	.662	.747	.801	.836	.879	.903
$\bar{X} = 12$	46	.10	.50	.40	.500	.570	.690	.747	.784	.821	.868	.895
$\mathbf{X}' = 12$	47	.20	.30	.50	.500	.558	.646	.731	.788	.826	.870	.897
	48	.20	.40	.40	.400	.465	.589	.688	.754	.797	.850	.881
	49	.20	.50	.30	.500	.570	.646	.688	.720	.769	.829	.864

TABLE 9.7 (Continued)

$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$													
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		50	10	30	60	600	698	706	760	616	250	880	019
X = 12				.00			-020	.100		.010			
X = 12		91					.523	.632		.775	.815	.863	
X = 12	$\Gamma = 36$.10	.45	.45	.450	.494	.596	.688	.754	.797	.850	.881
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	X = 12	53	.10	.50	.40	.500	.547	.632	.704	.746	779	837	870
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	x' - 16		20	30		500	592	609	677	740			077
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$.1 - 10			.00	.00	.000	.020	.002	.011	.740			.011
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$.40	.400	.465	.529	.624				.856
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		56	.20	.50	30	.500	.570	.618	.656	.695	.748	.813	.852
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		E 77	10	9.0	CO	COO	coc						
$ \begin{array}{c} \mathbf{X} = 12 & 60 & 1.0 & 50 & 46 & 500 & 547 & 574 & 661 & 712 & 745 & 806 & 846 \\ \mathbf{X}' = 20 & 61 & 20 & 30 & 50 & 500 & 520 & 558 & 624 & 703 & 755 & 819 & 856 \\ 62 & 20 & 40 & 40 & 400 & 465 & 515 & 559 & 653 & 713 & 788 & 831 \\ 63 & 20 & 50 & 30 & 500 & 650 & 650 & 651 & 640 & 669 & 727 & 798 & 830 \\ 64 & 10 & 30 & 60 & 600 & 628 & 629 & 694 & 750 & 794 & 848 & 879 \\ 65 & 10 & 48 & 50 & 500 & 523 & 529 & 618 & 691 & 745 & 811 & 850 \\ \mathbf{L} = 44 & 66 & 10 & 45 & 45 & 450 & 494 & 515 & 581 & 661 & 721 & 793 & 835 \\ \mathbf{X}' = 24 & 68 & 20 & 30 & 50 & 550 & 550 & 522 & 555 & 591 & 661 & 721 & 793 & 835 \\ \mathbf{X}' = 24 & 68 & 20 & 30 & 50 & 550 & 522 & 525 & 591 & 661 & 721 & 793 & 835 \\ 70 & 20 & 50 & 30 & 300 & 500 & 550 & 550 & 582 \\ 70 & 10 & 30 & 60 & 600 & 628 & 618 & 660 & 711 & 756 & 807 \\ 70 & 20 & 50 & 30 & 300 & 550 & 550 & 5515 & 5588 & 602 & 671 & 756 & 829 \\ 1 & 10 & 30 & 60 & 600 & 628 & 618 & 660 & 716 & 768 & 827 \\ 22 & 10 & 40 & 50 & 500 & 522 & 515 & 575 & 548 & 706 & 782 & 827 \\ 1 & 20 & 40 & 40 & 400 & 600 & 523 & 515 & 575 & 548 & 710 & 785 & 829 \\ 1 & 24 & 27 & 10 & 40 & 50 & 500 & 522 & 515 & 575 & 548 & 710 & 785 & 829 \\ 1 & 24 & 27 & 10 & 40 & 50 & 500 & 522 & 515 & 575 & 548 & 710 & 785 & 829 \\ 1 & 24 & 27 & 20 & 2$.000	.028	.662	.726	.784	.821	.868	.895
$ \begin{array}{c} \mathbf{X} = 12 & 60 & 1.0 & 50 & 46 & 500 & 547 & 574 & 661 & 712 & 745 & 806 & 846 \\ \mathbf{X}' = 20 & 61 & 20 & 30 & 50 & 500 & 520 & 558 & 624 & 703 & 755 & 819 & 856 \\ 62 & 20 & 40 & 40 & 400 & 465 & 515 & 559 & 653 & 713 & 788 & 831 \\ 63 & 20 & 50 & 30 & 500 & 650 & 650 & 651 & 640 & 669 & 727 & 798 & 830 \\ 64 & 10 & 30 & 60 & 600 & 628 & 629 & 694 & 750 & 794 & 848 & 879 \\ 65 & 10 & 48 & 50 & 500 & 523 & 529 & 618 & 691 & 745 & 811 & 850 \\ \mathbf{L} = 44 & 66 & 10 & 45 & 45 & 450 & 494 & 515 & 581 & 661 & 721 & 793 & 835 \\ \mathbf{X}' = 24 & 68 & 20 & 30 & 50 & 550 & 550 & 522 & 555 & 591 & 661 & 721 & 793 & 835 \\ \mathbf{X}' = 24 & 68 & 20 & 30 & 50 & 550 & 522 & 525 & 591 & 661 & 721 & 793 & 835 \\ 70 & 20 & 50 & 30 & 300 & 500 & 550 & 550 & 582 \\ 70 & 10 & 30 & 60 & 600 & 628 & 618 & 660 & 711 & 756 & 807 \\ 70 & 20 & 50 & 30 & 300 & 550 & 550 & 5515 & 5588 & 602 & 671 & 756 & 829 \\ 1 & 10 & 30 & 60 & 600 & 628 & 618 & 660 & 716 & 768 & 827 \\ 22 & 10 & 40 & 50 & 500 & 522 & 515 & 575 & 548 & 706 & 782 & 827 \\ 1 & 20 & 40 & 40 & 400 & 600 & 523 & 515 & 575 & 548 & 710 & 785 & 829 \\ 1 & 24 & 27 & 10 & 40 & 50 & 500 & 522 & 515 & 575 & 548 & 710 & 785 & 829 \\ 1 & 24 & 27 & 10 & 40 & 50 & 500 & 522 & 515 & 575 & 548 & 710 & 785 & 829 \\ 1 & 24 & 27 & 20 & 2$.10	.40		.500	.523	.574	.661	.733	.779	.837	.870
$ \begin{array}{c} \mathbf{X} = 12 & 60 & 1.0 & 50 & 46 & 500 & 547 & 574 & 661 & 712 & 745 & 806 & 846 \\ \mathbf{X}' = 20 & 61 & 20 & 30 & 50 & 500 & 520 & 558 & 624 & 703 & 755 & 819 & 856 \\ 62 & 20 & 40 & 40 & 400 & 465 & 515 & 559 & 653 & 713 & 788 & 831 \\ 63 & 20 & 50 & 30 & 500 & 650 & 650 & 651 & 640 & 669 & 727 & 798 & 830 \\ 64 & 10 & 30 & 60 & 600 & 628 & 629 & 694 & 750 & 794 & 848 & 879 \\ 65 & 10 & 48 & 50 & 500 & 523 & 529 & 618 & 691 & 745 & 811 & 850 \\ \mathbf{L} = 44 & 66 & 10 & 45 & 45 & 450 & 494 & 515 & 581 & 661 & 721 & 793 & 835 \\ \mathbf{X}' = 24 & 68 & 20 & 30 & 50 & 550 & 550 & 522 & 555 & 591 & 661 & 721 & 793 & 835 \\ \mathbf{X}' = 24 & 68 & 20 & 30 & 50 & 550 & 522 & 525 & 591 & 661 & 721 & 793 & 835 \\ 70 & 20 & 50 & 30 & 300 & 500 & 550 & 550 & 582 \\ 70 & 10 & 30 & 60 & 600 & 628 & 618 & 660 & 711 & 756 & 807 \\ 70 & 20 & 50 & 30 & 300 & 550 & 550 & 5515 & 5588 & 602 & 671 & 756 & 829 \\ 1 & 10 & 30 & 60 & 600 & 628 & 618 & 660 & 716 & 768 & 827 \\ 22 & 10 & 40 & 50 & 500 & 522 & 515 & 575 & 548 & 706 & 782 & 827 \\ 1 & 20 & 40 & 40 & 400 & 600 & 523 & 515 & 575 & 548 & 710 & 785 & 829 \\ 1 & 24 & 27 & 10 & 40 & 50 & 500 & 522 & 515 & 575 & 548 & 710 & 785 & 829 \\ 1 & 24 & 27 & 10 & 40 & 50 & 500 & 522 & 515 & 575 & 548 & 710 & 785 & 829 \\ 1 & 24 & 27 & 20 & 2$	L = 40	59	.10	.45	.45	.450	.494	.529	.629	.708	.758	.822	858
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	v - 19		10	50		500	547	574	661	719	745	900	010
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	V/- 20		.10	.00	****	500	500	.014	.001			.000	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	A - 20						.026	.558	.624				.856
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$.40	.400	.465	,515	.559	.653	.713	.788	.831
$ \begin{array}{c} 64 & 10 & 30 & 60 & 600 & 628 & 629 & 694 & 750 & 794 & 848 & 879 \\ 65 & 10 & 48 & 50 & 500 & 523 & 529 & 618 & 691 & 745 & 811 & 850 \\ L = 44 & 66 & 10 & 45 & 45 & 450 & 494 & 515 & 581 & 661 & 721 & 793 & 835 \\ X = 12 & 67 & 10 & 50 & 46 & 500 & 547 & 566 & 618 & 667 & 770 & 775 & 821 \\ X' = 24 & 68 & 20 & 30 & 50 & 500 & 523 & 525 & 591 & 661 & 721 & 779 & 835 \\ 69 & 20 & 40 & 40 & 400 & 465 & 515 & 588 & 602 & 671 & 756 & 807 \\ 70 & 20 & 50 & 30 & 500 & 570 & 618 & 661 & 721 & 779 & 835 \\ 71 & 10 & 30 & 60 & 600 & 628 & 618 & 661 & 721 & 756 & 807 \\ 72 & 10 & 40 & 50 & 500 & 523 & 515 & 575 & 548 & 710 & 782 & 827 \\ 11 & 10 & 30 & 60 & 600 & 628 & 618 & 661 & 761 & 756 & 827 \\ 12 & 10 & 40 & 50 & 500 & 523 & 515 & 575 & 548 & 710 & 788 & 829 \\ 12 & 12 & 10 & 40 & 50 & 500 & 523 & 515 & 575 & 548 & 710 & 788 & 829 \\ 12 & 12 & 10 & 50 & 40 & 500 & 523 & 515 & 575 & 544 & 689 & 744 & 796 \\ 12 & 12 & 10 & 50 & 40 & 500 & 523 & 515 & 555 & 544 & 689 & 744 & 796 \\ 12 & 12 & 10 & 30 & 60 & 600 & 647 & 566 & 575 & 544 & 689 & 744 & 796 \\ 12 & 12 & 10 & 50 & 40 & 400 & 405 & 515 & 538 & 561 & 689 & 744 & 796 \\ 12 & 12 & 10 & 30 & 50 & 500 & 523 & 515 & 559 & 519 & 685 & 746 & 815 \\ 12 & 12 & 12 & 10 & 30 & 50 & 500 & 523 & 515 & 559 & 519 & 685 & 746 & 815 \\ 12 & 12 & 12 & 10 & 30 & 50 & 500 & 520 & 510 & 599 & 842 & 884 & 997 \\ 12 & 12 & 12 & 10 & 40 & 50 & 500 & 570 & 690 & 758 & 899 & 842 & 884 & 997 \\ 12 & 12 & 12 & 12 & 12 & 12 & 12 & 12$		63	.20	.50	.30	.500	.570	.618	.640	.669	.727	.798	.840
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$								236					
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$.628	.629				.848	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		65	.10	.40	.50	.500	.523	.529	,618	.691	.745	.811	.850
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$T_{1} = 44$	66	.10	4.5	45	450	494	515	581	661	791	793	835
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	V - 10		10				5.47		610	079	716		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	A - 14		.10			.000	.041		.010	*010			.041
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\lambda = 24$.30		.500	.923	.525	.591	.661	.721	.793	.835
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		69		.40		.490	.465	.515	.538	.602	.671	.756	.807
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		70	20	.50	.30	500	570	618	640	653	706	782	827
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$													
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$.600	.628	.618	.661	.716	.766	.827	.862
$ \begin{array}{c} \mathbf{X} = 12 \\ \mathbf{Y4} \\ \mathbf{Y} = 28 \\ 75 \\ 20 \\ 30 \\ 50 \\ 50 \\ 30 \\ 50 \\ 50 \\ 50 \\ 5$		72		.40	.50	.500	.523	.515	.575	.648	.710	.785	.829
$ \begin{array}{c} \mathbf{X} = 12 \\ \mathbf{Y4} \\ \mathbf{Y} = 28 \\ 75 \\ 20 \\ 30 \\ 50 \\ 50 \\ 30 \\ 50 \\ 50 \\ 50 \\ 5$	T 48	73					494	515	599	611		765	019
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	V = 10	40	-10	-90		500	-404	.010	.002	.014	.004	.100	-C10
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	X = 12		.10	.50			.047						.796
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	X' = 28					.500	.523	.515	.559	.619	.685	.767	.815
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		76	.20	.40	.40	.400	.465	.515	.538	.551	.629	.725	.782
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			20			500	570	618	640	652			915
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$													
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		78	.10	.30	.60	.600	.663	.750	.801	.843	.871	.905	.924
$ \begin{array}{c} \mathbf{L} = 36 \\ 80 \\ 10 \\ 10 \\ 10 \\ 10 \\ 10 \\ 10 \\ 10$		79	10	40	.50	500	570	696	758	809	849	984	907
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	T 9c						500	660	797	500	000	0074	000
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	ш — 50	80					.020	.002	.161	.194	.849	.814	.899
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	X = 16	81		.50	.40	.500	.570	.690	.747	. (89)	.815	.863	.891
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	X' = 12	82	.20	.30	.50	.500	.558	.646	.710	.771	.811	.860	.889
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		83	.20	.40	.40	.400	.465	.589	.667	.737	.784	.839	872
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$						500	550	616	200	719	755	610	05.0
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$													
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		85	.10	.30	.60	.600	.628	.706	.758	.809	.842	-884	.907
$ \begin{array}{c} \mathbf{X} = 16 \\ \mathbf{X'} = 16 \\ 89 = 20 \\ 20 \\ 30 \\ 50 \\ 500 \\ 500 \\ 500 \\ 500 \\ 523 \\ 502 \\ 502 \\ 502 \\ 502 \\ 500 \\ 520 \\ 500 \\ 523 \\ 502 \\ 502 \\ 502 \\ 502 \\ 502 \\ 500 \\ 520 \\ 502 \\ 500 \\ 520 \\ 500 \\ 523 \\ 502 \\ 502 \\ 502 \\ 502 \\ 502 \\ 500 \\ 520 \\ 500 \\ 520 \\ 500 \\ 523 \\ 500 \\ 523 \\ 500 \\ 523 \\ 502 \\ 502 \\ 502 \\ 500 \\ 523 \\ 500 \\ 523 \\ 500 \\ 523 \\ 502 \\ 502 \\ 502 \\ 502 \\ 502 \\ 500 \\ 523 \\ 500 \\ 523 \\ 500 \\ 523 \\ 574 \\ 501 \\ 529 \\ 602 \\ 606 \\ 608 \\ 707 \\ 775 \\ 885 \\ 883 \\ 888 \\ 89 \\ 97 \\ 100 \\ 500 \\ 500 \\ 500 \\ 500 \\ 523 \\ 500 \\ 523 \\ 558 \\ 624 \\ 661 \\ 712 \\ 712 \\ 745 \\ 808 \\ 848 \\ 848 \\ 89 \\ 70 \\ 20 \\ 30 \\ 50 \\ 50 \\ 30 \\ 500 \\ 500 \\ 523 \\ 558 \\ 624 \\ 661 \\ 686 \\ 742 \\ 787 \\ 808 \\ 848 \\ 848 \\ 848 \\ 848 \\ 849 \\ 97 \\ 20 \\ 96 \\ 20 \\ 30 \\ 50 \\ 30 \\ 50 \\ 50 \\ 500 \\ 523 \\ 588 \\ 624 \\ 661 \\ 742 \\ 787 \\ 868 \\ 742 \\ 808 \\ 848 \\ 848 \\ 848 \\ 848 \\ 848 \\ 849 \\ 97 \\ 20 \\ 40$		86	10	40	50	500	523	639	704	767	808	858	887
$ \begin{array}{c} \mathbf{X} = 16 \\ \mathbf{X'} = 16 \\ 89 = 20 \\ 20 \\ 30 \\ 50 \\ 500 \\ 500 \\ 500 \\ 500 \\ 523 \\ 502 \\ 502 \\ 502 \\ 502 \\ 500 \\ 520 \\ 500 \\ 523 \\ 502 \\ 502 \\ 502 \\ 502 \\ 502 \\ 500 \\ 520 \\ 502 \\ 500 \\ 520 \\ 500 \\ 523 \\ 502 \\ 502 \\ 502 \\ 502 \\ 502 \\ 500 \\ 520 \\ 500 \\ 520 \\ 500 \\ 523 \\ 500 \\ 523 \\ 500 \\ 523 \\ 502 \\ 502 \\ 502 \\ 500 \\ 523 \\ 500 \\ 523 \\ 500 \\ 523 \\ 502 \\ 502 \\ 502 \\ 502 \\ 502 \\ 500 \\ 523 \\ 500 \\ 523 \\ 500 \\ 523 \\ 574 \\ 501 \\ 529 \\ 602 \\ 606 \\ 608 \\ 707 \\ 775 \\ 885 \\ 883 \\ 888 \\ 89 \\ 97 \\ 100 \\ 500 \\ 500 \\ 500 \\ 500 \\ 523 \\ 500 \\ 523 \\ 558 \\ 624 \\ 661 \\ 712 \\ 712 \\ 745 \\ 808 \\ 848 \\ 848 \\ 89 \\ 70 \\ 20 \\ 30 \\ 50 \\ 50 \\ 30 \\ 500 \\ 500 \\ 523 \\ 558 \\ 624 \\ 661 \\ 686 \\ 742 \\ 787 \\ 808 \\ 848 \\ 848 \\ 848 \\ 848 \\ 849 \\ 97 \\ 20 \\ 96 \\ 20 \\ 30 \\ 50 \\ 30 \\ 50 \\ 50 \\ 500 \\ 523 \\ 588 \\ 624 \\ 661 \\ 742 \\ 787 \\ 868 \\ 742 \\ 808 \\ 848 \\ 848 \\ 848 \\ 848 \\ 848 \\ 849 \\ 97 \\ 20 \\ 40$	T 40					450	451	200	027	7.40	200	045	077
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	15 40			.49		.4.00	4 ().	.000	.011	.140	.750		.011
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	X = 16						,523	.632	.704		.773	.832	.866
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	X' = 16	89	.20	.30	.50	.500	.523	.602	.656	.729	.776	.834	.868
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		90	.20	.40	.40	-400	.419	.529	.602	.686	.742	808	848
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			20	50	20	500	520	609	656	686	707	799	897
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$													
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		92	.10	.30	.60	.600	.628	.662	.726	.775	.815	.863	.891
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		93	.10	.40	-50	.500	.523	.574	661	725	773	832	866
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	T 44					450	471	590	620	600		917	951
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1) 44			.40		.450	-411	.047	.028		-102	.011	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	X = 16						.323	.574	.667	.712	.745	.801	.842
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	X' = 20	96	.20			.500	.523	.558	.624	.686	.742	.808	.848
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		97	.20	.40	.40	.400	.419	-485	.559	.636	700	.777	823
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$				50	20	500	599	500	694			756	207
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$													
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		99	.10	.30	.60	.600	.628	.629	.694	.742	.787	.842	.874
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$.40		.500	.523	.529			.737	806	846
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	T 40	101	10	45		450	471	500	501	05.2	T19	700	091
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	11 - 40						.411	.500	.001		- (110	.100	.801
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	X = 16	102	.10	.50	.40	.500	.ə23	.551	.618	.678			.817
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	X' = 24	103	.20	.30	.50	.500	.523	.525	.591	.644	.706	.782	.827
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		104		40		400	419	485	516	585		746	798
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$						500	500	500	610	000	0.00	7.4.1	704
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$													
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		106	10	.30	60	600	628	618	661	712	758	822	858
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$							E09	616	E7E	0.4.4	509		
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$.046	.010			.705	-180	820
111 .20 .40 .40 .400 .419 .485 .516 .542 .616 .715 .774	L = 52	108		.45			.471	.500					.809
111 .20 .40 .40 .400 .419 .485 .516 .542 .616 .715 .774	X = 16	109	.10	.50	.40	.500	.523	.551	.575	.644	.689	.743	.792
111 .20 .40 .40 .400 .419 .485 .516 .542 .616 .715 .774	Y' 20	110		30	50		599	551	550		671		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	A 40		0.0				416						
<u>112 .20 .50 .30 .500 .523 .588 .618 .636 .647 .725 .782</u>					.40		.419	.480				.715	
		112	.20	.50	.30	.500	.523	.588	.618	.686	.647	,725	.782

TABLE 9.8
SUMMARY OF EQUIVALENT H TRUCK LOADINGS IN SIMPLE SPANS
PRODUCED BY TYPE 3-S3 TRUCKS WEIGHING ONE KIP EACH



One hundred and five variations in the Type 3-S3 truck are given in this table. Each truck number, from 1 to 105, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight on each axle.

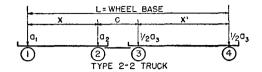
All dimensions are in feet. Equivalent H truck loadings are in kips. $a_1,\,a_2,\,and\,a_3$ represent the ratio of gross vehicle weight on axles.

