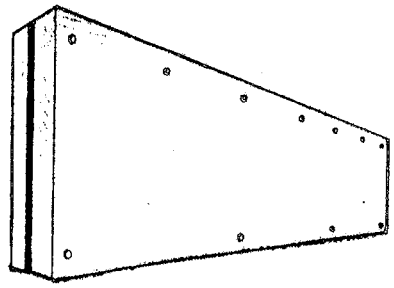
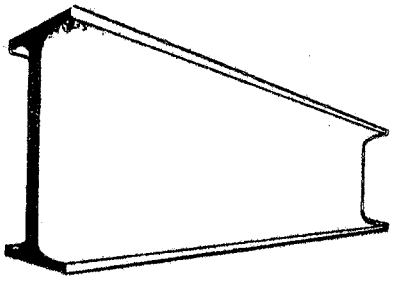
5. Flitch Plate and Steel I-Beams





NAHB BEAM SERIES

National Association of H[illegible]e Builders
15t[illegible] and M [illegible]reets, N.W.
Washing[illegible]n, D.C. 20005

The NAHB Research Foundation, Inc., prepared the contents of this publication and made it available to NAHB for publication and distribution.

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Contents

Introduction

The NAHB Builders' Beam Manual was originally published in 1964 by the NAHB *Journal of Homebuilding* (now BUILDER Magazine). Since 1964, many changes have been made in lumber sizes, species, plywood grade names, grade designations and allowable stresses. Changes have also occurred in structural steel shapes and plates. These changes have made the design tables contained in the original manual obsolete. This revision updates and greatly expands the number of designs available in the original edition.

In the housing field structural engineering has produced a variety of fabricated beams. In selecting beam types for this manual, the following properties were sought:

- Low cost
- Efficient use of materials
- Light weight
- Ease of fabrication
- Simplified installation
- Readily available materials

The complete manual contains designs and instructions for the following beam types.

- Wood Beams
- Plywood I-Beams
- Plywood Box Beams
- Steel-Wood I-Beams
- Steel Flitch Plate Beams
- Structural Steel Shape Beams

How To Use This Manual

The beams in this manual were designed in accordance with accepted engineering practice to provide maximum efficiency for the intended use. The NAHB Research Foundation, Inc., has prepared this manual to consolidate existing information, add new information where necessary and provide builders with a direct method of determining the appropriate and economical structural beam for a specific design.

Many factors are involved in determining the most suitable beam for a given set of design conditions. This section includes—

- A discussion of the scope and limitations of the information presented
- A description of simplified design procedures which may be followed to determine loadings,
- A material estimating guide and a beam cost estimating form design.

When properly selected and installed, uses of these beams have no limitations provided the loadings are in accordance with the design conditions. All beams are assumed to be protected from exposure to the weather. The manual includes spans from 12 to 20 feet. A few common examples of beams used for these spans are garage door headers, headers for large windows and sliding glass doors, substitutes for load bearing partitions, ridge beams for cathedral ceilings and basement girders.

Design Information

All the allowable design loadings in the tables were computed on the basis of a beam over a simple span subjected to a uniform load. (the most common construction in residential building)

Any span with eight or more equal, evenly spaced concentrated loads can be assumed to be subject to a uniform load. (For example, a 16-foot span with loads 2 feet on center, or a 10-foot 8-inch span with loads 16 inches on center can be considered subject to uniform load.) The magnitude of this uniform load per foot is the total load acting on the beam divided by the clear span length of the beam in feet. In cases where a few concentrated loads exist, a method is provided below to convert these concentrated loads to equivalent uniform loads. The beam design tables as given can be used with this information.

Conversion Factors for Cases of Symmetrical Concentrated Loads

The tables are computed for a uniform load of *w* pounds per foot extending down the length of the beam (fig. 1). This condition is not always realized. For example, a 12 foot beam carrying trusses spaced 2 feet apart is not subjected to a uniform load but rather to 5 concentrated loads (fig. 2). This fact does not invalidate the tables, but it does require an alteration of the load value by a conversion factor. Chart 1 provides conversion factors for all conditions of symmetrical concentrated loads. When a built-up beam with a thin web is used to carry concentrated loads, adequate stiffeners and web reinforcement must be provided.

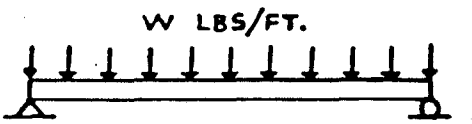


Figure 1

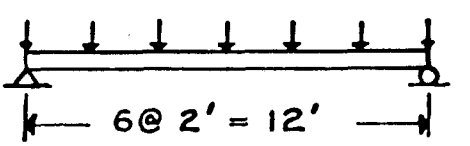
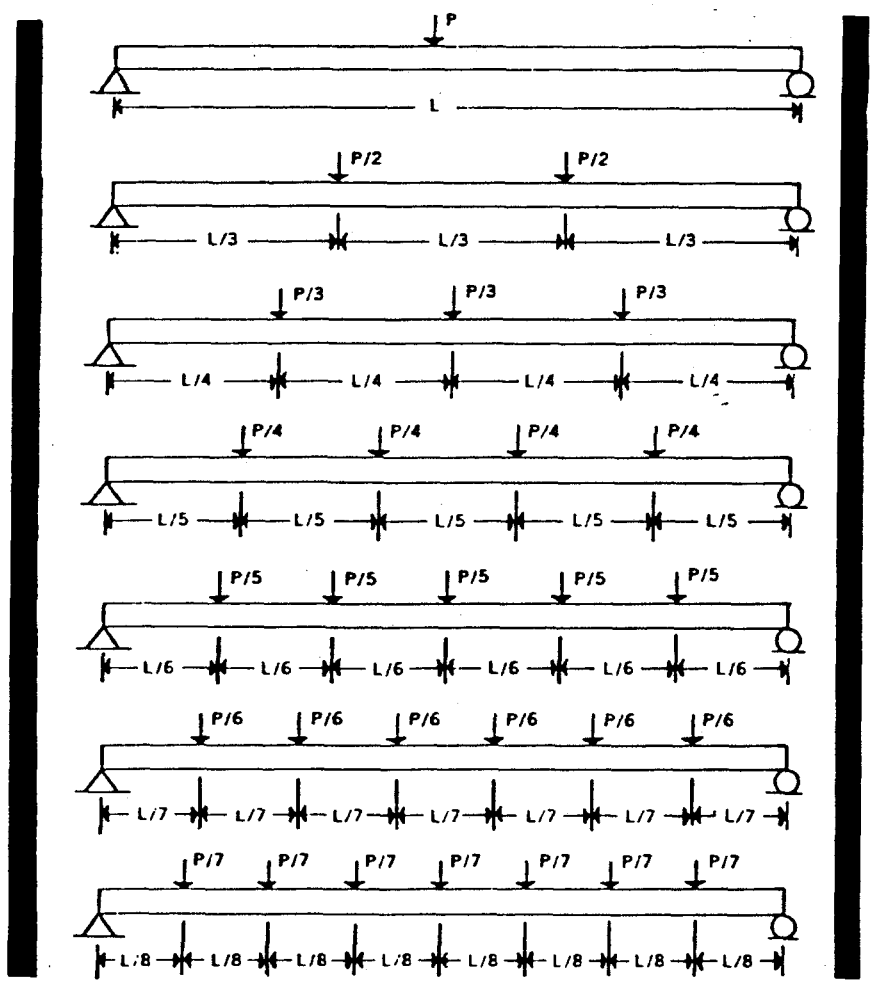


Figure 2

P = total load on the beam in pounds. L = total clear span of the beam in feet.



FOR CASES of eight (8) or more loads the uniform load is just the total load on the beam divided by the span. $W = \frac{P}{L}$

Example

Find the equivalent uniform load for a 12 foot beam carrying five equally spaced concentrated loads of 1,000 pounds each.

Total load on beam P = 5 x 1,000 lbs. = 5,000 pounds. Case 5 applies.

Therefore, equivalent uniform load $w = \frac{1.2P}{L} = \frac{1.2 \times 5{,}000}{12} = 500$ lbs/ ft.

With the equivalent uniform load of 500 lbs./ft. and a span of 12 ft., the correct beam can now be selected from the beam tables.

Chart 1.

The allowable uniform loads per beam foot in the tables are computed on the basis of bending stress, horizontal shear stress, rolling shear stress (plywood beams only), and deflection. The governing values, also given in the tables, are the smallest allowable load values resulting from these computations. The individual beam weights have already been subtracted so that the allowable uniform load in pounds per foot is the design live load. The deflection of all beams is limited to the lesser of 1/360 of the span or 1/2 inch.

The allowable lumber stresses are taken from *Design Values for Wood Construction*, a supplement to the 1977 edition of *National Design Specification for Wood Construction*, by the National Forest Products Association. Allowable steel stresses are taken

from the *Cold-Formed Steel Design Manual*, published by the American Iron and Steel Institute. Allowable plywood stresses and design properties are taken from *Plywood Design Specification*, revised edition April 1978, by the American Plywood Association. Steel structural shape properties and allowable stresses are taken from *Manual of Steel Construction*, published by the American Institute of Steel Construction, Inc.

Because of their complexity, special problems such as lateral buckling and web buckling are not discussed in this manual. However, adequate web stiffeners should be provided in all types of beams susceptible to web buckling, such as fabricated plywood box or I-beams and the steel-wood beam. Lateral beam stability is rarely a problem in residential construction; but if little or no lateral restraint from sideway movement is present, the allowable load values obtained from the tables should be checked by an engineer to insure that lateral buckling is not critical.

Design Tables

Four variables are considered in the design tables: the beam span, the beam depth, the beam design load, and the beam type. At least two of these factors will be known or can be determined, at least one will be unknown.

Proper use of the design tables will provide beam designs, several of which are available for any specific beam requirements, which are structurally adequate. Probably the primary criteria for determining which of these beams is best suited for the job will be the total cost. However, factors such as depth of beam, availability of materials, ease of fabrication, weight of beam and installation, and architectural details can influence the final selection.

Determining Appropriate Design Loads

The design tables can be used properly when the design load on the beam is known. An engineering calculation is required to determine the live loads that a beam must support. In residential design many simplifying assumptions normally made reduce the number of calculations required. Acceptable methods of determining the beam design loads for various conditions are discussed in this section.

The loads acting upon a structure are defined in HUD Minimum Property Standards for One- and Two-Family Dwellings as follows:

Loads

Concentrated—A load concentrated upon a specified small area of a floor, roof, wall, or other member.

Dead—The weight of all permanent construction in a building.

Design—Total load which a structure or member is designed to sustain safely without exceeding specified deformation.

Live—The weight of all moving and variable loads that may be placed on or in a building such as snow, wind, occupancy, etc.

Uniform — An average load applied uniformly over a floor, roof or wall or along a beam or girder.

Two typical examples of beam applications and the methods for determining the appropriate design loads are given below.

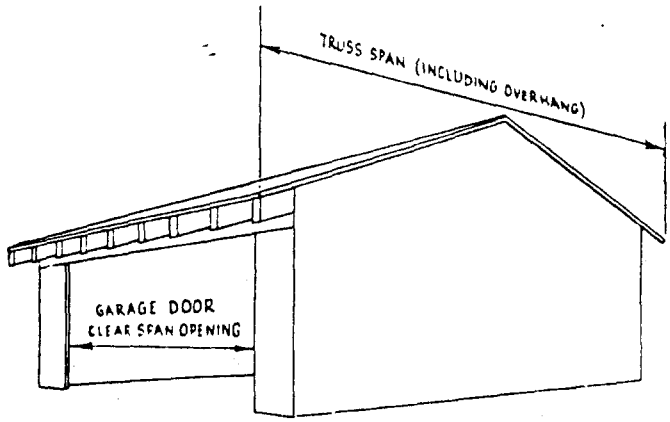


Figure 3. Garage Door Header Supporting Trussed Roof

In Fig. 3 the roof trusses are designed to support live and dead loads. In this case, the header supports end one of the roof trusses. The design load on the header is determined by computing the truss reactions caused by the roof live and dead loads. The following equation can be used to determine the roof load that must be supported by the header:

w in pounds per foot of beam = 1/2 truss span (including overhang) in feet times roof live plus dead load in pounds per square foot.

If less than eight trusses bear on the header, use the method described earlier for computing *w*.

Example

Roof truss span (including overhang)	24 ft.
Roof live load	30 psf
Roof dead load	5 psf

w = 1/2 truss span x roof live and dead loads

w = 1/2 (24) x (30 + 5)

w = 420 pounds per foot of beam

Garage Door Clear Span Opening—16 Foot

In this case, since only seven trusses bear on the header span, the conversion formula in Chart 1 must be used. The total load on the beam is 16 x 420 = 6720 lbs. The equivalent uniform load is:

$$w = \frac{8P}{7l} = \frac{8 \times 6720}{7 \times 16} = 480 \text{ lbs. per foot}$$

With this answer (480), adequate designs can be selected from the design tables in this manual.

Beam Supporting a Floor Construction

From fig. 4, L = the distance, center-to-center, between beams.

Each beam supports the load on a section extending one half the distance to the next beam on either side. The load acting on a one-foot strip of this section, taken at right angles to the beam, is the load on the beam in pounds per foot.

Example

Considering the floors illustrated in Fig. 4.

Loads — Live	40 psf
Dead	10 psf
Total	50 psf

Load on the center beam = L (ft.) x 50 lb./ft.^{2} = 50L lb./ft.

Many factors determine the final selection of a beam. These factors include depth requirement, labor rates, material costs, availability of materials, fabrication facilities, connection details, and architectural considerations. Most of these factors can be easily determined on the basis of preference and architectural considerations. Cost will probably be the final basis for selection.

Material Estimating

To simplify the work of estimating costs of beams, the following tables give calculated quantities of materials for the beam designs given. These quantities are reduced to the most convenient units for the purpose of pricing. For example, lumber is given in board feet, steel in pounds, and plywood in the number of 4 x 8-foot sheets required. Some materials in the beams, such as the number of nails and the board feet of stiffeners in a plywood box beam, are not susceptible to tabular expression. Therefore, these must be computed individually for each beam.

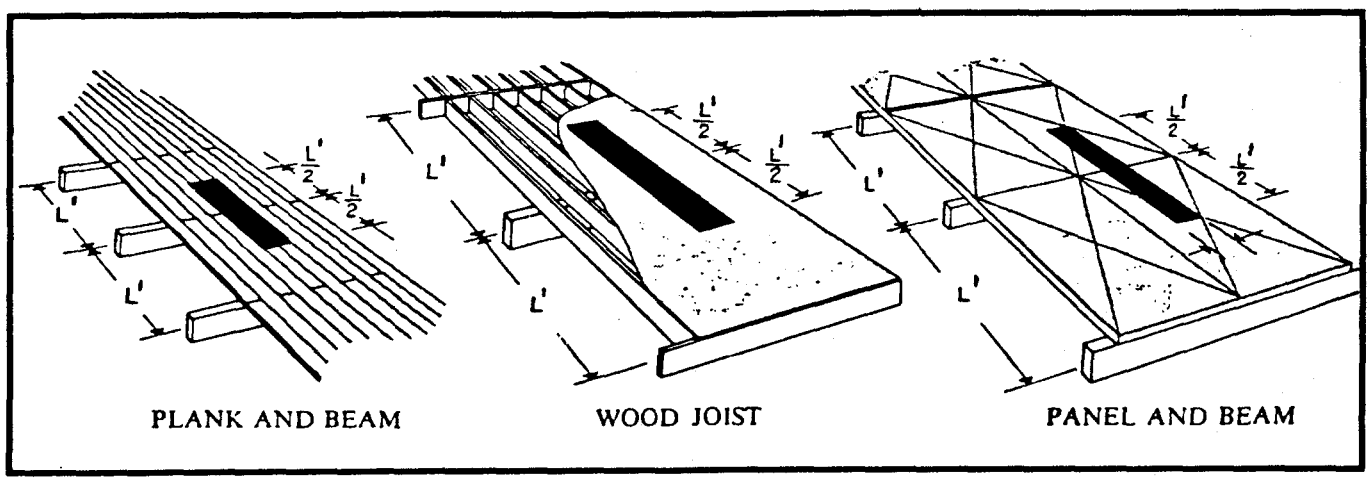


Figure 4. Beam Supporting a floor construction

Table 1. Material Requirements, Wood Beams (Board Feet per Beam)

Nominal Size	Length in Feet				
	12	14	16	18	20
2 x 8	16 Bd. Ft.	18⅔ Bd. Ft.	21⅓ Bd. Ft.	24 Bd. Ft.	26⅔ Bd Ft.
2 x 10	20 "	23⅓ "	26⅔ "	30 "	33⅓ "
2 x 12	24 "	28 "	32 "	36 "	40 "
2 x 14	28 "	32⅔ "	37⅓ "	42 "	46⅔ "
2 x 16	32 "	37⅓ "	42⅔ "	48 "	53⅓ "
3 x 8	24 "	28 "	32 "	36 "	40 "
3 x 10	30 "	35 "	40 "	45 "	50 "
3 x 12	36 "	42 "	48 "	54 "	60 "
3 x 14	42 "	49 "	56 "	63 "	70 "
3 x 16	48 "	56 "	64 "	72 "	80 "
4 x 8	32 "	37⅓ "	42⅔ "	48 "	53⅓ "
4 x 10	40 "	46⅔ "	53⅓ "	60 "	66⅔ "
4 x 12	48 "	56 "	64 "	72 "	80 "
4 x 14	56 "	65⅓ "	74⅔ "	84 "	93⅓ "
4 x 16	64 "	74⅔ "	85⅓ "	96 "	106⅔ "

*For two and three member beams, multiply single-beam board-foot figure by number of members. Example: A beam consisting of three 2x12's, 16' long would contain 3 times 32, or 96 board feet of lumber.

Flitch Plate Beams

A flitch plate beam consists of a steel plate sandwiched between two pieces of lumber. The beam derives most of its strength and rigidity from the steel plate, and the lumber sides provide bracing to prevent buckling of the steel. The components are joined with hardened nails in the lighter members and with bolts in heavy plate members. Since it is common practice for many steel suppliers to furnish steel plate in even inch widths, and 2 x 8 through 2 x 16 lumber comes in even ¼ inch depths, the designs are predicted on the steel flitch plate being ¼ inch less in depth than the wood members.

Selection of Correct Beam

The numbers in the tables give the design load in pounds per foot that each beam will support. The first column gives the lumber size. The second column gives steel thickness and the third column gives approximate beam weight in pounds per foot of beam length. The columns in the table give the maximum of ½ inch. The Index to the Flitch Plate Beam Designs are given on pages 12 through 14. Designs are included for four grades of ten commonly available species of lumber ranging from 2 x 8's through 2 x 16's.

Materials

The side pieces are continuous nominal 2" lumber of the depth and species-grade combination for the particular design chosen.

The steel plate shall consist of a single piece of hot rolled commercial grade steel with a minimum yield of 33,000 psi.

The 12- and 14-gage (0.105" and 0.075" thick) flitch plate beams can be fabricated with 3" x 0.148" electro-zinc plated, hardened fluted "Screwtite"* masonry nails or equivalent.

The ⅛" through ½" flitch plate beams are held together with ½" American Standard Regular bolts and nuts. A flat washer is used on each side.

Fabrication

The basic fastener spacing for each web thickness is given in the table below. This distance applies to the fasteners along the top edge of the beam. Along the bottom edge the basic spacing is doubled. Also two fasteners are placed at each end. For the light gage members (12 and 14 gage), the fasteners can be driven in with a minimum of difficulty. A 32-ounce hammer was found to be desirable for this purpose. In the heavier members, it is necessary to have the bolt holes punched or drilled in the steel plate and wood sides. See Fig. 5 for the basic fastener layout and Fig. 6 for the suggested fabrication procedure.

* Trade name, Independent Nail and Packing Company, Bridgewater, Massachusetts

Nail and Bolt Spacing

Plate Thickness	Basic Spacing
14 gage	3 inches
12 gage	4 inches
1/8 inch	5 inches
1/4 inch	10 inches
3/8 inch	15 inches
7/16 inch	18 inches
1/2 inch	20 inches

BASIC NAIL SPACING

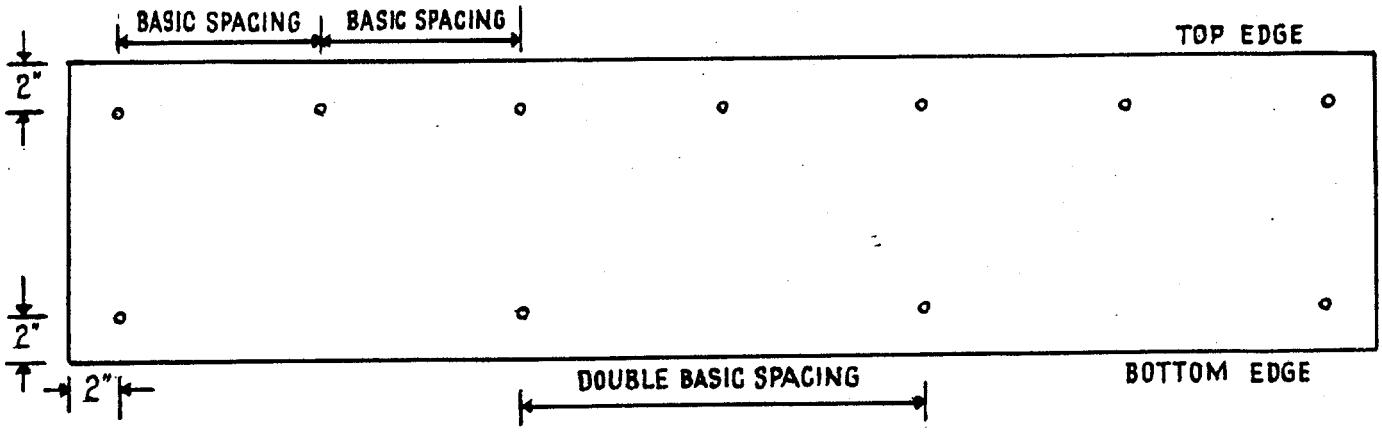


Figure 5

FABRICATION PROCEDURE

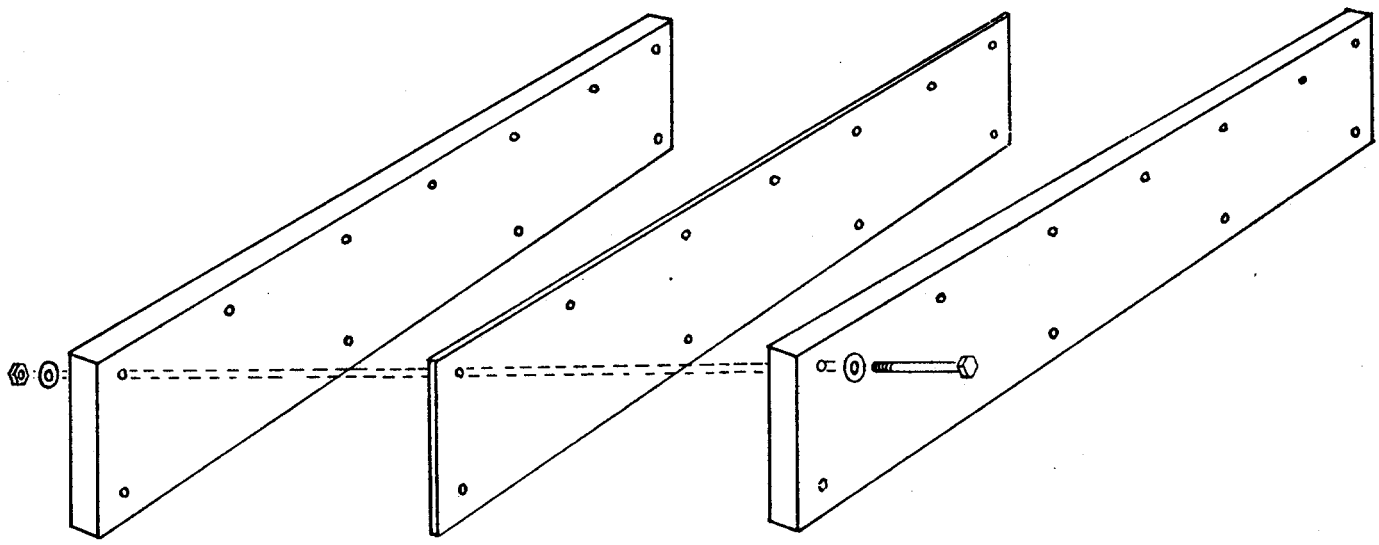


Figure 6

MATERIAL REQUIREMENTS, FLITCH PLATE BEAMS

Board Feet of Lumber	Wt. of 14-gage steel Wt. of 12-gage steel Wt. of 1/8" steel Wt. of 3/16" steel Wt. of 1/4" steel Wt. of 5/16" steel Wt. of 3/8" steel Wt. of 7/16" steel Wt. of 1/2" steel

BEAM COST ESTIMATE SHEET

Materials	Quantity	Unit	Unit Cost	Total
TOTAL MATERIAL COST				

Labor	Hours	Rate	Total
TOTAL LABOR COST			
TOTAL COST (MATERIAL PLUS LABOR)			

	Beam Length in Feet, Flitch Plate									
	12		14		16		18		20	
	Bd. Ft.	Wt. of Steel	Bd. Ft.	Wt. of Steel	Bd. Ft.	Wt. of Steel	Bd. Ft.	Wt. of Steel	Bd. Ft.	Wt. of Steel
2x8 7" Plate	32	21.7 30.8 36.4 54.6 72.8 91.0 109.2 127.4 145.6	37⅓	25.3 35.9 42.5 63.7 84.9 106.2 127.4 148.6 169.9	42⅔	28.9 41.1 48.5 72.8 97.1 121.3 145.6 169.9 194.1	48	32.5 46.2 54.6 81.9 109.2 136.5 163.8 191.1 218.4	53⅓	36.2 51.3 60.7 91.0 121.3 151.7 182.0 212.3 242.7
2x10 9" Plate	40	27.9 39.6 46.8 70.2 93.6 117.0 140.4 163.8 187.2	46⅔	32.5 46.2 54.6 81.9 109.2 136.5 163.8 191.1 218.4	53⅓	37.2 52.8 62.4 93.6 124.8 156.0 187.2 218.4 249.6	60	41.8 59.4 70.2 105.3 140.4 175.5 210.6 245.7 280.8	66⅔	46.5 66.0 78.0 117.0 156.0 195.0 234.0 273.0 312.0
2x12 11" Plate	48	34.1 48.4 57.2 85.8 114.4 143.0 171.6 200.2 228.8	56	39.8 56.5 66.7 100.1 133.5 166.8 200.2 233.6 266.9	64	45.5 64.5 76.3 114.4 152.5 190.7 228.8 266.9 305.1	72	51.2 72.6 85.8 128.7 171.6 214.5 257.4 300.3 343.2	80	56.8 80.7 95.3 143.0 190.7 238.3 286.0 333.7 381.3
2x14 13" Plate	56	40.3 57.2 67.6 101.4 135.2 169.0 202.8 236.6 270.4	65⅓	47.0 66.7 78.9 118.3 157.7 197.2 236.6 276.0 315.5	75⅓	53.7 76.3 90.1 135.2 180.3 225.3 270.4 315.5 360.5	84	60.4 85.8 101.4 152.1 202.8 253.5 304.2 354.9 405.6	93⅓	67.2 95.3 112.7 169.0 225.3 281.7 338.0 394.3 450.7
2x16 15" Plate	64	46.5 66.0 78.0 117.0 156.0 195.0 234.0 273.0 312.0	75⅓	54.3 77.0 91.0 136.5 182.0 227.5 273.0 318.5 364.0	85⅓	62.0 88.0 104.0 156.0 208.0 260.0 312.0 364.0 416.0	96	69.8 99.0 117.0 175.5 234.0 292.5 351.0 409.5 468.0	106⅔	77.5 110.0 130.0 195.0 260.0 325.0 390.0 455.0 520.0

Even inch steel plates are usually sold by the lineal foot.