Wheel Base and Axle Spacing	Truck No.	ı	load O Axles Kips					Span	ı-Feet			
Feet	7	a ₁	\mathbf{a}_2	a 3	10	20	30	40	50	60	80	100
	1	.10	.30	.60	.450	.558	.662	.747	.801	.836	.879	.903
L = 32	2 3	.10	$.36 \\ .40$.54	.405		.622	.718	.777	.817	.864	.892
X = 8	4	.10 .10	.50	.50 .40	.400 .500		.596 .662	.699 .726	.762 $.762$.805 .787	.855 $.831$.885 .866
$\mathbf{\hat{x}} = 12$	5	.20	.30	.50	.375		.567	.672	.741	.787	.842	.875
1 12	6	.20	.40	.40	.400		.559	.667	.787	.784	.839	.873
	7	.20	.50	.30	.500		.647	.715	.775	.815	.863	.891
	8	.10	.30	.60	.450		.618	.704	.767	.808	.858	.887
T 00	9	.10	.36	.54	.405		.569	.669	.739	.785	.840	.874
L = 36	10	.10	.46	.50	.400		.537	.645	.720	.770	.829	.864
X = 8 X' = 16	11	.10	.50	.40	.500		.603	.683	.729	.759	.806	,846
A - 16	$\frac{12}{13}$.20	.30 .40	$.50 \\ .40$.375 .400		.523 $.544$.618 $.624$.699 .703	.752	.816	.854 $.856$
	14	.20	.50	.30	.500	.616	.647	.683	.705	.755 .794	.818 .847	.879
	15	.10	.30	.60	.450		.585	.661	.733	.779	.837	.871
	16	.10	.36	.54	.405	.502	,529	.619	.700	.752	.816	.854
L = 40	17	.10	.40	.50	.400		.493	.591	.678	.734	.803	.844
$\mathbf{X} = 8$ $\mathbf{X}' = 20$	18	.10	.50	.40	.500		.581	.640	.695	.731	.785	.829
$\mathbf{X}' = 20$	16	.20	.30	.50	.375		.489	.564	.657	.718	.790	.833
	20	.20	.40	.40	.400		.544	.581	.669	.728	.79%	.840
	21	.20	.50	.30	.500		.647	.661	.724	.773	.832	.866
	22	.19	.30	.60	.450		.574	.629	.699	.752	.816	.854
T 11	23	.10	.36	.54 $.50$.405		.516	.581	.661	.721	.793	.836
Y 0	$\frac{24}{25}$.10	.40 .50	.40	.400 .500		.479 .581	.548 .597	.635 $.661$.700 .703	.777 .765	.823 ,813
$ \begin{array}{l} I_1 = 44 \\ X = 8 \\ X' = 24 \end{array} $	26	.20	.30	.50	.375		.478	.532	,614	.682	.765	.813
	27	20	.40	,40	.400		.544	.559	.635	.700	.777	823
	28	.20	.50	.30	.500		.647	.661	.699	.752	.816	.854
	29	.10	.30	.60	.450		.574	.597	.665	.724	.796	.838
_	30	.10	.36	.54	.405	.502	.516	.542	.622	.688	.769	.817
L = 48	31	.10	.40	.50	.400		.479	.505	.593	.665	.751	.803
X = 8 X' = 28	32	.10	.56 $.30$.40	.500		.581	.586	.627	.676	.744	.796
A 28	33 34	.20	.40	.50 $.40$	375		.478 .544	.500 .559	.572 .602	.647 .671	.739 .756	.792 $.807$
	35	.20	.50	.30	.500		.647	.661	.674	.731	.801	.842
	36	.10	.30	.60	.450		,662	.736	.792	.829	.873	.899
	37	.10	.36	.54	.405	.502	.622	.707	.769	.810	.859	.888
L = 36	38	.10	.40	.50	.400	.465	.596	.688	.754	.797	.850	.881
X = 12	39	.10	.50	.40	.500		.662	.726	.762	.787	.826	.862
X' = 12	40	.20	.60	.50	.375		.567	.650	.724	.773	.832	866
	41	.20	.40	.40	.400	.465	.559	.624	.686	.741	.808	.848
	42	20	.50	.30	.500	.570	.625	.672	.707	.758	.822	.858
	43	.10	.30	.60	.450		.618	.693	.758	.800	.853	.883
L = 40	44 45	.10 .10	.36 .40	$.54 \\ .50$.405 .400	.502 .465	.569 $.537$.658 $.634$.731 $.712$.777 $.763$.835 $.824$.870 .860
X = 12	46	.10	.50	.40	.500	.547	.603	.683	.712	.759	.824	.838
X' = 16	47	.20	.30	.50	.375	.465	.523	.597	.682	.738	.806	.846
	48	.20	.40	.40	.400	.465	.515	.581	.635	.700	.777	.823
	49	.20	.50	.30	.500	.570	.618	.640	.682	.737	.806	.846

TABLE 9.8 (Continued)

TABLE	9.8 (C	ontinu	led)									
	50	.10	.30	.60	.450	.558	,585	.661	.724	.773	.832	.866
	51	.10	.36	.54	.405	.502	.529	.619	.692	.746	.811	.850
$T_{1} = 44$	$5\overline{2}$.10	.40	.50	.400	.465	.492	.590	.668	.727	.798	.840
$L = 44 \\ X = 12$	53	.10	.50	.40	.500	.547	.567	.640	.695	.731	.775	.813
$\mathbf{\tilde{X}}' = \tilde{20}$	54	.20	.30	.50	.375	.465	.489	.564	.639	.702	.779	.825
A - 20	55	.20	.40	.40	.400	.465	.515	.538	.602	.671	.756	.807
	56	.20	.50	.30	.500	.570	.618	.640	.657	.716	.790	.833
	57	.10	.30	.60	.450	.558	.574	.629	.690	.745	.811	.850
T 40	58	.10	.36	.54	.405	.502	.516	.581	.652	.713	.787	.831
L = 48	59	.10	.40	.50	.400	.465	.478	.547	.626	.691	.772	.819
X = 12 X' = 24	60	.10	.50	.40	.500	.547	.567	.597	.661	.703	.754	.788
X = 24	61	.20	.30	.50	.375	.465	.478	.532	.596	.667	.753	.805
	62	.20	.40	.40	.400	.465	.515	.538	.568	.644	.736	.790
	63	.20	.50	.30	.500	.570	.618	.640	.652	.695	.775	.821
	64	.10	.30	.60	.450	.558	.574	.597	.661	.716	.790	.833
_	65	.10	.36	.54	.405	.502	.516	.542	.617	.681	.764	.813
L = 52	66	.10	.40	.50	.400	.465	.478	.505	.588	.657	.746	.799
X = 12 X' = 28	67	.10	.50	.40	.500	.547	.567	.575	.627	.676	.732	.768
X' = 28	68	.20	.30	.50	.375	.465	.478	.500	.562	.633	.727	.784
	69	.20	.40	.40	.400	.465	.515	.538	.551	.616	.715	.774
	70	.20	.50	.30	.500	.570	.618	.640	.652	.675	.759	.809
	71	.10	.30	.60	.450	.558	.662	.726	.784	.821	.868	.895
	72	.10	.36	.54	.405	.502	.622	.697	.760	.802	.854	.884
L = 40	73	.10	.40	.50	.400	.465	.597	.677	.746	.790	.844	.877
X = 16	74	.10	.50	.40	.500	.551	.662	.726	.762	.787	.821	.858
$\tilde{\mathbf{x}}' = \tilde{1}\tilde{2}$	75	.20	.30	.50	.375	.465	.566	.629	.707	.758	.821	.858
	76	.20	.40	.40	.400	.447	.559	.624	.669	.727	.798	.840
	77	.20	.50	.30	.500	.547	.624	.672	.699	.716	.780	.825
	78	.10	.30	.60	,450	.558	,618	.693	.750	.794	.847	.879
	79	.10	.36	.54	.405	.502	.569	.658	.722	.771	.830	.865
L = 44	80	.10	.40	.50	.400	.465	.536	.634	.702	.755	.818	.856
X = 16 X' = 16	81	.10	.50	.40	.500	.523	.603	.683	.729	.759	.796	.833
X' = 16	82	.20	.30	.50	.375	.465	.522	.597	.664	.724	.795	.838
	83	.20	.40	.40	.400	.419	.501	.581	.627	.685	.767	.815
	84	.20	.50	.30	.500	.523	.588	.640	.674	.695	.765	.813
	85	.10	.30	.60	.450	.558	.585	.661	.716	.766	.827	.862
	86	.10	.36	.54	.405	.502	.529	.619	.683	.738	.806	.846
L = 48	87	.10	.40	.50	.400	.465	.492	.590	.660	.720	.793	.836
$\ddot{x} = 16$	88	.10	.50	.40	.500	.523	.552	.640	.695	.731	.775	.809
X' = 20	89	.20	.30	.50	.375	.465	.489	.564	.622	.688	.769	.817
A - 20	90	.20	.40	.40	.400	.419	.485	.538	.593	.643	.736	.790
	91	.20	.50	.30	.500	.523	.588	.618	.648	.675	.749	.801
	92	.10	.30	.60	.450	.558	.574	.629	.686	.737	.806	.846
	93	.10	.36	.54	.405	.502	.514	.581	.648	.706	.782	.827
L = 52	94	.10	.40	.50	.400	.465	.479	.547	.622	.685	.767	.815
$X = \frac{32}{16}$	95	.10	.50	.40	.500	.523	.552	.597	.661	.703	.754	.872
X' = 24	96	.20	.30	.50	.375	.465	.332 $.479$.531	.589	.654	.743	.796
A - 24	96 97	.20	.40	.40	.400	.419		.516	.559	.602	.704	.766
	98	.20	.50	.30	.500	.523	.485 .588	.618	.635	.654	.733	.788
-												.829
	99	.10	.30	.60	.450	.558	.574	.597	.661	.710	.785	
Y 50	100	.10	.36	.54	.405	.502	.516	.542	.617	.675	.758	.809
L = 56	101	.10	.40	.50	.400	.465	.478	.505	.588	.649	.741	.794
X = 16 X' = 28	102	.10	.50	.40	.500	.523	.552	.564	.627	.676	.732	.768
$\chi = 28$	103	.20	.30	.50	.375	.465	.478	.500	.562	.618	.717	.776
	104	.20	.40	.40	.400	.419	.485	.516	.534	.574	.673	.741
	105	.20	.50	.30	.500	.523	.588	.618	.635	.647	.718	.776

TABLE 9.9
SUMMARY OF EQUIVALENT H TRUCK LOADINGS IN SIMPLE SPANS
PRODUCED BY TYPE 2-2 TRUCKS WEIGHING ONE KIP EACH



One hundred and forty-four variations in the Type 2-2 truck are given in this table. Each truck number, from 1 to 144, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight on each axle.

All dimensions are in feet. Equivalent H truck loadings are in kips. a_1 , a_2 , and a_3 represent the ratio of gross vehicle weight on axles.

Wheel Base and Axle Spacing	Truck No.	I	oad O Axles Kips	n				Span	-Feet			
Feet	🖺	\mathbf{a}_1	\mathbf{a}_2	\mathbf{a}_3	10	20	30	40	50	60	80	100
L = 28 X = 12 X'= 8 C = 8	1 2 3 4 5 6	.10 .10 .10 .20 .20	.20 .30 .40 .20 .30 .40	.70 .60 .50 .60 .50	.525 .450 .563 .450 .438 .550	.698 .628 .698 .605 .582	.780 .736 .772 .692 .662 .706	.839 .806 .806 .774 .742 .731	.873 .847 .826 .822 .796 .771	.895 .874 .853 .853 .832 .811	.922 .907 .891 .891 .875	.938 .926 .914 .914 .901
L = 32 $X = 12$ $X' = 12$ $C = 8$	7 8 9 10 11 12	.10 .10 .10 .20 .20	.20 .30 .40 .20 .30 .40	.70 .60 .50 .60 .50	.488 .450 .563 .425 .438 .550	.570 .558 .640 .488 .523 .605	.692 .684 .736 .603 .625	.769 .742 .779 .699 .672 .710	.818 .788 .805 .762 .733 .737	.850 .826 .821 .805 .779	.889 .870 .853 .855 .837 .839	.912 .897 .883 .885 .871
L = 36 X = 12 X' = 16 C = 8	13 14 15 16 17 18	.10 .10 .10 .20 .20	.20 .30 .40 .20 .30 .40	.70 .60 .50 .60 .50 .40	.488 .450 .563 .425 .438	.547 .558 .640 .488 .523 .605	.610 .640 .698 .566 .592	.699 .710 .753 .624 .645	.762 .750 .784 .703 .686 .720	.805 .776 .805 .755 .742 .769	.855 .834 .850 .818 .808	.885 .868 .852 .856 .848
L = 40 X = 12 X' = 20 C = 8	19 20 21 22 23 24	.10 .10 .10 .20 .20	.20 .30 .40 .20 .30 .40	.70 .60 .50 .60 .50	.488 .450 .563 .425 .438 .550	.547 .558 .640 .488 .523 .605	.585 .610 .662 .566 .592 .618	.629 .677 .726 .602 .634 .667	.707 .724 .762 .644 .665	.758 .755 .787 .706 .724 .755	.822 .798 .816 .782 .796 .818	.858 .840 .833 .827 .838 .856
L = 32 X = 12 X' = 8 C = 12	25 26 27 28 29 30	.10 .10 .20 .20 .20	.20 .30 .40 .20 .30 .40	.70 .60 .50 .60 .50	.525 .450 .500 .450 .375	.651 .558 .582 .558 .465 .558	.742 .684 .699 .646 .588	.806 .763 .720 .731 .688 .688	.847 .813 .779 .788 .754 .720	.874 .847 .818 .826 .797 .769	.907 .886 .865 .870 .850	.926 .910 .893 .897 .881
L = 36 X = 12 X' = 12 C = 12	31 32 33 34 35 36	.10 .10 .10 .20 .20 .20	.20 .30 .40 .20 .30 .40	.70 .60 .50 .60 .50	.438 .375 .500 .375 .375	.570 .488 .582 .488 .465 .558	.662 .596 .662 .574 .552	.736 .688 .726 .656 .618 .667	.792 .754 .762 .729 .690 .703	.829 .797 .787 .776 .745	.873 .850 .827 .834 .811	.899 .881 .862 .868 .850
L = 40 X = 12 X' = 16 C = 12	37 38 39 40 41 42	.10 .10 .10 .20 .20 .20	.20 .30 .40 .20 .30 .40	.70 .60 .50 .60 .50 .40	.438 .375 .500 .375 .375	.500 .488 .582 .442 .465 .558	.581 .552 .625 .507 .518 .588	.667 .645 .699 .581 .591 .645	.737 .699 .741 .669 .644	.784 .748 .769 .727 .706 .742	.839 .813 .803 .798 .782 .808	.873 .852 .831 .840 .827 .848
L = 44 $X = 12$ $X' = 20$ $C = 12$	43 44 45 46 47 48	.10 .10 .10 .20 .20 .20	.20 .30 .40 .20 .30 .40	.70 .60 .50 .60 .50	.438 .375 .500 .375 .375	.500 .488 .582 .442 .465 .558	.540 .552 .607 .507 .518 .574	.607 .613 .672 .559 .581 .624	.682 .674 .720 .610 .623 .669	.737 .713 .752 .679 .689	.806 .777 .790 .761 .770	.846 .823 .813 .811 .817 .840
L = 32 $X = 16$ $X' = 8$ $C = 8$	49 50 51 52 53 54	.10 .10 .10 .20 .20	.20 .30 .40 .20 .30 .40	.70 .60 .50 .60 .50 .40	.525 .450 .563 .450 .438 .550	.698 .628 .698 .605 .582 .651	.772 .728 .772 .676 .662 .706	.828 .796 .806 .753 .720 .731	.864 .839 .826 .805 .779 .754	.889 .868 .847 .839 .818 .797	.917 .901 .886 .881 .865 .850	.934 .922 .910 .906 .893 .881

TABLE 9.9 (Continued)

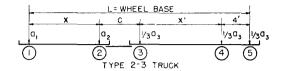
TABLE	J.J (C	DILLIALD	eu/									
	55	.10	.20	.70	.488	.570	.692	.758	.809	.842	.884	.908
L = 36	56	.10	.30	.60	.450	.558		.742			.865	
							.684		.779	.818		.893
	57	.10	.40	.50	.563	.640	.736	.779	.805	.821	.847	.879
	58	.20	.20	.60	.425	.488	.603	.677	.746	.790	.844	.877
C = 8	59	.20	.30	.50	.438	.523	.625	.672	.716	.766	.827	.862
	60	.20	.40	.40	.550	.605	.676	.710	.729	.742	.808	.848
	61	.10	.20	.70	.488	.547	.610	.688	.754	.797	.850	.881
L = 40	62	.10	.30	.60	.450	.558	.640	.710	.750	.776	.829	.864
X = 16	63	.10	.40	.50	.563	.640	.698	.753	.784	.805	.829	.848
$\tilde{X}' = \tilde{16}$	64	.20	.20	.60	.425	.488				740		040
			.20	.00			.537	.602	.686	.742	.808	.848
C = 8	65	.20	.30	.50	.438	.523	.588	.645	.678	.713	.787	.831
	66	.20	.40	.40	.550	.605	.647	.688	.712	.728	.787	.831
	67	.10	.20	.70	.488	.547	.570	.629	.699	.752	.816	.854
T 44				.10						.(94	.010	
L = 44	68	.10	.30	.60	.450	.558	.596	.677	.724	.755	.793	.836
X = 16	69	.10	.40	.50	.563	.640	.662	.726	.762	.787	.816	.833
X' = 20	70	.20	.20	.60	.425	.488	.537	.581	627	.692	.772	.819
c = s	71	.20	.30	.50	.438	.523	.563	.618	.657	.682	.754	.805
-	72	.20	.40	.40	.550	.605	.618	.667	.695	.713	.777	.823
	73	.10	.20	.70	.525	.651	.742	.796	.839	.868	.901	.922
L = 36 X = 16 X' = 8	74	.10	.30	.60	.450	.558	.684	.753	.805	.839	.881	.906
X = 16	75	.10	.40	.50	.500	.582	.699	.753	.784	.811	.860	.889
Y' 10			.20							-611		
X' = 8	76	.20	.20	.60	.450	.558	.647	.710	.771	.811	.860	.889
C = 12	77	.20	.30	.50	.375	.465	.588	.667	.737	.784	.839	.873
	78	.20	.40	.40	.500	.558	.646	.688	.712	.755	.818	.856
	79	10	00								# · * · · · · · · · · · · · · · · · · ·	
r		.10	.20	.70	.438	.570	.662	.726	.784	.821	.868	.895
$\mathbf{L} = 40$	80	.10	.30	.60	.375	.488	.596	.677	.746	.790	.814	.877
X = 16	81	.10	.40	.50	.500	.582	.662	.726	.762	.787	.822	.858
X' = 12	82	.20	.20	.60	.375	.488	.574	.634	.712	.763	.824	.860
C = 12	83	.20	.30	.50	.375	.465	.552	.618	.674	.731	.801	.842
0 12	84	.20	.40	.00				.018				.893
	84	-20		.40	.500	.558	.618	.667	.695	.713	.777	.873
	85	.10	.20	.70	.438	.500	.581	.667	.729	.776	.834	.868
L = 44	86	.10	.30	.60	.375	.488	.552	.645	.699	.742	.808	.848
$\ddot{\mathbf{x}} = 16$	87	.10	.40	.50	.500	.582			741	7.00	.803	.040
X = 16 X' = 16							.625	.699	.741	.769		.827
	88	.20	.20	.60	.375	.442	.500	.581	.652	.713	.787	.831
C = 12	89	.20	.30	.50	.375	.465	.515	.591	.635	.679	.761	.811
	90	.20	.40	.40	.500	.558	.588	.645	.678	.700	.767	.815
	91	.10	.20	.70	.438	.500	.525	.607	.674	.731	.801	.842
L = 48	92	.10	.30	.60	.375	.488	.537	.613	.674 $.720$.713	.772	.819
X = 16	93	.10	.40	.50	.500	.582	.607	.672	.720	.752	.790	.813
$\mathbf{X}' = \frac{10}{20}$	94	.20	.20	.60	.375	.442	.478	.538	.593	664	.751	.803
$\ddot{c} = \ddot{1}\ddot{2}$	95	.20	.30	.50	.875	.465					.101	.784
0 - 12				.00	-010		.496	.564	.614	.647	.728	.784
	96	.20	.40	.40	.500	.558	.574	.624	.661	.685	.756	.807
	97	.10	.20	.70	.525	.698	.772	.817	.856	.881	.912	.930
L = 36	98	,10	.30	.60	.450	.628	799	.785	.830	.860	.896	.918
X = 20	99						.728 .772					
X = 20 $X' = 8$.10	.40	.50	.563	.698	.112	.806	.826	.839	.881	.906
$\mathbf{x'} = 8$	100	.20	.20	.60	.450	.605	.676	.731	.788	.826	.870	.897
c = s	101	.20	.30	.50	.438	.582	.662	.699	.762	.805	.855	.885
	102	.29	.40	.40	.550	.651	.706	.731	.746	.784	.839	.873
_	103	.10	.20	.70	.488	.570	.692	.747	.801	.836	.879	.903
L = 40	104	.10	.30	.60	.450	.558	.684	.742	.775	.811	.860	.889
X = 20	105	.10	.40	.50	.563	.640	.736	.779	.805	.821	.842	.875
X' = 12	106	.20	.20	.60	.425	.488	.603	.656	.729	.776	.834	.868
C = 8	107	.20	.30	.50	.438	523	625	672	.699	.752	.816	.854
0 - 0	108	.20	.40	.40		605						
					.550		.676	.710	.729	.742	.798	.840
	109	.10	.20	.70	.488	.547	.610	.688	.746	.790	.844	.877
L = 44	110	.10	.30	.60	.450	.558	.640	.710	.750	.776	.824	.860
X = 20	111	.10	.40	.50	.563	.640	.698	.753	.784	.805	.829	.844
$\mathbf{X}' = \frac{20}{16}$	112	.20	.20								.049	
		.20		.60	.425	.488	.529	.602	.669	.727	- 698	.840
C = 8	113	.20	.30	.50	.438	$.5^{\circ}3$.588	.645	.678	.700	.798 .777	.823
	114	.20	.40	.40	.550	.605	.647	.688	.712	.728	.756	.807
	115	10	0.0									
T 10	115	.10	.20	.70	.488	.547	.555	.629	.690	.745	.811	.850
L = 48	116	.10	.30	.60	.450	.558	.596	.677	.724	.755	.793	.881
X = 20 X' = 20	117	.10	.40	.50	.563	.640	.662	.726	.762	.787	.816 $.761$.833
X' = 20	118	.20	.20	.60	.425	.488	.507	.570	.618	.679	761	.811
$\hat{C} = 8$	119	.20	.30	.50	.438	.523	552	.618	.657	.682	700	.792
J 0		0.0									.739	
	120	.20	.40	40	.550	.605	.618	.667	.695	.713	.736	.790
	121	.10	.20	.70	.525	.651	.742	.785	.830	.860	.896	.918
L = 40	122	.10	.30	.60	.450	.558	.684	.742	700	.832	.875	.901
	100		.00		.450	.000	.054	.142	.796 .784	.862	.010	
X = 20	123	.10	.40	.50	.500	.582	.699	.753	.784	.805	.855	.885
X'= 8	124	.20	.20	.60	.450	.558	.647	.688	.754	.797	.850	.881
C = 12	125	.20	.30	.50	.375	.465	588	.645	.720	769	829	.864
	126	.20	.40	.40	.500	.558	.646	.688	.712	.742	808	.848
	127	.10	.20	.70	.438	.570	.662	.726	.775	.815	.863	.891
L = 44	128	.10	.30	.60	.375	.488	.596	.677	.737	.784	.839	.873
L = 44 $X = 20$	129	.10	.40	.50	.500	.582	.662	.726	.762	.787	.816	.854
$\hat{\mathbf{X}}' = \hat{12}$	130	-00	.20							-101		
		.20		.60	.375	.488	.574	.634	.695	.748	.813	.852
C = 12	131	.20	.30	.50	.375	.465	.552	.618	.657	.716	.790	.833
		.20	.40	.40	.500	.558	.618	.667	.695			
	132	.20	, , ,	. 417			.010	.007	.099	.713	.767	.815
	132		,()	.40				100.	.090	.713	.767	.815

TABLE 9.9 (Continued)

	133	.10	.20	.70	.438	.500	.581	.667	.720	.769	.829	.864
L = 48	134	.10	.30	.60	.375	.488	.552	.645	.699	.734	.803	.844
$\mathbf{x} = 20$	135	.10	.40	.50	.500	.582	.625	.699	.741	.769	.803	.823
X'=16.	136	.20	.20	.60	.375	.442	.500	.581	.635	.700	.777	.823
C = 12	137	.20	.30	.50	.375	.465	.515	.591	.635	.664	.751	.803
	138	.20	.40	.40	.500	.558	.588	.645	.678	.700	.725	.782
	139	.10	.20	.70	.438	.500	.518	.607	.669	.724	.796	.838
L = 52	140	.10	.30	.60	.375	.488	.529	.613	.674	.713	.767	.815
X = 20	141	.10	.40	.50	.500	.582	.607	.672	.720	.752	.790	.813
$\mathbf{X'} = 20$	142	.20	.20	.60	.375	.442	.463	.527	.585	.650	.741	.794
C = 12	143	.20	.30	.50	.375	.465	.496	.564	.614	.647	.713	.772
	144	.20	.40	.40	.500	.558	.574	.624	.661	.685	.715	.774

TABLE 9.10

SUMMARY OF EQUIVALENT H TRUCK LOADINGS IN SIMPLE SPANS PRODUCED BY TYPE 2-3 TRUCKS WEIGHING ONE KIP EACH



Ninety variations in the Type 2-3 truck are given in this table. Each truck number, from 1 to 90, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight of each axle.

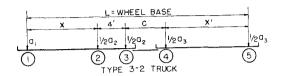
All dimensions are in feet. Equivalent H truck loadings are in kips. a1, a2, and a3 represent the ratio of gross vehicle weight on axles.

Wheel Base and Axle Spacing	Truck No.	1	Load O Axles Kips					Span-	Feet			
Feet	Ĥ	a 1	\mathbf{a}_2	a ₃	10	20	30	40	50	60	80	100
	1	.10	.20	.70	.468	.597	.708	.782	.827	.858	.894	.917
L = 32	2	.10	.30	.60	.425	.535	.669	.742	.797	.832	.876	.901
X = 12	2 3 4	.10	.40	.50	.541	.620	.724	.771	.798	.816	.857	.886
$\ddot{\mathbf{x}}' = \ddot{8}$	4	.20	.20	.60	.400	.512	.618	.718	.771	.811	.860	.889
C = 8	5	.20	.30	.50	.416	.503	.613	.670	.740	.786	.841	.873
	6	.10	.20	.70	.468	.543	.645	.724	.783	.820	.867	.894
L = 36	7	.10	.30	.60	.425	.488	.610	.688	.746	.790	.845	.877
$\begin{array}{c} X = 12 \\ X' = 12 \end{array}$	8 9	.10 .20	.40 .20	.50 $.60$.541 .400	$.581 \\ .465$.674 $.558$.734 $.645$.770 .720	.793 $.769$.822 $.829$.859 .864
C = 8	10	.20	.30	.50	.416	.465	.564	.627	.683	.738	.806	.847
<u> </u>	11	.10	.20	.70	.468	.488	.581	.667	- .787	.784	.839	.872
L = 40	12	.10	.30	.60	.425	.488	.551	.645	.699	.748	.813	.852
X = 12	13	.10	.40	.50	.541	.581	.625	.699	.742	.769	.803	.831
$\ddot{\mathbf{x}}' = \ddot{16}$	14	.20	.20	.60	.400	.419	.500	.581	.669	.727	.798	.840
c = s	15	.20	.30	.50	.416	.465	.515	.591	.644	.706	.782	.827
	16	.10	.20	.70	.468	.597	.678	.749	.802	.837	.879	.904
$\Gamma=36$	17	.10	.30	.60	.400	.512	.610	.699	.763	.805	.855	.885
X = 12	18	.10	.40	.50	.500	.543	.650	.717	.755	.780	.831	.865
$\mathbf{X}' = \begin{bmatrix} 8 \\ 8 \end{bmatrix}$	19	.20	.20	.60	.400	.512 .442	.588 $.539$.667	.737	.784	.839	.872
C = 12	20	.20	.30	.50	.375			.616	.698	.751	.816	.853
T - 40	21	.10	.20	.70	.468	.543	.615	.691	.757	.799	.852	.882
L = 40 X = 12	$\frac{22}{23}$	$.10 \\ .10$.30 .40	.60 .50	.400 .500	.465 $.543$.537 $.601$.634 $.681$.712 $.728$.763 $.757$.824 $.796$.860 .838
X' = 12	$\frac{23}{24}$.20	.20	.60	.400	.465	.529	.602	.686	.742	.808	.848
$\hat{C} = 12$	25	.20	.30	.50	.375	.442	.491	.573	.641	.704	.780	.826
	26	.10	.20	.70	.468	.488	.566	.645	.712	.763	.824	.860
L = 44	27	.10	.30	.60	.400	.442	.485	.581	.661	.721	.793	.835
X = 12	28	.10	.40	.50	.500	.543	.564	.645	.699	.734	.777	.811
X' = 16	29	.20	.20	.60	.400	.419	.485	.559	.636	.700	.777	.823
C = 12	30_	.20	.30	.50	.375	.442	.463	.538	.602	.671	.756	.807
	31	.10	.20	.70	.468	.597	.708	.771	.819	.851	.889	.913
$\Gamma = 36$	32	.10	.30	.60	.425	.535	.669	.731	.788	.826	.870	.897
$\mathbf{X} = 16$ $\mathbf{X'} = 8$	33	.10	.40	.50	.541	$.620 \\ .512$.724 $.618$.771 .688	.798 $.754$.816 $.797$	$.852 \\ .850$.882 .881
X' = 8 C = 8	$\frac{34}{35}$.20	.20 .30	$.60 \\ .50$.400 .416	.503	.613	.663	.724	.772	.831	.865
<u>c – </u>	36		.20	.70	.468	.543	.645	.713	.774	.814	.862	.890
L = 40	37	.10 .10	.30	.60	.408	.488	.610	.688	.737	.814	.839	.890
X = 16	38	.10	.40	.50	.541	.581	.674	.734	.770	.793	.821	.855
$\mathbf{X} = 16$ $\mathbf{X}' = 12$	39	.20	.20	.60	.400	.465	.558	.624	.703	.755	.819	.856
$C = \frac{12}{8}$	40	.20	.30	.50	.416	.465	.564	.627	.666	.725	.796	.838
	41	.10	.20	.70	.468	.488	.581	.667	.729	.776	.834	.868
L = 44	42	.10	.30	.60	.425	.488	.551	.645	.699	.742	.808	.848
X = 16	43	.10	.40	.50	.541	.581	.625	.699	.742	.769	.803	.827
X' = 16	44	.20	.20	.60	.400	.419	.500	.581	.653	.713	.788	.231
$\mathbf{c} = \mathbf{s}$	45	.20	.30	.50	.416	.465	.515	.591	.636	.679	.762	.811
	46	.10	.20	.70	.468	.597	.678	.739	.793	.830	.874	.900
L = 40	47	.10	.30	.60	.400	.512	.610	.688	.754	.797	.850	.881
X = 16	48	.10	.40	.50	.500	.543	.650	.717	.755	.780	.826	.861
X' = 8 $C = 12$	49 50	.20 .20	$.20 \\ .30$	$.60 \\ .50$.400 .375	.512 $.427$.588 .539	$.645 \\ .610$	$.720 \\ .681$.769 $.736$.829 $.805$.864 .845
0 — 12		.40	.50	.50	.315	.441		.010	.081	.100	.000	.040

	TAL	BLE	9.10	(Continued)
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	51	.10	.20	.70	.468	.543	.615	.691	.749	.793	.847	.878
L = 44	52	.10	.30	.60	.400	.465	.537	.634	.708	.755	.819	.856
X = 16	53	.10	.40	.50	.500	.543	.601	.681	.728	.757	.795	.834
X' = 12	54	.20	.20	.60	.400	.465	.529	.602	.669	.727	.798	.840
C = 12	55	.20	.30	.50	.375	.427	.491	.573	.624	.690	.770	.818
	56	.10	.20	.70	.468	.488	.566	.645	.703	.755	.819	.856
L = 48	57	.10	.30	.60	.400	.442	.485	.581	653	.713	.788	.831
$\ddot{\mathbf{x}} = 16$	58	.10	.40	.50	.500	.543	.564	.645	.699	.734	.777	.807
$\ddot{\mathbf{x}}' = 16$	59	.20	.20	.60	.400	.419	.485	.559	.619	.685	.767	.815
C = 12	60	.20	.30	.50	.375	.427	.453	.538	.593	.643	.736	.790
0 - 12												
T - 10	61	.10	.20	.70	.468	.597	.708	.760	.810	.843	.884	.908
L = 40	62	.10	.30	.60	.425	.535	.669	.731	.780	.818	.865	.893
X = 20	63	.10	.40	.50	.541	.620	.724	.771	.798	.816	.847	.878
X' = 8	64	.20	.20	.60	.400	.512	.618	.667	.737	.784	.839	.872
C = 8	65	.20	.30	.50	.416	.503	.613	.663	.707	.757	.821	.857
	66	.10	.20	.70	.468	.543	.645	.713	.766	.807	.857	.886
L = 44	67	.10	.30	.60	.425	.488	.610	.688	.733	.776	.834	.868
X = 20	68	.10	.40	.50	.541	.581	.674	.734	.770	.793	.821	.851
X' = 16	69	.20	.20	.60	.400	.465	.558	.624	.686	.742	.808	.848
C = 8	70	.20	.30	.50	.416	.465	.564	.627	.664	.711	.785	.830
	71	.10	.20	.70	.468	.488	.581	.667	.720	.769	.829	.864
L = 48	72	.10	.30	.60	.425	.488	.551	.645	.699	.734	.803	.844
X = 20	73	.10	.40	.50	.541	.581	.625	.699	.742	.769	.803	.823
X' = 16	74	.20	.20	.60	.400	.419	.500	.581	.636	.700	,777	.823
c = s	75	.20	.30	.50	.416	.465	.515	.591	.636	.664	.751	.802
	76	.10	.20	.70	.468	.597	.678	.739	.785	.822	.868	.896
L = 44	77	.10	.30	.60	.400	.512	.610	.688	.746	.790	.845	.877
X = 20	78	.10	.40	.50	.500	.543	.650	.717	.755	.780	.821	.857
X' = 8	79	.20	.20	.60	.400	.512	.588	.645	.703	.755	.819	.856
C = 12	80	.20	.30	.50	.375	.427	.539	.610	.664	.723	.795	.836
	81	.10	.20	.70	.468	.543	.615	.691	.740	.786	.841	.873
L = 48	82	.10	.30	.60	.400	.465	.537	.634	695	.748	.813	.852
$\ddot{\mathbf{x}} = 20$	83	.10	.40	.50	.500	.543	.601	.681	.728	.757	.795	.830
$\ddot{\mathbf{x}}' = \ddot{1}\ddot{2}$	84	.20	.20	.60	.400	.465	.529	.602	.653	.713	.788	.831
$\hat{C} = \hat{12}$	85	.20	.30	.50	.375	.427	.491	.573	.622	.676	.760	.810
	86	.10	.20	.70	.468	.488	.566	.645	.699	.748	.813	.852
L = 52	87	.10	.30	.60	.408	.488	.485	.581	.648	.706	.782	.827
$X = \frac{52}{20}$	88	.10	.40	.50	.500	.543	.564	.645	.699	.734	.777	.802
X' = 16	89	.20	.20	.60	.400	.419	.485	.559	.610	.671	.756	.807
C = 12	90	.20	.30	.50	.375	.427	.453	.538	.593	.629	.725	.782
0 - 12	ยูย	.40	.00	.00	.010	.421	.455	.000	.000	.040	.140	.104

TABLE 9.11 SUMMARY OF EQUIVALENT H TRUCK LOADINGS IN SIMPLE SPANS PRODUCED BY TYPE 3-2 TRUCKS WEIGHING ONE KIP EACH



Ninety variations in the Type 3-2 truck are given in this table. Each truck number, from 1 to 90, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight of each axle.

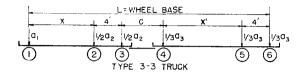
All dimensions are in fect. Equivalent H truck loadings are in kips. a1, a2, and a3 represent the ratio of gross vehicle weight on axles.

Wheel Base and Axle Spacing	Truck No.	I	oad O Axles Kips	n				Span-	Feet			
Feet	F	a ı	\mathbf{a}_2	аз	10	20	30	40	50	60	80	100
	1	.10	.40	.50	.400	.535	.632	.704	.746	.779	.837	.871
L = 36	2	.10	.50	.40	.500	.616	.690	.747	.779	.800	.826	.854
X = 12	3	.10	.60	.30	.600	.698	.750	.790	.813	.829	.846	.858
X' = 12	4	.20	.40	.40	.400	.512	.589	.645	.686	.742	.808	.848
c = s	5	.20	.50	.30	.500	.593_	.646	.688	.720	.769	.829	.864
	6	.10	.40	.50	.400	.535	.596	.677	.724	.755	.798	.840
$\mathbf{L} = 40$	7	.10	.50	.40	.500	.616	.662	.726	.762	.787	.816	.833
X = 12	8	.10	.60	.30	.600	.698	.728	.774	.801	.818	.839	.852
$\mathbf{X}' = 16$	9	.20	.40	.40	.400	.512	.558	.624	.669	.727	.798	.840
$\underline{\mathbf{c}} = 8$	10	.20	.50	.30	.500	.593	.624	.672	.707	.758	.822	.858
_	11	.10	.40	.50	.400	.535	.592	.650	.703	.737	.779	.809
$\mathbf{L} = 44$	12	.10	.50	.40	.500	.616	.647	.704	.746	.773	.806	.825
X = 12	13	.10	.60	.30	.600	.698	.717	.758	.788	.808	.832	.846
X' = 20 C = 8	14	.20	.40	.40	.400	.512	.558	.624	.661	.713	.787	.831
C = 8	15	.20	.50	.30	.500	.593	.618	.656	.695	.748	.813	.852
	16	.10	.40	.50	.400	.477	.559	.650	.703	.745	.811	.850
L = 40	17	.10	.50	.40	.500	.570	.632	.704	.746	.773	.806	.829
X = 12 $X' = 12$	18 19	.10	.60	.30	.600 .400	$.663 \\ .465$.706	.758 $.602$.788	.808	.832 $.787$.846 $.831$
C = 12	20	$.20 \\ .20$	$.40 \\ .50$	$.40 \\ .30$.500	.570	.529 $.618$.656	.652 $.695$.713 .748	.813	.852
0 - 12												
T 44	21	.10	.40	.50	.400	.477	.540	.624	.682	.721	.772	.819
L = 44	$\frac{22}{23}$.10	.50 $.60$.40 $.30$.500 .600	.570 $.663$.618 $.695$.683 $.742$.729 .775	.759 $.797$.796 $.824$.817 $.840$
X = 12 $X' = 16$	24	.20	.40	.40	.400	.465	.515	.581	.636	.700	.777	.823
$\hat{C} = 12$	25	.20	.50	.30	.500	.570	.618	.640	.682	.737	.806	.846
	26	.10	.40	.50	.400	.477	.540	.597	.661	.703	.753	.788
L = 48	27	.10	.50	.40	.500	.570	.618	.661	.712	.745	.785	.809
$\ddot{\mathbf{x}} = \ddot{1}$	28	.10	.60	.30	.600	.663	.695	.726	.762	.787	.816	.833
$\ddot{\mathbf{x}}' = \ddot{\mathbf{z}}\ddot{0}$	29	.20	.40	.40	.400	.465	.515	.559	.618	.685	.767	.815
C = 12	30	.20	.50	.30	.500	.570	.618	.640	.669	.727	.798	.840
	31	.10	.40	.50	.400	.535	.632	.704	.746	.773	.832	.866
L = 40	32	.10	.50	.40	.500	.616	.690	.747	.779	.800	.826	.850
X = 16	33	.10	.60	.30	.600	.698	.750	.790	.813	.829	.846	.858
X' = 12	34	.20	.40	.40	.400	.512	.589	.645	.678	,713	.787	.831
c = s	35	.20	.50	.30	.500	.593	.646	.688	.712	.728	.787	.831
	36	.10	.40	.50	.400	.535	.596	.677	.724	.755	.793	.836
L = 44	37	.10	.50	.40	.500	.616	.662	.726	.762	.787	.816	.833
X = 16	38	.10	.60	.30	.600	.698	.728	.774	.801	.818	.839	.852
$\ddot{\mathbf{x}}' = \ddot{16}$	39	.20	.40	.40	.400	.512	.558	.624	.661	.686	.756	.807
C = 8	40	.20	.50	.30	.500	.593	.624	.672	.699	.716	.780	.825
	41	.10	.40	.50	.400	.535	.578	.650	.703	.737	.779	.805
L = 48	42	.10	.50	.40	.500	.616	.647	.704	.746	.773	.806	.825
X = 16	43	.10	.60	.30	.600	.698	.717	.758	.788	.808	.832	.846
X' = 20	44	.20	.40	.40	.400	.512	.544	.602	.644	.671	.746	.799
C = 8	45	.20	.50	.30	.500	593	.614	.656	.686	.707	.772	.819
	46	.10	.40	.50	.400	.477	.559	.650	.703	.737	.806	.846
L = 44	47	.10	.50	.40	.500	.570	.632	.704	.746	.773	.806	.825
X = 16	48	.10	.60	.30	.600	.663	.706	.758	.788	.808	.832	.846
X' = 12	49	.20	.40	.40	.400	.465	.529	.602	.644	.671	.756	.807
C = 12	50	.20	.50	.30	.500	.558	.602	.656	.686	707	.772	.819

TABLE 9.11 (Continued)

	51	.10	.40	.50	.400	.477	.540	.624	.682	.721	.767	.815
L = 48	52	.10	.50	.40	.500	.570	.618	.683	.729	.759	.796	.817
X = 16	53	.10	.60	.30	.600	.663	.695	.742	.775	.797	.824	.840
X' = 16	54	.20	.40	.40	.400	.465	.515	.581	.627	.657	.736	.790
C = 12	55	.20	.50	.30	.500	.558	.592	.640	.674	.695	.765	.813
	56	.10	.40	.50	.400	.477	.540	.597	.661	.703	.753	.784
L = 52	57	.10	.50	.40	.500	.570	.618	.661	.712	.745	.785	.809
X = 16	58	.10	.60	.30	.600	.663	.695	.726	.762	.787	.816	.833
X' = 20	59	.20	.40	.40	.400	.465	.515	.559	.610	.644	.725	.782
C = 12	60	.20	.50	.30	.500	.558	.592	.624	.661	.686	.756	.807
	61	.10	.40	.50	.400	.535	.632	.704	.746	.773	.827	.862
L = 44	62	.10	.50	.40	.500	.616	.690	.747	.779	.800	.826	.846
X = 20	63	.10	.60	.30	.600	.698	.750	.790	.813	.829	.846	.858
X' = 12	64	.20	.40	.40	.400	.512	.589	.645	.678	.700	.777	.823
c = s	65	.20	.50	.30	.500	.593	.646	.688	.712	.728	.756	.807
	66	.10	.40	.50	.400	.535	.596	.677	.724	.755	.793	.831
L = 48	67	.10	.50	.40	.500	.616	.662	.726	.762	.787	.816	.833
X = 20	68	.10	.60	.30	.600	.698	.728	.774	.801	.818	.839	.852
X' = 16	69	.20	.40	.40	.400	.512	.558	.624	.661	.686	.736	.790
c = s	70	.20	.50	.30	.500	.593	.624	.672	.699	.716	.739	.792
	71	.10	.40	.50	.400	.535	.577	.650	.703	.737	.779	.805
L = 52	72	.10	.50	.40	.500	.616	.647	.704	.746	.773	.806	.825
X = 20	73	.10	.60	.30	.600	.698	.717	.758	.788	.808	.832	.846
X'=20	74	.20	.40	.40	.400	.512	.544	.602	.644	.671	.704	.766
C = 8	75	.20	.50	.30	.500	.593	.614	.656	.686	.707	.732	.786
	76	.10	.40	.50	.400	.477	.559	.650	.703	.737	.801	.842
L = 48	77	.10	.50	.40	.500	.570	.632	.704	.746	.773	.806	.825
X = 20	78	.10	.60	.30	.600	.663	.706	.758	.788	.808	.832	.846
X' = 12	79	.20	.40	.40	.400	.465	.529	.602	.644	.671	.746	.799
C = 12	80	.20	.50	.30	.500	.558	.602	.656	.686	.707	.730	.786
	81	.10	.40	.50	.400	.477	.540	.624	.682	.721	.767	.811
L = 52	82	.10	.50	.40	.500	.570	.618	.683	.729	.759	.796	.817
X = 20	83	.10	.60	.30	.600	.663	.695	.742	.775	.797	.824	.840
X' = 16	84	.20	.40	.40	.400	.465	.515	.581	.627	.657	.704	.766
C = 12	85	.20	.50	.30	.500	.558	.592	.640	.674	.695	.723	.780
	86	.10	.40	.50	.400	.477	.540	.597	.661	.703	.753	.784
L = 56	87	.10	.50	.40	.500	.570	.618	.661	.712	.745	.785	.809
X = 20	88	.10	.60	.30	.600	.663	.695	.726	.762	.787	.816	.833
X' = 20	89	.20	.40	.40	.400	.465	.515	.559	.610	.644	.684	.749
C = 12	90	.20	.50	.30	.500	.558	.592	.624	.661	.686	.715	.774

TABLE 9.12 SUMMARY OF EQUIVALENT H TRUCK LOADINGS IN SIMPLE SPANS PRODUCED BY TYPE 3-3 TRUCKS WEIGHING ONE KIP EACH



Ninety variations in the Type 3-3 truck are given in this table. Each truck number, from 1 to 90, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight of each axle.

All dimensions are in feet. Equivalent H truck loadings are in kips. a1, a2, and a3 represent the ratio of gross vehicle weight on axles.

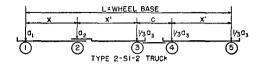
Wheel Base and Axle Spacing	Truck No.	1	Axles Kips Load O					Span-	Feet			
Feet		aı	\mathbf{a}_2	a 3	10	20	30	40	50	60	80	100
	1	.10	.30	.60	.400	.512	.588	.672	.741	.787	.842	.875
$\mathtt{L}=40$	2	.10	.40	.50	.400	.458	.547	.642	.698	.751	.815	.853
X = 12	3	.10	.50	.40	.500	.555	.622	.697	.740	.768	.802	.832
X' = 8	4	.20	.30	.50	.334	.427	.497	.578	.668	.726	.797	.839
C = 12	5	.20	.40	.40	.400	.465	.520	.594	.647	.709	.784	.828
	6	.10	.30	.60	.400	.465	.526	.618	.690	.745	.811	.850
L = 44	7	.10	.40 .50	.50	.400 .500	.458 .555	.511 $.592$	$.605 \\ .669$.668	.709	.780	.826
X = 12	8 9	.10 .20	.30	.40 .50	.334	.387	.440	.529	.717 $.611$.749	.788	.901
X' = 12 $C = 12$	10	.20	.40	.40	.400	.465	.515	.567	.624	$.680 \\ .690$.762 $.770$.812 .818
<u> </u>	11	.10	.30	.60	,400	.419	.485	.564	.640	.703	.780	.825
L = 48	12	.10	.40	.50	.400	.419	.485	.564 $.570$.640	.685	$.780 \\ .746$.799
V - 19	13	.10	.50	.40	.500	.555	.583	.640	.695	.731	.774	.889
$\begin{array}{c} \mathbf{X} = 12 \\ \mathbf{X'} = 16 \end{array}$	14	.20	.30	.50	.334	.361	.413	.478	.555	.633	.727	.784
$\hat{C} = 12$	15	.20	.40	.40	.400	.465	.515	.538	.602	.671	.756	.807
	16	.10	.30	.60	.400	.512	.555	.640	.707	.758	.822	.858
L = 44	17	.10	.40	.50	.400	.442	.486	.588	.656	.715	.789	.832
X = 12	18	.10	.50	.40	.500	.547	.572	.654	.706	.741	.781	.808
$\mathbf{X}' = 8$	19	.20	.30	.50	.334	.427	.464	.546	.626	.691	.771	.818
C = 16	20	.20	.40	.40	.400	.465	.515	.551	.613	.681	.764	.812
	21	.10	.30	.60	.400	.465	.515	.586	.657	.716	.790	.833
L = 48	22	.10	.40	.50	.400	.442	.473	.551	.626	.673	.754	.806
$\mathbf{x} = 12$	23	.10	.50	.40	.500	.547	.567	.626	.683	.722	.768	.833
X'=12	24	.20	.30	.50	.334	.387	.429	.497	.569	.644	.737	.791
C = 16	25	.20	.40	.40	.400	.465	.515	.538	.590	.662	.749	.802
	26	.10	.30	.60	.400	.419	.485	.532	.610	.675	.759	.809
L = 52	27	.10	.40 .50	.50 .40	.400 .500	.442 .547	.473 .567	.517 .597	.597 $.661$.650	.720	.778 $.872$
$\begin{array}{c} X = 12 \\ X' = 16 \end{array}$	28 29	.10 .20	.30	.50	.334	.361	.413	.460	.521	.703 $.598$.753 $.701$.764
C = 16	30	.20	.40	.40	.400	.465	.515	.538	.573	.643	.736	.790
<u>c – 10</u>	31	.10	.30	.60	.400	.512	.588	.672	.733	.779	.837	.871
L = 44	32	.10	.40	.50	.400	.458	.547	.642	.696	.744	.810	.849
X = 16	33	.10	.50	.40	.500	.555	.622	.697	.740	.768	.802	.828
$\mathbf{X}' = \mathbf{X}'$	34	.20	.30	.50	.334	.427	.497	.578	.651	.712	.786	.830
$\overset{\mathbf{R}}{\mathbf{C}} = 12$	35	.20	.40	.40	.400	.450	.520	.594	.639	.676	.759	.810
	36	.10	.30	.60	.400	.465	.526	.618	.682	.737	.806	.846
$T_{*} = 48$	37	.10	.40	.50	.400	.458	.511	.605	.668	.709	.775	.822
$ L = 48 \\ X = 16 $	38	.10	.50	.40	.500	.555	.592	.669	.717	.749	.788	.901
X' = 12	39	.20	.30	.50	.334	.387	.440	.529	.594	.665	.752	.804
C = 12	40	.20	.40	.40	.400	.450	.490	.567	.615	.648	.728	.785
	41	.10	.30	.60	.400	.419	.485	.564	.635	.695	.775	.821
L = 52	42	.10	.40	.50	.400	.458	.497	.570	.640	.685	.741	.794
X = 16	43	.10	.50	.40	.500	.555	.583	.640	.695	.731	.774	.889
X' = 16	44	.20	.30	.50	.334	.352	.405	.478	.546	.619	.717	.776
C = 12	45	.20	.40	.40	.400	.450	.485	.538	.593	.629	.715	.774
	46	.10	.30	.60	.400	.512	.555	.640	.699	.752	.816	.854
L = 48	47	.10	.40	.50	.400	.427	.486	.588	.653	.709	.784	.828
X = 16	48	.10 .20	.50	.40	.500 .334	.523 $.427$.572 $.464$.654 $.546$.706 $.609$.741 $.678$.781 $.760$.895 .810
X' = 8 $C = 16$	49 50	.20	.30 .40	.50 $.40$.334	.427	$.464 \\ .470$.546 $.551$.605	.639	.760 $.728$.785
C 10	50		-417	.40	.400	.4177	-210	.0.71	.17171)	.11-03	.140	.100