INDEX TO
STEEL FLITCH PLATE BEAM DESIGNS

INDEX TO
STEEL FLITCH PLATE BEAM DESIGNS (Cont'd)

INDEX TO
STEEL FLITCH PLATE BEAM DESIGNS (Cont'd)

INDEX TO
STEEL SHAPE BEAM DESIGNS

Table 1
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES: CALIFORNIA REDWOOD
GRADE: Sel. Str.
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	5.5	144	112	89	72	54	41	32	25	19
	.105	6.3	163	128	102	82	62	47	36	28	22
	1/8	6.7	176	138	110	88	67	51	39	30	23
	3/16	8.3	217	170	135	109	82	63	48	37	29
	1/4	9.8	258	202	161	129	98	75	58	45	34
	5/16	11.3	299	235	186	150	114	87	67	52	40
	3/8	12.8	340	267	212	171	129	99	76	59	46
	7/16	14.3	382	299	238	191	145	111	85	66	51
	1/2	15.8	423	331	263	212	161	123	95	73	57
2x10	.075	7.1	267	227	191	155	119	92	72	57	45
	.105	8.0	304	258	217	176	135	104	82	64	51
	1/8	8.6	328	278	234	190	146	113	88	70	55
	3/16	10.6	404	343	289	234	180	139	109	86	68
	1/4	12.5	480	407	343	279	213	165	130	102	81
	5/16	14.5	557	472	398	323	247	192	150	118	94
	3/8	16.4	633	537	452	367	281	218	171	135	107
	7/16	18.4	709	601	507	411	315	244	191	151	120
	1/2	20.3	785	666	561	455	349	271	212	167	133

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

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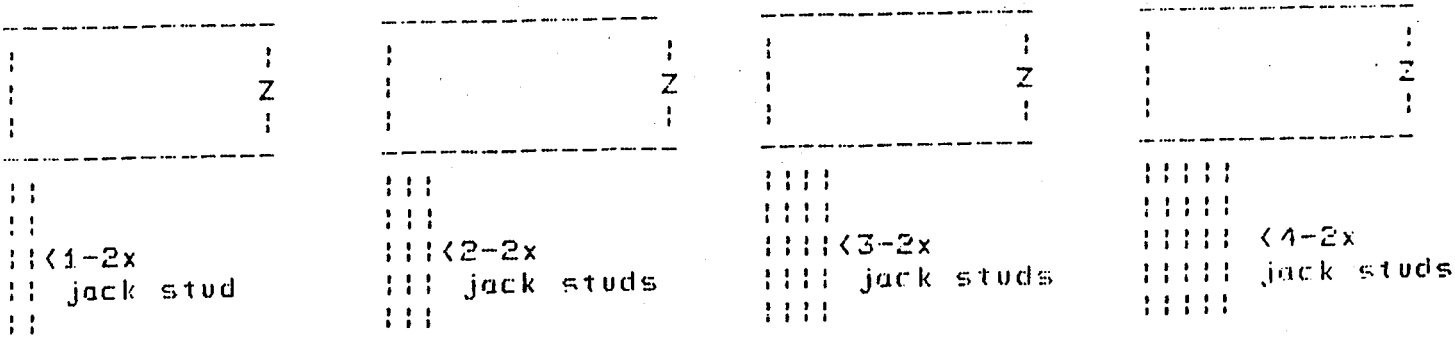

Table 1 (Cont'd)
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:CALIFORNIA REDWOOD
GRADE:Sel.Str.
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	8.6	401	341	292	254	217	169	134	106	85
	.105	9.8	456	387	332	288	246	192	152	121	97
	1/8	10.5	493	418	359	311	266	208	164	131	105
	3/16	12.9	607	515	442	384	328	256	202	161	129
	1/4	15.3	721	612	526	456	390	305	240	192	154
	5/16	17.7	836	709	609	528	451	353	279	222	178
	3/8	20.1	950	807	693	601	513	401	317	253	203
	7/16	22.4	1064	904	776	673	575	449	355	283	227
	1/2	24.8	1179	1001	859	745	637	498	393	313	252
2x14	.075	10.1	563	478	411	356	312	275	221	177	143
	.105	11.6	639	543	467	405	354	313	251	201	162
	1/8	12.4	691	587	504	437	383	338	271	217	176
	3/16	15.2	851	723	621	539	472	416	334	268	216
	1/4	18.1	1011	859	738	640	561	495	397	318	257
	5/16	20.9	1171	995	855	742	650	573	460	369	298
	3/8	23.7		1131	972	843	738	651	523	419	339
	7/16	26.5				945	827	730	585	470	380
	1/2	29.3					916	808	648	520	421
2x16	.075	11.7	747	638	549	476	417	368	327	270	220
	.105	13.3	849	725	623	541	474	418	372	307	250
	1/8	14.3	917	783	674	585	512	452	402	332	270
	3/16	17.6	1129	965	830	720	631	557	495	409	332
	1/4	20.8		1147	986	856	750	662	588	486	395
	5/16	24.1				992	869	767	681	563	458
	3/8	27.3						872	774	640	520
	7/16	30.6								717	583
	1/2	33.8									646

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

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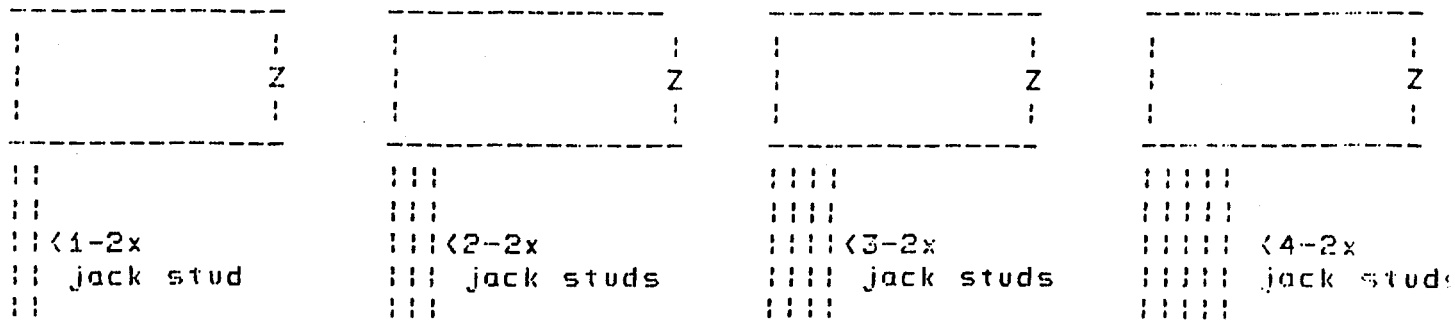

Table 2

ALLOWABLE LOADS (LB/FT)

for

STEEL FLITCH PLATE BEAMS

SPECIES: CALIFORNIA REDWOOD
GRADE: No.1
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	5.5	144	112	89	72	54	41	32	25	19
	.105	6.3	163	128	102	82	62	47	36	28	22
	1/8	6.7	176	138	110	88	67	51	39	30	23
	3/16	8.3	217	170	135	109	82	63	48	37	29
	1/4	9.8	258	202	161	129	98	75	58	45	34
	5/16	11.3	299	235	186	150	114	87	67	52	40
	3/8	12.8	340	267	212	171	129	99	76	59	46
	7/16	14.3	382	299	238	191	145	111	85	66	51
	1/2	15.8	423	331	263	212	161	123	95	73	57
2x10	.075	7.1	267	227	191	155	119	92	72	57	45
	.105	8.0	304	258	217	176	135	104	82	64	51
	1/8	8.6	328	278	234	190	146	113	88	70	55
	3/16	10.6	404	343	289	234	180	139	109	86	68
	1/4	12.5	480	407	343	279	213	165	130	102	81
	5/16	14.5	557	472	398	323	247	192	150	118	94
	3/8	16.4	633	537	452	367	281	218	171	135	107
	7/16	18.4	709	601	507	411	315	244	191	151	120
	1/2	20.3	785	666	561	455	349	271	212	167	133

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

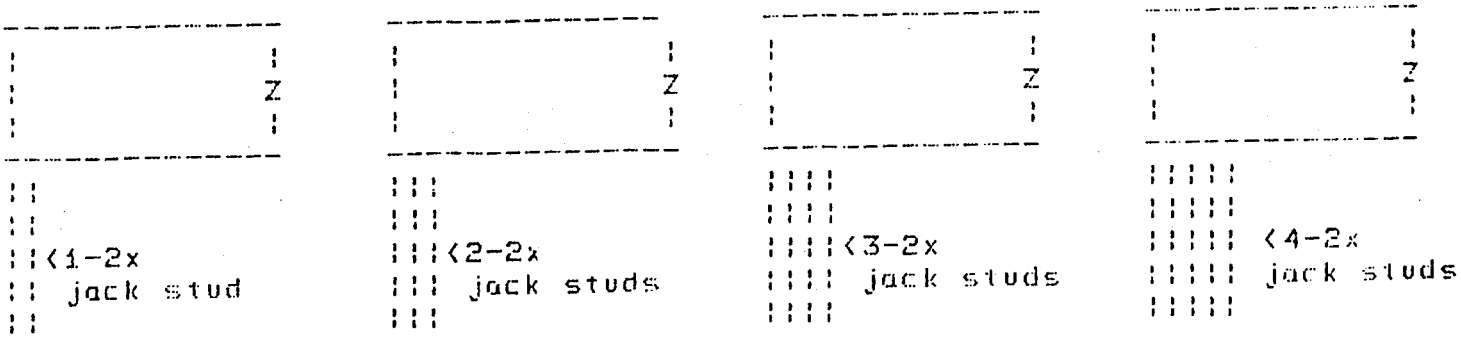

Table 2 (Cont'd)
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES: CALIFORNIA REDWOOD
GRADE: No. 1
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	8.6	401	341	292	254	217	169	134	106	85
	.105	9.8	456	387	332	288	246	192	152	121	97
	1/8	10.5	493	418	359	311	266	208	164	131	105
	3/16	12.9	607	515	442	384	328	256	202	161	129
	1/4	15.3	721	612	526	456	390	305	240	192	154
	5/16	17.7	836	709	609	528	451	353	279	222	178
	3/8	20.1	950	807	693	601	513	401	317	253	203
	7/16	22.4	1064	904	776	673	575	449	355	283	227
	1/2	24.8	1179	1001	859	745	637	498	393	313	252
2x14	.075	10.1	563	478	411	356	312	275	221	177	143
	.105	11.6	639	543	467	405	354	313	251	201	162
	1/8	12.4	691	587	504	437	383	338	271	217	176
	3/16	15.2	851	723	621	539	472	416	334	268	216
	1/4	18.1	1011	859	738	640	561	495	397	318	257
	5/16	20.9	1171	995	855	742	650	573	460	369	298
	3/8	23.7		1131	972	843	738	651	523	419	339
	7/16	26.5				945	827	730	585	470	380
	1/2	29.3					916	808	648	520	421
2x16	.075	11.7	747	638	549	476	417	368	327	270	220
	.105	13.3	849	725	623	541	474	418	372	307	250
	1/8	14.3	917	783	674	585	512	452	402	332	270
	3/16	17.6	1129	965	830	720	631	557	495	409	332
	1/4	20.8		1147	986	856	750	662	588	486	395
	5/16	24.1				992	869	767	681	563	458
	3/8	27.3						872	774	640	520
	7/16	30.6								717	583
	1/2	33.8									646

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

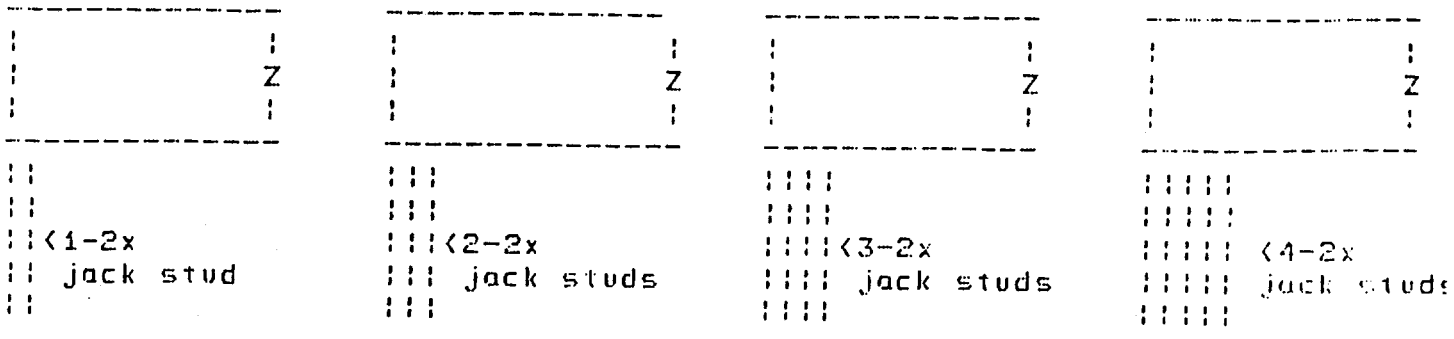

Table 3
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES: CALIFORNIA REDWOOD
GRADE: No.2
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	5.5	130	101	80	64	49	37	28	22	17
	.105	6.3	149	117	93	74	56	43	33	25	19
	1/8	6.7	162	127	101	81	61	47	36	27	21
	3/16	8.3	203	159	126	102	77	58	45	35	27
	1/4	9.8	244	191	152	122	92	70	54	42	32
	5/16	11.3	285	223	177	143	108	82	63	49	38
	3/8	12.8	326	256	203	163	124	94	73	56	43
	7/16	14.3	367	288	229	184	139	106	82	63	49
	1/2	15.8	408	320	254	205	155	118	91	70	54
2x10	.075	7.1	241	205	172	140	107	82	64	51	40
	.105	8.0	278	236	198	161	123	95	74	58	46
	1/8	8.6	302	256	216	175	134	104	81	64	50
	3/16	10.6	378	321	270	219	168	130	101	80	63
	1/4	12.5	455	385	325	263	202	156	122	96	76
	5/16	14.5	531	450	379	308	235	182	143	112	89
	3/8	16.4	607	515	434	352	269	209	163	129	102
	7/16	18.4	683	579	488	396	303	235	184	145	115
	1/2	20.3	759	644	542	440	337	261	205	161	128

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

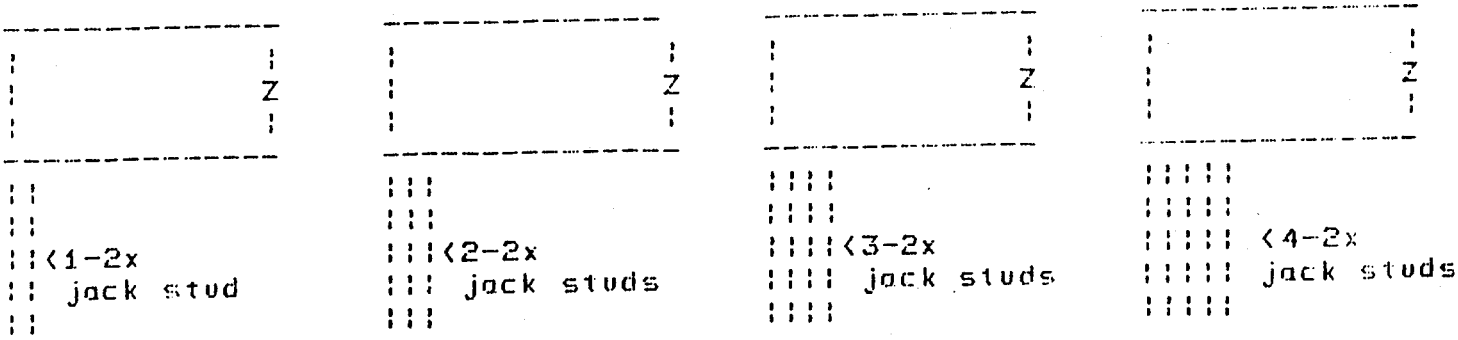

Table 3 (Cont'd)

ALLOWABLE LOADS (LB/FT)

for

STEEL FLITCH PLATE BEAMS

SPECIES: CALIFORNIA REDWOOD
GRADE: No.2
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	8.6	363	308	264	229	195	152	120	96	76
	.105	9.8	418	354	304	264	225	176	138	110	88
	1/8	10.5	454	385	331	287	245	191	151	120	96
	3/16	12.9	569	482	414	359	307	239	189	150	120
	1/4	15.3	683	579	497	431	368	288	227	181	145
	5/16	17.7	797	677	581	504	430	336	265	211	169
	3/8	20.1	911	774	664	576	492	384	303	242	194
	7/16	22.4	1026	871	748	648	554	433	342	272	218
	1/2	24.8	1140	968	831	721	616	481	380	303	243
2x14	.075	10.1	509	432	371	322	281	248	199	159	128
	.105	11.6	586	497	427	370	324	286	229	183	148
	1/8	12.4	637	541	464	403	353	311	249	200	161
	3/16	15.2	797	677	581	504	441	389	312	250	202
	1/4	18.1	957	813	698	606	530	468	375	300	243
	5/16	20.9	1117	949	815	707	619	546	438	351	284
	3/8	23.7		1085	932	809	708	624	501	401	324
	7/16	26.5			1049	910	797	703	564	452	365
	1/2	29.3					886	781	627	502	406
2x16	.075	11.7	629	577	496	430	377	332	225	244	198
	.105	13.3	725	664	571	495	434	383	340	281	228
	1/8	14.3	788	722	621	539	472	416	370	305	248
	3/16	17.6	986	904	777	674	591	521	463	382	311
	1/4	20.8	1184	1086	933	810	709	626	556	459	373
	5/16	24.1				946	828	731	649	537	436
	3/8	27.3						836	742	614	499
	7/16	30.6								691	561
	1/2	33.8								768	624

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

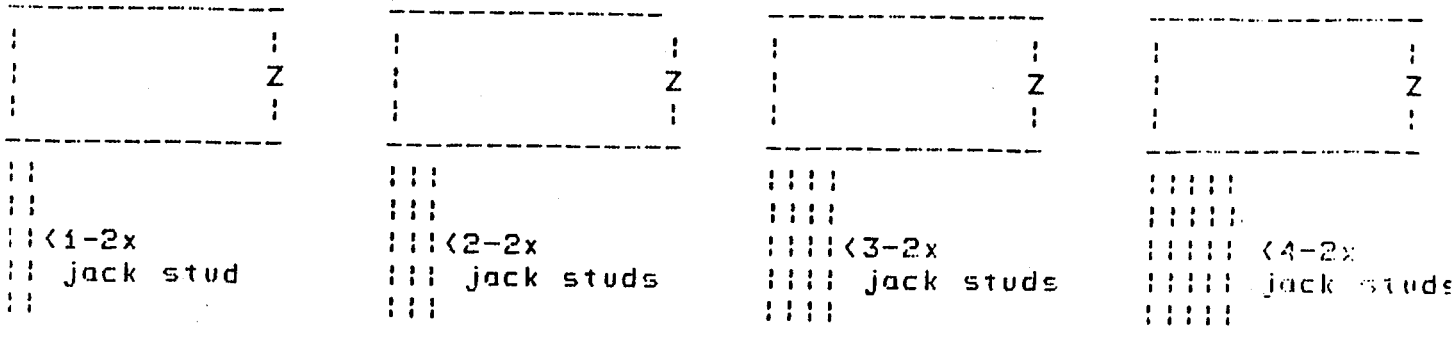

Table 4
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:CALIFORNIA REDWOOD
GRADE:No.3
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	5.5	122	96	76	61	46	35	26	20	15
	.105	6.3	142	111	88	71	53	40	31	24	18
	1/8	6.7	155	121	96	77	58	44	34	26	20
	3/16	8.3	196	154	122	98	74	56	43	33	25
	1/4	9.8	237	186	147	118	89	68	52	40	31
	5/16	11.3	278	218	173	139	105	80	62	47	37
	3/8	12.8	319	250	199	160	121	92	71	55	42
	7/16	14.3	360	282	224	180	136	104	80	62	48
	1/2	15.8	401	314	250	201	152	116	89	69	53
2x10	.075	7.1	210	178	152	132	101	78	61	48	37
	.105	8.0	244	206	177	153	117	90	70	55	44
	1/8	8.6	266	226	193	167	128	99	77	61	48
	3/16	10.6	336	285	244	211	162	125	98	77	61
	1/4	12.5	407	344	295	256	196	151	118	93	74
	5/16	14.5	477	404	346	300	230	178	139	109	87
	3/8	16.4	547	463	397	344	263	204	160	126	100
	7/16	18.4	617	523	448	388	297	230	180	142	113
	1/2	20.3	687	582	499	432	331	257	201	158	125

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

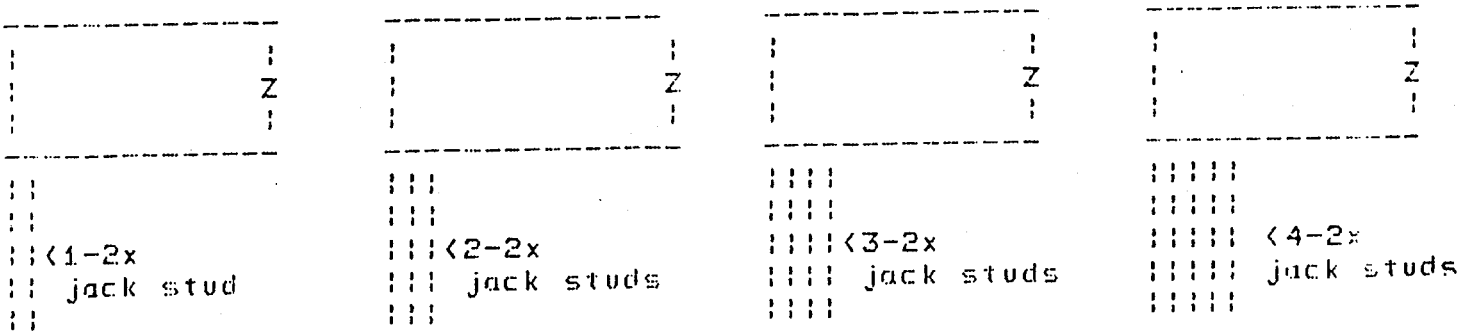

Table 4 (Cont'd)
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES: CALIFORNIA REDWOOD
GRADE: No.3
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	8.6	316	268	230	199	174	144	113	90	72
	.105	9.8	367	311	267	231	202	167	132	105	84
	1/8	10.5	400	340	291	252	220	183	144	114	92
	3/16	12.9	506	429	368	319	279	231	182	145	116
	1/4	15.3	611	518	445	385	337	279	220	175	141
	5/16	17.7	716	608	521	452	395	328	259	206	165
	3/8	20.1	822	697	598	518	453	376	297	236	189
	7/16	22.4	927	786	675	585	511	424	335	267	214
	1/2	24.8	1032	876	752	652	570	473	373	297	238
2x14	.075	10.1	444	376	323	280	245	216	188	150	121
	.105	11.6	514	437	375	325	284	250	218	175	141
	1/8	12.4	562	477	409	355	310	273	238	191	154
	3/16	15.2	709	602	517	448	392	346	301	241	195
	1/4	18.1	857	727	625	542	474	418	364	292	236
	5/16	20.9	1004	853	732	635	556	490	427	342	276
	3/8	23.7	1152	978	840	729	637	562	490	393	317
	7/16	26.5		1103	948	822	719	634	553	443	358
	1/2	29.3			1055	916	801	706	616	494	399
2x16	.075	11.7	593	503	432	375	328	289	257	229	187
	.105	13.3	687	583	501	435	380	335	298	266	217
	1/8	14.3	750	637	547	475	416	366	325	290	237
	3/16	17.6	947	804	691	600	525	463	411	367	300
	1/4	20.8	1144	972	835	725	634	559	497	444	362
	5/16	24.1		1139	979	850	744	656	582	520	425
	3/8	27.3				974	853	753	668	597	488
	7/16	30.6						849	754	673	550
	1/2	33.8								750	613