TABLE 9.12 (Conti

	(~~~~	,									
	51	.10	.30	.60	.400	.465	.515	.586	.652	.710	.785	.829
L = 52	52	.10	.40	.50	.400	.419	.473	.551	.626	.673	.749	.802
X = 16	53	.10	.50	.40	.500	.523	.564	.626	.683	.722	.768	.883
X' = 12	54	.20	.30	.50	.334	.387	.429	.497	.560	.630	.726	.783
C = 16	55	.20	.40	.40	.400	.419	.485	.524	.581	.620	.708	.769
	56	.10	.30	.60	.400	.419	.485	.532	.610	.668	.754	.805
L = 56	57	.10	.40	.50	.400	.419	.473	.517	.597	.650	.715	.774
X = 16	58	.10	.50	.40	.500	.523	.564	.597	.661	.703	.753	.872
X' = 16	59	.20	.30	.50	.334	.350	.405	.446	.521	.584	.691	.755
C = 16	60	.20	.40	.40	.400	.419	.485	.516	.559	.601	.694	.757
	61	.10	.30	.60	.400	.512	.588	.672	.724	.773	.832	.866
L = 48	62	.10	.40	.50	.400	.458	.547	.642	.696	.736	.805	.845
X = 20	63	.10	.50	.40	.500	.555	.622	.697	.740	.768	.802	.824
X' = 8	64	.20	.30	.50	.334	.427	.497	.578	.634	.699	.776	.822
C = 12	65	.20	.40	.40	.400	.450	.520	.594	.639	.667	.749	.802
	66	.10	.30	.60	.400	.465	.526	.618	.678	.731	.801	.842
L = 52	67	.10	.40	.50	.400	.458	.511	.605	.668	.709	.770	.818
X = 20	68	.10	.50	.40	.500	.555	.592	.669	.717	.749	.788	.901
X' = 12	69	.20	.30	.50	.334	.387	.446	.529	.586	.651	.742	.795
C = 12	70	.20	.40	.40	.400	.450	.490	.567	.615	.648	.712	.771
	71	.10	.30	.60	.400	.419	.485	.564	.635	.689	.770	.817
L = 56	72	.10	.40	.50	.400	.458	.497	.570	.640	.685	.741	.790
X = 20	73	.10	.50	.40	.500	.555	.583	.640	.695	.731	.774	.889
X' = 16	74	.20	.30	.50	.334	.352	.405	.478	.546	.605	.707	.767
C = 12	75	.20_	.40	.40	.400	.450	.480	.538	.593	.629	.673	.741
	76	.10	.30	.60	.400	.512	.555	.640	.695	.745	.811	.850
L = 52	77	.10	.40	.50	.400	.427	.486	.588	.653	.702	.779	.824
X = 20	78	.10	.50	.40	.500	.523	.572	.654	.706	.741	.781	.895
$\mathbf{x}' = 8$	79	.20	.30	.50	.334	.427	.464	.546	.600	.663	.750	.802
C = 16	80	.20	.40	.40	.400	.419	.470	.551	.605	.639	.718	.777
	81	.10	.30	.60	.400	.465	.515	.586	.652	.703	.780	.825
L = 56	82	.10	.40	.50	.400	.419	.473	.551	.626	.673	.744	.797
X = 20	83	.10	.50	.40	.500	.523	.564	.626	.683	.722	.768	.883
X' = 12	84	.20	.30	.50	.334	.387	.429	.497	.560	.617	.716	.775
C = 16	85	.20	.40	.40	.400	.419	.461	.524	.581	.620	.681	.746
	86	.10	.30	.60	.400	.419	.485	.532	.610	.661	.749	.801
$\Gamma = e_0$	87	.10	.40	.50	.400	.419	.473	.517	.597	.650	.715	.770
x = 20	88	.10	.50	.40	.500	.523	.564	.597	.661	.703	.753	.872
X' = 16	89	.20	.30	.50	.334	.350	.405	.446	.521	.570	.681	.747
C = 16	90	.20	.40	.40	.400	.419	.461	.495	.559	.601	.653	.724

TABLE 9.13

SUMMARY OF EQUIVALENT H TRUCK LOADINGS IN SIMPLE SPANS PRODUCED BY TYPE 2-S1-2 TRUCKS WEIGHING ONE KIP EACH



Ninety-six variations in the Type 2-S1-2 truck are given in this table. Each truck number, from 1 to 96, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight on each axle.

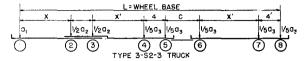
All dimensions are in feet. Equivalent H truck loadings are in kips. a1, a2, and a3 represent the ratio of gross vehicle weight on axles.

a1, a2, a11		prese	it the	14000	I gross ven	icic weig	sit on a	LIES.				
Wheel	6											
Base	No.	1	Load O					Span	-Feet			
and	14		Axles					Брап	-1 000			
Axle	1 8		Kips									
Spacing Feet	Truck	a ₁	a ₂	a ₃	10	20	30	40	50	60	80	100
L = 36	1	.10	.20	.70	.350	.462	.549	.653	.726	.774	.832	.867
$\mathbf{x} = 8$	2	.10	.30	.60	.400	.488	.581	.667	.716	.748	.808	.848
$\overline{X}' = 10$	3	.20	.20	.60	.300	.395	,500	.602	.686	.742	.808	.848
c = 8	4	.20	.30	.50	.425	.488	.561	,653	.726	,774	.832	.867
L = 40	5	.10	.20	.70	.350	.435	.532	.595	.681	.736	.805	.845
$\mathbf{x} = 8$	6	.10	.30	.60	-400	.442	.537	.624	.682	.721	.777	.823
$\mathbf{\hat{x}}' = 12$	7	.20	.20	.60	.300	.372	.471	.559	.653	.713	.788	.831
$\vec{c} = \vec{s}$	8	.20	.30	.50	.425	.488	.537	.616	.698	.751	.816	.853
L = 44	9	10	.20	.70	.350	.435		.575	.636	.700	.777	.823
X = 8	10	.10	.30	.60	.400	.419	.515 $.507$.581	.648	.692	.756	.823
$\mathbf{X}' = 14$	11	.20	.20	.60	.300	.372	.441	.538	.619	.685	.767	.815
$\ddot{\mathbf{C}} = \ddot{8}$	12	.20	.30	.50	.425	.488	.513	.598	.669	.727	.798	.840
$ \begin{array}{c} $	13	.10	.20	.70	.350	.435	.497	.559	.604	.662	.749	.801
X = 8 X' = 16	14 15	.10 .20	.20	.60	.400 .300	$.419 \\ .372$.478	.538 .516	.614	.664	.736	.790
C = 8	16	.20	.30	.50	.425	.488	.427 $.501$.581	.585 $.641$.658 $.704$.746 $.780$	$.798 \\ .826$
L = 52	17	.10	.20	.70	.350	.435	.481	.543	.591	.625	.722	.779
X = 8 X' = 18	18 19	.10	.30	.60 .60	.400 .300	$.419 \\ .372$.449	.516	.581	.637	.715	.774
C = 8	20	.20		.50	.425	.488	.411 .493	$.495 \\ .562$.559	.629	.725	.782
		.20	.30						.620	.681	.764	.812
L = 56	21	.10	.20	.70	.350	.435	.463	.527	.578	.612	.694	.757
X = 8 X' = 20	22	.10	.30	.60	.400	.419	.419	.495	.559	.608	.694	.757
	23	.20	.20	.60	.300	.372	.397	.473	.542	.601	.705	.765
$\overline{c} = 8$	24	.20_	.30	.50	.425	.488	.493	.545	.606	.658	.746	.798
L = 60	25	.10	.20	.70	.350	.435	.447	.514	.566	.601	.666	.736
X = 8 $X' = 22$	26	.10	.30	.60	.400	.419	.411	.473	.542	.587	.674	.741
	27	.20	.20	.60	.300	.372	.383	.452	.525	.574	.684	.749
C = 8	28	.20	.30	.50	.425	.488	.493	.527	.592	.634	.728	.785
L = 64	29	.10	.20	.70	.350	.435	.447	.502	.553	.591	.639	.713
$\mathbf{x} = 8$	30	.10	.30	.60	.400	.419	.411	.452	.525	.574	.653	.724
X' = 24	31	.20	.20	.60	.300	.372	.383	.430	.508	.559	.663	.733
C = 8	32_	.20	.30	.50	.425	.488	.493	.510	.577	.622	.711	.771
L = 40	33	.10	.20	.70	.350	.462	.549	.642	.717	.767	.827	.863
X = 12	34	.10	.30	.60	.375	.488	.581	.667	.716	.748	.803	.844
X' = 10	35	.20	.20	.60	.300	.395	.471	.559	.653	.713	.788	.831
c = s	36	.20	.30	50	.375	.465	.539	.610	.658	.717	.791	.834
L = 44	37	.10	.20	.70	.350	.435	.532	.595	.673	.730	.800	.841
X = 12	38	.10	.30	.60	.300	.442	.537	.624	.682	.721	.772	.819
X' = 12	39	.20	.20	.60	.300	.372	.456	.538	.602	.671	.756	.807
c = 8	40	.20	.30	.50	.250	.442	.503	.573	.630	.694	.774	.820
L = 48	41	.10	.20	.70	.350	.435	.515	.565	.627	.692	.772	.819
X = 12	42	.10	.30	.60	.300	.419	.507	.581	.648	.692	.746	.794
X' = 14	43	.20	.20	.60	.300	.372	.441	.516	.576	.629	.725	.782
C = 8	44	.20	.30	.50	.250	.442	.478	.538	.602	.671	.756	.807
L = 52	45	.10	.20	.70	.350	.435	.497	.552	.595	.655	.744	.797
$\ddot{X} = \ddot{1}\ddot{2}$	46	.10	.30	.60	.300	.395	.478	.538	.614	.664	.725	.770
$\hat{\mathbf{X}}' = \hat{16}$	47	.20	.20	.60	.300	.372	.427	.495	.559	.601	.705	.765
C = 8	48	.20	.30	.50	.250	.442	.463	.513	.581	.648	.739	.793
$\overline{L = 56}$	49	,10	.20	.70	.350	.435	.481	.540	.583	.618	.717	.775
X = 12	50	.10	.30	.60	.300	.395	.449	.516	.581	.637	.705	.745
$\mathbf{X}' = 18$	51	.20	.20	.60	.300	.372	.411	.473	.542	.587	.684	.749
$\hat{\mathbf{C}} = \frac{18}{8}$	52	.20	.30	.50	.250	.442	.463	.495	.567	.625	.722	.779
-										.020		

TA	RLE	9 13	(Continued)