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

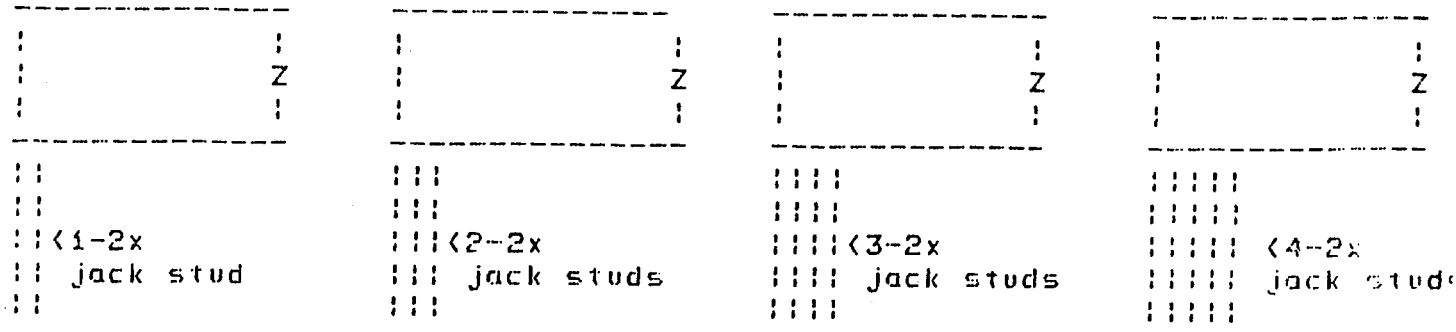

Table 5

ALLOWABLE LOADS (LB/FT) for STEEL FLITCH PLATE BEAMS

SPECIES: DOUGLAS FIR-LARCH
GRADE: Sel.Str.
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	6.6	171	134	106	85	65	49	38	29	22
	.105	7.4	190	149	118	95	72	55	42	33	25
	1/8	7.8	203	159	127	102	77	59	45	35	27
	3/16	9.4	245	191	152	122	93	71	54	42	32
	1/4	10.9	286	224	178	143	108	83	64	49	38
	5/16	12.4	327	256	203	164	124	95	73	56	44
	3/8	13.9	368	288	229	184	140	107	82	64	49
	7/16	15.4	409	320	254	205	155	119	91	71	55
	1/2	16.9	450	352	280	225	171	131	101	78	60
2x10	.075	8.5	318	269	227	184	141	109	85	67	53
	.105	9.4	354	300	253	205	157	122	95	75	59
	1/8	10.0	378	321	270	219	168	130	102	80	64
	3/16	12.0	455	386	325	264	202	157	122	97	77
	1/4	13.9	531	450	379	308	236	183	143	113	90
	5/16	15.9	607	515	434	352	270	209	164	129	103
	3/8	17.8	683	579	488	396	304	235	184	145	115
	7/16	19.8	759	644	543	440	338	262	205	162	128
	1/2	21.7	836	709	597	485	371	288	226	178	141

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

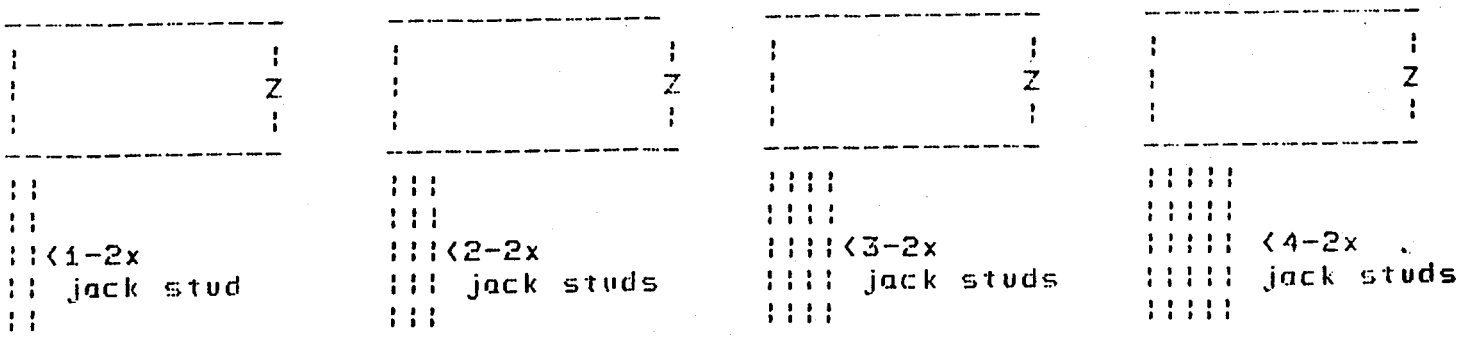

Table 5 (Cont'd)
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES: DOUGLAS FIR-LARCH
GRADE: Sel.Str.
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	10.3	477	405	348	301	257	201	159	126	101
	.105	11.5	532	451	388	336	287	224	177	141	113
	1/8	12.2	568	482	414	359	307	240	189	151	121
	3/16	14.6	683	579	498	431	369	288	227	181	145
	1/4	17.0	797	677	581	504	430	336	266	212	170
	5/16	19.4	911	774	664	576	492	385	304	242	194
	3/8	21.8	1026	871	748	648	554	433	342	273	219
	7/16	24.1		968	831	721	616	481	380	303	243
	1/2	26.5			914	793	678	530	418	333	268
2x14	.075	12.1	565	520	482	423	371	327	262	210	170
	.105	13.5	630	580	538	472	413	364	292	234	189
	1/8	14.4	673	620	575	505	442	390	312	250	202
	3/16	17.2	808	745	690	606	531	468	375	301	243
	1/4	20.0	944	870	806	708	619	546	438	351	284
	5/16	22.9	1079	994	922	809	708	625	501	402	325
	3/8	25.7					797	703	564	452	366
	7/16	28.5						782	627	503	407
	1/2	31.3							690	553	448
2x16	.075	14.0	652	601	557	519	485	437	389	321	261
	.105	15.6	727	670	621	578	541	488	433	358	291
	1/8	16.6	777	716	663	618	578	521	463	383	311
	3/16	19.9	933	860	797	742	695	626	556	460	374
	1/4	23.1	1089	1004	930	867	811	731	650	537	436
	5/16	26.4							743	614	499
	3/8	29.6								691	562
	7/16	32.9									624

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

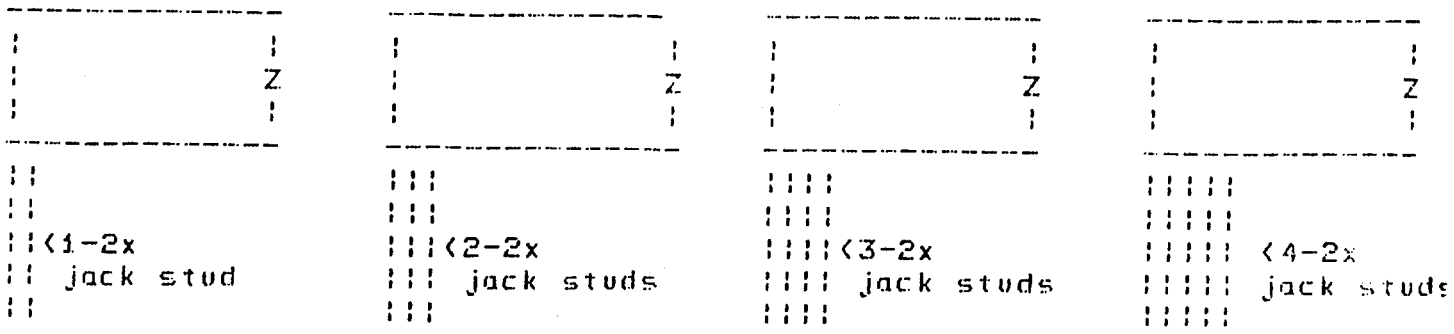

Table 6

ALLOWABLE LOADS (LB/FT)

for

STEEL FLITCH PLATE BEAMS

SPECIES:DOUGLAS FIR-LARCH
GRADE:No.1
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	6.6	171	134	106	85	65	49	38	29	22
	.105	7.4	190	149	118	95	72	55	42	33	25
	1/8	7.8	203	159	127	102	77	59	45	35	27
	3/16	9.4	245	191	152	122	93	71	54	42	32
	1/4	10.9	286	224	178	143	108	83	64	49	38
	5/16	12.4	327	256	203	164	124	95	73	56	44
	3/8	13.9	368	288	229	184	140	107	82	64	49
	7/16	15.4	409	320	254	205	155	119	91	71	55
	1/2	16.9	450	352	280	225	171	131	101	78	60
2x10	.075	8.5	318	269	227	184	141	109	85	67	53
	.105	9.4	354	300	253	205	157	122	95	75	59
	1/8	10.0	378	321	270	219	168	130	102	80	64
	3/16	12.0	455	386	325	264	202	157	122	97	77
	1/4	13.9	531	450	379	308	236	183	143	113	90
	5/16	15.9	607	515	434	352	270	209	164	129	103
	3/8	17.8	683	579	488	396	304	235	184	145	115
	7/16	19.8	759	644	543	440	338	262	205	162	128
	1/2	21.7	836	709	597	485	371	288	226	178	141

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

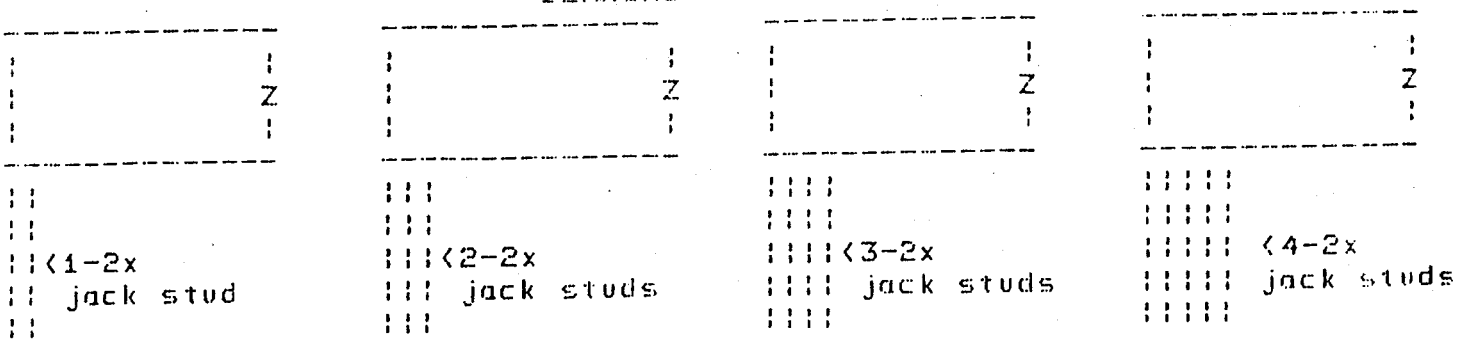

Table 6 (Cont'd)
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:DOUGLAS FIR-LARCH
GRADE:No.1
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	10.3	477	405	348	301	257	201	159	126	101
	.105	11.5	532	451	388	336	287	224	177	141	113
	1/8	12.2	568	482	414	359	307	240	189	151	121
	3/16	14.6	683	579	498	431	369	288	227	181	145
	1/4	17.0	797	677	581	504	430	336	266	212	170
	5/16	19.4	911	774	664	576	492	385	304	242	194
	3/8	21.8	1026	871	748	648	554	433	342	273	219
	7/16	24.1		968	831	721	616	481	380	303	243
	1/2	26.5			914	793	678	530	418	333	268
2x14	.075	12.1	565	520	482	423	371	327	262	210	170
	.105	13.5	630	580	538	472	413	364	292	234	189
	1/8	14.4	673	620	575	505	442	390	312	250	202
	3/16	17.2	808	745	690	606	531	468	375	301	243
	1/4	20.0	944	870	806	708	619	546	438	351	284
	5/16	22.9	1079	994	922	809	708	625	501	402	325
	3/8	25.7					797	703	564	452	366
	7/16	28.5						782	627	503	407
	1/2	31.3							690	553	448
2x16	.075	14.0	652	601	557	519	485	437	389	321	261
	.105	15.6	727	670	621	578	541	488	433	358	291
	1/8	16.6	777	716	663	618	578	521	463	383	311
	3/16	19.9	933	860	797	742	695	626	556	460	374
	1/4	23.1	1089	1004	930	867	811	731	650	537	436
	5/16	26.4							743	614	499
	3/8	29.6								691	562
	7/16	32.9									624

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

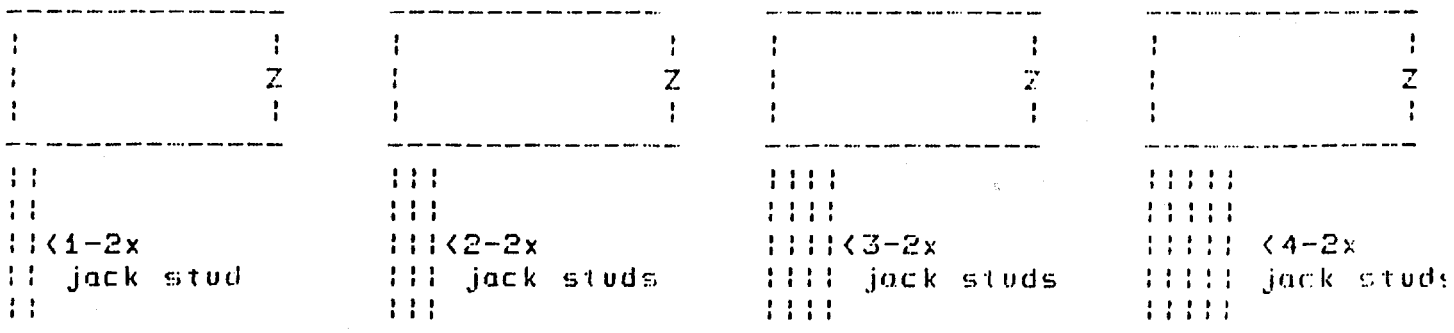

Table 7

ALLOWABLE LOADS (LB/FT)

for

STEEL FLITCH PLATE BEAMS

SPECIES: DOUGLAS FIR-LARCH
GRADE: No.2
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	6.6	164	128	102	82	62	47	36	28	21
	.105	7.4	183	143	114	92	69	53	40	31	24
	1/8	7.8	196	154	122	98	74	57	43	33	26
	3/16	9.4	237	186	148	119	90	69	53	41	31
	1/4	10.9	278	218	173	139	105	81	62	48	37
	5/16	12.4	320	250	199	160	121	93	71	55	42
	3/8	13.9	361	282	224	181	137	104	80	62	48
	7/16	15.4	402	315	250	201	152	116	90	69	54
	1/2	16.9	443	347	276	222	168	128	99	76	59
2x10	.075	8.5	305	258	217	176	135	104	82	64	51
	.105	9.4	341	289	244	198	151	117	92	72	57
	1/8	10.0	366	310	261	212	162	126	98	77	61
	3/16	12.0	442	375	315	256	196	152	119	94	74
	1/4	13.9	518	439	370	300	230	178	139	110	87
	5/16	15.9	594	504	424	344	264	204	160	126	100
	3/8	17.8	670	568	479	389	298	231	181	142	113
	7/16	19.8	746	633	533	433	332	257	201	159	126
	1/2	21.7	823	698	588	477	365	283	222	175	139

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

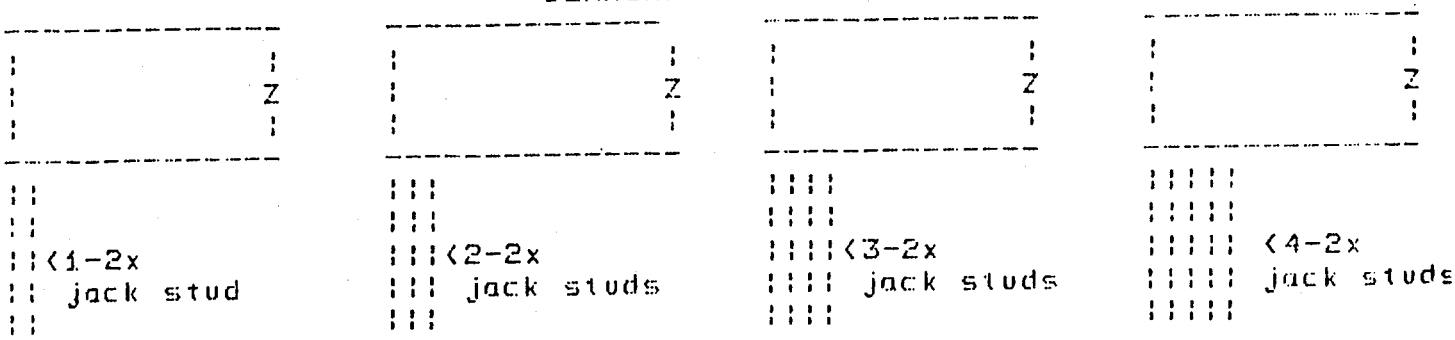

Table 7 (Cont'd)

ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES: DOUGLAS FIR-LARCH
GRADE: No.2
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	10.3	458	388	333	289	247	193	152	121	97
	.105	11.5	512	435	373	324	276	216	170	136	109
	1/8	12.2	549	466	400	347	296	231	183	145	117
	3/16	14.6	663	563	483	419	358	280	221	176	141
	1/4	17.0	778	660	567	491	420	328	259	206	165
	5/16	19.4	892	757	650	564	482	376	297	237	190
	3/8	21.8	1006	854	733	636	543	425	335	267	214
	7/16	24.1	1121	951	817	708	605	473	373	298	239
	1/2	26.5			900	781	667	521	412	328	263
2x14	.075	12.1	575	529	468	406	355	313	251	201	163
	.105	13.5	643	593	524	455	398	351	281	225	182
	1/8	14.4	689	635	562	487	426	376	302	242	195
	3/16	17.2	833	767	679	589	515	454	364	292	236
	1/4	20.0	976	900	795	690	604	533	427	343	277
	5/16	22.9	1120	1032	912	792	693	611	490	393	318
	3/8	25.7				893	782	690	553	444	359
	7/16	28.5						768	616	494	399
	1/2	31.3							679	545	440
2x16	.075	14.0	663	611	566	528	475	420	373	308	250
	.105	15.6	742	684	634	591	532	470	417	345	280
	1/8	16.6	796	733	679	633	571	503	447	370	300
	3/16	19.9	961	886	821	765	689	608	540	447	363
	1/4	23.1	1127	1038	962	897	808	713	634	524	425
	5/16	26.4							727	601	488
	3/8	29.6								678	551
	7/16	32.9									613

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

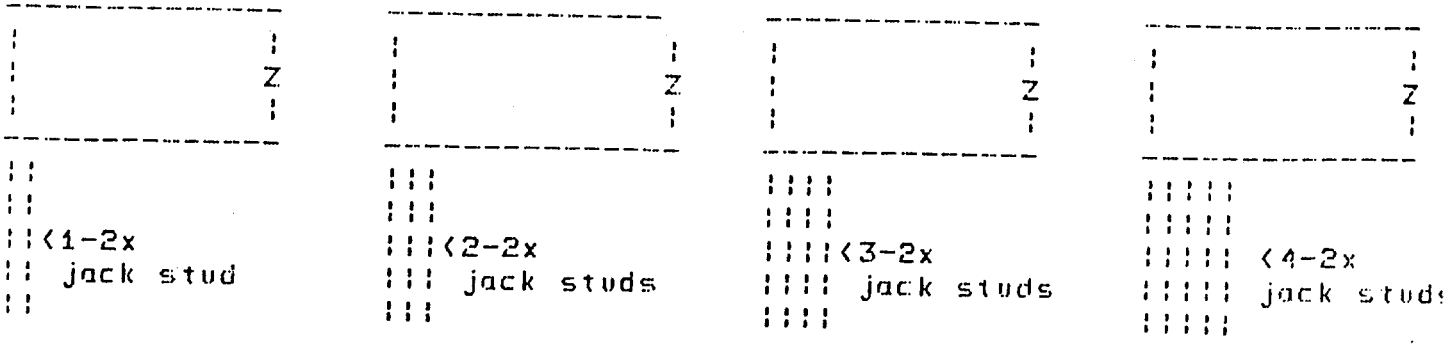

Table 8

ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES: DOUGLAS FIR-LARCH
GRADE: No.3
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	6.6	115	97	83	71	56	43	33	25	19
	.105	7.4	130	110	93	80	63	48	37	28	22
	1/8	7.8	140	118	101	87	69	52	40	31	23
	3/16	9.4	172	145	124	106	84	64	49	38	29
	1/4	10.9	203	172	146	126	100	76	58	45	35
	5/16	12.4	235	198	169	146	115	88	68	52	40
	3/8	13.9	267	225	192	165	131	100	77	59	46
	7/16	15.4	298	252	215	185	147	112	86	66	51
	1/2	16.9	330	278	238	205	162	124	95	74	57
2x10	.075	8.5	193	163	139	120	104	92	74	58	46
	.105	9.4	218	184	158	136	118	104	84	66	52
	1/8	10.0	235	199	170	147	128	112	91	71	56
	3/16	12.0	288	243	208	180	156	137	111	88	69
	1/4	13.9	341	288	246	213	185	162	132	104	82
	5/16	15.9	393	333	285	246	214	188	153	120	95
	3/8	17.8	446	377	323	279	243	213	173	136	108
	7/16	19.8	499	422	361	312	272	238	194	153	121
	1/2	21.7	552	467	399	345	301	264	214	169	134

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

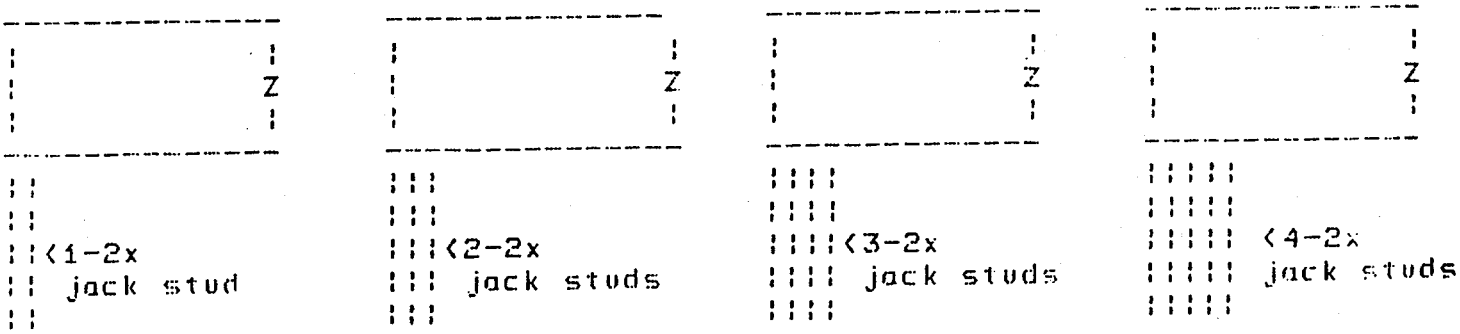

Table 8 (Cont'd)

ALLOWABLE LOADS (LB/FT)

for

STEEL FLITCH PLATE BEAMS

SPECIES:DOUGLAS FIR-LARCH
GRADE:No.3
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	10.3	290	246	211	182	159	139	123	109	88
	.105	11.5	328	278	238	206	180	158	139	124	100
	1/8	12.2	354	300	257	222	194	170	150	134	108
	3/16	14.6	433	367	314	272	237	208	184	164	132
	1/4	17.0	513	434	372	322	281	247	218	194	157
	5/16	19.4	592	502	430	372	324	285	252	224	181
	3/8	21.8	672	569	487	422	368	323	286	255	206
	7/16	24.1	751	636	545	472	412	362	320	285	230
	1/2	26.5	830	704	603	522	455	400	354	315	254
2x14	.075	12.1	408	346	296	257	224	197	174	155	139
	.105	13.5	461	391	335	290	253	223	197	176	157
	1/8	14.4	497	421	361	313	273	240	213	189	169
	3/16	17.2	609	516	442	383	335	294	261	232	208
	1/4	20.0	720	610	524	453	396	348	309	275	246
	5/16	22.9	831	705	605	524	457	403	357	318	284
	3/8	25.7	_943	_800	686	594	519	457	405	360	323
	7/16	28.5	1054	_894	_767	_664	580	511	452	403	361
	1/2	31.3		_989	_848	_735	_642	565	500	446	399
2x16	.075	14.0	546	463	397	344	301	265	234	209	187
	.105	15.6	617	523	449	389	340	299	265	236	212
	1/8	16.6	665	564	484	419	366	323	286	255	228
	3/16	19.9	814	690	592	513	449	395	350	312	280
	1/4	23.1	_962	_817	701	607	531	468	415	370	331
	5/16	26.4	1111	_943	_809	_702	613	540	479	427	383
	3/8	29.6			_918	_796	_696	_613	543	485	434
	7/16	32.9				_890	_778	_685	_608	_542	486
	1/2	36.1						_758	_672	_599	_537

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

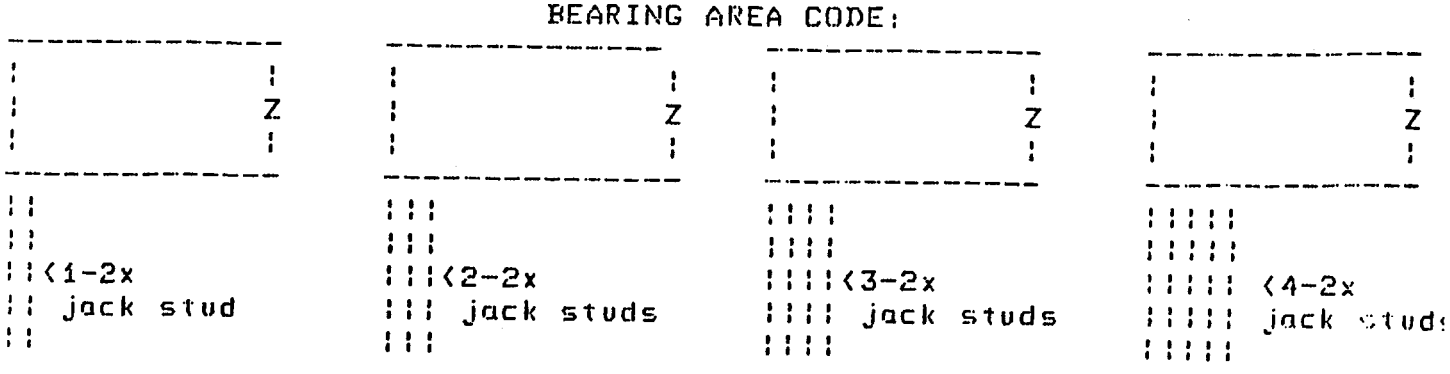

Table 9

ALLOWABLE LOADS (LB/FT)

for

STEEL FLITCH PLATE BEAMS

SPECIES:DOUGLAS FIR SOUTH
GRADE:Sel.Str.
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	6.3	143	112	88	71	53	41	31	24	18
	.105	7.1	162	127	101	81	61	46	35	27	21
	1/8	7.6	176	137	109	87	66	50	38	29	23
	3/16	9.1	217	169	134	108	82	62	48	37	28
	1/4	10.6	258	202	160	129	97	74	57	44	34
	5/16	12.1	299	234	186	149	113	86	66	51	39
	3/8	13.6	340	266	211	170	128	98	75	58	45
	7/16	15.1	381	298	237	190	144	110	85	65	50
	1/2	16.7	422	330	262	211	160	122	94	72	56
2x10	.075	8.1	266	226	190	154	118	91	71	56	44
	.105	9.1	303	257	216	175	134	103	81	63	50
	1/8	9.7	327	277	233	189	145	112	87	69	54
	3/16	11.6	403	342	288	233	179	138	108	85	67
	1/4	13.6	479	406	342	278	212	164	129	101	80
	5/16	15.5	556	471	397	322	246	191	149	117	93
	3/8	17.5	632	536	451	366	280	217	170	134	106
	7/16	19.4	708	600	506	410	314	243	190	150	119
	1/2	21.4	784	665	560	454	348	270	211	166	132

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

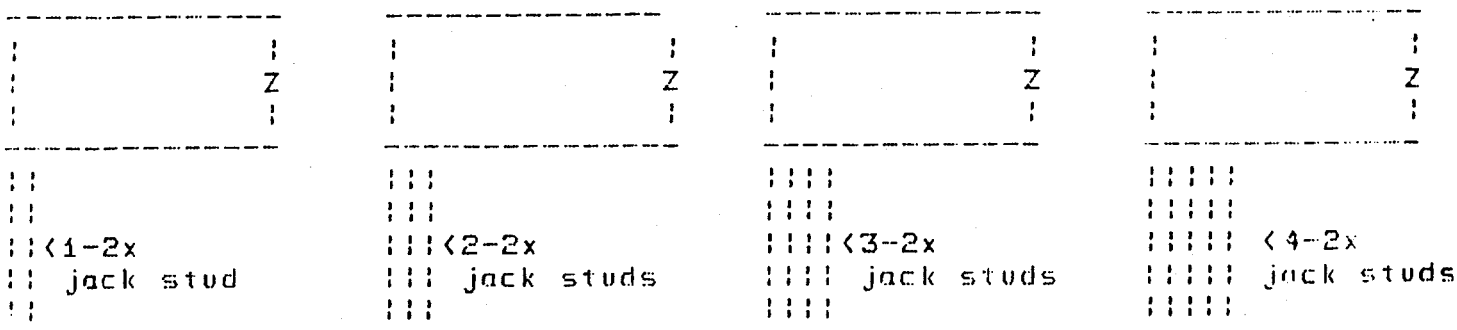

Table 9 (Cont'd)

ALLOWABLE LOADS (LB/FT)

for

STEEL FLITCH PLATE BEAMS

SPECIES: DOUGLAS FIR SOUTH
GRADE: Sel.Str.
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	9.9	400	339	291	252	215	168	132	105	84
	.105	11.1	455	386	331	287	245	191	151	120	96
	1/8	11.8	492	417	358	310	265	207	163	129	104
	3/16	14.2	606	514	441	382	327	255	201	160	128
	1/4	16.6	720	611	525	455	388	303	239	190	153
	5/16	18.9	835	708	608	527	450	352	277	221	177
	3/8	21.3	949	805	691	599	512	400	316	251	202
	7/16	23.7		902	775	672	574	448	354	282	226
	1/2	26.1				744	636	497	392	312	250
2x14	.075	11.6	561	476	409	355	310	274	219	175	141
	.105	13.0	638	542	465	403	353	311	249	199	161
	1/8	13.9	689	585	503	436	381	336	269	216	174
	3/16	16.7	849	721	620	537	470	415	332	266	215
	1/4	19.5		857	736	639	559	493	395	317	256
	5/16	22.4				740	648	571	458	367	297
	3/8	25.2						650	521	418	337
	7/16	28.0							584	468	378
	1/2	30.8								519	419
2x16	.075	13.4	669	617	547	475	415	366	325	269	218
	.105	15.0	761	701	622	540	472	417	370	306	248
	1/8	16.0	822	757	672	583	510	450	400	330	268
	3/16	19.3			828	719	629	555	493	407	331
	1/4	22.5						660	586	484	393
	5/16	25.8								561	456
	3/8	29.0									519

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

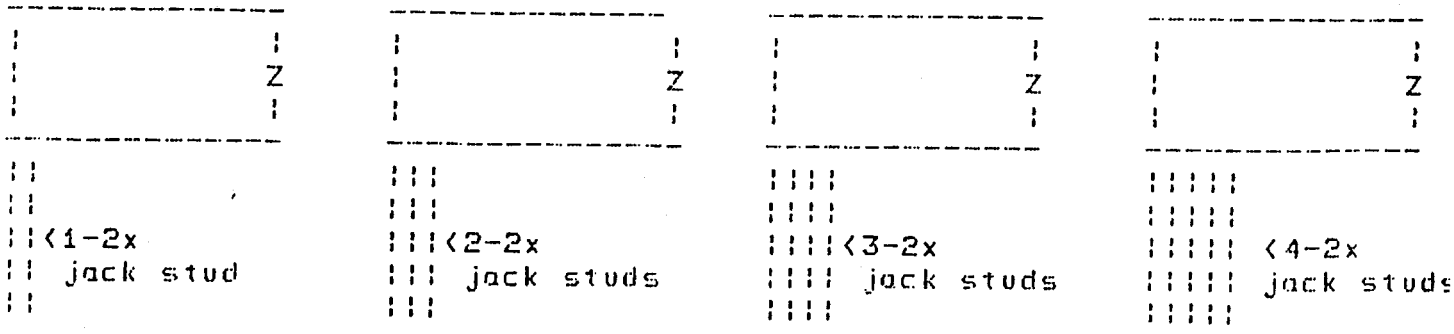

Table 10
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES: DOUGLAS FIR SOUTH
GRADE: No.1
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	6.3	143	112	88	71	53	41	31	24	18
	.105	7.1	162	127	101	81	61	46	35	27	21
	1/8	7.6	176	137	109	87	66	50	38	29	23
	3/16	9.1	217	169	134	108	82	62	48	37	28
	1/4	10.6	258	202	160	129	97	74	57	44	34
	5/16	12.1	299	234	186	149	113	86	66	51	39
	3/8	13.6	340	266	211	170	128	98	75	58	45
	7/16	15.1	381	298	237	190	144	110	85	65	50
	1/2	16.7	422	330	262	211	160	122	94	72	56
2x10	.075	8.1	266	226	190	154	118	91	71	56	44
	.105	9.1	303	257	216	175	134	103	81	63	50
	1/8	9.7	327	277	233	189	145	112	87	69	54
	3/16	11.6	403	342	288	233	179	138	108	85	67
	1/4	13.6	479	406	342	278	212	164	129	101	80
	5/16	15.5	556	471	397	322	246	191	149	117	93
	3/8	17.5	632	536	451	366	280	217	170	134	106
	7/16	19.4	708	600	506	410	314	243	190	150	119
	1/2	21.4	784	665	560	454	348	270	211	166	132

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

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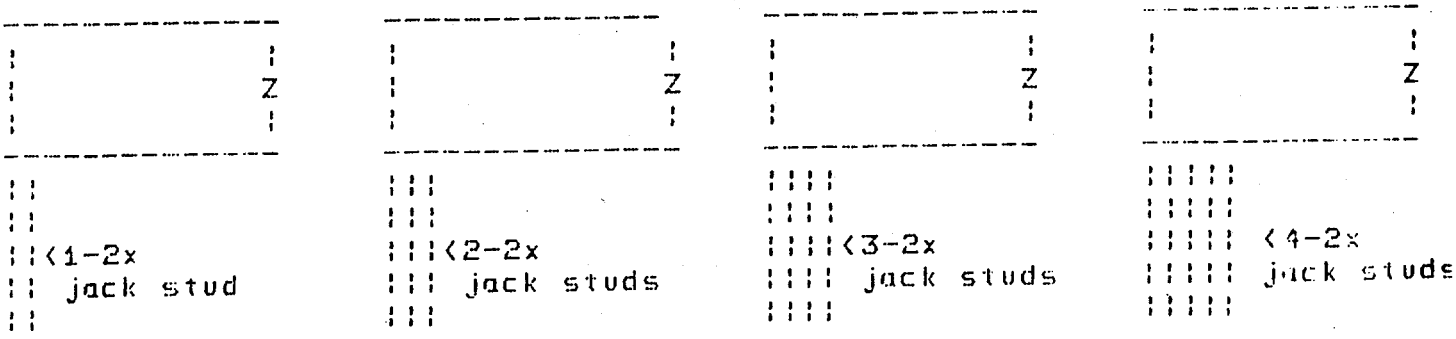


Table 10 (Cont'd)

ALLOWABLE LOADS (LB/FT) for STEEL FLITCH PLATE BEAMS

SPECIES: DOUGLAS FIR SOUTH
GRADE: No. 1
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	9.9	400	339	291	252	215	168	132	105	84
	.105	11.1	455	386	331	287	245	191	151	120	96
	1/8	11.8	492	417	358	310	265	207	163	129	104
	3/16	14.2	606	514	441	382	327	255	201	160	128
	1/4	16.6	720	611	525	455	388	303	239	190	153
	5/16	18.9	_835	_708	608	527	450	352	277	221	177
	3/8	21.3	_949	_805	_691	_599	512	400	316	251	202
	7/16	23.7		_902	_775	_672	_574	448	354	282	226
	1/2	26.1				_744	_636	497	392	312	250
2x14	.075	11.6	561	476	409	355	310	274	219	175	141
	.105	13.0	638	542	465	403	353	311	249	199	161
	1/8	13.9	689	585	503	436	381	336	269	216	174
	3/16	16.7	_849	_721	620	537	470	415	332	266	215
	1/4	19.5		_857	_736	_639	_559	493	395	317	256
	5/16	22.4				_740	_648	_571	458	367	297
	3/8	25.2						_650	_521	418	337
	7/16	28.0							_584	_468	378
	1/2	30.8								_519	419
2x16	.075	13.4	669	617	547	475	415	366	325	269	218
	.105	15.0	_761	_701	622	540	472	417	370	306	248
	1/8	16.0	_822	_757	_672	583	510	450	400	330	268
	3/16	19.3			_828	_719	_629	_555	_493	407	331
	1/4	22.5						_660	_586	_484	393
	5/16	25.8								_561	_456
	3/8	29.0									_519

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

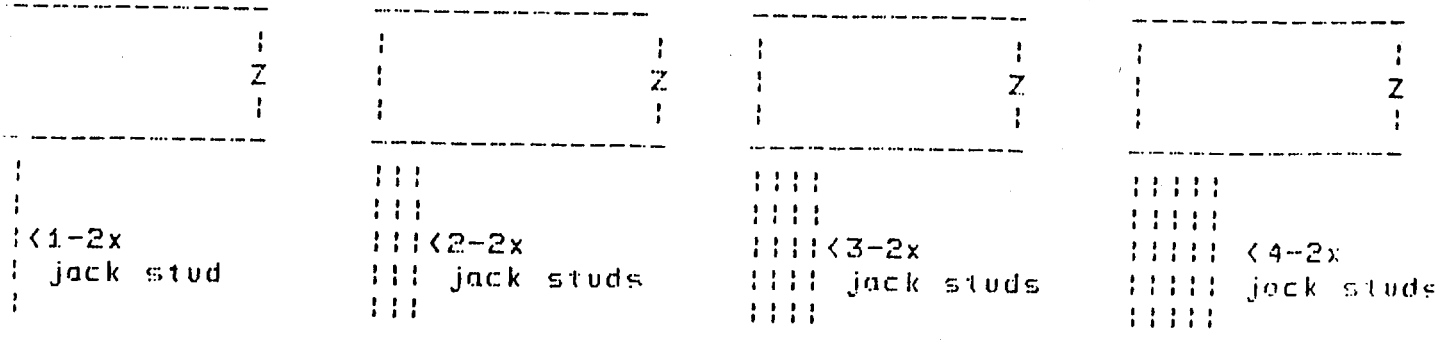


Table 11
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES: DOUGLAS FIR SOUTH
GRADE: No.2
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	6.3	136	106	84	67	51	38	29	22	17
	.105	7.1	155	121	96	77	58	44	34	26	20
	1/8	7.6	169	132	104	84	63	48	37	28	21
	3/16	9.1	210	164	130	104	79	60	46	35	27
	1/4	10.6	251	196	156	125	94	72	55	42	32
	5/16	12.1	292	228	181	146	110	84	64	49	38
	3/8	13.6	333	260	207	166	126	96	74	57	44
	7/16	15.1	374	292	232	187	141	108	83	64	49
	1/2	16.7	415	325	258	207	157	120	92	71	55
2x10	.075	8.1	253	215	180	146	112	86	67	53	41
	.105	9.1	290	245	207	167	128	99	77	60	46
	1/8	9.7	314	266	224	181	139	107	84	66	52
	3/16	11.6	390	331	278	226	173	133	104	82	65
	1/4	13.6	467	395	333	270	206	160	125	98	78
	5/16	15.5	543	460	387	314	240	186	145	114	91
	3/8	17.5	619	525	442	358	274	212	166	131	103
	7/16	19.4	695	589	496	403	308	239	187	147	116
	1/2	21.4	771	654	551	447	342	265	207	163	129

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

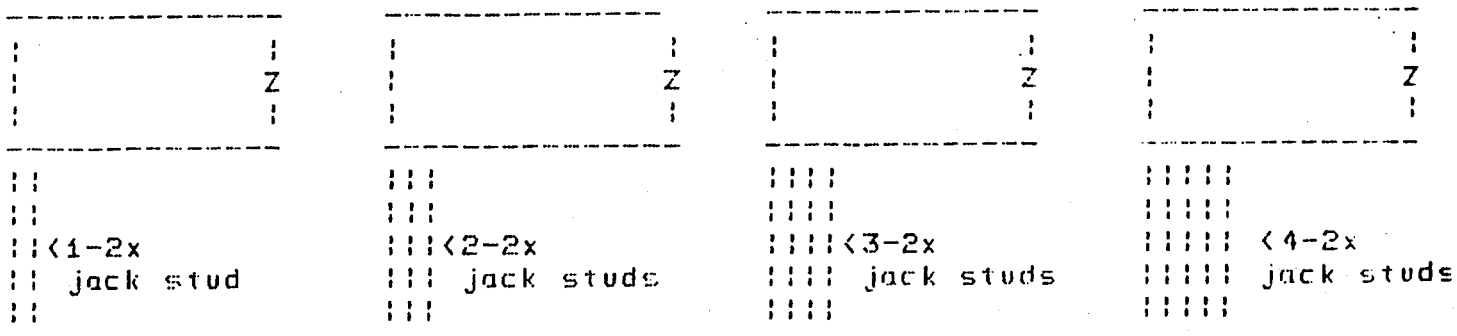


Table 11 (Cont'd)
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES: DOUGLAS FIR SOUTH
GRADE: No.2
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	9.9	381	323	277	240	205	160	126	100	80
	.105	11.1	436	369	317	275	234	183	144	114	91
	1/8	11.8	472	401	344	298	254	198	156	124	99
	3/16	14.2	587	498	427	370	316	247	194	154	124
	1/4	16.6	701	595	510	442	378	295	233	185	148
	5/16	18.9	815	692	594	515	440	343	271	215	173
	3/8	21.3	930	789	677	587	501	391	309	246	197
	7/16	23.7		886	760	659	563	440	347	276	222
	1/2	26.1				732	625	488	385	307	246
2x14	.075	11.6	534	453	389	338	295	260	208	167	134
	.105	13.0	611	519	445	386	338	298	238	191	154
	1/8	13.9	662	562	483	419	366	323	258	207	167
	3/16	16.7	823	698	600	520	455	401	321	257	208
	1/4	19.5	983	834	717	622	544	480	384	308	249
	5/16	22.4			834	723	633	558	447	358	289
	3/8	25.2					722	636	510	409	330
	7/16	28.0							573	459	371
	1/2	30.8							636	510	412
2x16	.075	13.4	687	606	520	452	395	349	309	255	207
	.105	15.0	786	693	595	517	452	399	354	292	237
	1/8	16.0	852	751	645	560	490	432	384	317	257
	3/16	19.3			802	696	609	537	477	394	320
	1/4	22.5					728	642	570	471	382
	5/16	25.8								548	445
	3/8	29.0									508

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

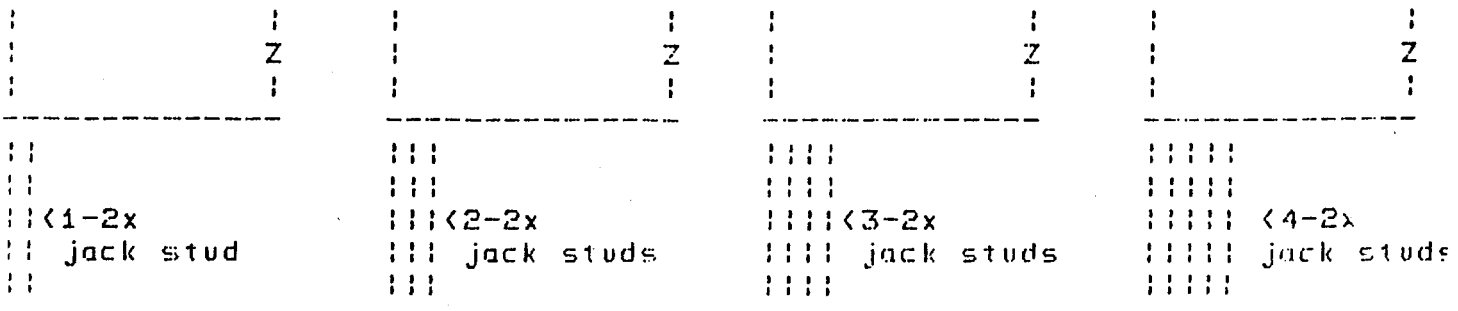


Table 12

ALLOWABLE LOADS (LB/FT)

for

STEEL FLITCH PLATE BEAMS

SPECIES: DOUGLAS FIR SOUTH
GRADE: No.3
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	6.3	122	95	75	60	45	34	26	19	15
	.105	7.1	141	110	87	70	52	40	30	23	17
	1/8	7.6	154	121	95	76	57	43	33	25	19
	3/16	9.1	195	153	121	97	73	55	42	32	25
	1/4	10.6	237	185	147	118	89	67	52	39	30
	5/16	12.1	278	217	172	138	104	79	61	47	36
	3/8	13.6	319	249	198	159	120	91	70	54	41
	7/16	15.1	360	281	223	179	136	103	79	61	47
	1/2	16.7	401	313	249	200	151	115	88	68	52
2x10	.075	8.1	209	177	151	131	100	77	60	46	36
	.105	9.1	243	205	176	152	116	89	69	54	43
	1/8	9.7	265	225	192	166	127	98	76	60	47
	3/16	11.6	335	284	243	210	161	124	97	76	60
	1/4	13.6	406	343	294	254	195	150	117	92	73
	5/16	15.5	476	403	345	299	229	177	138	108	86
	3/8	17.5	546	462	396	343	262	203	159	125	99
	7/16	19.4	616	522	447	387	296	229	179	141	111
	1/2	21.4	686	581	498	431	330	256	200	157	124

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

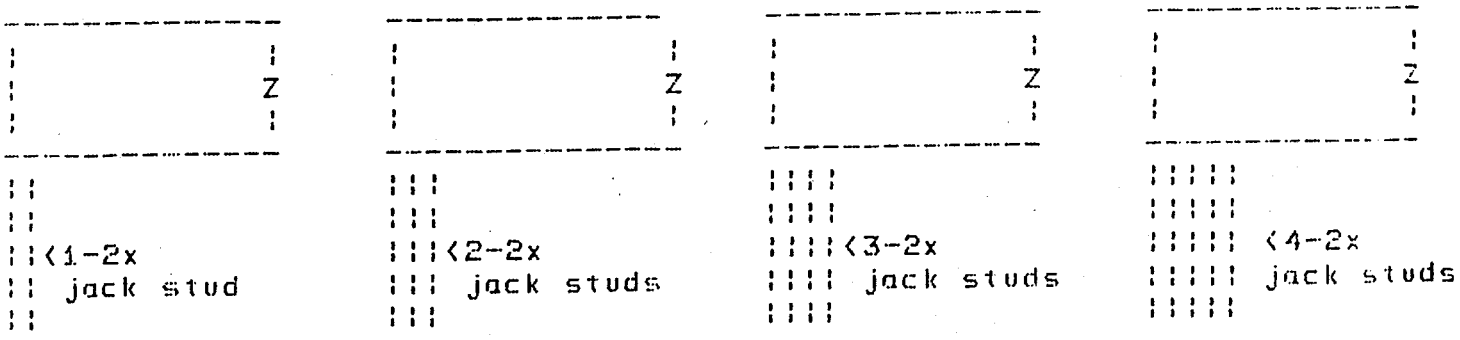


Table 12 (Cont'd)

ALLOWABLE LOADS (LB/FT)

for

STEEL FLITCH PLATE BEAMS

SPECIES:DOUGLAS FIR SOUTH
GRADE:No.3
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	9.9	315	267	229	198	173	143	112	89	71
	.105	11.1	365	310	265	230	200	166	130	103	82
	1/8	11.8	399	338	290	251	219	181	143	113	90
	3/16	14.2	504	428	367	318	277	230	181	144	115
	1/4	16.6	610	517	443	384	336	278	219	174	139
	5/16	18.9	715	606	520	451	394	326	257	205	164
	3/8	21.3	_820	_696	597	517	452	375	295	235	188
	7/16	23.7	_926	_785	_674	_584	510	423	334	265	213
	1/2	26.1		_875	_750	_650	_568	471	372	296	237
2x14	.075	11.6	442	375	322	279	243	214	186	149	120
	.105	13.0	513	435	373	323	283	249	217	173	139
	1/8	13.9	560	475	408	353	309	272	237	189	152
	3/16	16.7	708	601	515	447	391	344	300	240	193
	1/4	19.5	_855	_726	623	540	472	416	363	290	234
	5/16	22.4		_851	_731	_634	_554	488	425	341	275
	3/8	25.2				_727	_636	_560	_488	391	316
	7/16	28.0					_718	_633	_551	442	357
	1/2	30.8							_614	_492	397
2x16	.075	13.4	591	501	430	373	326	287	255	227	185
	.105	15.0	685	582	499	433	379	334	296	264	215
	1/8	16.0	_749	635	546	473	414	365	324	289	235
	3/16	19.3	_946	_803	_689	_598	523	461	409	365	298
	1/4	22.5			_833	_723	_633	_558	_495	442	361
	5/16	25.8						_654	_581	_519	423
	3/8	29.0								_595	_486
	7/16	32.3									_549