$ \begin{array}{c} \mathbf{L} = 60 & 53 & .10 & .20 & .70 & .350 & .435 & .463 & .527 & .570 & .604 & .689 & .758 \\ \mathbf{X} = 12 & 54 & .10 & .30 & .60 & .300 & .395 & .419 & .495 & .551 & .608 & .684 & .728 \\ \mathbf{X}' = 20 & 55 & .20 & .20 & .60 & .300 & .372 & .397 & .452 & .525 & .574 & .663 & .733 \\ \mathbf{L} = 64 & 57 & .10 & .20 & .70 & .350 & .435 & .447 & .514 & .557 & .594 & .661 & .731 \\ \mathbf{X} = 12 & 88 & .10 & .30 & .60 & .300 & .395 & .397 & .473 & .534 & .880 & .663 & .712 \\ \mathbf{X}' = 12 & 59 & .20 & .20 & .60 & .300 & .372 & .383 & .441 & .5657 & .594 & .661 & .731 \\ \mathbf{C} = 8 & 60 & .20 & .30 & .50 & .250 & .442 & .463 & .473 & .534 & .580 & .663 & .712 \\ \mathbf{X} = 12 & 62 & .10 & .30 & .50 & .250 & .442 & .468 & .473 & .538 & .590 & .687 & .752 \\ \mathbf{L} = 68 & 61 & .10 & .20 & .70 & .350 & .435 & .447 & .502 & .544 & .583 & .634 & .709 \\ \mathbf{X} = 12 & 62 & .10 & .30 & .60 & .300 & .395 & .397 & .452 & .517 & .566 & .642 & .695 \\ \mathbf{X}' = 24 & 63 & .20 & .20 & .60 & .300 & .395 & .397 & .452 & .517 & .566 & .642 & .695 \\ \mathbf{X} = 16 & 66 & .10 & .20 & .70 & .350 & .442 & .463 & .473 & .524 & .578 & .670 & .738 \\ \mathbf{L} = 566 & 65 & .10 & .20 & .70 & .350 & .442 & .463 & .473 & .524 & .578 & .670 & .738 \\ \mathbf{L} = 566 & 65 & .10 & .20 & .70 & .350 & .435 & .497 & .552 & .587 & .648 & .739 & .793 \\ \mathbf{X} = 16 & 66 & .10 & .30 & .60 & .300 & .395 & .397 & .452 & .587 & .648 & .739 & .793 \\ \mathbf{X} = 16 & 66 & .10 & .30 & .60 & .300 & .395 & .478 & .538 & .614 & .664 & .725 & .765 \\ \mathbf{X}' = 16 & 67 & .20 & .20 & .60 & .300 & .372 & .427 & .473 & .542 & .587 & .684 & .749 \\ \mathbf{C} = 8 & 68 & .20 & .30 & .50 & .2550 & .345 & .481 & .540 & .574 & .610 & .712 & .771 \\ \mathbf{X} = 16 & 67 & .10 & .30 & .60 & .300 & .372 & .427 & .473 & .542 & .587 & .684 & .749 \\ \mathbf{X} = 16 & 67 & .10 & .30 & .60 & .300 & .372 & .411 & .462 & .525 & .574 & .663 & .724 \\ \mathbf{X} = 16 & 70 & .10 & .30 & .60 & .300 & .372 & .431 & .495 & .547 & .608 & .684 & .749 \\ \mathbf{X} = 16 & 70 & .10 & .30 & .60 & .300 & .372 & .431 & .495 & .547 & .608 & .684 & .749 \\ \mathbf{X} = 16 & 74 & .10 & .30 & .$													
$ \begin{array}{c} \mathbf{X}' = 20 & 55 & 20 & 20 & 60 \\ \mathbf{C} = 8 & 56 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 56 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 56 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 56 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 56 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 56 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 56 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 56 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 56 & 20 & 20 & 60 & 300 \\ \mathbf{C} = 8 & 56 & 20 & 20 & 60 & 300 \\ \mathbf{C} = 8 & 60 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 60 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 60 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 60 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 60 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 60 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 60 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 60 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 60 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 60 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 60 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 60 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 60 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 60 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 60 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 60 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 60 & 20 & 30 & 60 \\ \mathbf{C} = 8 & 60 & 20 & 30 & 60 \\ \mathbf{C} = 8 & 60 & 20 & 30 & 60 \\ \mathbf{C} = 8 & 60 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 70 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 70 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 70 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 70 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 70 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 70 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 70 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 70 & 20 & 30 & 50 \\ \mathbf{C} = 8 & 80 & 20 & 30 & 50 \\ \mathbf{C} = 8 $		53	.10	.20	.70	.350	.435	.463	,527	.570	.604	.689	.753
$ \begin{array}{c} \mathbf{C} = 8 & 56 & 20 & 30 & 50 & 250 & 442 & 463 & 477 & 531 & 601 & 705 & 765 \\ \mathbf{L} = 64 & 57 & 10 & 20 & 70 & 350 & 435 & 447 & 514 & 557 & 594 & 661 & 731 \\ \mathbf{X} = 12 & 58 & 10 & 30 & 60 & 300 & 395 & 397 & 473 & 534 & 580 & 663 & 712 \\ \mathbf{X}' = 22 & 59 & 20 & 20 & 60 & 300 & 372 & 383 & 441 & 508 & 559 & 642 & 716 \\ \mathbf{C} = 8 & 60 & 20 & 30 & 50 & 250 & 442 & 463 & 473 & 538 & 590 & 687 & 752 \\ \mathbf{L} = 68 & 61 & 10 & 20 & 70 & 350 & 435 & 447 & 502 & 544 & 583 & 634 & 709 \\ \mathbf{X} = 12 & 62 & 10 & 30 & 60 & 300 & 372 & 383 & 441 & 508 & 556 & 642 & 695 \\ \mathbf{X} = 12 & 62 & 10 & 30 & 60 & 300 & 372 & 383 & 430 & 492 & 545 & 622 & 700 \\ \mathbf{C} = 8 & 64 & 20 & 30 & 50 & 250 & 442 & 463 & 473 & 522 & 517 & 566 & 642 & 695 \\ \mathbf{L} = 66 & 65 & 10 & 20 & 70 & 350 & 435 & 497 & 552 & 587 & 648 & 739 & 738 \\ \mathbf{X} = 16 & 66 & 10 & 30 & 60 & 300 & 372 & 383 & 430 & 492 & 545 & 622 & 700 \\ \mathbf{X} = 16 & 66 & 10 & 30 & 60 & 300 & 372 & 482 & 587 & 648 & 739 & 738 \\ \mathbf{X} = 16 & 66 & 10 & 30 & 60 & 300 & 372 & 427 & 473 & 524 & 587 & 684 & 749 \\ \mathbf{C} = 8 & 68 & 20 & 30 & 50 & 250 & 395 & 478 & 588 & 614 & 664 & 725 & 765 \\ \mathbf{X}' = 16 & 67 & 20 & 20 & 60 & 300 & 372 & 427 & 473 & 542 & 587 & 684 & 749 \\ \mathbf{C} = 8 & 68 & 20 & 30 & 50 & 250 & 395 & 453 & 502 & 565 & 606 & 697 & 7760 \\ \mathbf{L} = 60 & 69 & 10 & 20 & 70 & 350 & 435 & 4481 & 540 & 574 & 610 & 712 & 771 \\ \mathbf{X} = 16 & 70 & 10 & 30 & 60 & 300 & 372 & 449 & 516 & 581 & 537 & 705 & 745 \\ \mathbf{X}' = 18 & 71 & 20 & 20 & 60 & 300 & 372 & 449 & 516 & 581 & 537 & 705 & 745 \\ \mathbf{X}' = 18 & 71 & 20 & 20 & 60 & 300 & 372 & 449 & 516 & 581 & 537 & 705 & 745 \\ \mathbf{X}' = 18 & 71 & 20 & 20 & 60 & 300 & 372 & 449 & 516 & 581 & 537 & 705 & 745 \\ \mathbf{X}' = 18 & 71 & 20 & 20 & 60 & 300 & 372 & 449 & 516 & 581 & 537 & 705 & 745 \\ \mathbf{X}' = 18 & 71 & 20 & 20 & 60 & 300 & 372 & 383 & 441 & 492 & 546 & 597 & 684 & 749 \\ \mathbf{X}' = 20 & 79 & 20 & 20 & 60 & 300 & 372 & 383 & 441 & 492 & 546 & 668 & 727 \\ \mathbf{X}' = 16 & 78 & 10 & 30 & 60 & 300 & 372 & 383 & 441 & 492 & 546 & 668 & 726 & 726 \\ \mathbf{X}' = 24 & 83 & 20$	X = 12	54	.10	.30	.60	.300	.395	.419	.495	.551	.608	.684	.728
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		55	.20	.20	.60	.300	.372	.397	.452	.525	.574	.663	.733
$ \begin{array}{c} \mathbf{X} = 12 & 58 & .10 & .30 & .60 & .300 & .395 & .397 & .473 & .534 & .580 & .663 & .712 \\ \mathbf{X}' = 22 & 59 & .20 & .20 & .60 & .300 & .372 & .383 & .441 & .508 & .559 & .642 & .716 \\ \mathbf{C} = 8 & 60 & .20 & .30 & .50 & .250 & .442 & .463 & .473 & .538 & .590 & .687 & .752 \\ \mathbf{L} = 68 & 61 & .10 & .20 & .70 & .350 & .435 & .447 & .502 & .544 & .583 & .634 & .709 \\ \mathbf{X}' = 12 & 62 & .10 & .30 & .60 & .300 & .395 & .397 & .452 & .517 & .566 & .642 & .695 \\ \mathbf{X}' = 24 & 63 & .20 & .20 & .60 & .300 & .372 & .383 & .430 & .492 & .545 & .622 & .700 \\ \mathbf{C} = 8 & 64 & .20 & .30 & .50 & .250 & .442 & .463 & .478 & .524 & .578 & .670 & .738 \\ \mathbf{L} = 56 & 65 & .10 & .20 & .70 & .350 & .435 & .497 & .552 & .587 & .648 & .739 & .793 \\ \mathbf{X} = 16 & 66 & .10 & .30 & .60 & .300 & .395 & .478 & .538 & .614 & .664 & .725 & .765 \\ \mathbf{X}' = 16 & 66 & .10 & .30 & .60 & .300 & .395 & .478 & .538 & .614 & .664 & .725 & .765 \\ \mathbf{X}' = 16 & 66 & .10 & .30 & .60 & .300 & .395 & .448 & .530 & .542 & .587 & .684 & .749 \\ \mathbf{C} = 8 & 68 & .20 & .30 & .50 & .250 & .395 & .453 & .502 & .565 & .666 & .997 & .760 \\ \mathbf{L} = 60 & 69 & .10 & .20 & .70 & .350 & .435 & .481 & .540 & .574 & .610 & .712 & .771 \\ \mathbf{X} = 16 & 70 & .10 & .30 & .60 & .300 & .372 & .441 & .664 & .581 & .537 & .705 & .745 \\ \mathbf{X}' = 18 & 71 & .20 & .20 & .60 & .300 & .372 & .441 & .462 & .525 & .574 & .663 & .724 \\ \mathbf{X} = 16 & 74 & .10 & .30 & .60 & .300 & .372 & .441 & .462 & .525 & .574 & .663 & .724 \\ \mathbf{X} = 16 & 74 & .10 & .30 & .60 & .300 & .372 & .441 & .462 & .525 & .574 & .663 & .724 \\ \mathbf{X} = 16 & 74 & .10 & .30 & .60 & .300 & .372 & .449 & .516 & .581 & .587 & .582 & .681 & .746 \\ \mathbf{L} = 64 & 73 & .10 & .20 & .70 & .350 & .435 & .463 & .527 & .564 & .597 & .684 & .749 \\ \mathbf{X} = 16 & 74 & .10 & .30 & .60 & .300 & .372 & .497 & .495 & .547 & .608 & .684 & .728 \\ \mathbf{X}' = 20 & .70 & .350 & .395 & .435 & .468 & .527 & .564 & .597 & .684 & .749 \\ \mathbf{X} = 16 & 78 & .10 & .20 & .70 & .350 & .435 & .463 & .527 & .564 & .597 & .684 & .7428 \\ \mathbf{X} = 16 & 78 & .10 & .30 & .60 &$	c = 8	56	.20	.30	.50	,250	.442	.463	.477	.531	.601	.705	.765
$ \begin{array}{c} \mathbf{X} = 12 & 58 & .10 & .30 & .60 & .300 & .395 & .397 & .473 & .534 & .580 & .663 & .712 \\ \mathbf{X}' = 22 & 59 & .20 & .20 & .60 & .300 & .372 & .383 & .441 & .508 & .559 & .642 & .716 \\ \mathbf{C} = 8 & 60 & .20 & .30 & .50 & .250 & .442 & .463 & .473 & .538 & .590 & .687 & .752 \\ \mathbf{L} = 68 & 61 & .10 & .20 & .70 & .350 & .435 & .447 & .502 & .544 & .583 & .634 & .709 \\ \mathbf{X}' = 12 & 62 & .10 & .30 & .60 & .300 & .395 & .397 & .452 & .517 & .566 & .642 & .695 \\ \mathbf{X}' = 24 & 63 & .20 & .20 & .60 & .300 & .372 & .383 & .430 & .492 & .545 & .622 & .700 \\ \mathbf{C} = 8 & 64 & .20 & .30 & .50 & .250 & .442 & .463 & .478 & .524 & .578 & .670 & .738 \\ \mathbf{L} = 56 & 65 & .10 & .20 & .70 & .350 & .435 & .497 & .552 & .587 & .648 & .739 & .793 \\ \mathbf{X} = 16 & 66 & .10 & .30 & .60 & .300 & .395 & .478 & .538 & .614 & .664 & .725 & .765 \\ \mathbf{X}' = 16 & 66 & .10 & .30 & .60 & .300 & .395 & .478 & .538 & .614 & .664 & .725 & .765 \\ \mathbf{X}' = 16 & 66 & .10 & .30 & .60 & .300 & .395 & .448 & .530 & .542 & .587 & .684 & .749 \\ \mathbf{C} = 8 & 68 & .20 & .30 & .50 & .250 & .395 & .453 & .502 & .565 & .666 & .997 & .760 \\ \mathbf{L} = 60 & 69 & .10 & .20 & .70 & .350 & .435 & .481 & .540 & .574 & .610 & .712 & .771 \\ \mathbf{X} = 16 & 70 & .10 & .30 & .60 & .300 & .372 & .441 & .664 & .581 & .537 & .705 & .745 \\ \mathbf{X}' = 18 & 71 & .20 & .20 & .60 & .300 & .372 & .441 & .462 & .525 & .574 & .663 & .724 \\ \mathbf{X} = 16 & 74 & .10 & .30 & .60 & .300 & .372 & .441 & .462 & .525 & .574 & .663 & .724 \\ \mathbf{X} = 16 & 74 & .10 & .30 & .60 & .300 & .372 & .441 & .462 & .525 & .574 & .663 & .724 \\ \mathbf{X} = 16 & 74 & .10 & .30 & .60 & .300 & .372 & .449 & .516 & .581 & .587 & .582 & .681 & .746 \\ \mathbf{L} = 64 & 73 & .10 & .20 & .70 & .350 & .435 & .463 & .527 & .564 & .597 & .684 & .749 \\ \mathbf{X} = 16 & 74 & .10 & .30 & .60 & .300 & .372 & .497 & .495 & .547 & .608 & .684 & .728 \\ \mathbf{X}' = 20 & .70 & .350 & .395 & .435 & .468 & .527 & .564 & .597 & .684 & .749 \\ \mathbf{X} = 16 & 78 & .10 & .20 & .70 & .350 & .435 & .463 & .527 & .564 & .597 & .684 & .7428 \\ \mathbf{X} = 16 & 78 & .10 & .30 & .60 &$	L = 64	57	.10	.20	.70	350	435	447	514	557	594	661	731
$ \begin{array}{c} \mathbf{X}' = 22 & 59 & 20 & 20 & 60 \\ \mathbf{C} = 8 & 60 & 20 & 30 & 50 & 250 & 242 & 463 & 473 & 538 & 590 & 687 & 752 \\ \mathbf{L} = 68 & 61 & 10 & 20 & 70 & 350 & 435 & 447 & 502 & 544 & 588 & 634 & 709 \\ \mathbf{X} = 12 & 62 & 10 & 30 & 60 & 360 & 395 & 397 & 452 & 517 & 566 & 642 & 695 \\ \mathbf{X}' = 24 & 63 & 20 & 20 & 60 & 300 & 372 & 383 & 430 & 492 & 545 & 622 & 700 \\ \mathbf{C} = 8 & 64 & 20 & 30 & 50 & 250 & 442 & 463 & 473 & 552 & 587 & 648 & 739 & 738 \\ \mathbf{L} = 56 & 65 & 10 & 20 & 70 & 350 & 435 & 497 & 552 & 587 & 648 & 739 & 793 \\ \mathbf{X} = 16 & 66 & 10 & 30 & 60 & 300 & 372 & 483 & 502 & 565 & 666 & 697 & 760 \\ \mathbf{C} = 8 & 68 & 20 & 30 & 55 & 250 & 395 & 478 & 538 & 614 & 664 & 725 & 765 \\ \mathbf{X}' = 16 & 67 & 20 & 20 & 60 & 300 & 372 & 427 & 473 & 542 & 587 & 684 & 749 \\ \mathbf{C} = 8 & 68 & 20 & 30 & 55 & 250 & 395 & 458 & 502 & 565 & 606 & 697 & 760 \\ \mathbf{L} = 60 & 69 & 10 & 20 & 70 & 350 & 435 & 481 & 540 & 574 & 610 & 712 & 771 \\ \mathbf{X} = 16 & 70 & 110 & 30 & 60 & 300 & 372 & 449 & 516 & 581 & 537 & 705 & 745 \\ \mathbf{X}' = 18 & 71 & 20 & 20 & 60 & 300 & 372 & 449 & 516 & 581 & 537 & 705 & 745 \\ \mathbf{X}' = 18 & 71 & 20 & 20 & 60 & 300 & 372 & 419 & 495 & 547 & 668 & 684 & 749 \\ \mathbf{X} = 20 & 75 & 20 & 20 & 60 & 300 & 372 & 419 & 495 & 547 & 668 & 684 & 749 \\ \mathbf{X} = 20 & 75 & 20 & 20 & 60 & 300 & 372 & 419 & 495 & 547 & 668 & 684 & 749 \\ \mathbf{X} = 20 & 75 & 20 & 20 & 60 & 300 & 372 & 419 & 495 & 547 & 668 & 684 & 728 \\ \mathbf{X}' = 20 & 75 & 20 & 20 & 60 & 300 & 372 & 395 & 435 & 486 & 557 & 566 & 666 & 727 \\ \mathbf{X} = 16 & 78 & 10 & 30 & 60 & 300 & 372 & 395 & 435 & 484 & 557 & 586 & 663 & 712 \\ \mathbf{X}' = 20 & 75 & 20 & 20 & 60 & 300 & 372 & 395 & 435 & 484 & 557 & 586 & 663 & 727 \\ \mathbf{X} = 16 & 78 & 10 & 30 & 60 & 300 & 372 & 395 & 435 & 466 & 508 & 559 & 663 & 712 \\ \mathbf{X}' = 20 & 75 & 20 & 20 & 60 & 300 & 372 & 383 & 441 & 492 & 545 & 611 & 683 \\ \mathbf{C} = 8 & 80 & 20 & 30 & 50 & 250 & 395 & 435 & 447 & 552 & 586 & 663 & 712 \\ \mathbf{X}' = 22 & 79 & 20 & 20 & 60 & 300 & 372 & 383 & 443 & 452 & 457 & 558 & 661 & 663 \\ \mathbf{X}' = 24 & 83 & 20 & 20 & 60 & 300 & 372 & $													
$ \begin{array}{c} \mathbf{C} = 8 & 60 & .20 & .30 & .50 & .250 & .442 & .463 & .473 & .538 & .590 & .687 & .752 \\ \mathbf{L} = 68 & 61 & .10 & .20 & .70 & .350 & .435 & .447 & .502 & .544 & .583 & .634 & .709 \\ \mathbf{X} = 12 & 62 & .10 & .30 & .60 & .300 & .395 & .397 & .452 & .517 & .566 & .642 & .695 \\ \mathbf{X}' = 24 & 63 & .20 & .20 & .60 & .300 & .372 & .383 & .430 & .492 & .545 & .622 & .700 \\ \mathbf{C} = 8 & 64 & .20 & .30 & .50 & .250 & .442 & .463 & .473 & .524 & .578 & .670 & .738 \\ \mathbf{L} = 56 & 65 & .10 & .20 & .70 & .350 & .435 & .497 & .552 & .587 & .648 & .739 & .793 \\ \mathbf{X} = 16 & 66 & .10 & .30 & .60 & .300 & .395 & .478 & .538 & .614 & .664 & .725 & .765 \\ \mathbf{X}' = 16 & 67 & .20 & .20 & .60 & .300 & .395 & .478 & .538 & .614 & .664 & .725 & .765 \\ \mathbf{X}' = 16 & 67 & .20 & .20 & .60 & .300 & .372 & .427 & .473 & .542 & .587 & .684 & .749 \\ \mathbf{C} = 8 & 68 & .20 & .30 & .50 & .250 & .395 & .483 & .502 & .565 & .606 & .697 & .760 \\ \mathbf{L} = 60 & 69 & .10 & .20 & .70 & .350 & .435 & .481 & .540 & .574 & .610 & .712 & .771 \\ \mathbf{X} = 16 & .70 & .10 & .30 & .60 & .300 & .372 & .441 & .462 & .525 & .574 & .653 & .724 \\ \mathbf{C} = 8 & 72 & .20 & .30 & .50 & .250 & .395 & .435 & .484 & .537 & .582 & .681 & .744 \\ \mathbf{X} = 18 & 71 & .20 & .20 & .60 & .300 & .372 & .411 & .462 & .525 & .574 & .653 & .724 \\ \mathbf{C} = 8 & 72 & .20 & .30 & .50 & .250 & .395 & .435 & .468 & .527 & .564 & .597 & .684 & .749 \\ \mathbf{X} = 16 & 74 & .10 & .30 & .60 & .300 & .372 & .419 & .495 & .547 & .608 & .684 & .749 \\ \mathbf{X} = 16 & 74 & .10 & .30 & .60 & .300 & .372 & .419 & .495 & .547 & .608 & .684 & .728 \\ \mathbf{X}' = 20 & .75 & .20 & .20 & .60 & .300 & .372 & .439 & .447 & .514 & .554 & .586 & .663 & .733 \\ \mathbf{L} = 68 & .77 & .10 & .20 & .70 & .350 & .435 & .447 & .514 & .554 & .586 & .663 & .712 \\ \mathbf{X} = 16 & .78 & .10 & .30 & .60 & .300 & .372 & .383 & .441 & .492 & .545 & .661 & .683 \\ \mathbf{C} = 8 & 80 & .20 & .30 & .50 & .250 & .395 & .435 & .466 & .508 & .559 & .662 & .700 \\ \mathbf{C} = 8 & .57 & .20 & .20 & .60 & .300 & .372 & .383 & .447 & .495 & .545 & .661 & .662 \\ \mathbf{X}' = 22 & .79 & .$													
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$													
$ \begin{array}{c} \mathbf{X} = 12 & 62 & 10 & 30 & 60 & 300 & 395 & 397 & 452 & 517 & 566 & 642 & 695 \\ \mathbf{X}' = 24 & 63 & 20 & 20 & 60 & 300 & 372 & 383 & 430 & 492 & 545 & 622 & .700 \\ \mathbf{C} = 8 & 64 & 20 & 30 & .50 & 250 & 442 & 463 & 473 & 552 & .587 & .648 & .739 & .793 \\ \mathbf{L} = 56 & 65 & 10 & .20 & .70 & .350 & .435 & .497 & .552 & .587 & .648 & .739 & .793 \\ \mathbf{X} = 16 & 66 & .10 & .30 & .60 & .300 & .395 & .478 & .538 & .614 & .664 & .725 & .765 \\ \mathbf{X}' = 16 & 67 & .20 & .20 & .60 & .300 & .372 & .427 & .473 & .542 & .587 & .684 & .749 \\ \mathbf{C} = 8 & 68 & .20 & .30 & .50 & .250 & .395 & .458 & .502 & .565 & .606 & .697 & .760 \\ \mathbf{L} = 60 & 69 & .10 & .20 & .70 & .350 & .435 & .481 & .540 & .574 & .610 & .712 & .771 \\ \mathbf{X} = 16 & 70 & .10 & .30 & .60 & .300 & .372 & .411 & .462 & .525 & .574 & .658 & .724 \\ \mathbf{C} = 8 & 72 & .20 & .30 & .50 & .250 & .395 & .435 & .485 & .525 & .574 & .668 & .724 \\ \mathbf{C} = 8 & 72 & .20 & .30 & .50 & .250 & .395 & .445 & .525 & .574 & .658 & .724 \\ \mathbf{C} = 8 & 72 & .20 & .30 & .50 & .250 & .395 & .445 & .525 & .574 & .658 & .724 \\ \mathbf{C} = 8 & 72 & .20 & .30 & .50 & .250 & .395 & .445 & .525 & .574 & .668 & .724 \\ \mathbf{C} = 8 & 72 & .20 & .30 & .50 & .250 & .395 & .445 & .525 & .574 & .668 & .724 \\ \mathbf{C} = 8 & 72 & .20 & .30 & .50 & .250 & .395 & .435 & .463 & .527 & .564 & .597 & .684 & .749 \\ \mathbf{X} = 16 & 74 & .10 & .30 & .60 & .300 & .372 & .419 & .495 & .547 & .608 & .684 & .728 \\ \mathbf{X}' = 20 & .75 & .20 & .20 & .60 & .300 & .372 & .419 & .495 & .547 & .608 & .684 & .728 \\ \mathbf{X}' = 20 & .75 & .20 & .20 & .60 & .300 & .372 & .395 & .435 & .446 & .586 & .559 & .663 & .733 \\ \mathbf{L} = 68 & .77 & .10 & .20 & .70 & .350 & .435 & .447 & .514 & .554 & .586 & .656 & .727 \\ \mathbf{X} = 16 & 78 & .10 & .30 & .60 & .300 & .372 & .383 & .441 & .492 & .545 & .611 & .683 \\ \mathbf{C} = 8 & 80 & .20 & .30 & .50 & .250 & .395 & .435 & .446 & .585 & .559 & .663 & .733 \\ \mathbf{L} = 68 & 77 & .10 & .20 & .70 & .350 & .435 & .447 & .514 & .554 & .586 & .666 & .727 \\ \mathbf{X} = 16 & 88 & .20 & .30 & .50 & .250 & .395 & .435 & .447 & .514 & .554$		61											
$ \begin{array}{c} \mathbf{X}' = 24 & 63 & 20 & 20 & 60 & 300 & 372 & 333 & 430 & 492 & 545 & 622 & 700 \\ \mathbf{C} = 8 & 64 & 20 & 30 & 50 & 250 & 442 & 463 & 473 & 524 & 578 & 670 & 738 \\ \mathbf{X} = 56 & 65 & 10 & 20 & 70 & 350 & 435 & 497 & 552 & 587 & 648 & 739 & 793 \\ \mathbf{X} = 16 & 66 & 10 & 30 & 60 & 300 & 395 & 478 & 538 & 614 & 664 & 725 & 765 \\ \mathbf{X}' = 16 & 67 & 20 & 20 & 60 & 300 & 372 & 427 & 473 & 5342 & 587 & 684 & 749 \\ \mathbf{C} = 8 & 68 & 20 & 30 & 550 & 250 & 395 & 435 & 481 & 540 & 574 & 610 & 712 & 771 \\ \mathbf{X} = 16 & 70 & 10 & 30 & 60 & 300 & 372 & 449 & 516 & 581 & 537 & 705 & 745 \\ \mathbf{X}' = 18 & 70 & 10 & 30 & 60 & 300 & 372 & 449 & 516 & 581 & 537 & 705 & 745 \\ \mathbf{X}' = 18 & 71 & 20 & 20 & 60 & 300 & 372 & 449 & 516 & 581 & 537 & 705 & 745 \\ \mathbf{X} = 16 & 73 & 10 & 20 & 70 & 350 & 435 & 488 & 587 & 582 & 681 & 746 \\ \mathbf{L} = 64 & 73 & 10 & 20 & 70 & 350 & 435 & 463 & 527 & 564 & 597 & 684 & 749 \\ \mathbf{X} = 16 & 74 & 10 & 30 & 60 & 300 & 372 & 419 & 495 & 547 & 608 & 684 & 728 \\ \mathbf{X}' = 20 & 75 & 20 & 20 & 60 & 300 & 372 & 419 & 495 & 547 & 608 & 684 & 728 \\ \mathbf{X}' = 20 & 75 & 20 & 20 & 60 & 300 & 372 & 395 & 435 & 486 & 527 & 564 & 597 & 684 & 749 \\ \mathbf{X} = 16 & 74 & 10 & 30 & 60 & 300 & 372 & 319 & 455 & 547 & 608 & 684 & 728 \\ \mathbf{X}' = 20 & 75 & 20 & 20 & 60 & 300 & 372 & 397 & 452 & 508 & 559 & 663 & 733 \\ \mathbf{X} = 68 & 77 & 10 & 20 & 70 & 350 & 435 & 447 & 514 & 554 & 586 & 665 & 727 \\ \mathbf{X} = 16 & 78 & 10 & 30 & 60 & 300 & 372 & 383 & 441 & 492 & 545 & 611 & 683 \\ \mathbf{X} = 22 & 79 & 20 & 20 & 60 & 300 & 372 & 383 & 441 & 492 & 545 & 611 & 683 \\ \mathbf{X} = 22 & 79 & 20 & 20 & 60 & 300 & 372 & 383 & 441 & 492 & 545 & 611 & 683 \\ \mathbf{X} = 28 & 80 & 20 & 30 & 50 & 250 & 395 & 435 & 447 & 514 & 554 & 586 & 665 & 727 \\ \mathbf{X} = 16 & 88 & 20 & 30 & 50 & 250 & 395 & 435 & 447 & 502 & 543 & 576 & 629 & 705 \\ \mathbf{X} = 16 & 86 & 10 & 30 & 60 & 300 & 372 & 383 & 441 & 492 & 545 & 611 & 683 \\ \mathbf{X} = 16 & 86 & 10 & 30 & 60 & 300 & 372 & 383 & 441 & 492 & 545 & 611 & 683 \\ \mathbf{X} = 26 & 87 & 29 & 20 & 60 & 300 & 372 & 383 & 449 & 458 & 517 & 594 & 668 \\ \mathbf{X} = $													
$ \begin{array}{c} \mathbf{C} = 8 & 64 & 20 & 30 & .50 & .250 & .442 & .463 & .473 & .524 & .578 & .670 & .738 \\ \mathbf{L} = 56 & 65 & 1.0 & .20 & .70 & .350 & .435 & .497 & .552 & .587 & .648 & .739 & .793 \\ \mathbf{X} = 16 & 66 & .10 & .30 & .60 & .300 & .395 & .478 & .538 & .614 & .664 & .725 & .765 \\ \mathbf{X}' = 16 & 67 & .20 & .20 & .60 & .300 & .372 & .427 & .473 & .542 & .587 & .684 & .749 \\ \mathbf{C} = 8 & 68 & .20 & .30 & .50 & .250 & .395 & .453 & .502 & .565 & .606 & .697 & .760 \\ \mathbf{L} = 60 & 69 & .10 & .20 & .70 & .350 & .435 & .481 & .540 & .574 & .610 & .712 & .771 \\ \mathbf{X} = 16 & 70 & .10 & .30 & .60 & .300 & .372 & .441 & .462 & .525 & .574 & .653 & .724 \\ \mathbf{X} = 18 & 71 & .20 & .20 & .60 & .300 & .372 & .411 & .462 & .525 & .574 & .653 & .724 \\ \mathbf{L} = 64 & 73 & .10 & .20 & .70 & .350 & .435 & .463 & .527 & .564 & .597 & .684 & .749 \\ \mathbf{X} = 16 & 74 & .10 & .30 & .60 & .300 & .372 & .419 & .495 & .547 & .608 & .684 & .728 \\ \mathbf{X}' = 20 & 75 & .20 & .60 & .300 & .372 & .419 & .495 & .547 & .608 & .684 & .728 \\ \mathbf{X}' = 20 & 75 & .20 & .60 & .300 & .372 & .419 & .495 & .547 & .608 & .684 & .728 \\ \mathbf{X} = 16 & 78 & .10 & .20 & .70 & .350 & .435 & .447 & .514 & .586 & .656 & .727 \\ \mathbf{X} = 16 & 78 & .10 & .20 & .70 & .350 & .435 & .447 & .514 & .586 & .656 & .727 \\ \mathbf{X} = 16 & 78 & .10 & .30 & .60 & .300 & .372 & .399 & .473 & .525 & .580 & .663 & .712 \\ \mathbf{X}' = 22 & 79 & .20 & .20 & .60 & .300 & .372 & .383 & .441 & .492 & .545 & .641 & .683 \\ \mathbf{X} = 8 & 80 & .20 & .30 & .50 & .250 & .395 & .435 & .447 & .514 & .586 & .656 & .727 \\ \mathbf{X} = 16 & 88 & 10 & .20 & .70 & .350 & .435 & .447 & .514 & .598 & .559 & .663 & .712 \\ \mathbf{X}' = 22 & 79 & .20 & .20 & .60 & .300 & .372 & .383 & .441 & .492 & .545 & .646 & .719 \\ \mathbf{L} = 72 & 81 & .10 & .20 & .70 & .350 & .435 & .447 & .514 & .598 & .559 & .663 & .712 \\ \mathbf{X} = 24 & 83 & .20 & .30 & .50 & .250 & .395 & .435 & .447 & .514 & .534 & .629 & .705 \\ \mathbf{X} = 16 & 86 & .10 & .30 & .60 & .300 & .372 & .383 & .441 & .492 & .545 & .646 & .616 & .683 \\ \mathbf{X} = 16 & 89 & .10 & .20 & .70 & .350 & .435 & .447 & $													
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$													
$ \begin{array}{c} \mathbf{X} = 16 \\ 66 \\ 67 \\ 20 \\ 20 \\ 60 \\ 50 \\$													
$ \begin{array}{c} \mathbf{X}' = 16 \\ \mathbf{C} = 8 \\ 68 \\ 20 \\ 20 \\ 30 \\ 50 \\ 500$													
$\begin{array}{c} \mathbf{C} = 8 & 68 & 20 & 30 & 50 & 250 & 395 & 453 & 502 & 565 & 606 & 697 & 760 \\ \mathbf{L} = 60 & 69 & 10 & 20 & 70 & 350 & 435 & 481 & 540 & 574 & 610 & 712 & 771 \\ \mathbf{X} = 16 & 70 & 10 & 30 & 60 & 300 & 372 & 449 & 516 & 581 & 537 & 705 & 745 \\ \mathbf{X}' = 18 & 71 & 20 & 20 & 60 & 300 & 372 & 441 & 462 & 525 & 574 & 653 & 724 \\ \mathbf{C} = 8 & 72 & 20 & 30 & 50 & 250 & 395 & 435 & 484 & 537 & 582 & 681 & 746 \\ \mathbf{L} = 64 & 73 & 10 & 20 & 70 & 350 & 435 & 463 & 527 & 564 & 597 & 684 & 749 \\ \mathbf{X} = 16 & 74 & 10 & 30 & 60 & 300 & 372 & 441 & 495 & 547 & 608 & 684 & 728 \\ \mathbf{X}' = 20 & 75 & 20 & 20 & 60 & 300 & 372 & 397 & 452 & 508 & 559 & 662 & 700 \\ \mathbf{C} = 8 & 76 & 20 & 30 & 50 & 250 & 395 & 435 & 466 & 508 & 559 & 662 & 700 \\ \mathbf{C} = 8 & 76 & 20 & 30 & 50 & 250 & 395 & 435 & 466 & 508 & 559 & 663 & 733 \\ \mathbf{L} = 68 & 77 & 10 & 20 & 70 & 350 & 435 & 447 & 514 & 554 & 586 & 656 & 727 \\ \mathbf{X} = 16 & 78 & 10 & 30 & 60 & 300 & 372 & 390 & 473 & 525 & 580 & 663 & 712 \\ \mathbf{X}' = 22 & 79 & 20 & 20 & 60 & 300 & 372 & 383 & 441 & 492 & 545 & 611 & 683 \\ \mathbf{C} = 8 & 80 & 20 & 30 & 50 & 250 & 395 & 435 & 462 & 487 & 545 & 646 & 719 \\ \mathbf{L} = 72 & 81 & 10 & 20 & 70 & 350 & 435 & 447 & 504 & 598 & 559 & 662 \\ \mathbf{X} = 24 & 83 & 20 & 20 & 60 & 300 & 372 & 383 & 441 & 492 & 545 & 646 & 719 \\ \mathbf{L} = 76 & 85 & 10 & 20 & 70 & 350 & 435 & 447 & 505 & 548 & 576 & 662 & 705 \\ \mathbf{X} = 26 & 87 & 20 & 30 & 60 & 300 & 372 & 383 & 430 & 475 & 532 & 601 & 667 \\ \mathbf{X} = 26 & 87 & 20 & 30 & 60 & 300 & 372 & 383 & 430 & 475 & 532 & 601 & 667 \\ \mathbf{C} = 8 & 84 & 20 & 30 & 50 & 250 & 395 & 435 & 447 & 594 & 594 & 594 & 622 & 679 \\ \mathbf{X} = 24 & 83 & 20 & 20 & 60 & 300 & 372 & 383 & 443 & 455 & 545 & 662 & 679 \\ \mathbf{X} = 26 & 87 & 20 & 60 & 300 & 372 & 383 & 449 & 449 & 553 & 661 & 662 \\ \mathbf{X} = 26 & 87 & 20 & 20 & 60 & 300 & 372 & 383 & 449 & 449 & 553 & 560 & 618 \\ \mathbf{X} = 26 & 87 & 20 & 20 & 60 & 300 & 372 & 383 & 449 & 449 & 503 & 580 & 634 \\ \mathbf{X} = 16 & 90 & 10 & 30 & 60 & 300 & 372 & 383 & 449 & 449 & 503 & 580 & 634 \\ \mathbf{X} = 28 & 91 & 20 & 20 & 60 & 300 & 372 & 383$													
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$													
$\begin{array}{c} \mathbf{X} = 16 & 70 & 110 & 30 & 60 & 300 & 372 & 449 & 516 & 581 & 537 & .705 & .745 \\ \mathbf{X}' = 18 & 71 & .20 & .20 & .60 & .300 & .372 & .411 & .462 & .525 & .574 & .653 & .724 \\ \mathbf{C} = 8 & 72 & .20 & .30 & .50 & .250 & .395 & .435 & .464 & .537 & .582 & .681 & .746 \\ \mathbf{L} = 64 & 73 & .10 & .20 & .70 & .350 & .435 & .463 & .527 & .564 & .597 & .684 & .749 \\ \mathbf{X} = 16 & .74 & .10 & .30 & .60 & .300 & .372 & .419 & .495 & .547 & .608 & .684 & .748 \\ \mathbf{X}' = 20 & .75 & .20 & .20 & .60 & .300 & .372 & .419 & .495 & .547 & .608 & .684 & .728 \\ \mathbf{X}' = 20 & .75 & .20 & .20 & .60 & .300 & .372 & .397 & .452 & .508 & .559 & .622 & .700 \\ \mathbf{C} = 8 & .76 & .20 & .30 & .50 & .250 & .395 & .435 & .466 & .508 & .559 & .663 & .733 \\ \mathbf{L} = 68 & .77 & .10 & .20 & .70 & .350 & .435 & .447 & .514 & .554 & .586 & .656 & .727 \\ \mathbf{X}' = 22 & .79 & .20 & .20 & .60 & .300 & .372 & .389 & .473 & .525 & .580 & .663 & .712 \\ \mathbf{X}' = 22 & .79 & .20 & .20 & .60 & .300 & .372 & .389 & .441 & .492 & .545 & .611 & .683 \\ \mathbf{C} = 8 & 80 & .20 & .30 & .50 & .250 & .395 & .435 & .447 & .502 & .543 & .576 & .629 & .705 \\ \mathbf{X} = 16 & 82 & .10 & .30 & .60 & .300 & .372 & .383 & .441 & .492 & .545 & .611 & .683 \\ \mathbf{X}' = 24 & 83 & .20 & .20 & .60 & .300 & .372 & .383 & .452 & .508 & .559 & .642 & .695 \\ \mathbf{X}' = 24 & 83 & .20 & .20 & .60 & .300 & .372 & .383 & .452 & .508 & .559 & .642 & .695 \\ \mathbf{X}' = 24 & 83 & .20 & .20 & .60 & .300 & .372 & .383 & .452 & .508 & .559 & .642 & .695 \\ \mathbf{X}' = 24 & 83 & .20 & .20 & .60 & .300 & .372 & .383 & .452 & .508 & .559 & .642 & .695 \\ \mathbf{X}' = 24 & 83 & .20 & .20 & .60 & .300 & .372 & .383 & .452 & .508 & .559 & .642 & .695 \\ \mathbf{X} = 16 & 86 & .10 & .20 & .70 & .350 & .435 & .447 & .489 & .584 & .565 & .618 & .683 \\ \mathbf{X} = 16 & 86 & .10 & .30 & .60 & .300 & .372 & .383 & .419 & .458 & .517 & .591 & .650 \\ \mathbf{X} = 16 & 89 & .10 & .20 & .70 & .350 & .435 & .447 & .489 & .584 & .565 & .611 & .691 \\ \mathbf{X} = 26 & 87 & .20 & .20 & .60 & .300 & .372 & .383 & .419 & .479 & .532 & .601 & .662 \\ \mathbf{X} = 16 & 90 & .10 & .$													
$\begin{array}{cccccccccccccccccccccccccccccccccccc$													
$\begin{array}{c} \mathbf{C} = 8 & 72 & 20 & 30 & 50 & 250 & 395 & 435 & 484 & 587 & 582 & 681 & 746 \\ \mathbf{L} = 64 & 73 & 10 & 20 & 70 & 350 & 435 & 463 & 527 & 564 & 597 & 684 & 749 \\ \mathbf{X} = 16 & 74 & 110 & 30 & 60 & 300 & 372 & 419 & 495 & 547 & 608 & 684 & 728 \\ \mathbf{X}' = 20 & 75 & 20 & 20 & 60 & 300 & 372 & 397 & 452 & 508 & 559 & 622 & 700 \\ \mathbf{C} = 8 & 76 & 20 & 30 & 50 & 250 & 395 & 435 & 466 & 508 & 559 & 663 & 733 \\ \mathbf{L} = 68 & 77 & 10 & 20 & 70 & 350 & 435 & 447 & 514 & 554 & 586 & 656 & 727 \\ \mathbf{X} = 16 & 78 & 10 & 30 & 60 & 300 & 372 & 383 & 441 & 492 & 545 & 611 & 688 \\ \mathbf{C} = 8 & 80 & 20 & 30 & 50 & 250 & 395 & 435 & 466 & 482 & 508 & 559 \\ \mathbf{X}' = 22 & 79 & 20 & 20 & 60 & 300 & 372 & 383 & 441 & 492 & 545 & 611 & 683 \\ \mathbf{C} = 8 & 80 & 20 & 30 & 50 & 250 & 395 & 435 & 462 & 487 & 545 & 646 & 719 \\ \mathbf{L} = 72 & 81 & 10 & 20 & 70 & 350 & 435 & 447 & 502 & 543 & 576 & 629 & 705 \\ \mathbf{X} = 16 & 82 & 10 & 30 & 60 & 300 & 372 & 383 & 441 & 492 & 545 & 641 & 687 \\ \mathbf{X}' = 24 & 83 & 20 & 20 & 60 & 300 & 372 & 383 & 452 & 508 & 559 & 642 & 695 \\ \mathbf{X}' = 24 & 83 & 20 & 20 & 60 & 300 & 372 & 383 & 452 & 508 & 559 & 642 & 695 \\ \mathbf{X}' = 24 & 83 & 20 & 20 & 60 & 300 & 372 & 383 & 452 & 508 & 559 & 642 & 695 \\ \mathbf{X}' = 26 & 87 & 20 & 30 & 50 & 250 & 395 & 435 & 447 & 489 & 584 & 565 & 618 & 683 \\ \mathbf{X} = 16 & 86 & 10 & 30 & 60 & 300 & 372 & 383 & 449 & 458 & 517 & 591 & 650 \\ \mathbf{C} = 8 & 88 & 20 & 30 & 50 & 250 & 395 & 435 & 447 & 489 & 584 & 565 & 618 & 683 \\ \mathbf{X} = 16 & 86 & 10 & 30 & 60 & 300 & 372 & 383 & 419 & 458 & 517 & 591 & 650 \\ \mathbf{C} = 8 & 88 & 20 & 30 & 50 & 250 & 395 & 435 & 447 & 459 & 584 & 565 & 611 & 691 \\ \mathbf{L} = 80 & 89 & 10 & 20 & 70 & 350 & 435 & 447 & 489 & 584 & 565 & 618 & 683 \\ \mathbf{X} = 16 & 90 & 10 & 30 & 60 & 300 & 372 & 383 & 419 & 479 & 532 & 601 & 663 \\ \mathbf{X} = 28 & 91 & 20 & 20 & 60 & 300 & 372 & 383 & 419 & 479 & 532 & 601 & 663 \\ \mathbf{X} = 28 & 91 & 20 & 20 & 60 & 300 & 372 & 383 & 449 & 449 & 503 & 580 & 634 \\ \mathbf{X} = 28 & 91 & 20 & 20 & 60 & 300 & 372 & 383 & 449 & 449 & 503 & 580 & 644 \\ \mathbf{X} = 80 & 91 & 0 & 20 & $													
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$													
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$\begin{array}{cccccccccccccccccccccccccccccccccccc$		73	.10	.20						.564			
$ \begin{array}{c} \mathbf{C} = 8 & 76 & 20 & 30 & 50 & 250 & 395 & 435 & 466 & 508 & 559 & 663 & 738 \\ \mathbf{L} = 68 & 77 & 10 & 20 & 70 & 350 & 435 & 447 & 514 & 554 & 586 & 656 & 727 \\ \mathbf{X} = 16 & 78 & 10 & 30 & 60 & 300 & 372 & 380 & 473 & 525 & 580 & 663 & 712 \\ \mathbf{X}' = 22 & 79 & 20 & 20 & 60 & 300 & 372 & 383 & 441 & 492 & 545 & 611 & 683 \\ \mathbf{C} = 8 & 80 & 20 & 30 & 50 & 250 & 395 & 435 & 452 & 487 & 545 & 646 & 719 \\ \mathbf{L} = 72 & 81 & 10 & 20 & 70 & 350 & 435 & 447 & 502 & 543 & 576 & 629 & 705 \\ \mathbf{X} = 16 & 82 & 10 & 30 & 60 & 300 & 372 & 383 & 442 & 508 & 559 & 642 & 695 \\ \mathbf{X}' = 24 & 83 & 20 & 20 & 60 & 300 & 372 & 383 & 452 & 508 & 559 & 642 & 695 \\ \mathbf{C} = 8 & 84 & 20 & 30 & 50 & 250 & 395 & 435 & 452 & 474 & 534 & 629 & 705 \\ \mathbf{L} = 76 & 85 & 10 & 20 & 70 & 350 & 435 & 447 & 489 & 584 & 565 & 618 & 683 \\ \mathbf{X} = 16 & 86 & 10 & 20 & 70 & 350 & 435 & 447 & 489 & 584 & 565 & 618 & 683 \\ \mathbf{X} = 16 & 86 & 10 & 30 & 60 & 300 & 372 & 383 & 439 & 492 & 545 & 622 & 679 \\ \mathbf{X}' = 26 & 87 & 20 & 20 & 60 & 300 & 372 & 383 & 419 & 488 & 517 & 591 & 650 \\ \mathbf{C} = 8 & 88 & 20 & 30 & 50 & 250 & 395 & 435 & 452 & 462 & 522 & 611 & 691 \\ \mathbf{L} = 80 & 89 & 10 & 20 & 70 & 350 & 435 & 447 & 477 & 524 & 555 & 610 & 662 \\ \mathbf{X} = 16 & 90 & 10 & 30 & 60 & 300 & 372 & 383 & 419 & 448 & 517 & 591 & 650 \\ \mathbf{X} = 28 & 91 & 20 & 20 & 60 & 300 & 372 & 383 & 419 & 449 & 503 & 580 & 634 \\ \mathbf{X}' = 28 & 91 & 20 & 20 & 60 & 300 & 372 & 383 & 419 & 479 & 532 & 601 & 663 \\ \mathbf{X}' = 28 & 91 & 20 & 20 & 60 & 300 & 372 & 383 & 419 & 479 & 532 & 601 & 663 \\ \mathbf{X}' = 28 & 91 & 20 & 20 & 60 & 300 & 372 & 383 & 419 & 479 & 532 & 601 & 663 \\ \mathbf{X}' = 28 & 91 & 20 & 20 & 60 & 300 & 372 & 383 & 409 & 449 & 503 & 580 & 634 \\ \mathbf{C} = 8 & 92 & 20 & 30 & 50 & 250 & 395 & 435 & 447 & 465 & 514 & 547 & 602 & 639 \\ \mathbf{X} = 16 & 94 & 10 & 30 & 60 & 300 & 372 & 383 & 409 & 449 & 503 & 580 & 634 \\ \mathbf{X}' = 30 & 95 & 20 & 20 & 60 & 300 & 372 & 383 & 403 & 466 & 517 & 591 & 646 \\ \mathbf{X}' = 30 & 95 & 20 & 20 & 60 & 300 & 372 & 383 & 403 & 4466 & 517 & 591 & 646 \\ \mathbf{X}' = 30 & 95 & 20 & 20 &$		74		.30				.419	.495	.547			
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$													
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	c = s	76	.20	.30	.50	.250	.395	.435	.466	.508	.559	.663	.733
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		77	.10	.20	.70				.514		.586		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$.30									
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		79	.20	.20	.60			.383	.441	.492	.545	.611	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	C = 8	80	.20	.30	.50	.250	.395	.435	.452	.487	.545	.646	.719
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\overline{L} = 72$	81	.10	.20	.70	.350	.435	.447	.502	.543	.576	.629	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	X = 16	82	.10	.30	.60	.300	.372	.383	.452	.508	.559	.642	.695
$\begin{array}{c} \mathbf{C} = 8 & 84 & 20 & 30 & 50 & 250 & 395 & 435 & 452 & 474 & 534 & 629 & 705 \\ \mathbf{L} = 76 & 85 & 10 & 20 & .70 & 350 & 435 & 447 & .489 & .584 & .565 & .618 & .683 \\ \mathbf{X} = 16 & 86 & 1.0 & .30 & .60 & .300 & .372 & .383 & .485 & .492 & .545 & .622 & .679 \\ \mathbf{X}' = 26 & 87 & 2.0 & .20 & .60 & .300 & .372 & .383 & .419 & .458 & .517 & .591 & .650 \\ \mathbf{C} = 8 & 88 & .20 & .30 & .50 & .250 & .395 & .435 & .452 & .462 & .522 & .611 & .691 \\ \mathbf{L} = 80 & 89 & 1.0 & .20 & .70 & .350 & .435 & .447 & .477 & .524 & .555 & .610 & .662 \\ \mathbf{X} = 16 & 90 & 1.0 & .30 & .60 & .300 & .372 & .383 & .419 & .479 & .532 & .601 & .663 \\ \mathbf{X}' = 28 & 91 & .20 & .20 & .60 & .300 & .372 & .383 & .409 & .449 & .503 & .580 & .634 \\ \mathbf{C} = 8 & 92 & .20 & .30 & .50 & .250 & .395 & .435 & .452 & .462 & .511 & .594 & .678 \\ \mathbf{L} = 84 & 93 & .10 & .20 & .70 & .350 & .435 & .447 & .465 & .514 & .547 & .602 & .639 \\ \mathbf{X} = 16 & 94 & .10 & .30 & .60 & .300 & .372 & .383 & .403 & .466 & .517 & .591 & .646 \\ \mathbf{X}' = 30 & 95 & .20 & .60 & .300 & .372 & .383 & .403 & .4466 & .517 & .591 & .646 \\ \mathbf{X}' = 30 & 95 & .20 & .60 & .60 & .300 & .372 & .383 & .403 & .4466 & .517 & .591 & .646 \\ \mathbf{X}' = 30 & 95 & .20 & .60 & .60 & .300 & .372 & .383 & .403 & .4466 & .517 & .591 & .646 \\ \mathbf{X}' = 30 & 95 & .20 & .20 & .60 & .300 & .372 & .383 & .403 & .4466 & .517 & .591 & .646 \\ \mathbf{X}' = 30 & .95 & .20 & .20 & .60 & .300 & .372 & .383 & .3403 & .4461 & .490 & .570 & .617 \\ \mathbf{X}' = 30 & .95 & .20 & .20 & .60 & .300 & .372 & .383 & .3403 & .4441 & .490 & .570 & .570 & .617 \\ \mathbf{X}' = 30 & .95 & .20 & .20 & .60 & .300 & .372 & .383 & .349 & .441 & .490 & .570 & .570 & .617 \\ \mathbf{X}' = 30 & .95 & .20 & .20 & .60 & .300 & .372 & .383 & .389 & .441 & .490 & .570 & .570 & .617 \\ \mathbf{X}' = 30 & .95 & .20 & .20 & .60 & .300 & .372 & .383 & .389 & .441 & .490 & .570 & .570 & .617 \\ \mathbf{X}' = 30 & .95 & .20 & .20 & .60 & .300 & .372 & .383 & .389 & .441 & .490 & .570 & .570 & .570 \\ \mathbf{X}' = 30 & .95 & .20 & .20 & .60 & .300 & .372 & .383 & .389 & .441 & .490 & .570 & .570 &$		83		.20	.60	.300	.372	.383		.475	.532	.601	.667
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	C = 8	84	.20	.30	.50	.250	.395	.435	.452	.474	.534	.629	.705
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	L = 76	85	.10	.20	.70	.350	.435	.447	.489	.534	.565	.618	.683
$\begin{array}{cccccccccccccccccccccccccccccccccccc$.545	.622	.679
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$													
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$													
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	T. = 80	89	10	20	70	350	435	447	477	524	555	610	662
$\begin{array}{cccccccccccccccccccccccccccccccccccc$													
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$													
$\begin{array}{cccccccccccccccccccccccccccccccccccc$													
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	700												
X' = 30 95 .20 .20 .60 .300 .372 .383 .398 .441 .490 .570 .617													
0 0													
	<u> </u>	- 30	.40	.50	.50	.230		.400	.404	.402		.565	.004