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

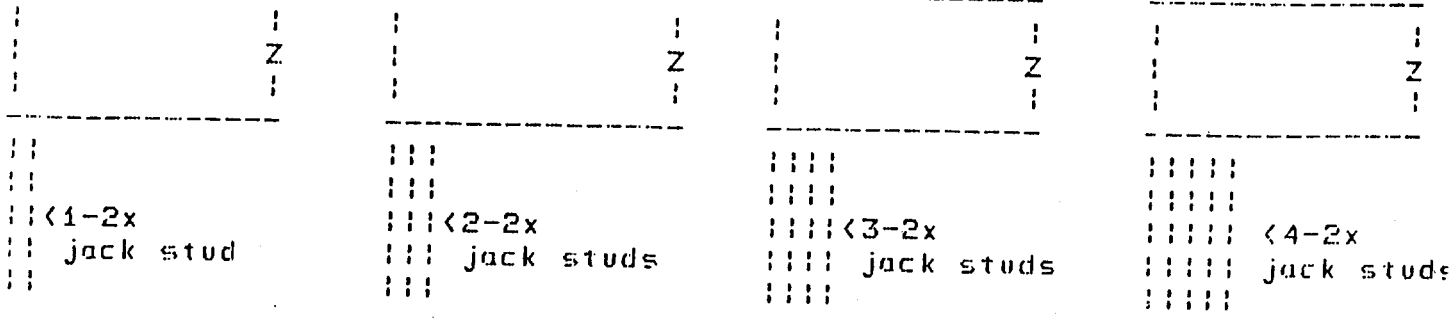


Table 13

ALLOWABLE LOADS (LB/FT)

for

STEEL FLITCH PLATE BEAMS

SPECIES:ENGELMANN SPRUCE-ALP.FIR
GRADE:Sel.Str.
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	5.2	137	107	85	68	52	40	30	23	18
	.105	6.0	157	123	97	78	59	45	35	27	21
	1/8	6.4	170	133	106	85	64	49	38	29	22
	3/16	7.9	211	165	131	105	80	61	47	36	28
	1/4	9.5	252	197	157	126	95	73	56	43	34
	5/16	11.0	293	229	182	147	111	85	65	51	39
	3/8	12.5	334	261	208	167	127	97	75	58	45
	7/16	14.0	375	294	233	188	142	109	84	65	50
	1/2	15.5	416	326	259	208	158	121	93	72	56
2x10	.075	6.7	255	216	182	148	113	88	68	54	43
	.105	7.6	291	247	208	169	129	100	78	62	49
	1/8	8.2	316	268	225	183	140	109	85	67	53
	3/16	10.2	392	332	280	227	174	135	106	83	66
	1/4	12.1	468	397	334	271	208	161	126	100	79
	5/16	14.1	544	461	389	316	242	188	147	116	92
	3/8	16.0			443	360	276	214	167	132	105
	7/16	18.0				404	310	240	188	148	118
	1/2	19.9					344	266	209	165	131

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

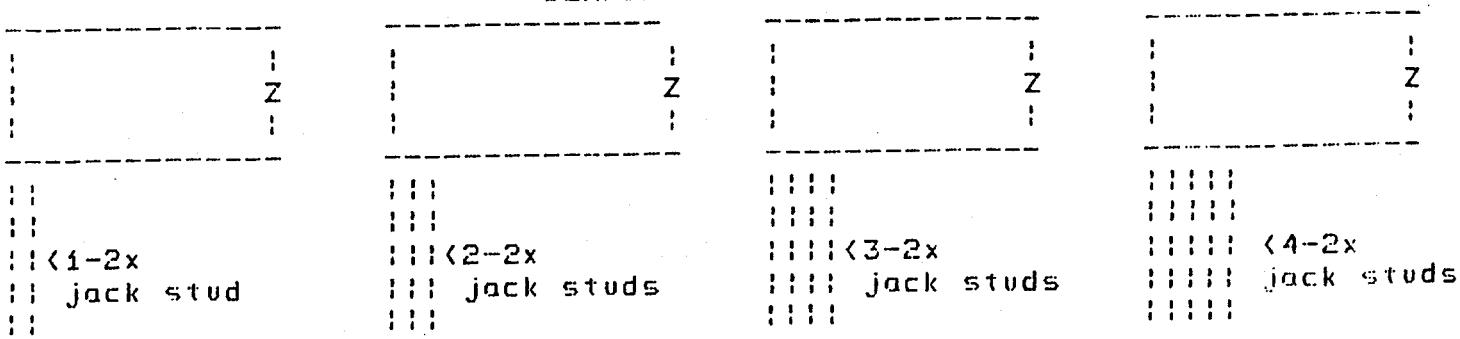


Table 13 (Cont'd)

ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:ENGELMANN SPRUCE-ALP.FIR
GRADE:Sel.Str.
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	8.1	383	325	279	242	207	161	127	101	81
	.105	9.3	437	371	319	276	236	184	146	116	93
	1/8	10.0	474	402	345	300	256	200	158	126	101
	3/16	12.4		499	429	372	318	248	196	156	125
	1/4	14.8				444	380	297	234	187	150
	5/16	17.2						345	272	217	174
	3/8	19.6							311	248	199
	7/16	22.0							349	278	223
	1/2	24.3								308	248
2x14	.075	9.6	462	426	391	340	297	262	210	169	136
	.105	11.0	529	487	447	388	340	300	240	193	156
	1/8	11.8			485	421	368	325	261	209	169
	3/16	14.7							323	259	210
	1/4	17.5								310	251
	5/16	20.3									291
2x16	.075	11.0	534	492	456	425	397	351	312	258	209
	.105	12.6							356	295	239
	1/8	13.6								319	259
	3/16	16.9									322

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

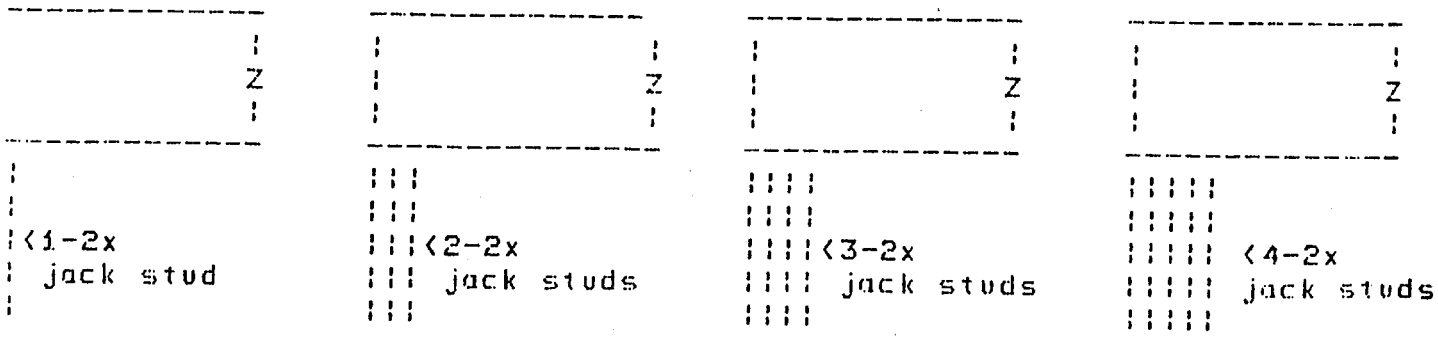


Table 14
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:ENGELMANN SPRUCE-ALP.FIR
GRADE:No.1
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF-STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	5.2	137	107	85	68	52	40	30	23	18
	.105	6.0	157	123	97	78	59	45	35	27	21
	1/8	6.4	170	133	106	85	64	49	38	29	22
	3/16	7.9	211	165	131	105	80	61	47	36	28
	1/4	9.5	252	197	157	126	95	73	56	43	34
	5/16	11.0	293	229	182	147	111	85	65	51	39
	3/8	12.5	334	261	208	167	127	97	75	58	45
	7/16	14.0	375	294	233	188	142	109	84	65	50
	1/2	15.5	416	326	259	208	158	121	93	72	56
2x10	.075	6.7	255	216	182	148	113	88	68	54	43
	.105	7.6	291	247	208	169	129	100	78	62	49
	1/8	8.2	316	268	225	183	140	109	85	67	53
	3/16	10.2	392	332	280	227	174	135	106	83	66
	1/4	12.1	_468	_397	334	271	208	161	126	100	79
	5/16	14.1	_544	_461	_389	316	242	188	147	116	92
	3/8	16.0			_443	_360	276	214	167	132	105
	7/16	18.0				_404	310	240	188	148	118
	1/2	19.9					_344	266	209	165	131

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

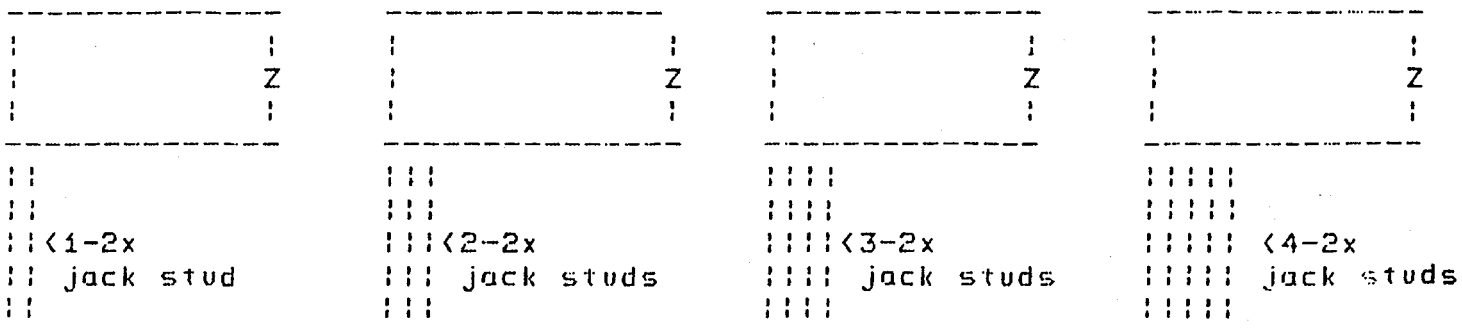


Table 14 (Cont'd)

ALLOWABLE LOADS (LB/FT)

for

STEEL FLITCH PLATE BEAMS

SPECIES: ENGELMANN SPRUCE-ALP.FIR
GRADE: No.1
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	8.1	383	325	279	242	207	161	127	101	81
	.105	9.3	437	371	319	276	236	184	146	116	93
	1/8	10.0	474	402	345	300	256	200	158	126	101
	3/16	12.4		499	429	372	318	248	196	156	125
	1/4	14.8				444	380	297	234	187	150
	5/16	17.2						345	272	217	174
	3/8	19.6							311	248	199
	7/16	22.0							349	278	223
	1/2	24.3								308	248
2x14	.075	9.6	462	426	391	340	297	262	210	169	136
	.105	11.0	529	487	447	388	340	300	240	193	156
	1/8	11.8			485	421	368	325	261	209	169
	3/16	14.7							323	259	210
	1/4	17.5								310	251
	5/16	20.3									291
2x16	.075	11.0	534	492	456	425	397	351	312	258	209
	.105	12.6							356	295	239
	1/8	13.6								319	259
	3/16	16.9									322

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

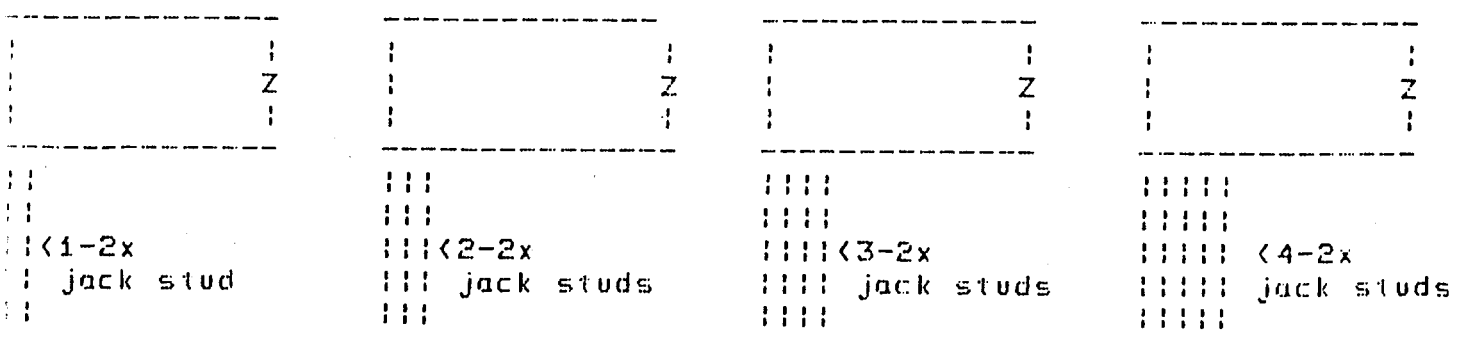


Table 15

ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:ENGELMANN SPRUCE-ALP.FIR
GRADE:No.2
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	5.2	123	96	76	61	46	35	27	21	16
	.105	6.0	142	111	88	71	54	41	31	24	18
	1/8	6.4	156	122	97	78	59	45	34	26	20
	3/16	7.9	197	154	122	98	74	57	43	33	26
	1/4	9.5	238	186	148	119	90	69	53	41	31
	5/16	11.0	279	218	173	139	105	81	62	48	37
	3/8	12.5	320	250	199	160	121	92	71	55	42
	7/16	14.0	361	282	224	181	137	104	80	62	48
	1/2	15.5	402	315	250	201	152	116	90	69	54
2x10	.075	6.7	229	194	163	132	101	78	61	48	38
	.105	7.6	265	225	189	153	117	91	71	56	44
	1/8	8.2	290	246	207	168	128	99	78	61	48
	3/16	10.2	366	310	261	212	162	126	98	77	61
	1/4	12.1	442	375	316	256	196	152	119	94	74
	5/16	14.1	518	439	370	300	230	178	139	110	87
	3/8	16.0		504	425	344	264	204	160	126	100
	7/16	18.0			479	389	298	231	181	142	113
	1/2	19.9				433	332	257	201	159	126

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

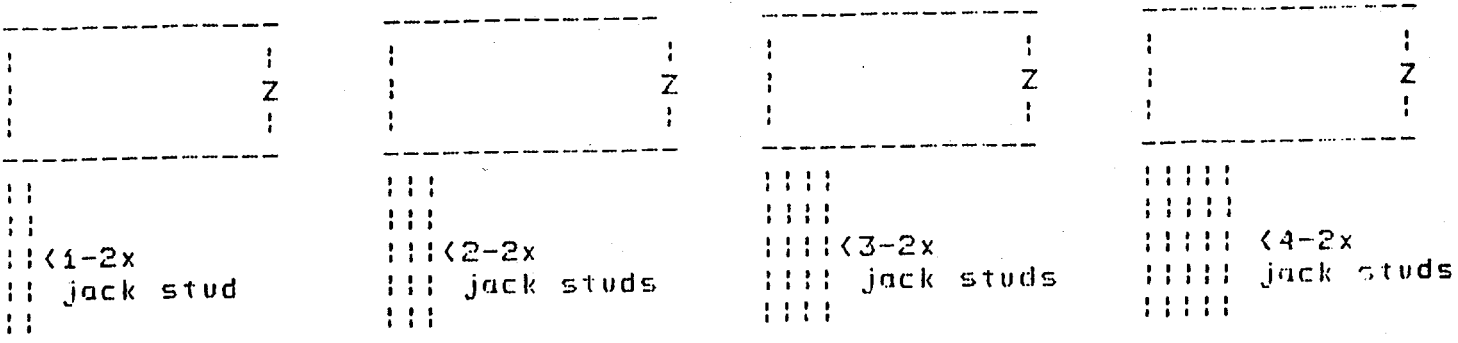


Table 15 (Cont'd)

ALLOWABLE LOADS (LB/FT) for STEEL FLITCH PLATE BEAMS

SPECIES: ENGELMANN SPRUCE-ALP.FIR
GRADE: No.2
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	8.1	344	292	250	217	185	145	114	91	73
	.105	9.3	399	338	290	252	215	168	132	105	84
	1/8	10.0	-435	369	317	275	235	183	144	115	92
	3/16	12.4	-550	-466	-400	-347	296	231	183	145	117
	1/4	14.8			-484	-419	-358	280	221	176	141
	5/16	17.2					-420	-328	259	206	165
	3/8	19.6						-376	-297	237	190
	7/16	22.0							-335	-267	214
	1/2	24.3								-298	-239
2x14	.075	9.6	-482	-409	352	305	267	235	188	151	122
	.105	11.0	-559	-475	-408	-354	309	273	219	175	141
	1/8	11.8		-518	-445	-386	-338	-298	239	191	154
	3/16	14.7						-376	-302	242	195
	1/4	17.5							-365	-292	236
	5/16	20.3								-343	277
	3/8	23.1									-318
2x16	.075	11.0	-569	-524	-470	-408	-357	-315	280	231	188
	.105	12.6					-414	-365	-324	-268	218
	1/8	13.6							-354	-293	238
	3/16	16.9									-300

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

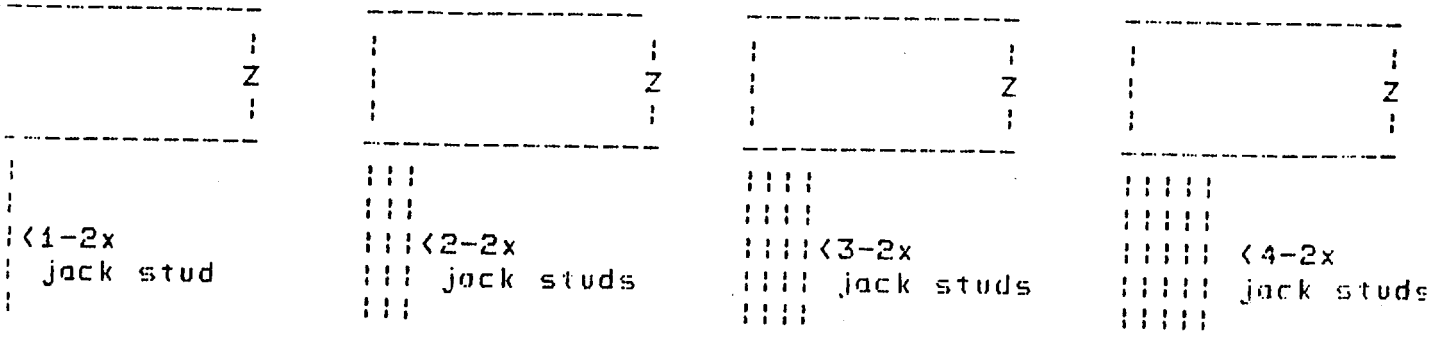


Table 16
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:ENGELMANN SPRUCE-ALP.FIR
GRADE:No.3
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	5.2	87	73	63	54	43	33	25	19	15
	.105	6.0	102	86	73	63	51	39	29	22	17
	1/8	6.4	112	94	80	69	56	42	32	25	19
	3/16	7.9	143	121	103	89	71	54	42	32	25
	1/4	9.5	174	147	125	108	87	66	51	39	30
	5/16	11.0	205	173	148	127	103	78	60	46	36
	3/8	12.5	236	199	170	146	118	90	69	53	41
	7/16	14.0	267	226	192	166	134	102	79	61	47
	1/2	15.5	298	252	215	185	149	114	88	68	52
2x10	.075	6.7	146	124	106	91	79	69	57	45	35
	.105	7.6	171	145	124	107	93	81	67	53	42
	1/8	8.2	188	159	136	117	102	89	74	58	46
	3/16	10.2	240	203	173	150	130	114	94	74	59
	1/4	12.1	292	247	211	182	159	139	115	91	72
	5/16	14.1	344	291	249	215	187	164	136	107	85
	3/8	16.0	395	334	286	247	215	189	156	123	98
	7/16	18.0	447	378	324	280	243	214	177	139	110
	1/2	19.9	499	422	361	312	272	238	197	156	123

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

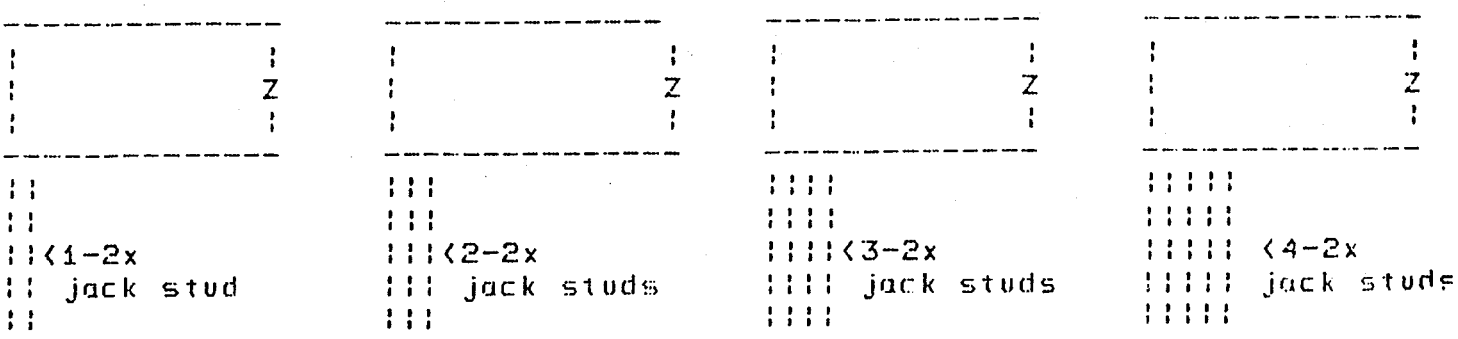


Table 16 (Cont'd)
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES: ENGELMANN SPRUCE-ALP.FIR
GRADE: No.3
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	8.1	221	187	160	138	120	106	93	83	68
	.105	9.3	258	219	187	162	141	124	109	97	80
	1/8	10.0	283	240	205	177	155	136	120	107	88
	3/16	12.4	361	306	262	227	198	174	153	136	112
	1/4	14.8	439	372	319	276	240	211	187	166	137
	5/16	17.2	517	438	375	325	283	249	220	196	161
	3/8	19.6		504	432	374	326	287	253	225	186
	7/16	22.0				423	369	324	287	255	210
	1/2	24.3					412	362	320	285	234
2x14	.075	9.6	310	263	225	195	170	150	132	118	105
	.105	11.0	363	308	264	228	199	175	155	138	123
	1/8	11.8	398	337	289	250	218	192	170	151	135
	3/16	14.7	507	430	369	319	279	245	217	193	173
	1/4	17.5			448	388	339	298	264	235	211
	5/16	20.3					399	351	311	277	248
	3/8	23.1							358	319	286
	7/16	25.9									323
2x16	.075	11.0	415	352	302	262	229	201	178	159	142
	.105	12.6	485	412	353	306	267	235	208	186	166
	1/8	13.6	532	451	387	336	293	258	229	204	183
	3/16	16.9				428	374	329	292	260	233
	1/4	20.1							355	317	284

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

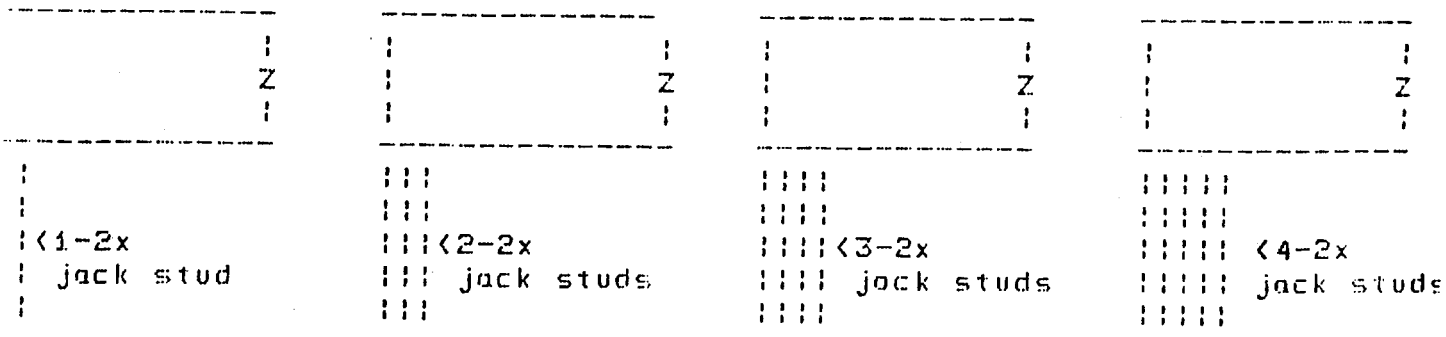


Table 17
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:HEM-FIR
GRADE:Sel.Str.
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	5.8	150	118	94	75	57	43	33	26	20
	.105	6.5	170	133	106	85	64	49	38	29	22
	1/8	7.0	183	143	114	92	69	53	41	31	24
	3/16	8.5	224	176	140	112	85	65	50	39	30
	1/4	10.0	265	208	165	133	101	77	59	46	35
	5/16	11.5	306	240	191	153	116	89	68	53	41
	3/8	13.1	347	272	216	174	132	101	78	60	47
	7/16	14.6	388	304	242	195	147	113	87	67	52
	1/2	16.1	429	336	267	215	163	125	96	74	58
2x10	.075	7.4	280	237	200	162	124	96	75	59	47
	.105	8.3	316	268	226	183	140	109	85	67	53
	1/8	8.9	341	289	243	197	151	117	92	72	57
	3/16	10.9	417	354	298	242	185	144	112	89	70
	1/4	12.8	493	418	352	286	219	170	133	105	83
	5/16	14.8	569	483	407	330	253	196	154	121	96
	3/8	16.7	645	547	461	374	287	222	174	137	109
	7/16	18.7		612	516	419	321	249	195	154	122
	1/2	20.6			570	463	355	275	215	170	135

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

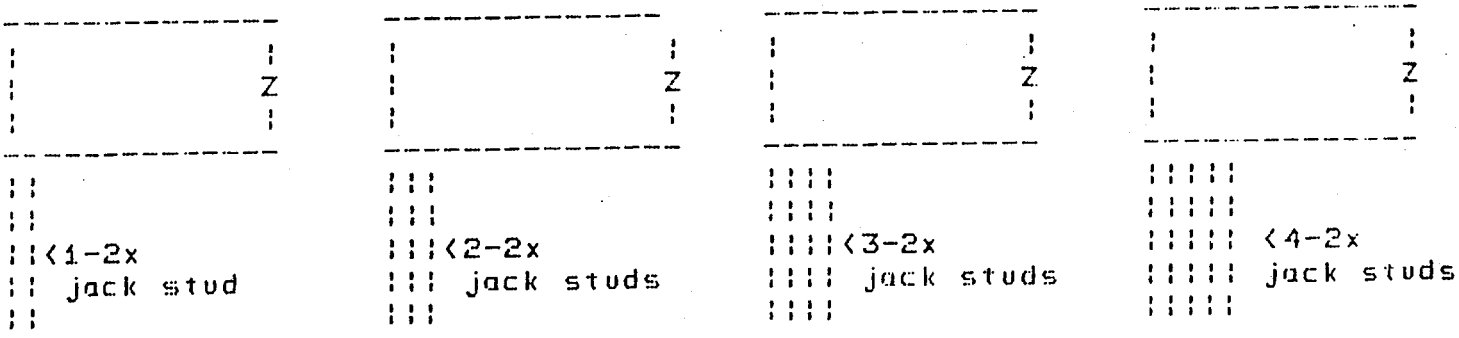


Table 17 (Cont'd)
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:HEM-FIR
GRADE:Sel.Str.
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	9.0	398	357	306	266	227	177	140	111	89
	.105	10.2	450	403	346	300	257	200	158	126	101
	1/8	10.9	485	434	373	323	276	216	170	136	109
	3/16	13.3	_594	_531	456	396	338	264	209	166	133
	1/4	15.7	_702	_628	_540	_468	_400	313	247	197	158
	5/16	18.1				_540	_462	361	285	227	182
	3/8	20.4					_524	_409	323	258	207
	7/16	22.8						_457	_361	288	231
	1/2	25.2							_400	319	256
2x14	.075	10.6	471	434	402	373	327	288	231	185	150
	.105	12.0	532	491	455	422	369	326	261	209	169
	1/8	12.9	_573	_528	_490	_454	398	351	281	226	182
	3/16	15.7	_702	_646	_599	_556	_487	_429	344	276	223
	1/4	18.5							_407	327	264
	5/16	21.3								_377	305
	3/8	24.1								_427	_346
	7/16	26.9									_387
2x16	.075	12.2	_544	_501	_464	_432	_404	_380	343	283	230
	.105	13.8	_614	_566	_525	_489	_457	_429	_387	320	260
	1/8	14.8	_662	_610	_565	_526	_422	_463	_417	_345	280
	3/16	18.1								_422	343
	1/4	21.3									_405

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

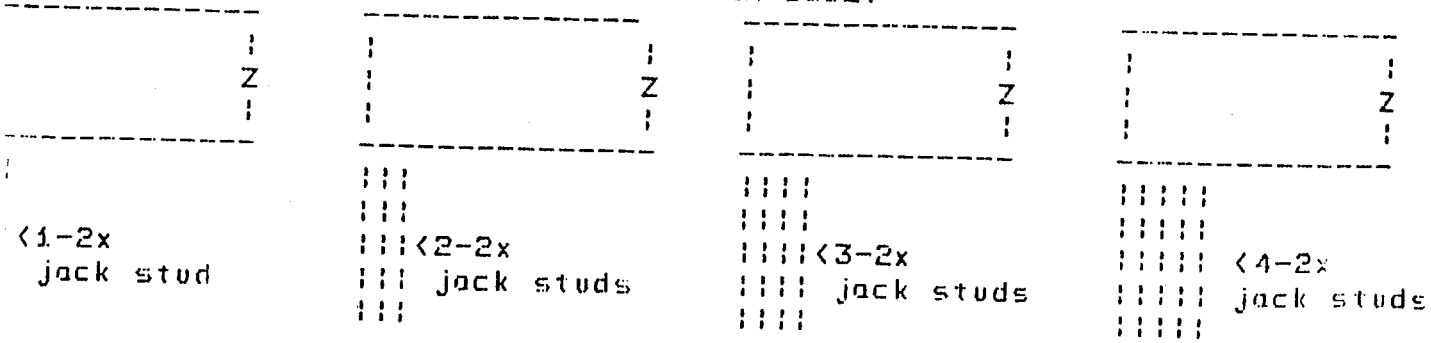


Table 18
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:HEM-FIR
GRADE:No.1
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	5.8	150	118	94	75	57	43	33	26	20
	.105	6.5	170	133	106	85	64	49	38	29	22
	1/8	7.0	183	143	114	92	69	53	41	31	24
	3/16	8.5	224	176	140	112	85	65	50	39	30
	1/4	10.0	265	208	165	133	101	77	59	46	35
	5/16	11.5	306	240	191	153	116	89	68	53	41
	3/8	13.1	347	272	216	174	132	101	78	60	47
	7/16	14.6	388	304	242	195	147	113	87	67	52
	1/2	16.1	429	336	267	215	163	125	96	74	58
2x10	.075	7.4	280	237	200	162	124	96	75	59	47
	.105	8.3	316	268	226	183	140	109	85	67	53
	1/8	8.9	341	289	243	197	151	117	92	72	57
	3/16	10.9	417	354	298	242	185	144	112	89	70
	1/4	12.8	493	418	352	286	219	170	133	105	83
	5/16	14.8	569	483	407	330	253	196	154	121	96
	3/8	16.7	645	547	461	374	287	222	174	137	109
	7/16	18.7		612	516	419	321	249	195	154	122
	1/2	20.6			570	463	355	275	215	170	135

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

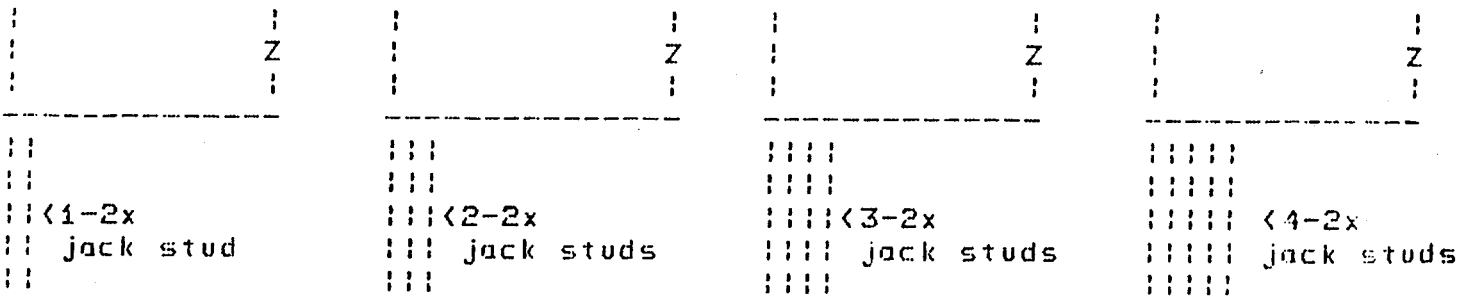


Table 18 (Cont'd)

ALLOWABLE LOADS (LB/FT) for STEEL FLITCH PLATE BEAMS

SPECIES:HEM-FIR
GRADE:No.1
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	9.0	398	357	306	266	227	177	140	111	89
	.105	10.2	450	403	346	300	257	200	158	126	101
	1/8	10.9	485	434	373	323	276	216	170	136	109
	3/16	13.3	594	531	456	396	338	264	209	166	133
	1/4	15.7	702	628	540	468	400	313	247	197	158
	5/16	18.1				540	462	361	285	227	182
	3/8	20.4					524	409	323	258	207
	7/16	22.8						457	361	288	231
	1/2	25.2							400	319	256
2x14	.075	10.6	471	434	402	373	327	288	231	185	150
	.105	12.0	532	491	455	422	369	326	261	209	169
	1/8	12.9	573	528	490	454	398	351	281	226	182
	3/16	15.7	702	646	599	556	487	429	344	276	223
	1/4	18.5							407	327	264
	5/16	21.3								377	305
	3/8	24.1								427	346
	7/16	26.9									387
2x16	.075	12.2	544	501	464	432	404	380	343	283	230
	.105	13.8	614	566	525	489	457	429	387	320	260
	1/8	14.8	662	610	565	526	492	463	417	345	280
	3/16	18.1								422	343
	1/4	21.3									405

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

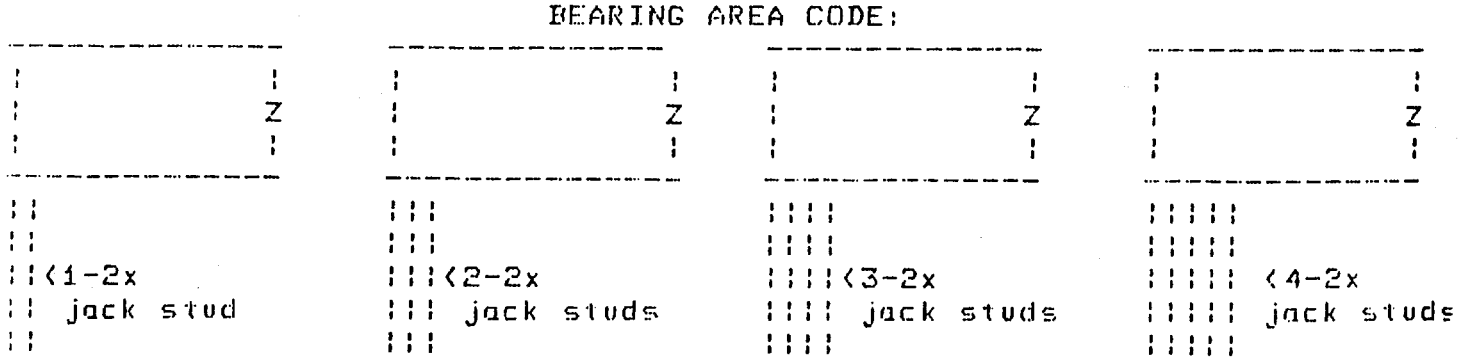


Table 19
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:HEM-FIR
GRADE:No.2
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	5.8	143	112	89	72	54	41	32	24	19
	.105	6.5	163	128	101	81	61	47	36	28	21
	1/8	7.0	176	138	109	88	67	51	39	30	23
	3/16	8.5	217	170	135	109	82	63	48	37	29
	1/4	10.0	258	202	161	129	98	75	57	44	34
	5/16	11.5	299	234	186	150	113	87	67	51	40
	3/8	13.1	340	266	212	170	129	99	76	59	45
	7/16	14.6	381	299	237	191	145	111	85	66	51
	1/2	16.1	422	331	263	212	160	123	94	73	56
2x10	.075	7.4	267	226	191	154	118	92	72	56	45
	.105	8.3	303	257	217	176	134	104	81	64	51
	1/8	8.9	328	278	234	190	145	113	88	69	55
	3/16	10.9	404	343	289	234	179	139	109	86	68
	1/4	12.8	480	407	343	278	213	165	129	102	81
	5/16	14.8	556	472	397	322	247	191	150	118	94
	3/8	16.7	633	536	452	367	281	218	170	134	107
	7/16	18.7	709	601	506	411	315	244	191	151	120
	1/2	20.6			561	455	349	270	212	167	133

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

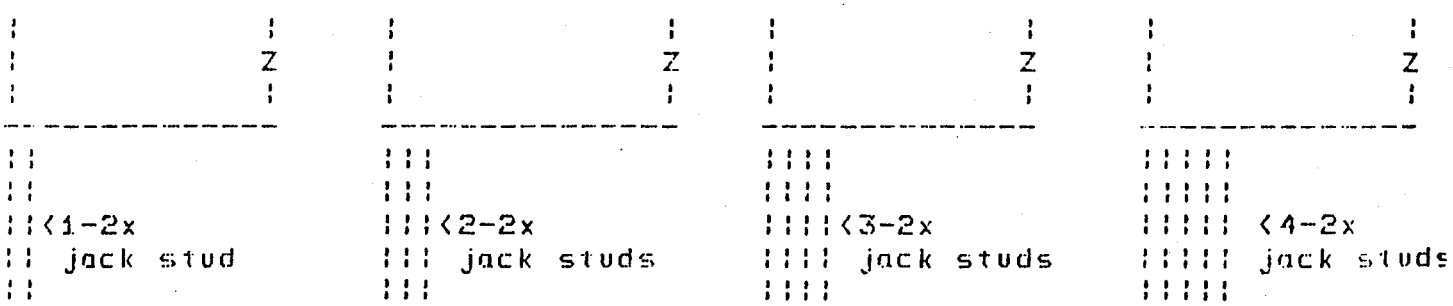


Table 19 (Cont'd)
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:HEM-FIR
GRADE:No.2
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	9.0	401	340	292	253	216	169	133	106	85
	.105	10.2	456	387	332	288	246	192	151	121	97
	1/8	10.9	492	418	359	311	266	207	164	130	105
	3/16	13.3	607	515	442	383	328	256	202	161	129
	1/4	15.7		612	525	456	389	304	240	191	153
	5/16	18.1			609	528	451	352	278	222	178
	3/8	20.4					513	401	316	252	202
	7/16	22.8						449	355	283	227
	1/2	25.2							393	313	251
2x14	.075	10.6	482	444	410	356	311	275	220	176	142
	.105	12.0	548	505	466	404	354	312	250	201	162
	1/8	12.9	592	546	504	437	382	337	270	217	175
	3/16	15.7				539	471	416	333	267	216
	1/4	18.5						494	396	318	257
	5/16	21.3							459	368	298
	3/8	24.1								419	338
	7/16	26.9									379
2x16	.075	12.2	556	513	475	443	414	368	327	270	219
	.105	13.8	633	583	540	503	471	418	371	307	249
	1/8	14.8	683	630	584	544	509	452	401	331	269
	3/16	18.1								408	332
	1/4	21.3									395

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

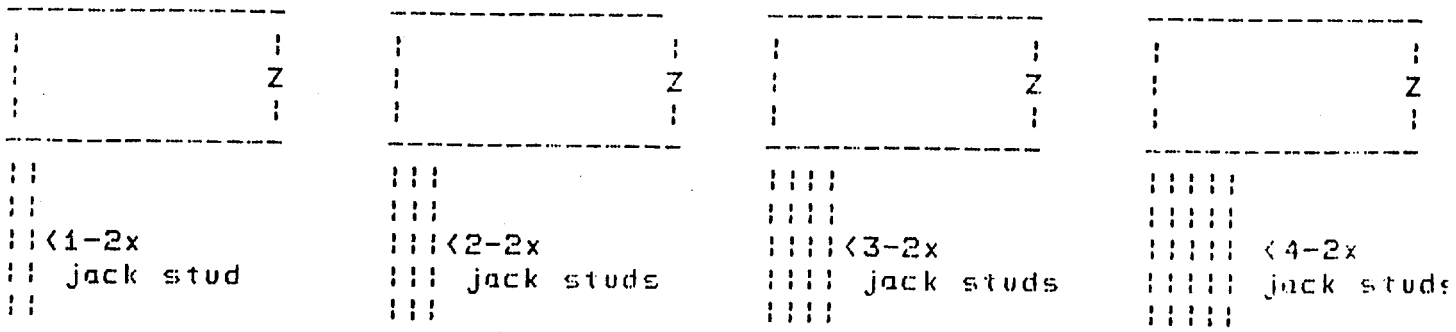


Table 20

ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:HEM-FIR
GRADE:No.3
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	5.8	98	83	71	61	48	37	28	21	16
	.105	6.5	113	96	81	70	56	42	32	25	19
	1/8	7.0	123	104	89	76	61	46	35	27	21
	3/16	8.5	155	131	111	96	76	58	45	34	26
	1/4	10.0	186	157	134	115	92	70	54	41	32
	5/16	11.5	217	183	156	135	108	82	63	49	37
	3/8	13.1	249	210	179	154	123	94	72	56	43
	7/16	14.6	280	236	202	174	139	106	82	63	49
	1/2	16.1	311	263	224	193	155	118	91	70	54
2x10	.075	7.4	165	139	119	103	89	78	64	50	40
	.105	8.3	190	161	137	119	103	90	74	58	46
	1/8	8.9	207	175	150	129	112	98	81	63	50
	3/16	10.9	259	219	187	162	141	123	101	80	63
	1/4	12.8	312	264	225	195	169	149	122	96	76
	5/16	14.8	364	308	263	227	198	174	142	112	89
	3/8	16.7	416	352	301	260	227	199	163	128	102
	7/16	18.7	469	396	339	293	255	224	184	145	115
	1/2	20.6	521	441	377	326	284	249	204	161	128

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

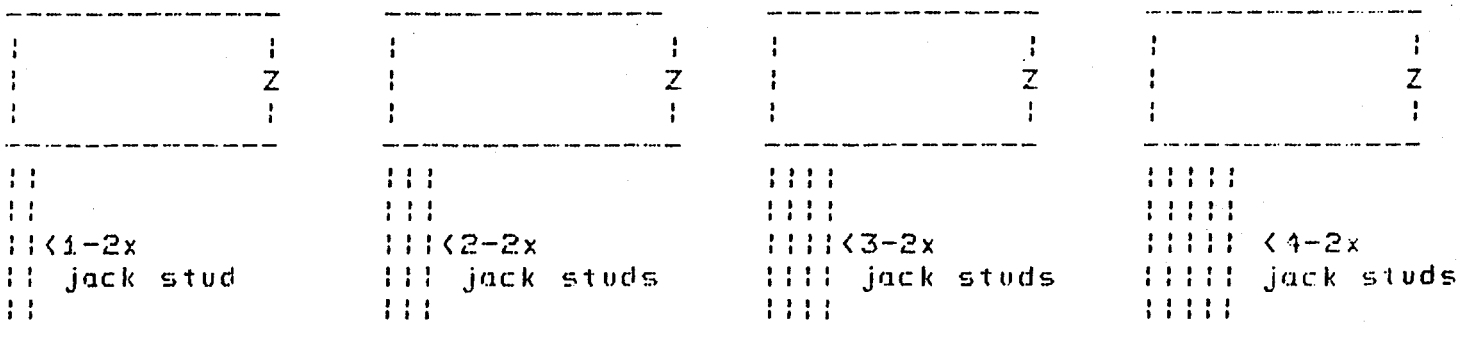


Table 20 (Cont'd)

ALLOWABLE LOADS (LB/FT)

for

STEEL FLITCH PLATE BEAMS

SPECIES:HEM-FIR
GRADE:No.3
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	9.0	249	211	180	156	136	119	105	94	76
	.105	10.2	287	243	208	180	157	137	121	108	88
	1/8	10.9	312	264	226	195	170	150	132	118	96
	3/16	13.3	391	331	283	245	214	188	166	147	120
	1/4	15.7	469	397	340	294	257	226	200	177	145
	5/16	18.1	548	464	398	344	300	264	233	207	169
	3/8	20.4	627	531	455	394	343	302	267	237	194
	7/16	22.8	705	598	512	443	387	340	301	267	218
	1/2	25.2			569	493	430	378	334	297	242
2x14	.075	10.6	350	296	254	220	192	169	149	133	119
	.105	12.0	403	341	293	253	221	194	172	153	137
	1/8	12.9	438	371	318	276	241	212	187	167	149
	3/16	15.7	549	465	399	345	301	265	235	209	187
	1/4	18.5	659	559	479	415	362	319	282	251	225
	5/16	21.3		652	559	485	423	372	330	294	263
	3/8	24.1				554	484	426	377	336	301
	7/16	26.9						480	425	379	339
	1/2	29.8								421	377
2x16	.075	12.2	468	397	340	295	258	227	201	179	160
	.105	13.8	538	457	392	339	297	261	231	206	185
	1/8	14.8	586	497	426	369	323	284	252	224	201
	3/16	18.1		622	534	463	404	356	316	281	252
	1/4	21.3				556	486	428	379	338	303
	5/16	24.6							443	395	354
	3/8	27.8									405

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

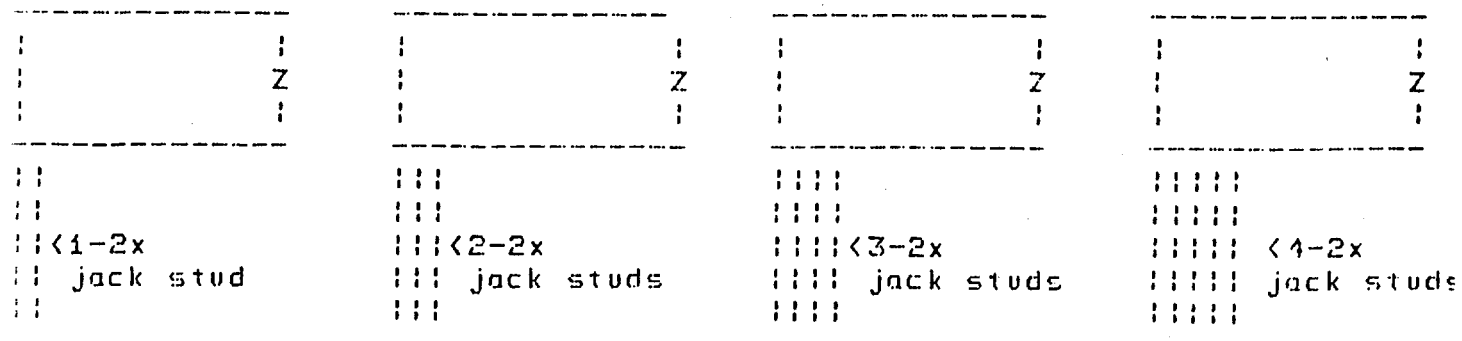


Table 21
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:LODGEPOLE PINE
GRADE:Sel.Str.
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	6.0	136	106	84	68	51	39	30	23	17
	.105	6.7	156	122	97	78	58	44	34	26	20
	1/8	7.2	169	132	105	84	63	48	37	28	22
	3/16	8.7	210	164	130	105	79	60	46	36	27
	1/4	10.2	251	196	156	125	95	72	55	43	33
	5/16	11.7	292	229	182	146	110	84	65	50	38
	3/8	13.3	333	261	207	167	126	96	74	57	44
	7/16	14.8	374	293	233	187	142	108	83	64	50
	1/2	16.3	415	325	258	208	157	120	92	71	55
2x10	.075	7.6	254	215	181	147	112	87	68	53	42
	.105	8.6	290	246	207	168	128	99	77	61	48
	1/8	9.2	315	267	224	182	139	108	84	66	52
	3/16	11.1	391	331	279	226	173	134	105	82	65
	1/4	13.1	467	396	333	270	207	160	125	99	78
	5/16	15.0	543	461	388	315	241	187	146	115	91
	3/8	17.0	619	525	442	359	275	213	166	131	104
	7/16	18.9	696	590	497	403	309	239	187	147	117
	1/2	20.9		654	551	447	343	266	208	164	130