TABLE 9.14
SUMMARY OF EQUIVALENT H TRUCK LOADINGS IN SIMPLE SPANS
PRODUCED BY TYPE 3-S2-3 TRUCKS WEIGHING ONE KIP EACH



Eighty-four variations in the Type 3-S2-3 truck are given in this table. Each truck number, from 1 to 84, represents a different combination of wheel base length, axle spacings, and ratios of gross vehicle weight of each axle.

All dimensions are in feet. Equivalent H truck loadings are in kips. a1, a2, and a3 represent the ratio of gross vehicle weight on axles.

Wheel	1 1	preser			1 g1033 V	- THERE WES	girt on a					
Base and Axle Spacing	Truck No.	I	oad O Axles Kips					Spar	-Feet			
Feet	Ë	a ₁	a 2	аз	10	20	30	40	50	60	80	100
L = 44	1	.05	.20	.75	.300	.384	.496	.597	.678	.734	.803	.844
X = 8	2	.05	.30	.65	.300		.491	.586	.663	.713	.775	.821
X' = 8 $C = 8$	3 4	.10 .10	$.20 \\ .30$.70 .60	.280 .300		$.463 \\ .476$.559 .564	.644 $.635$.706 $.682$.782 $.754$.827 $.895$
		.05	.20	.75	.300						.778	.824
$ \begin{array}{l} \text{L} = 48 \\ \text{X} = 8 \end{array} $	6	.05	.30	.65	.300		.474 $.462$.551 $.538$	$.638 \\ .625$	$.701 \\ .682$.751	.799
$\mathbf{X}' = 10$	7	.10	.20	.70	.280		.442	.515	.600	.670	.756	.807
$\overline{C} = 8$	8	.10	.30	.60	.300		.450	.519	.599	.652	.727	.783
$ \begin{array}{r} $	9	.05	.20	.75	.300		.452	.532	.599	.668	.754	.805
X = 8	10	.05	.30	.65	.300		.433	.502	.586	.649	.727	.776
X' = 12	11	.10	.20	.70	.280	.358	.422	.497	.561	.635	.729	.785
C = 8	12	.10	.30	.60	.300		.424	.487	.564	.623	.706	.766
L = 56	13	.05	.20	.75	.300 .300		.430	.516	.566	.635	.729	.785
$\mathbf{X} = 8 \\ \mathbf{X'} = 14$	$\frac{14}{15}$	$.05 \\ .10$.30 .20	$.65 \\ .70$.280		.405 .401	.482 .482	.548 $.527$.618 $.599$.703 $.703$.754 $.765$
C = 8	16	.10	.30	.60	.300	.361	.397	.468	.530	.594	.684	.749
1 60	17	.05	.20	.75	.300		.408	.500	.553	.602	.704	.766
X = 8 X' = 16	18	.05	.30	.65	.300		.385	.460	.514	.586	.680	.736
X' = 16	19	.10	.20	.70	.280	.358	.381	.467	.516	.563	.677	.743
$\overline{c} = 8$	20	.10	.30	.60	.300		.379	.448	.498	.564	.662	.732
L = 64	21	.05	.20	.75	.300	.384	.408	.484	.540	.577	.680	.746
X = 8 X' = 18	$\frac{22}{23}$	$.05 \\ .10$.30 .20	.65 $.70$.300 .280		.366	.440 $.452$.492 $.504$.554 .538	.657	.717 $.722$
C = 8	24	.10	.30	.60	.280		.381 .375	.429	.478	.535	.651 $.640$.714
T - co	25	.05	.20	.75	.300		.408	.468	.527	.566	.656	.726
$ \begin{array}{c} \mathbf{X} = 8 \\ \mathbf{X}' = 20 \end{array} $	26	.05	.30	.65	.300		.354	.418	.475	.522	.633	.699
X' = 20	27	.10	.20	.70	.280	.358	.381	.436	.492	.529	.624	.702
C = 8	28	.10	.30	.60	.300		.375	.374	.463	.510	.618	.697
L = 48	29	.05	.20	.75	.300		.496	.597	.674	.731	.801	.842
X = 12	30	.05	.30	.65	.300		.491	.586	.663	.713	.775	.819
X' = 8 $C = 8$	$\frac{31}{32}$.10 .10	.20 .30	.70 .60	.280 .300		.463 $.476$.559 $.564$.635 $.635$	$.700 \\ .682$.777 $.749$.823 $.801$
$\frac{C-8}{L=52}$	33	.05	.20	.75	.300		.474	.551	.635	.628	.776	.822
X = 12	$\frac{35}{34}$.05	.30	.65	.300		.462	.538	.625	.682	.751	.796
$\mathbf{X} = 12 \\ \mathbf{X'} = 10$	35	.10	.20	.70	.280	.358	.442	.515	.596	.664	.751	.803
C = 8	36	.10	.30	.60	.300		.450	.519	.599	.652	.719	.777
L = 56	37	.05	.20	.75	.300	.384	.452	.532	.599	.664	.751	.803
X = 12 X' = 12	38	.05	.30	.65	.300		.433	.502	.586	.649	.727	.774
X' = 12	39	.10	.20	.70	.280		.422	.497	.561	.628	.724	.781
C = 8	40	.10	.30	.60	.300		.424	.487	.564	.623	.695	.753
L = 60	41	.05	.20	.75	.300		.430	.516	.566	.631	.726	.783
X = 12 X' = 14	42 43	.05 .10	$\frac{.39}{.20}$.65	.300 .280		.405 .401	.482 .482	.548 .527	.618	.703	.754
C = 14	44	.10	.30	.60	.300		.397	.482	.530	.593 $.594$	$.698 \\ .673$	$.760 \\ .729$
L = 64	45	.05	.20	.75	.300		.408	.500	.553	.602	.702	.764
X = 12	46	.05	.30	.65	.300		.385	.460	.514	.586	.680	.736
	47	.10	.20	.70	.280		.381	.467	.516	.563	.671	.739
c = 8	48	.10	.30	.60	.300		.379	.448	.498	.564	.651	.705