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

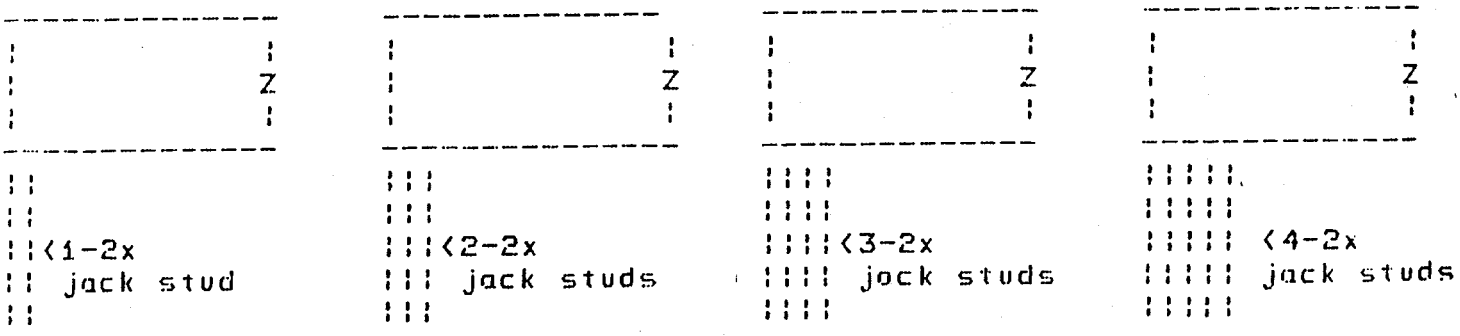


Table 21 (Cont'd)
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:LODGEPOLE PINE
GRADE:Sel.Str.
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	9.3	381	324	278	241	205	160	126	100	80
	.105	10.5	436	370	318	275	235	183	144	115	92
	1/8	11.2	473	401	344	298	255	199	157	125	100
	3/16	13.6	587	498	428	371	317	247	195	155	124
	1/4	16.0	701	595	511	443	378	295	233	186	149
	5/16	18.4			594	515	440	344	271	216	173
	3/8	20.7					502	392	309	246	198
	7/16	23.1						440	348	277	222
	1/2	25.5						489	386	307	247
2x14	.075	10.9	461	425	390	338	296	261	209	167	135
	.105	12.4	527	486	446	387	338	298	239	191	154
	1/8	13.2	572	527	483	419	367	323	259	208	168
	3/16	16.0	710	654	600	521	456	402	322	258	208
	1/4	18.9						480	385	309	249
	5/16	21.7							448	359	290
	3/8	24.5								409	331
	7/16	27.3									372
	1/2	30.1									413
2x16	.075	12.6	532	490	454	423	396	349	310	256	208
	.105	14.2	609	561	519	484	453	400	355	293	238
	1/8	15.2	660	608	563	525	491	433	385	318	258
	3/16	18.5							478	395	321
	1/4	21.7									383

OTE:The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

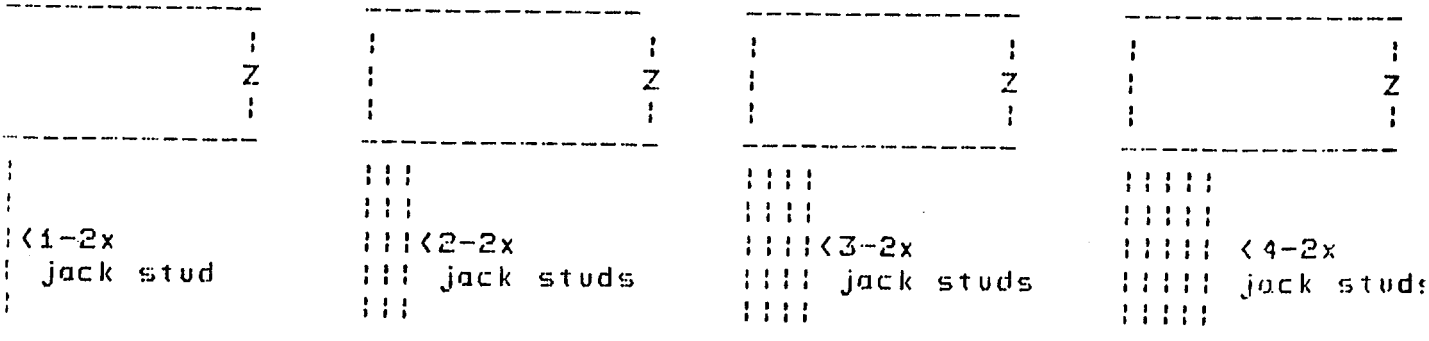


Table 22

ALLOWABLE LOADS (LB/FT)

for

STEEL FLITCH PLATE BEAMS

SPECIES:LODGEPOLE PINE
GRADE:No.1
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	6.0	136	106	84	68	51	39	30	23	17
	.105	6.7	156	122	97	78	58	44	34	26	20
	1/8	7.2	169	132	105	84	63	48	37	28	22
	3/16	8.7	210	164	130	105	79	60	46	36	27
	1/4	10.2	251	196	156	125	95	72	55	43	33
	5/16	11.7	292	229	182	146	110	84	65	50	38
	3/8	13.3	333	261	207	167	126	96	74	57	44
	7/16	14.8	374	293	233	187	142	108	83	64	50
	1/2	16.3	415	325	258	208	157	120	92	71	55
2x10	.075	7.6	254	215	181	147	112	87	68	53	42
	.105	8.6	290	246	207	168	128	99	77	61	48
	1/8	9.2	315	267	224	182	139	108	84	66	52
	3/16	11.1	391	331	279	226	173	134	105	82	65
	1/4	13.1	467	396	333	270	207	160	125	99	78
	5/16	15.0	543	461	388	315	241	187	146	115	91
	3/8	17.0	619	525	442	359	275	213	166	131	104
	7/16	18.9	696	590	497	403	309	239	187	147	117
	1/2	20.9		654	551	447	343	266	208	164	130

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

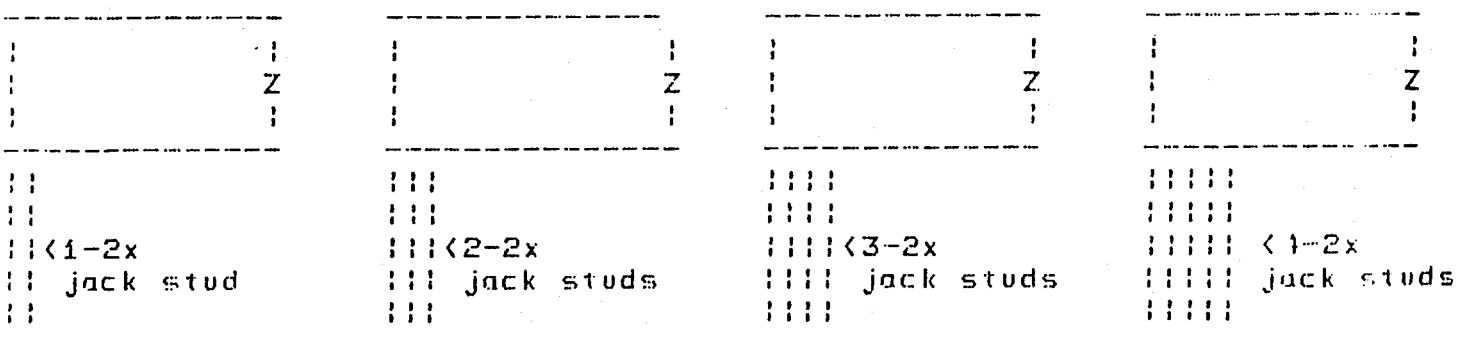


Table 22 (Cont'd)
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:LODGEPOLE PINE
GRADE:No.1
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	9.3	381	324	278	241	205	160	126	100	80
	.105	10.5	436	370	318	275	235	183	144	115	92
	1/8	11.2	473	401	344	298	255	199	157	125	100
	3/16	13.6	587	498	428	371	317	247	195	155	124
	1/4	16.0	701	595	511	443	378	295	233	186	149
	5/16	18.4			594	515	440	344	271	216	173
	3/8	20.7					502	392	309	246	198
	7/16	23.1						440	348	277	222
	1/2	25.5						489	386	307	247
2x14	.075	10.9	461	425	390	338	296	261	209	167	135
	.105	12.4	527	486	446	387	338	298	239	191	154
	1/8	13.2	572	527	483	419	367	323	259	208	168
	3/16	16.0	710	654	600	521	456	402	322	258	208
	1/4	18.9						480	385	309	249
	5/16	21.7							448	359	290
	3/8	24.5								409	331
	7/16	27.3									372
	1/2	30.1									413
2x16	.075	12.6	532	490	454	423	396	349	310	256	208
	.105	14.2	609	561	519	484	453	400	355	293	238
	1/8	15.2	660	608	563	525	491	433	385	318	258
	3/16	18.5							478	395	321
	1/4	21.7									383

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

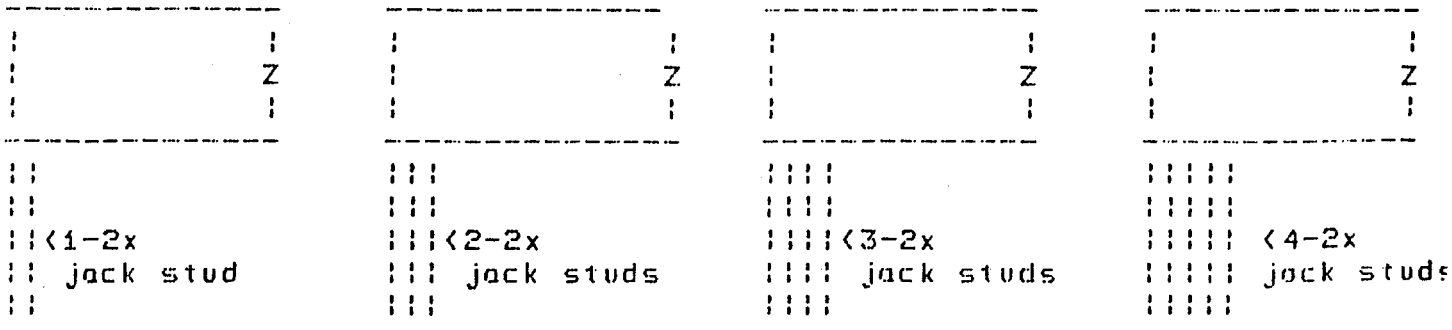


Table 23

ALLOWABLE LOADS (LB/FT)

for

STEEL FLITCH PLATE BEAMS

SPECIES:LODGEPOLE PINE
GRADE:No.2
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	6.0	129	101	80	64	48	37	28	21	16
	.105	6.7	149	116	92	74	56	42	32	25	19
	1/8	7.2	162	127	100	80	61	46	35	27	21
	3/16	8.7	203	159	126	101	76	58	44	34	26
	1/4	10.2	244	191	151	122	92	70	54	41	32
	5/16	11.7	285	223	177	142	108	82	63	48	37
	3/8	13.3	326	255	203	163	123	94	72	56	43
	7/16	14.8	367	287	228	183	139	106	81	63	48
	1/2	16.3	408	319	254	204	154	118	91	70	54
2x10	.075	7.6	241	204	172	139	106	82	64	50	39
	.105	8.6	277	235	198	160	122	95	74	58	46
	1/8	9.2	302	256	215	174	133	103	80	63	50
	3/16	11.1	378	320	270	219	167	129	101	79	63
	1/4	13.1	454	385	324	263	201	156	122	96	76
	5/16	15.0	530	450	378	307	235	182	142	112	89
	3/8	17.0	606	514	433	351	269	208	163	128	101
	7/16	18.9	683	579	487	395	303	235	183	144	114
	1/2	20.9		643	542	440	337	261	204	161	127

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

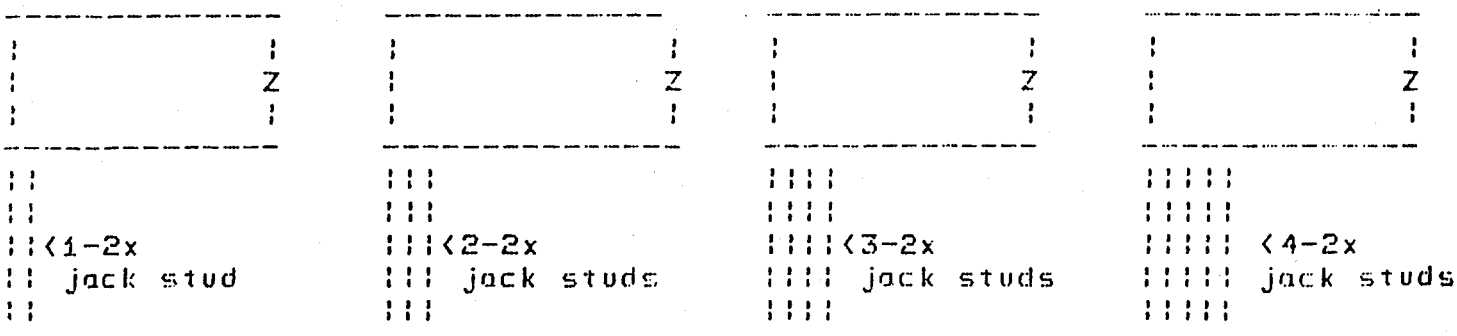


Table 23 (Cont'd)

ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:LODGEPOLE PINE
GRADE:No.2
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	9.3	362	307	263	228	195	152	119	95	76
	.105	10.5	417	354	303	263	224	175	138	109	87
	1/8	11.2	453	385	330	286	244	190	150	119	95
	3/16	13.6	568	482	413	358	306	239	188	150	120
	1/4	16.0	682	579	497	431	368	287	226	180	144
	5/16	18.4			580	503	430	335	265	211	169
	3/8	20.7				575	491	384	303	241	193
	7/16	23.1						432	341	271	218
	1/2	25.5						480	379	302	242
2x14	.075	10.9	475	431	370	321	281	247	198	158	128
	.105	12.4	547	496	426	370	323	285	228	183	147
	1/8	13.2	595	540	464	402	352	310	248	199	160
	3/16	16.0			581	504	441	388	311	249	201
	1/4	18.9					530	467	374	300	242
	5/16	21.7							437	350	283
	3/8	24.5								401	324
	7/16	27.3									365
	1/2	30.1									405
2x16	.075	12.6	548	505	468	429	376	331	294	243	197
	.105	14.2	631	582	539	494	433	382	339	280	227
	1/8	15.2	687	633	586	538	471	415	369	304	247
	3/16	18.5							462	381	310
	1/4	21.7									372

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

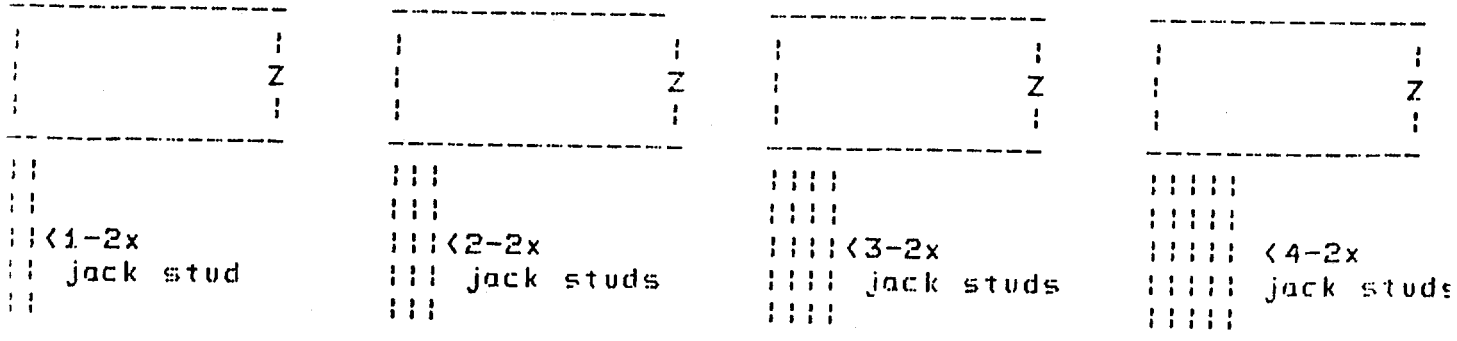


Table 24
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:LODGEPOLE PINE
GRADE:No.3
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	6.0	96	81	69	57	42	32	24	18	14
	.105	6.7	113	95	81	67	50	38	29	22	16
	1/8	7.2	124	104	89	73	55	42	32	24	18
	3/16	8.7	158	134	114	94	71	54	41	31	24
	1/4	10.2	193	163	139	114	86	66	50	38	29
	5/16	11.7	227	192	164	135	102	78	59	46	35
	3/8	13.3	262	221	189	156	117	89	69	53	40
	7/16	14.8	296	250	214	176	133	101	78	60	46
	1/2	16.3	331	279	238	197	149	113	87	67	52
2x10	.075	7.6	162	137	117	101	87	73	56	44	34
	.105	8.6	189	160	137	118	102	85	66	52	41
	1/8	9.2	208	176	150	129	113	94	73	57	45
	3/16	11.1	265	224	192	166	144	120	93	73	58
	1/4	13.1	323	273	233	202	176	146	114	90	71
	5/16	15.0	380	322	275	238	207	173	135	106	84
	3/8	17.0	438	370	317	274	239	199	155	122	97
	7/16	18.9	495	419	359	310	270	225	176	138	110
	1/2	20.9	553	468	400	346	302	251	197	155	122

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

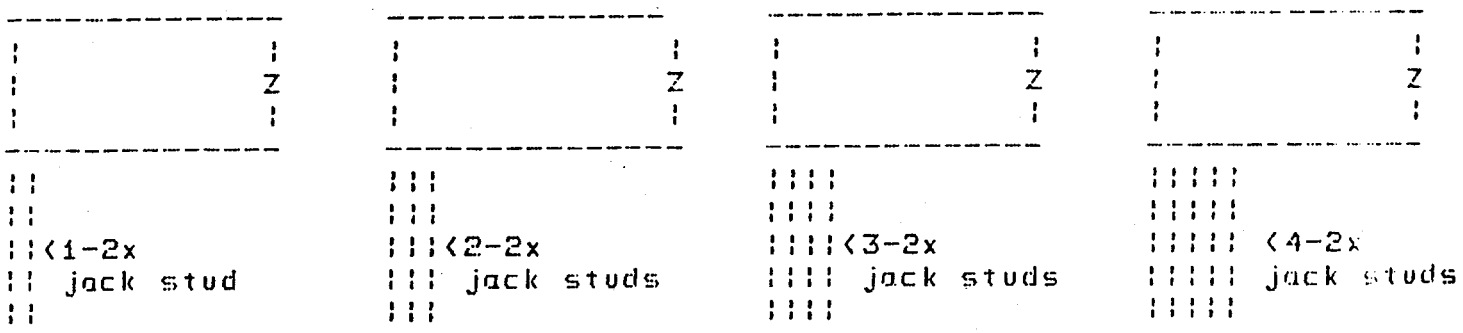


Table 24 (Cont'd)
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:LODGEPOLE PINE
GRADE:No.3
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	9.3	244	206	177	153	133	117	103	84	67
	.105	10.5	285	241	207	179	156	137	121	99	79
	1/8	11.2	313	265	227	196	171	150	133	108	86
	3/16	13.6	399	338	290	251	219	192	170	139	111
	1/4	16.0	486	412	353	305	266	234	207	169	135
	5/16	18.4	572	485	416	360	314	276	244	200	160
	3/8	20.7	659	558	478	414	361	318	281	230	184
	7/16	23.1		632	541	468	409	360	318	261	209
	1/2	25.5			604	523	456	401	355	291	233
2x14	.075	10.9	343	290	249	215	188	165	146	130	113
	.105	12.4	401	340	291	252	220	193	171	152	133
	1/8	13.2	440	373	319	277	241	212	188	167	146
	3/16	16.0	561	476	408	353	308	271	240	214	187
	1/4	18.9	682	579	496	430	375	330	293	261	228
	5/16	21.7			585	506	442	389	345	307	268
	3/8	24.5					509	448	397	354	309
	7/16	27.3							450	401	350
	1/2	30.1									391
2x16	.075	12.6	459	389	333	289	252	222	197	175	157
	.105	14.2	536	455	390	338	295	260	230	205	184
	1/8	15.2	588	499	428	371	324	285	253	225	202
	3/16	18.5		636	546	473	414	364	323	288	258
	1/4	21.7				576	503	443	393	350	314
	5/16	25.0							463	413	370

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

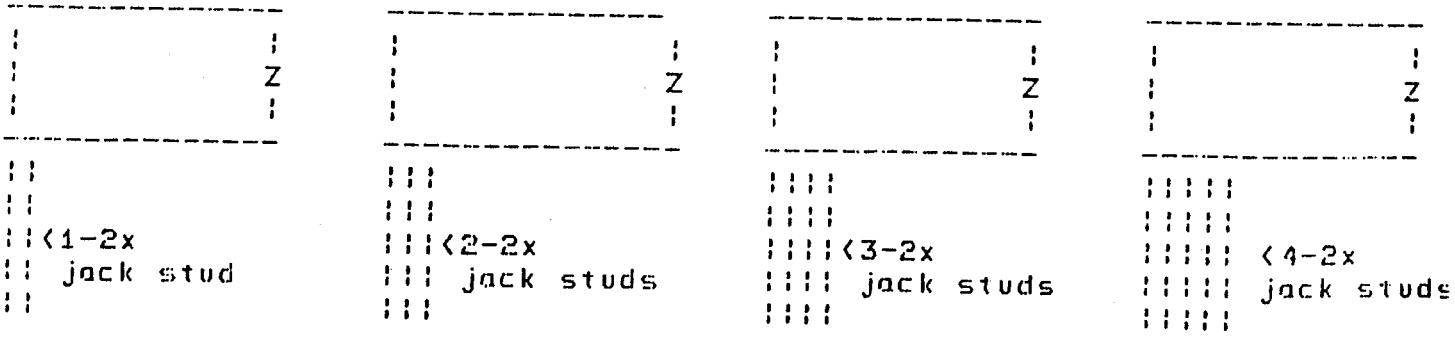


Table 25

ALLOWABLE LOADS (LB/FT)

for

STEEL FLITCH PLATE BEAMS

SPECIES:SOUTHERN PINE
GRADE:Sel.Str.
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	7.0	163	128	101	81	61	47	36	27	21
	.105	7.7	183	143	114	91	69	52	40	31	24
	1/8	8.2	196	153	122	98	74	56	43	33	25
	3/16	9.7	237	186	147	118	89	68	52	40	31
	1/4	11.2	278	218	173	139	105	80	62	47	37
	5/16	12.8	319	250	198	160	121	92	71	55	42
	3/8	14.3	360	282	224	180	136	104	80	62	48
	7/16	15.8	401	314	250	201	152	116	89	69	53
	1/2	17.3	442	346	275	221	168	128	99	76	59
2x10	.075	8.9	304	258	217	176	134	104	81	64	50
	.105	9.9	341	289	243	197	151	117	91	72	57
	1/8	10.5	365	309	261	211	162	125	98	77	61
	3/16	12.5	441	374	315	255	195	151	118	93	74
	1/4	14.4	517	439	369	300	229	178	139	109	87
	5/16	16.4	594	503	424	344	263	204	160	126	100
	3/8	18.3	670	568	478	388	297	230	180	142	113
	7/16	20.3	746	633	533	432	331	257	201	158	125
	1/2	22.2	822	697	587	476	365	283	221	175	138

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

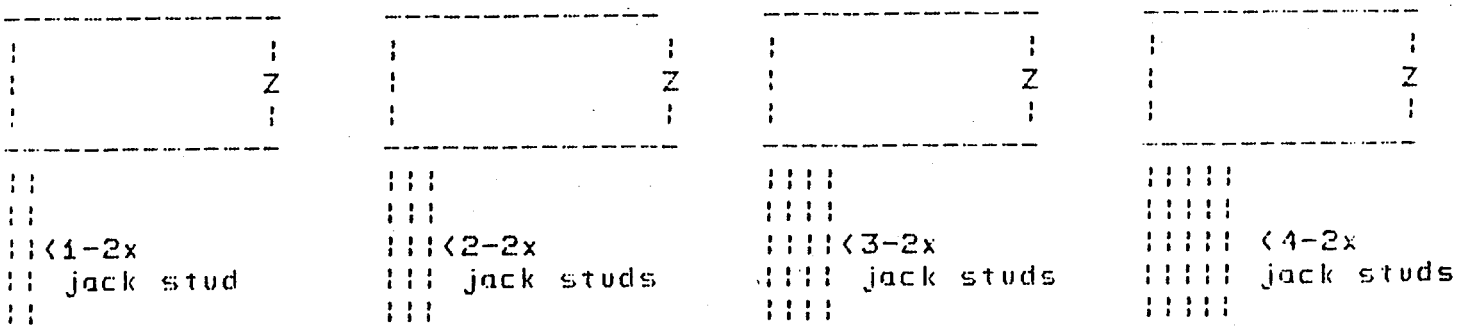


Table 25 (Cont'd)

ALLOWABLE LOADS (LB/FT) for STEEL FLITCH PLATE BEAMS

SPECIES: SOUTHERN PINE
GRADE: Sel.Str.
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	10.9	457	388	333	288	246	192	151	120	96
	.105	12.1	512	434	373	323	276	215	170	135	108
	1/8	12.8	548	465	399	346	296	231	182	145	116
	3/16	15.2	663	562	483	419	357	279	220	175	140
	1/4	17.6	777	659	566	491	419	327	258	206	165
	5/16	20.0	891	757	650	563	481	376	297	236	189
	3/8	22.3	1006	854	733	635	543	424	335	267	214
	7/16	24.7	1120	951	816	708	605	472	373	297	238
	1/2	27.1		1048	900	780	666	521	411	327	263
2x14	.075	12.8	543	500	464	405	355	313	251	201	162
	.105	14.2	608	560	519	454	397	350	281	225	181
	1/8	15.1	652	600	556	487	426	375	301	241	195
	3/16	17.9	787	725	672	588	515	454	364	291	235
	1/4	20.7	923	851	788	690	604	532	427	342	276
	5/16	23.6	1059	976	904	791	692	611	490	392	317
	3/8	26.4				893	781	689	552	443	358
	7/16	29.2					870	767	615	493	399
	1/2	32.0							678	544	440
2x16	.075	14.8	627	577	535	498	466	419	372	302	249
	.105	16.4	702	646	599	558	522	469	417	344	279
	1/8	17.4	752	693	642	598	559	503	446	369	299
	3/16	20.6	909	837	776	723	676	608	540	446	362
	1/4	23.9	1065	981	910	847	793	712	633	523	425
	5/16	27.1						817	726	600	487
	3/8	30.4								677	550
	7/16	33.6									613
	1/2	36.9									675