TABLE :	9.14 ((Continued)
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L = 68	49	.05	.20	.75	.300	.384	.408	.484	.540	.577	.678	.744
X = 12	50	.05	.30	.65	.300	.333	.366	.400	.492	.554	.657	.717
X' = 18	51	.10	.20	.70	.280	.358	.381	.452	.504	.538	.645	.718
c = s	52	.10	.30	.60	.300	.337	.362	.429	.478	.535	.630	.685
L = 72	53	.05	.20	.75	.300	.384	.408	.468	.527	.566	.653	.724
X = 12	54	.05	.30	.65	.300	.333	.354	.418	.475	.522	.633	.699
X' = 20	55	.10	.20	.70	.280	.358	.381	.436	.492	.529	.618	.698
c = s	56	.10	.30	.60	.300	.337	.361	.410	.463	.506	.608	.668
$\Gamma = e_0$	57	.05	.20	.75	.300	.384	.452	.532	.599	.661	.749	.801
X = 16	58	.05	.30	.65	.300	.344	.433	.502	.586	.649	.727	.773
X' = 12	59	.10	.20	.70	.280	.358	.422	.497	.561	.621	.719	.777
c = s	60	.10	.30	.60	.300	.342	.424	.487	.564	.623	.695	.749
L = 64	61	.05	.20	.75	.300	.384	.430	.516	.566	.630	.724	.781
X = 16	62	.05	.30	.65	.300	.333	.405	.482	.548	.618	.703	.754
X' = 14	63	.10	.20	.70	.280	.358	.401	.482	.527	.592	.693	.756
C = 8	64	.10	.30	.60	.300	.328	.397	.468	.530	.594	.673	.724
L = 68	65	.05	.20	.75	.300	.384	.408	.500	.553	.602	.699	.761
X = 16	66	.05	.30	.65	.300	.333	.385	.460	.514	.586	.680	.736
X' = 16	67	.10	.20	.70	.280	.358	,381	.467	.516	.563	.666	.735
c = s	68	.10	.30	.60	.300	.314	.379	.448	.498	.564	.651	.703
L = 72	69	.05	.20	.75	.300	.384	.408	.484	.540	.577	.674	.742
$\mathbf{x} = 16$	70	.05	.30	.65	.300	.333	.366	.440	.492	.554	.657	.717
X' = 18	71	.10	.20	.70	.280	.358	.381	.452	.504	.538	.640	.714
C = 8	72	.10	.30	.60	.300	.314	.362	.429	.478	.535	.630	.685
L = 76	73	.05	.20	.75	,300	.384	.408	.468	.527	.566	.651	.722
X = 16	74	.05	.30	.65	.300	.233	.354	.418	.475	.522	.633	.699
X' = 20	75	.10	.20	.70	.280	.358	.381	.436	.492	.529	.613	.694
C = 8	76	.10	.20	.60	.300	.314	.345	.410	.463	.506	.608	.668
L = 80	77	.05	.20	.75	.300	.384	.408	.452	.515	.556	.626	.703
X = 16	78	.05	.30	.65	.300	.333	.354	.398	.460	.499	.609	.679
X' = 22	79	.10	.20	.70	.280	.358	.381	.421	.481	.519	.587	.672
c = s	80	.10	.30	.60	.300	.314	.345	.390	.447	.485	.585	.651
L = 84	81	.05	.20	.75	,300	.384	.408	.435	.502	.545	.603	.683
X = 16	82	.05	.30	.65	.300	.333	.354	.377	.443	.487	.585	.661
X' = 24	83	.10	.20	.70	.280	.358	.381	.406	.468	.509	.566	.651
C = 8	84	.10	.30	.60	.300	.314	.345	.371	.432	.472	.565	.634

10. CONVERSION COEFFICIENTS FOR EQUIVALENT LOADINGS ON SIMPLE SPANS OF VARIOUS LENGTHS

Owing to the fact that an H truck, an H-S truck, and a single concentrated load weighing one kip each produce maximum shears, respectively, on a given span which are definite values, their relative magnitudes may be fully described by the ratios that each one bears to the other two. Thus, if these ratios are known for a given span, they may be thought of as coefficients which may be used for converting any one of the above loadings into equivalent loadings measured in terms of either or both of the other two. These ratios or coefficients for certain selected spans up to 100 feet in length are given in Table 10.1 and shown graphically for all intermediate spans in Fig. 10.1.

In Table 10.1, for example, it will be seen that the coefficient for converting an equivalent H truck loading into an equivalent H-S truck loading on a 50-foot span is given as 1.16. This means that an H truck of given weight will produce 1.16 times as much shear as an H-S truck of equal weight on a 50-foot span. It also means that an H truck of given weight will produce as much shear as an H-S truck weighing 1.16 times as much on a 50-foot span. More specifically, suppose a given heavy vehicle has been found to produce the same shear on a 50-foot span as an H20 truck and rated accordingly as an equivalent H20 truck loading. Now suppose it is desired to convert the given heavy vehicle into an equivalent H-S truck loading. This may be done by noting that $1.16 \times 20 = 23.2$ tons would be required on an H-S truck to produce the same shear as the given vehicle on a 50-foot span. The given vehicle, therefore, would be rated as an equivalent 23.2 (ton) H-S truck loading or an equivalent 46.4 (kip) H-S truck loading.

In a similar manner, if it were desired to convert an equivalent 46.4 (kip) H-S truck loading into an equivalent H truck loading on a 50-foot span it would be done by multiplying the H-S truck rating by the coefficient 0.86 as shown in the fifth column of Table 10.1, or $46.4 \times .86 = 40.0$ kips. This means that the given vehicle could be rated as either an equivalent 46.4 (kip) H-S truck loading, or an equivalent 40.0 (kip) H truck loading on a 50-foot span.

Similarly, an equivalent 40.0 (kip) H truck loading may be converted into an equivalent concentrated load on a 50-foot span by multiplying the H truck rating by the coefficient 0.94 as shown in the fifth column of Table 10.1, or $40.0 \times .94 = 37.6$ kips. This means that the given vehicle would be rated as an equivalent 37.6 (kip) concentrated load on a 50-foot span.

From these illustrative examples, then, it will be seen that any given equivalent loading may be converted into any other loading equivalency simply by multiplying the rating of the given equivalent loading by the appropriate coefficient indicated for the span under consideration by either Table 10.1 or Fig. 10.1.

TABLE 10.1

CONVERSION COEFFICIENTS BASED ON SHEAR
FOR EQUIVALENT LOADINGS ON SIMPLE SPANS OF VARIOUS LENGTHS

For					Sp	an				
Converting	10	20	30	40	50	60	70	80	90	100
EHT to EHST	1.80	1.49	1.32	1.21	1.16	1.13	1.11	1.10	1.09	1.08
EHST to EHT	.56	.67	.76	.83	.86	.88	.90	.91	.92	.93
EHT to ECL ECL to EHT	$\frac{.80}{1.25}$	$\frac{.86}{1.16}$	$^{.91}_{1.10}$	$\frac{.93}{1.08}$	$\frac{.94}{1.06}$	$\frac{.95}{1.05}$	$\frac{.96}{1.04}$	$\frac{.97}{1.03}$	$\frac{.98}{1.02}$	$\frac{.98}{1.02}$
EHT to EHD	1.00	1.00	1.00	.96	.90	.84	.79	.75	.71	.67
EHD to EHT	1.00	1.00	1.00	1.04	1.11	1.19	1.27	1.33	1.41	1.49
EHT to EHSD EHSD to EHT	1.80 .56	1.49 .67	1.32 .76	1.21 .83	1.16 .86	1.13 .88	1.11	1.10 .91	1.09 .92	1.08 .93
EHST to ECL	.44	.58	.69	.77	.81	.84	.87	.88	.90	$-\frac{.00}{.91}$
ECL to EHST	2.25	1.73	1.45	1.30	1.23	1.18	1.15	1.13	1.12	1.09
EHST to EHD	.56	.67	.76	.79	.77	.75	.72	.68	.65	.63
EHD to EHST	1.80	1.49	1.32	1.26	1.29	1.34	1.40	1.46	1.53	1.60
EHST to EHSD EHSD to EHST	1.00 1.00	1.00 1.00	1.00 1.00	$\frac{1.00}{1.00}$	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	$\frac{1.00}{1.00}$	1.00 1.00
ECL to EHD	1.25	1.16	1.10	1.03	.95	.88	.83	.78	.73	.69
EHD to ECL	.80	.86	.91	.97	1.05	1.14	1.20	1.28	1.37	1.45
ECL to EHSD	2.25	1.73	1.45	1.30	1.23	1.18	1.15	1.13	1.12	1.10
EHSD to ECL	.44	.58	.69	.77	.81	.84	.87	.88	.90	.91
EHD to EHSD	1.80	1.49	1.32	1.26	1.29	1.34	1.40	1.46	1.53	1.60
EHSD to EHD	.56	.67	.76	.79	.78	.75	.71	.68	.65	.63

EHT-Equivalent H truck loading.

EHD-Equivalent H design loading.

EHST-Equivalent H-S truck loading.

EHSD-Equivalent H-S design loading.

ECL-Equivalent concentrated load.

CONVERSION COEFFICIENTS FOR EQUIVALENT LOADINGS BASED ON MAXIMUM SHEAR IN SIMPLE SPANS

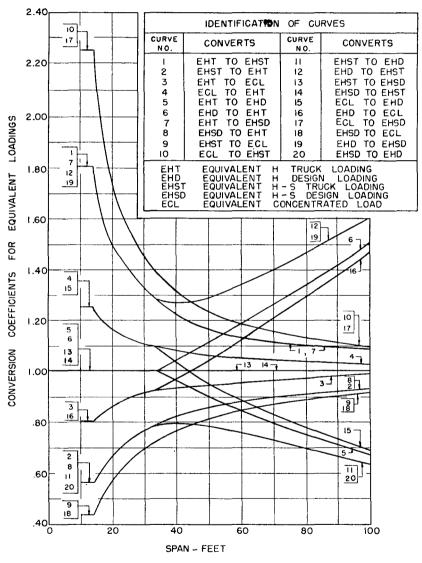


Figure 10.1

Part III

OBSERVED FREQUENCIES OF EQUIVALENT H TRUCK LOADINGS ON SIMPLE SPAN BRIDGES FOR THE HEAVY VEHICLES REPORTED BY THE SPECIAL LOADOMETER SURVEY OF 1942

11. FREQUENCY ANALYSIS OF EQUIVALENT H TRUCK LOADINGS

The ratings of heavy vehicle types and loadings in terms of equivalent H truck loadings, equivalent H-S truck loadings, or equivalent concentrated loads—by the procedure outlined in the preceding articles of this bulletin—not only provide an approach to the problem of permissible vehicle weights for bridges of given lengths and design designations, but they also provide a convenient means for analyzing the frequency distributions of various intensities of heavy vehicle loading equivalents on bridges of different lengths. Once all of the heavy vehicles reported by a loadometer survey have been converted into equivalent loads for a given span, the relative frequencies of various intensities of these loading equivalents for the given span may then be obtained rather simply by arranging them into groups or cells of increasing magnitudes and computing the percentage of vehicles thus found in each cell, respectively.

Table 11.1 is the result of such an analysis and gives the observed frequency distribution of equivalent H truck loadings for the 4531 heavy trucks reported in the 1942 loadometer survey. The information shown in Table 11.1 corresponds to the plotted values shown in Figs. 12.12 and 13.12. Similar tables were made for each of the 11 heavy vehicle types shown for Figs. 12.1-12.12 and 13.1-13.12, however, only the one table is included here since it is believed that this table provides sufficient illustration of the method.

Frequency distributions such as these, which have been determined from the heavy vehicle data reported by a given loadometer survey, not only furnish a quantitative measure for evaluating the level or levels of heavy motor vehicle operation corresponding to the traffic conditions at those stations or on those routes covered by the given survey, but they also furnish certain statistical measures or indices which should prove to be of value for correlating the various levels of heavy motor vehicle operation with minimum standards for highway and bridge provision. By way of specific illustration, the frequency distributions and other results obtained from analyses of the heavy vehicle data reported by the special loadometer survey of 1942 are given and discussed in the remaining articles of Part III. The titles of these articles will not only serve for convenient reference but also to indicate the nature of the material presented in each. They are as follows:

Article 12 (Figures 12.1-12.12) Maximum, Minimum, and Average Equivalent H Truck Loadings on Simple Span Bridges Based on Gross Vehicle Weights.

Article 13 (Figures 13.1-13.12)

Histograms Showing Frequency Distribution of Equivalent H Truck Loadings on Simple Span Bridges Based on Gross Vehicle Weights.

TABLE 11.1

OBSERVED FREQUENCIES OF EQUIVALENT H TRUCK LOADINGS
BASED ON THE SHEAR PRODUCED BY THE 4531 ALL TYPE TRUCKS REPORTED
BY THE 1942 LOADOMETER SURVEY

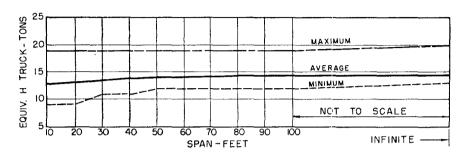
Equivalent H Truck					Span-Fee	t			
Loadings	10	20	30	40	50	60	80	100	Infinite
6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45	.3 .5 1.8 7.4 15.6 19.6 18.2 13.1 9.1 6.2 2.5 1.2 1.0 0 .1	.1 .3 .8 3.3 .9.7 15.0 18.6 112.7 8.6 6.1 4.1 4.1 2.3 1.4 .7 .4 .2 .1	.1 .3 .6 .2 .3 .5 .3 .12 .2 .16 .0 .18 .1 .1 .1 .3 .3 .2 .0 .1 .2 .7 .7 .4 .2 .7 .7 .4 .2 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1	.1 .2 .4 1.7 5.2 10.6 15.6 16.3 14.4 10.3 7.8 5.8 4.2 2.9 1.8 1.2 .7 .4 .2 .1	.1 .2 .7 .2 .7 .2 .1 .1 .1 .0 .0 .6 .6 .5 .1 .2 .2 .2 .3 .2 .2 .2 .3 .3 .2 .2 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3	.1 .4 1.4 3.8 8.8 13.5 16.0 14.5 17.8 5.4 4.6 3.6 3.6 2.1 1.6 9 .6 4 .3 3 .1 1.0 1.1	1.1 2.2 5.5 10.3 15.2 12.4 9.3 6.5 5.0 4.1 3.5 2.8 2.2 1.8 1.3 9.6 6 .4 2.2 1.1 1.1 0.0 0.1	.8 3.4 7.8 12.6 14.9 10.2 8.0 5.2 4.5 3.7 3.1 2.4 2.0 1.7 1.3 .9 6.4 .2 1.1 1.1 1.1 1.1	2.2 2.3 2.2 4.3 9.4 13.5 13.7 10.6 8.0 6.1 1.7 1.3 1.2 1.0 1.0 1.0 1.0 1.1 1.0 1.1 1.0 1.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Max H Truck Avg H Truck Min H Truck Range	24 12.1 6 18	23 13.0 6 17	27 14.6 7 20	28 15.9 8 20	32 16.8 9 23	33 17.6 10 23	37 18.4 12 25	40 19.0 12 28	47 21.0 13 34

12. MAXIMUM, AVERAGE, AND MINIMUM EQUIVALENT H TRUCK LOADINGS ON SIMPLE SPAN BRIDGES BASED ON GROSS VEHICLE WEIGHT

Figs. 12.1-12.12 present a graphical representation of the maximum, average, and minimum equivalent H truck loadings on simple span bridges of various lengths for each of the 11 more numerous heavy vehicle types reported by the special loadometer survey of 1942. Figure 12.12 gives the same information for all heavy vehicles reported representing a combined total of 4531. The figures on which these data are given are as follows:

Heavy Vehicle Type	Number of Vehicles Reported	Figure Number
2	171	12.1
3	381	12.2
$2 \cdot S1$	2855	12.3
2 S2	508	12.4
3 S1	9	12.5
3 S2	142	12.6
3-S3	14	12.7
$2-\bar{2}$	99	12.8
$\overline{2}$ $-\overline{3}$	24	12.9
$\overline{3} \cdot 2$	68	12.10
3-3	176	12.11
All	4531	12.12

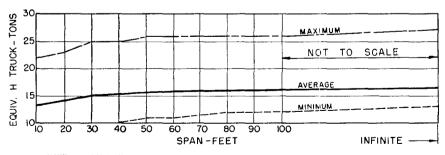
MAXIMUM, MINIMUM AND AVERAGE EQUIVALENT H TRUCK LOADINGS ON SIMPLE SPANS BASED ON MAXIMUM SHEARS PRODUCED BY THE 171 TYPE 2 TRUCKS REPORTED IN THE 1942 LCADOMETER SURVEY



NOTE: GROSS VEHICLE WEIGHT IN TONS AND EQUIVALENT H TRUCK LOADINGS IN TONS ARE IDENTICAL AT INFINITE SPAN

Figure 12.1

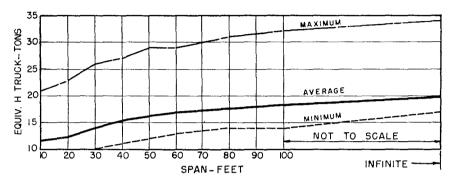
MAXIMUM, MINIMUM AND AVERAGE EQUIVALENT H TRUCK LOADINGS ON SIMPLE SPANS BASED ON MAXIMUM SHEARS PRODUCED BY THE 381 TYPE 3 TRUCKS REPORTED IN THE 1942 LOADOMETER SURVEY



NOTE: GROSS VEHICLE WEIGHT IN TONS AND EQUIVALENT H TRUCK LOADINGS IN TONS ARE IDENTICAL AT INFINITE SPAN

Figure 12.2

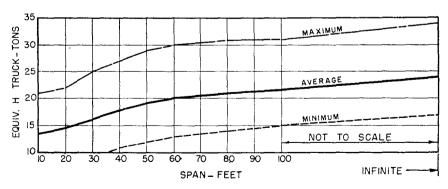
MAXIMUM, MINIMUM AND AVERAGE EQUIVALENT H TRUCK LOADINGS ON SIMPLE SPANS BASED ON MAXIMUM SHEARS PRODUCED BY THE 2855 TYPE 2-SI TRUCKS REPORTED IN THE 1942 LOADOMETER SURVEY



NOTE: GROSS VEHICLE WEIGHT IN TONS AND EQUIVALENT H TRUCK LOADINGS IN TONS ARE IDENTICAL AT INFINITE SPAN

Figure 12.3

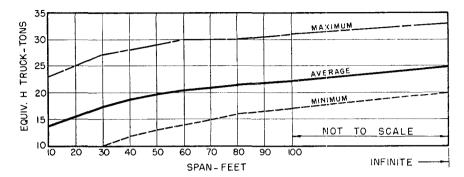
MAXIMUM, MINIMUM AND AVERAGE EQUIVALENT H TRUCK LOADINGS ON SIMPLE SPANS BASED ON MAXIMUM SHEARS PRODUCED BY THE 508 TYPE 2-S2 TRUCKS REPORTED IN THE 1942 LOADOMETER SURVEY



NOTE: GROSS VEHICLE WEIGHT IN TONS AND EQUIVALENT H TRUCK LOADINGS IN TONS ARE IDENTICAL AT INFINITE SPAN

Figure 12.4

MAXIMUM, MINIMUM AND AVERAGE EQUIVALENT H TRUCK LOADINGS ON SIMPLE SPANS BASED ON MAXIMUM SHEARS PRODUCED BY THE 9 TYPE 3-SI TRUCKS REPORTED IN THE 1942 LOADOMETER SURVEY



NOTE: GROSS VEHICLE WEIGHT IN TONS AND EQUIVALENT H TRUCK LOADINGS IN TONS ARE IDENTICAL AT INFINITE SPAN

Figure 12.5

MAXIMUM, MINIMUM AND AVERAGE EQUIVALENT H TRUCK LOADINGS ON SIMPLE SPANS BASED ON MAXIMUM SHEARS PRODUCED BY THE 142 TYPE 3-S2 TRUCKS REPORTED IN THE 1942 LOADOMETER SURVEY

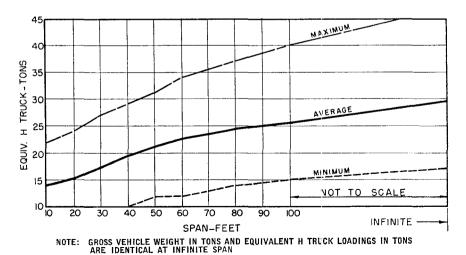
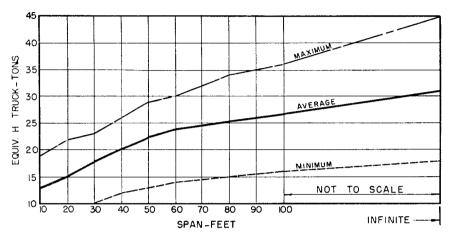


Figure 12.6

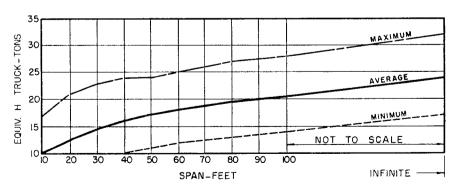
MAXIMUM, MINIMUM AND AVERAGE EQUIVALENT H TRUCK LOADINGS ON SIMPLE SPANS BASED ON MAXIMUM SHEARS PRODUCED BY THE 14 TYPE 3-S3 TRUCKS REPORTED IN THE 1942 LOADOMETER SURVEY



NOTE: GROSS VEHICLE WEIGHT IN TONS AND EQUIVALENT H TRUCK LOADINGS IN TONS ARE IDENTICAL AT INFINITE SPAN

Figure 12.7

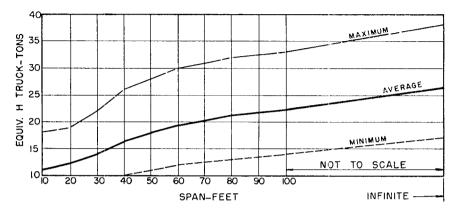
MAXIMUM, MINIMUM AND AVERAGE EQUIVALENT H TRUCK LOADINGS ON SIMPLE SPANS BASED ON MAXIMUM SHEARS PRODUCED BY THE 99 TYPE 2-2 TRUCKS REPORTED IN THE 1942 LOADOMETER SURVEY



NOTE: GROSS VEHICLE WEIGHT IN TONS AND EQUIVALENT H TRUCK LOADINGS IN TONS ARE IDENTICAL AT INFINITE SPAN

Figure 12.8

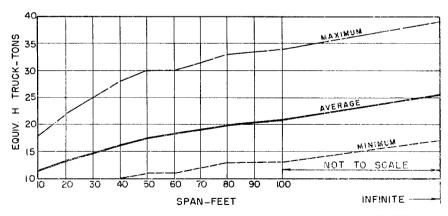
MAXIMUM, MINIMUM AND AVERAGE EQUIVALENT H TRUCK LOADINGS ON SIMPLE SPANS BASED ON MAXIMUM SHEARS PRODUCED BY THE 24 TYPE 2-3 TRUCKS REPORTED IN THE 1942 LOADOMETER SURVEY



NOTE: GROSS VEHICLE WEIGHT IN TONS AND EQUIVALENT H TRUCK LOADINGS IN TONS ARE IDENTICAL AT INFINITE SPAN

Figure 12.9

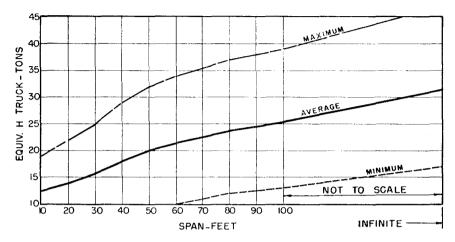
MAXIMUM, MINIMUM AND AVERAGE EQUIVALENT H TRUCK LOADINGS ON SIMPLE SPANS BASED ON MAXIMUM SHEARS PRODUCED BY THE 68 TYPE 3-2 TRUCKS REPORTED IN THE 1942 LOADOMETER SURVEY



NOTE: GROSS VEHICLE WEIGHT IN TONS AND EQUIVALENT H TRUCK LOADINGS IN TONS ARE IDENTICAL AT INFINITE SPAN

Figure 12.10

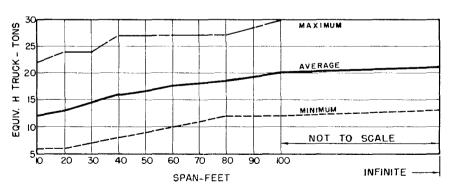
MAXIMUM, MINIMUM AND AVERAGE EQUIVALENT H TRUCK LOADINGS ON SIMPLE SPANS BASED ON MAXIMUM SHEARS PRODUCED BY THE 176 TYPE 3-3 TRUCKS REPORTED IN THE 1942 LOADOMETER SURVEY



NOTE: GROSS VEHICLE WEIGHT IN TONS AND EQUIVALENT H TRUCK LOADINGS IN TONS ARE IDENTICAL AT INFINITE SPAN

Figure 12.11

MAXIMUM, MINIMUM AND AVERAGE EQUIVALENT H TRUCK LOADINGS ON SIMPLE SPANS BASED ON MAXIMUM SHEARS PRODUCED BY THE 453I ALL TYPE TRUCKS REPORTED IN THE 1942 LOADOMETER SURVEY



NOTE: GROSS VEHICLE WEIGHT IN TONS AND EQUIVALENT H TRUCK LOADINGS IN TONS ARE IDENTICAL AT INFINITE SPAN

Figure 12.12

13. HISTOGRAMS SHOWING FREQUENCY DISTRIBUTIONS OF EQUIVALENT H TRUCK LOADINGS ON SIMPLE SPAN BRIDGES BASED ON GROSS VEHICLE WEIGHTS

Figs. 13.1-13.12 present a graphical representation of the observed and calculated frequencies of equivalent H truck loadings on simple spans up to 100 feet in length for each of the 11 more numerous heavy vehicle types reported by the 1942 loadometer survey; and Fig. 13.12 gives the same information for all the heavy vehicles reported, representing a combined total of 4531. These histograms, based on 3-item moving averages of the observed data, are given in the following figures.

Heavy Vehicle Type	Number of Vehicles Reported	Figure Number		
2	171	13.1		
3	381	13.2		
2-S1	2855	13.3		
2-S2	508	13.4		
3-81	9	13.5		
3-S2	142	13.6		
3S3	14	13.7		
2-2	99	13.8		
$\overline{2}$ $\overline{3}$	24	13.9		
$\overline{3}$ $\overline{2}$	68	13.10		
33	176	13.11		
All	4531	13.12		

OBSERVED FREQUENCIES OF EQUIVALENT H TRUCK LOADINGS FOR TYPE 2 HEAVY VEHICLES ON SIMPLE SPANS OF VARIOUS LENGTHS

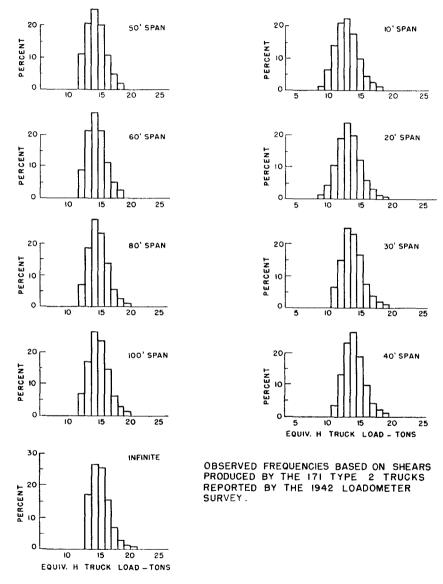


Figure 13.1

OBSERVED FREQUENCIES OF EQUIVALENT H TRUCK LOADINGS FOR TYPE 3 HEAVY VEHICLES ON SIMPLE SPANS OF VARIOUS LENGTHS

OBSERVED FREQUENCIES BASED ON SHEARS PRODUCED BY THE 361 TYPE 3 TRUCKS REPORTED BY THE 1942 LOADOMETER SURVEY.

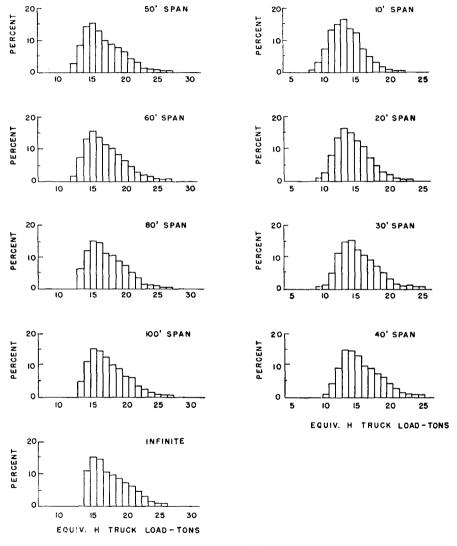


Figure 13.2

OBSERVED FREQUENCIES OF EQUIVALENT H TRUCK LOADINGS FOR TYPE 2-SI HEAVY VEHICLES ON SIMPLE SPANS OF VARIOUS LENGTHS

OBSERVED FREQUENCIES BASED ON SHEARS PRODUCED BY THE 2855 TYPE 2-SI TRUCKS REPORTED BY THE 1942 LOADOMETER SURVEY.

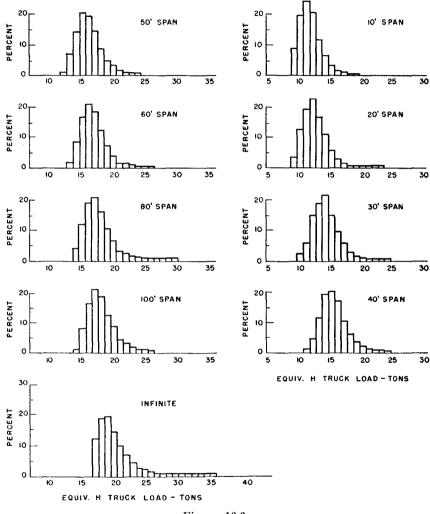


Figure 13.3

OBSERVED FREQUENCIES OF EQUIVALENT H TRUCK LOADINGS FOR TYPE 2-S2 HEAVY VEHICLES ON SIMPLE SPANS OF VARIOUS LENGTHS

OBSERVED FREQUENCIES BASED ON SHEARS PRODUCEL BY THE 508 TYPE 2-S2 TRUCKS REPORTED BY THE 1942 LOADCMETER SURVEY.

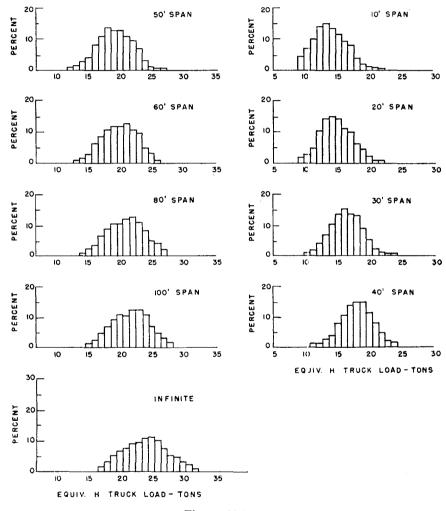


Figure 13.4

OBSERVED FREQUENCIES OF EQUIVALENT H TRUCK LOADINGS FOR TYPE 3-SI HEAVY VEHICLES ON SIMPLE SPANS OF VARIOUS LENGTHS

OBSERVED FREQUENCIES BASED ON SHEARS PRODUCED BY THE 9
TYPE 3-SI TRUCKS REPORTED BY THE 1942 LOADOMETER SURVEY.

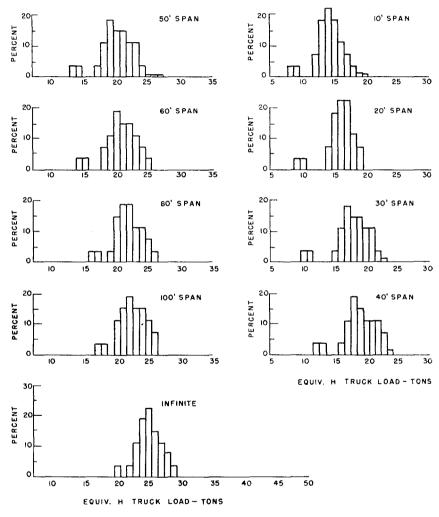


Figure 13.5

OBSERVED FREQUENCIES OF EQUIVALENT H TRUCK LOADINGS FOR TYPE 3-S2 HEAVY VEHICLES ON SIMPLE SPANS OF VARIOUS LENGTHS

OBSERVED FREQUENCIES BASED ON SHEARS PRODUCED BY THE 142
TYPE 3-S2 TRUCKS REPORTED BY THE 1942 LOADCIMETER SURVEY.

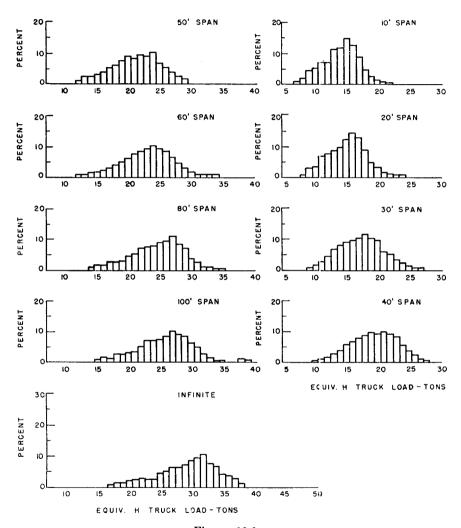


Figure 13.6

OBSERVED FREQUENCIES OF EQUIVALENT H TRUCK LOADINGS FOR TYPE 3-S3 HEAVY VEHICLES ON SIMPLE SPANS OF VARIOUS LENGTHS

OBSERVED FREQUENCIES BASED ON SHEARS PRODUCED BY THE 14
TYPE 3-S3 TRUCKS REPORTED BY THE 1942 LOADOMETER SURVEY.

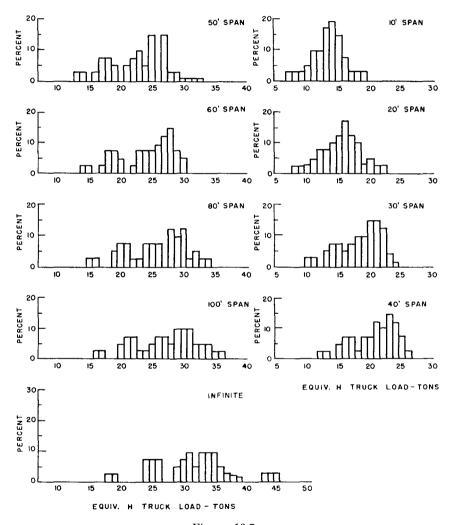


Figure 13.7

OBSERVED FREQUENCIES OF EQUIVALENT H TRUCK LOADINGS FOR TYPE 2-2 HEAVY VEHICLES ON SIMPLE SPANS OF VARIOUS LENGTHS

OBSERVED FREQUENCIES BASED ON SHEARS PRODUCED 3Y THE 99
TYPE 2-2 TRUCKS REPORTED BY THE 1942 LOADOMETER SURVEY.

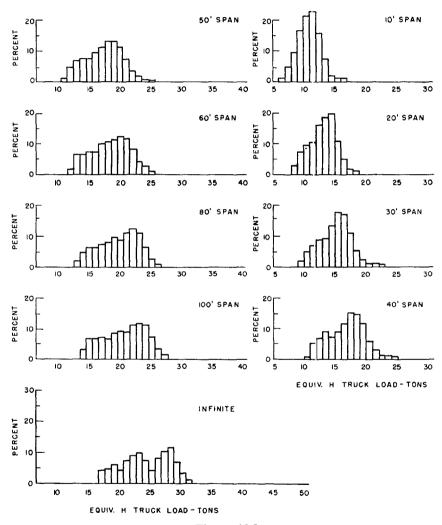


Figure 13.8

OBSERVED FREQUENCIES OF EQUIVALENT H TRUCK LOADINGS FOR TYPE 2-3 HEAVY VEHICLES ON SIMPLE SPANS OF VARIOUS LENGTHS

OBSERVED FREQUENCIES BASED ON SHEARS PRODUCED BY THE 24

TYPE 2-3 TRUCKS REPORTED BY THE 1942 LOADOMETER SURVEY.

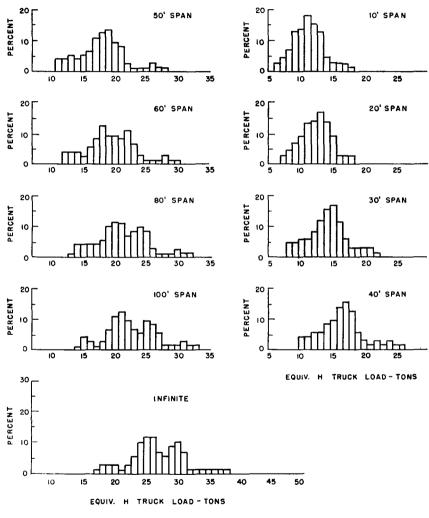


Figure 13.9

OBSERVED FREQUENCIES OF EQUIVALENT H TRUCK LOADINGS FOR TYPE 3-2 HEAVY VEHICLES ON SIMPLE SPANS OF VARIOUS LENGTHS

OBSERVED FREQUENCIES BASED ON SHEARS PRODUCED BY THE 68 TYPE 3-2 TRUCKS REPORTED BY THE 1942 LOADOMETER SURVEY.

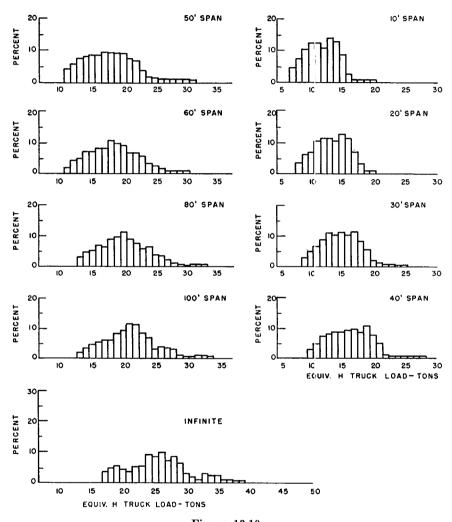


Figure 13.10

OBSERVED FREQUENCIES OF EQUIVALENT H TRUCK LOADINGS FOR TYPE 3-3 HEAVY VEHICLES ON SIMPLE SPANS OF VARIOUS LENGTHS

OBSERVED FREQUENCIES BASED ON SHEARS PRODUCED BY THE 176 TYPE 3-3 TRUCKS REPORTED BY THE 1942 LOADOMETER SURVEY.

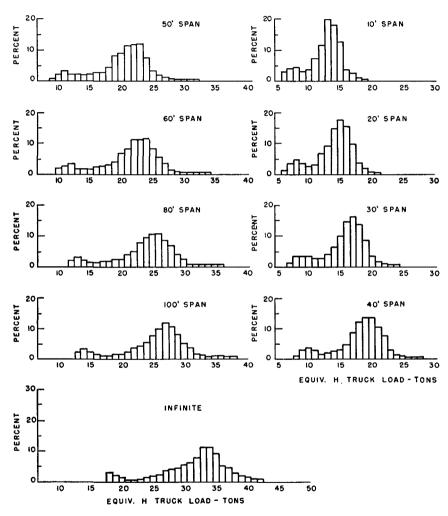


Figure 13.11

OBSERVED FREQUENCIES OF EQUIVALENT H TRUCK LOADINGS FOR ALL TYPE HEAVY VEHICLES ON SIMPLE SPANS OF VARIOUS LENGTHS

OBSERVED FREQUENCIES BASED ON SHEARS PRODUCED BY THE 4531 ALL TYPE TRUCKS REPORTED BY THE 1942 LOADOMETER SURVEY.

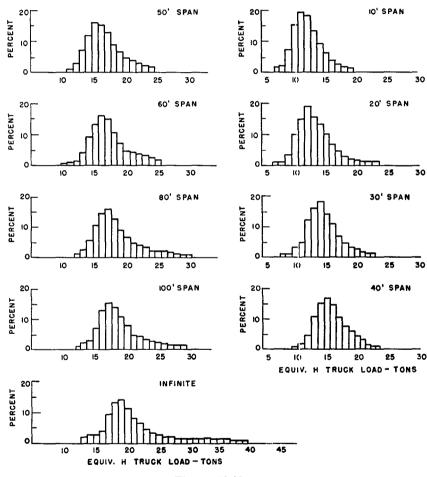


Figure 13.12

Part IV

OBSERVED FREQUENCIES OF EQUIVALENT CONCENTRATED LOADS ON SIMPLE SPAN BRIDGES FOR THE HEAVY VEHICLES REPORTED BY THE SPECIAL LOADOMETER SURVEY OF 1942

14. FREQUENCY ANALYSES OF EQUIVALENT CONCENTRATED LOADS

Since the procedure for arriving at the observed frequencies of equivalent concentrated loads, given by the table and charts in this and following articles of Part IV, have been outlined in previous articles of this bulletin, it is believed that only a brief discussion of each is necessary to facilitate their use. A point of particular interest in connection with these studies is that an equivalent concentrated load is exactly equal to the shear produced in a simple span bridge by a given heavy truck. It can be seen then, that any distribution of equivalent concentrated loads would be the same as the distribution that would obtain for the actual shears produced by a given sample of heavy truck loads. For example, Table 14.1 gives the distribution of equivalent concentrated loads for all of the heavy trucks reported in the 1942 loadometer survey, but this table also provides the distribution of actual shears produced by this sample of heavy trucks. In other words for the 10-foot span shown in Table 14.1, it will be noted that 0.5 percent of all heavy trucks are rated as equivalent concentrated loads of 5 tons. This would be the same as saying that 0.5 percent of all heavy trucks in the sample produced a shear of 5 tons = 10 kips on a 10-foot simple span bridge.

The numerical values given in Table 14.1 for the maximum, average, and minimum equivalent concentrated loads correspond to the plotted values shown in Fig. 15.1. The numerical values for the percent distribution of equivalent concentrated loads on various simple span bridges correspond to the plotted values for the histograms shown in Fig. 16.1.

TABLE 14.1

OBSERVED FREQUENCIES OF EQUIVALENT CONCENTRATED LOADS REQUIRED TO PRODUCE THE SAME SHEAR IN SIMPLE SPANS AS THAT PRODUCED BY THE 4531 ALL TYPE TRUCKS REPORTED IN THE 1942 LOADOMETER SURVEY

Equivalent Concentrated Loads					Span-Fee	t			
	i 10	20	30	40	50	60	80	100	Infinite
5 6 7 8 9 10 11 12 13 14 15 16 17 18 20 21 22 23 24 25 26 27 28 29 30 31 32 33 33 34 35 36 37 38 39 40 41 44 44 44	.5 1.9 8.4 17.5 22.6 19.9 13.2 7.9 4.6 2.1 .9 .3 .1 .0 .0	.1 .3 .1.1 5.9 14.3 20.0 20.0 14.4 10.0 6.2 3.9 2.1 1.0 .4 .2 .1	.1 .3 .6 .2.4 7.6 14.0 18.5 17.8 13.6 9.2 6.2 4.3 2.6 1.3 8 .4 .2 .1	.2 .3 1.2 4.5 10.8 16.3 18.2 14.6 10.7 7.4 5.6 4.0 2.5 1.7 .9 .5 3 .2 .1	.2 .4 1.8 5.1 11.9 15.7 17.0 13.2 4.0 3.3 2.1 1.4 .7 .5 .3 .1 .1	.2 1.0 2.7 7.9 13.0 15.9 15.0 6.0 4.7 3.9 2.1 1.0 .6 3.2 .1 1.0 .1	.7 1.8 3.6 7.9 12.5 15.3 10.6 8.1 5.5 4.8 3.6 3.1 2.4 1.9 1.3 1.0 6 .4 .2 .1 1.1 .1	2.1 2.5 5.7 10.4 14.9 11.7 8.7 5.9 4.1 3.5 2.7 2.2 1.9 1.5 1.0 .7 .5 3.3 .1 .1 .0 .1	2.2 2.3 2.5 4.3 9.5 13.7 10.7 8.0 6.1 4.3 3.6 3.2 2.9 1.7 1.3 1.0 1.0 9.9 7.5 5.4 4.2 2.1 1.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0
Total	100.0	100.0	100.0	100,0	100.0	100.0	100.0	100.0	100.0
Max E.C.L. Avg E.C.L. Min E.C.L. Range	20 9.7 5 15	$\begin{array}{c} 20 \\ 11.2 \\ 5 \\ 15 \end{array}$	$ \begin{array}{c} 23 \\ 13.2 \\ 6 \\ 17 \end{array} $	26 14.9 8 18	29 15.9 9 20	32 16.7 10 22	35 17.8 11 24	38 18.4 12 26	47 21.0 13 34

15. MAXIMUM, AVERAGE, AND MINIMUM EQUIVALENT CONCENTRATED LOADS ON SIMPLE SPAN BRIDGES BASED ON GROSS VEHICLE WEIGHTS

Figure 15.1 presents a graphical representation of the maximum, average, and minimum equivalent concentrated loads for all of the heavy motor vehicles reported in the special loadometer survey of 1942. It also represents the maximum, average, and minimum shear produced on various span lengths by the reported heavy vehicles since, as discussed in Article 14, the shear produced by any loading and the equivalent concentrated load are equal. The values for these curves were plotted from the corresponding data given in Table 14.1.

MAXIMUM, MINIMUM, AND AVERAGE EQUIVALENT CONCENTRATED LOADS ON SIMPLE SPANS BASED ON MAXIMUM SHEARS PRODUCED BY 4531 ALL TYPE TRUCKS REPORTED IN THE 1942 LOADOMETER SURVEY

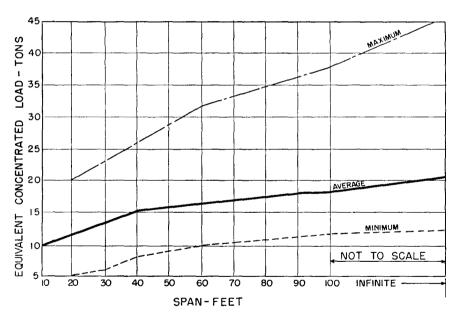


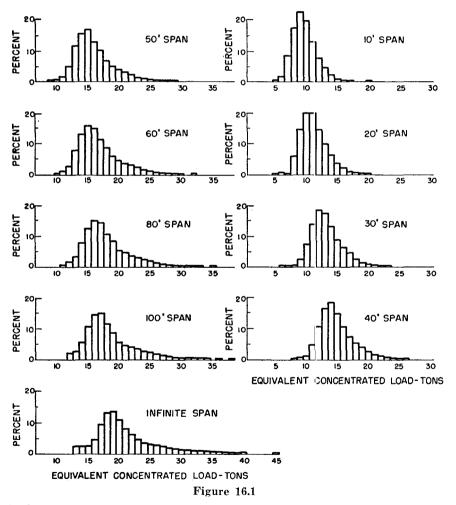
Figure 15.1

16. HISTOGRAMS SHOWING FREQUENCY DISTRIBUTIONS OF EQUIVALENT CONCENTRATED LOADS ON SIMPLE SPAN BRIDGES BASED ON GROSS VEHICLE WEIGHTS

Figure 16.1 presents a graphical representation of the observed frequencies of equivalent concentrated loads on simple spans up to 100 feet in length plus the infinite span for all of the heavy vehicles reported in the special

OBSERVED FREQUENCIES OF EQUIVALENT CONCENTRATED LOADS FOR ALL TYPE HEAVY VEHICLES ON SIMPLE SPANS OF VARIOUS LENGTHS

OBSERVED FREQUENCIES BASED ON EQUIVALENT CONCENTRATED LOADS WHICH PRODUCE THE SAME SHEAR AS THAT PRODUCED BY THE 4531 (ALL TYPE) TRUCKS REPORTED IN THE 1942 LOADOMETER SURVEY



loadometer survey of 1942. These frequencies were plotted from the corresponding data given in Table 14.1.

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