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

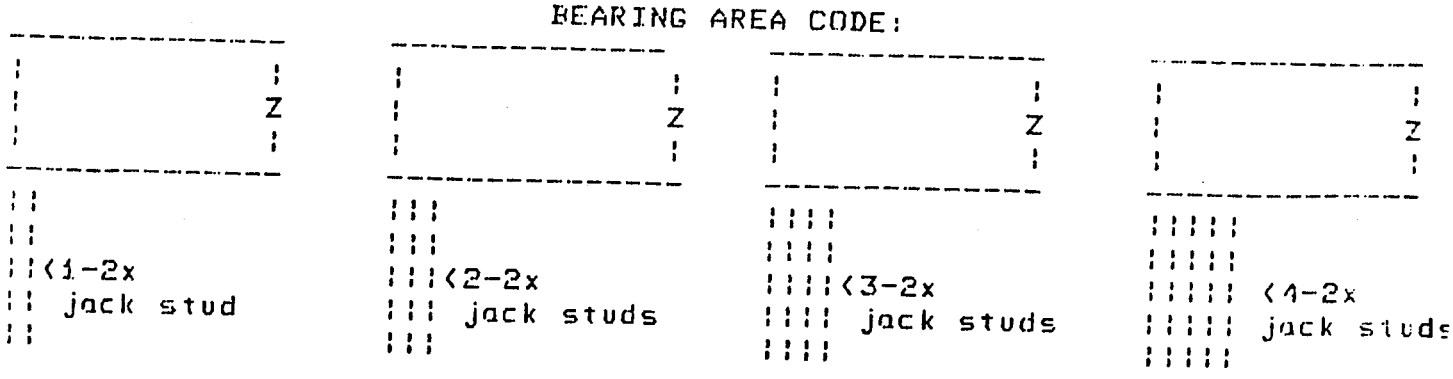


Table 26
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:SOUTHERN PINE
GRADE:No.1
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	7.0	163	128	101	81	61	47	36	27	21
	.105	7.7	183	143	114	91	69	52	40	31	24
	1/8	8.2	196	153	122	98	74	56	43	33	25
	3/16	9.7	237	186	147	118	89	68	52	40	31
	1/4	11.2	278	218	173	139	105	80	62	47	37
	5/16	12.8	319	250	198	160	121	92	71	55	42
	3/8	14.3	360	282	224	180	136	104	80	62	48
	7/16	15.8	401	314	250	201	152	116	89	69	53
	1/2	17.3	442	346	275	221	168	128	99	76	59
2x10	.075	8.9	304	258	217	176	134	104	81	64	50
	.105	9.9	341	289	243	197	151	117	91	72	57
	1/8	10.5	365	309	261	211	162	125	98	77	61
	3/16	12.5	441	374	315	255	195	151	118	93	74
	1/4	14.4	517	439	369	300	229	178	139	109	87
	5/16	16.4	594	503	424	344	263	204	160	126	100
	3/8	18.3	670	568	478	388	297	230	180	142	113
	7/16	20.3	746	633	533	432	331	257	201	158	125
	1/2	22.2	822	697	587	476	365	283	221	175	138

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

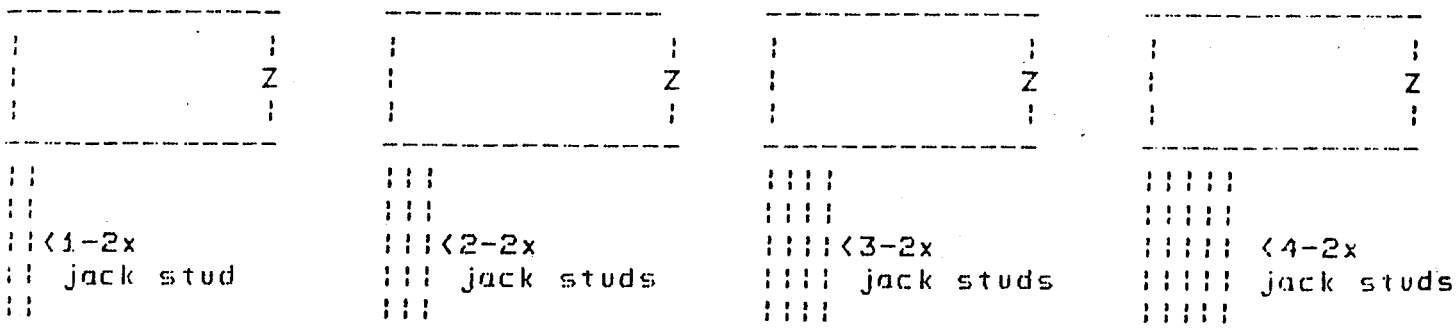


Table 26(Cont'd)
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:SOUTHERN PINE
GRADE:No.1
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	10.9	457	388	333	288	246	192	151	120	96
	.105	12.1	512	434	373	323	276	215	170	135	108
	1/8	12.8	548	465	399	346	296	231	182	145	116
	3/16	15.2	663	562	483	419	357	279	220	175	140
	1/4	17.6	777	659	566	491	419	327	258	206	165
	5/16	20.0	891	757	650	563	481	376	297	236	189
	3/8	22.3	1006	854	733	635	543	424	335	267	214
	7/16	24.7	1120	951	816	708	605	472	373	297	238
	1/2	27.1		1048	900	780	666	521	411	327	263
2x14	.075	12.8	543	500	464	405	355	313	251	201	162
	.105	14.2	608	560	519	454	397	350	281	225	181
	1/8	15.1	652	600	556	487	426	375	301	241	195
	3/16	17.9	787	725	672	588	515	454	364	291	235
	1/4	20.7	923	851	788	690	604	532	427	342	276
	5/16	23.6	1059	976	904	791	692	611	490	392	317
	3/8	26.4				893	781	689	552	443	358
	7/16	29.2					870	767	615	493	399
	1/2	32.0							678	544	440
2x16	.075	14.8	627	577	535	498	466	419	372	307	249
	.105	16.4	702	646	599	558	522	469	417	344	279
	1/8	17.4	752	693	642	598	559	503	446	369	299
	3/16	20.6	909	837	776	723	676	608	540	446	362
	1/4	23.9	1065	981	910	847	793	712	633	523	425
	5/16	27.1						817	726	600	487
	3/8	30.4								677	550
	7/16	33.6									613
	1/2	36.9									675

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

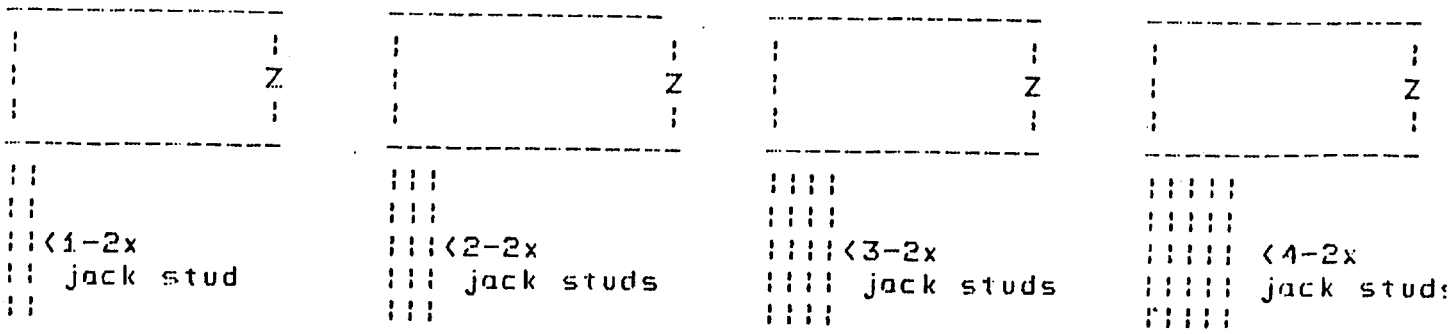


Table 27

ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:SOUTHERN PINE
GRADE:No.2
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	7.0	156	122	97	78	58	44	34	26	20
	.105	7.7	176	137	109	87	66	50	38	29	22
	1/8	8.2	189	148	117	94	71	54	41	32	24
	3/16	9.7	230	180	143	115	87	66	51	39	30
	1/4	11.2	271	212	168	135	102	78	60	46	35
	5/16	12.8	312	244	194	156	118	90	69	53	41
	3/8	14.3	353	276	220	176	133	102	78	60	46
	7/16	15.8	394	309	245	197	149	114	87	67	52
	1/2	17.3	435	341	271	218	165	126	97	75	58
2x10	.075	8.9	291	247	208	168	129	99	77	61	48
	.105	9.9	328	278	234	189	145	112	87	69	54
	1/8	10.5	352	298	251	204	156	120	94	74	58
	3/16	12.5	428	363	306	248	190	147	115	90	71
	1/4	14.4	504	428	360	292	223	173	135	106	84
	5/16	16.4	581	492	415	336	257	199	156	123	97
	3/8	18.3	657	557	469	380	291	226	176	139	110
	7/16	20.3	733	622	523	425	325	252	197	155	123
	1/2	22.2	809	686	578	469	359	278	218	172	136

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

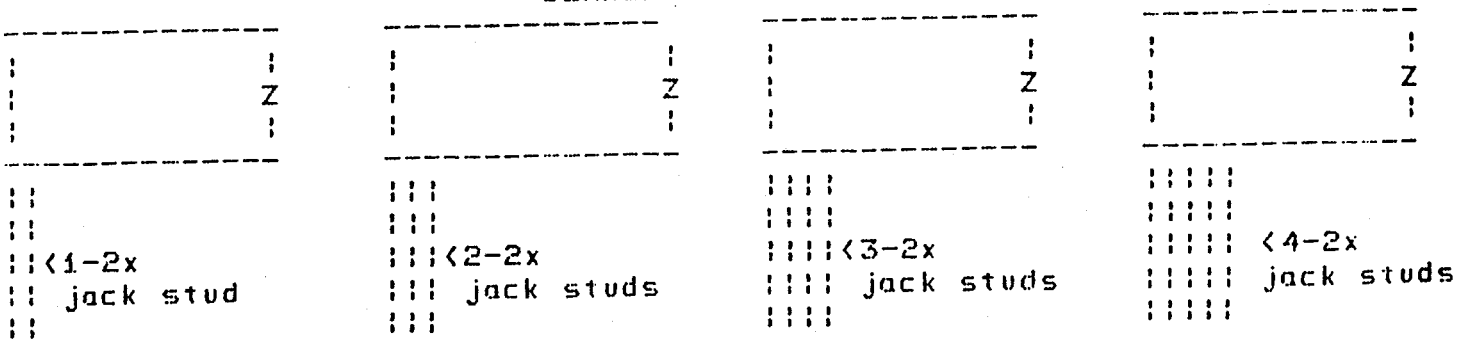


Table 27 (Cont'd)

ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:SOUTHERN PINE
GRADE:No.2
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	10.9	438	371	319	276	236	184	145	115	92
	.105	12.1	493	418	359	311	265	207	163	130	104
	1/8	12.8	529	449	385	334	285	222	175	139	112
	3/16	15.2	643	546	469	406	347	271	213	170	136
	1/4	17.6	758	643	552	478	409	319	252	200	160
	5/16	20.0	872	740	635	551	470	367	290	231	185
	3/8	22.3	_986	_837	719	623	532	416	328	261	209
	7/16	24.7	1101	_934	_802	695	594	464	366	292	234
	1/2	27.1		1031	_885	_768	_656	512	404	322	258
2x14	.075	12.8	553	510	446	388	340	299	240	192	155
	.105	14.2	623	574	504	437	382	337	270	216	174
	1/8	15.1	669	616	541	469	411	362	290	232	187
	3/16	17.9	813	749	658	571	499	440	353	283	228
	1/4	20.7	_958	_883	_775	672	588	519	416	333	269
	5/16	23.6	1102	1016	_892	_774	_677	597	479	384	310
	3/8	26.4			1009	_875	_766	_676	542	434	351
	7/16	29.2					_855	_754	_604	485	392
	1/2	32.0							_667	535	432
2x16	.075	14.8	639	588	545	508	454	401	356	294	238
	.105	16.4	719	662	614	571	511	451	401	331	268
	1/8	17.4	772	711	659	614	550	485	430	355	288
	3/16	20.6	_939	_865	_802	_747	_668	590	524	432	351
	1/4	23.9	1105	1018	_944	_879	_787	_694	_617	510	414
	5/16	27.1						_799	_710	_587	476
	3/8	30.4								_664	_539
	7/16	33.6									_602
	1/2	36.9									_664

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

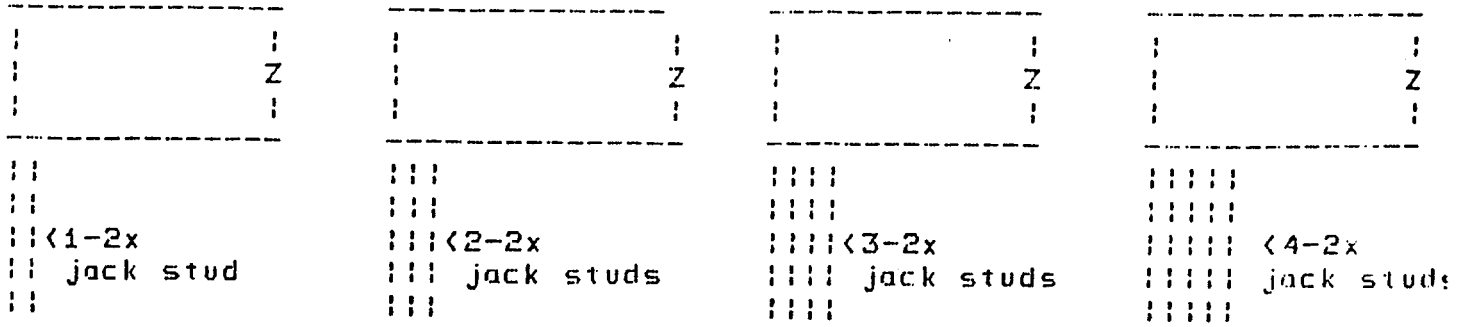


Table 28

ALLOWABLE LOADS (LB/FT)

for

STEEL FLITCH PLATE BEAMS

SPECIES:SOUTHERN PINE
GRADE:No.3
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	7.0	113	95	81	70	53	40	30	23	17
	.105	7.7	129	108	92	79	60	46	35	26	20
	1/8	8.2	139	117	100	86	65	50	38	29	22
	3/16	9.7	172	145	124	106	81	61	47	36	27
	1/4	11.2	205	173	147	127	97	73	56	43	33
	5/16	12.8	237	200	171	147	112	85	65	50	39
	3/8	14.3	270	228	195	168	128	97	75	57	44
	7/16	15.8	303	256	218	188	143	109	84	65	50
	1/2	17.3	336	283	242	208	159	121	93	72	55
2x10	.075	8.9	190	160	137	118	103	90	70	55	43
	.105	9.9	216	183	156	134	117	102	80	63	49
	1/8	10.5	234	197	169	145	127	111	86	68	53
	3/16	12.5	288	244	208	180	156	137	107	84	66
	1/4	14.4	343	290	248	214	186	163	128	100	79
	5/16	16.4	398	336	288	248	216	190	148	117	92
	3/8	18.3	452	383	327	283	246	216	169	133	105
	7/16	20.3	507	429	367	317	276	242	190	149	118
	1/2	22.2	562	475	407	351	306	268	210	165	131

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

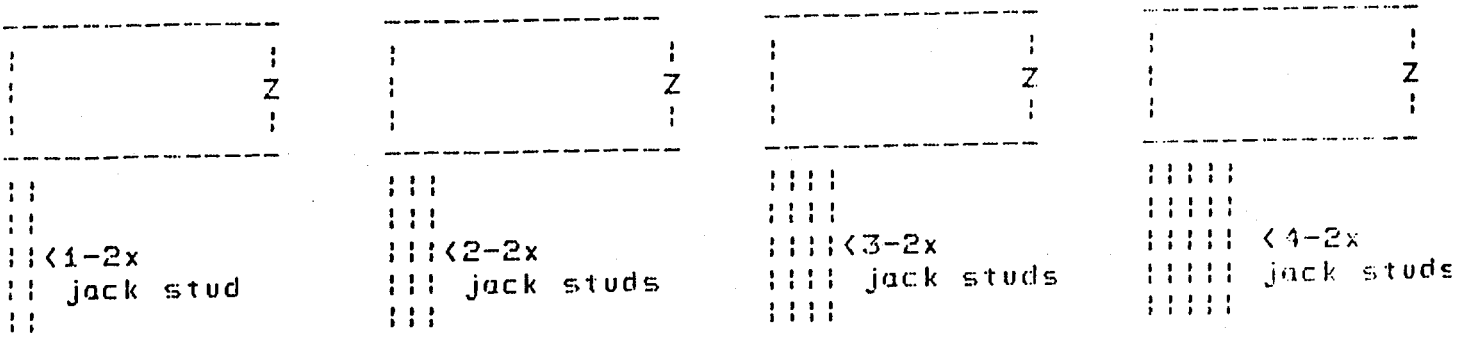


Table 28 (Cont'd)

ALLOWABLE LOADS (LB/FT) for STEEL FLITCH PLATE BEAMS

SPECIES: SOUTHERN PINE
GRADE: No.3
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	10.9	286	242	207	179	156	137	121	104	83
	.105	12.1	326	276	236	204	178	156	138	119	95
	1/8	12.8	352	298	255	220	192	169	149	128	103
	3/16	15.2	434	368	315	272	237	208	184	159	127
	1/4	17.6	516	437	375	324	283	248	219	189	152
	5/16	20.0	599	507	434	376	328	288	255	220	176
	3/8	22.3	681	577	494	428	373	328	290	250	201
	7/16	24.7	763	647	554	479	418	368	325	281	225
	1/2	27.1	845	716	614	531	463	407	360	311	249
2x14	.075	12.8	402	341	292	253	220	194	171	152	136
	.105	14.2	458	388	332	288	251	221	195	174	155
	1/8	15.1	495	419	359	311	271	239	211	188	168
	3/16	17.9	610	517	443	384	335	295	261	232	208
	1/4	20.7	725	615	527	457	399	351	311	277	248
	5/16	23.6	841	713	611	529	462	407	360	321	287
	3/8	26.4	956	811	695	602	526	463	410	365	327
	7/16	29.2	1071	909	779	675	590	519	460	410	367
	1/2	32.0		1006	863	748	653	575	509	454	406
2x16	.075	14.8	538	456	391	339	296	260	231	205	184
	.105	16.4	612	519	445	386	337	296	263	234	210
	1/8	17.4	661	561	481	417	364	321	284	253	227
	3/16	20.6	815	692	593	514	449	396	351	313	280
	1/4	23.9	970	822	706	612	535	471	417	372	333
	5/16	27.1	1124	953	818	709	620	546	484	432	387
	3/8	30.4		1084	931	807	705	621	551	491	440
	7/16	33.6				904	790	696	617	551	494
	1/2	36.9						771	684	610	547

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

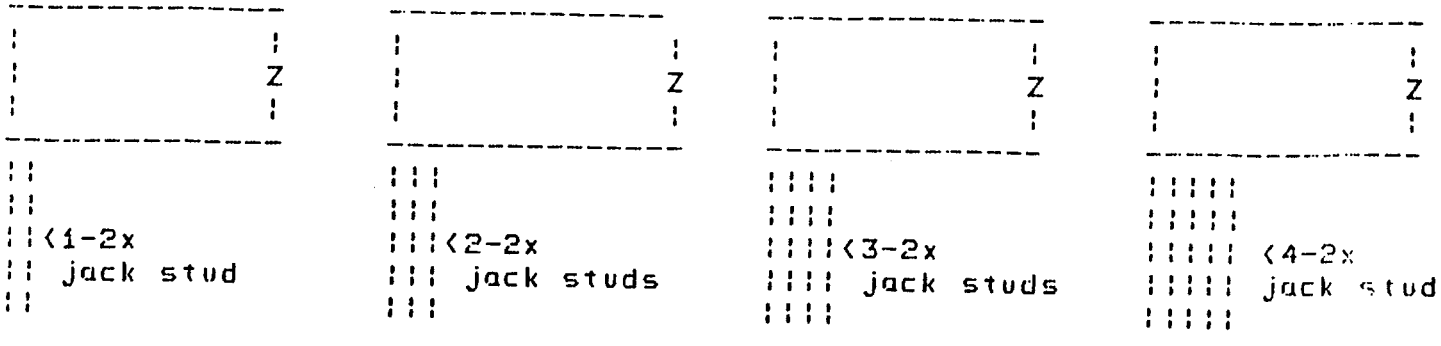


Table 29
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:SPRUCE-PINE-FIR
GRADE:Sel.Str.
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	5.8	150	118	94	75	57	43	33	26	20
	.105	6.5	170	133	106	85	64	49	38	29	22
	1/8	7.0	183	143	114	92	69	53	41	31	24
	3/16	8.5	224	176	140	112	85	65	50	39	30
	1/4	10.0	265	208	165	133	101	77	59	46	35
	5/16	11.5	306	240	191	153	116	89	68	53	41
	3/8	13.1	347	272	216	174	132	101	78	60	47
	7/16	14.6	388	304	242	195	147	113	87	67	52
	1/2	16.1	429	336	267	215	163	125	96	74	58
2x10	.075	7.4	280	237	200	162	124	96	75	59	47
	.105	8.3	316	268	226	183	140	109	85	67	53
	1/8	8.9	341	289	243	197	151	117	92	72	57
	3/16	10.9	417	354	298	242	185	144	112	89	70
	1/4	12.8	493	418	352	286	219	170	133	105	83
	5/16	14.8	569	483	407	330	253	196	154	121	96
	3/8	16.7	645	547	461	374	287	222	174	137	109
	7/16	18.7	722	612	516	419	321	249	195	154	122
	1/2	20.6		677	570	463	355	275	215	170	135

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

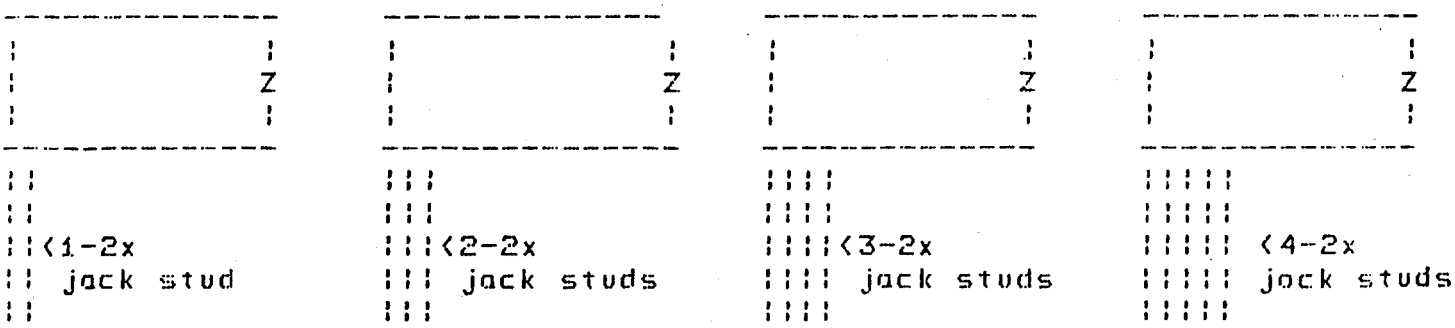


Table 29 (Cont'd)

ALLOWABLE LOADS (LB/FT) for STEEL FLITCH PLATE BEAMS

SPECIES: SPRUCE-PINE-FIR
GRADE: Sel.Str.
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	9.0	371	342	306	266	227	177	140	111	89
	.105	10.2	420	387	346	300	257	200	158	126	101
	1/8	10.9	452	416	373	323	276	216	170	136	109
	3/16	13.3	553	509	456	396	338	264	209	166	133
	1/4	15.7	654	602	540	468	400	313	247	197	158
	5/16	18.1	755	696	623	540	462	361	285	227	182
	3/8	20.4				613	524	409	323	258	207
	7/16	22.8						457	361	288	231
	1/2	25.2						506	400	319	256
2x14	.075	10.6	439	404	375	349	326	288	231	185	150
	.105	12.0	496	457	423	394	369	326	261	209	169
	1/8	12.9	534	492	456	425	397	351	281	226	182
	3/16	15.7	654	602	558	520	486	429	344	276	223
	1/4	18.5	773	712	660	615	575	508	407	327	264
	5/16	21.3							470	377	305
	3/8	24.1								427	346
	7/16	26.9									387
	1/2	29.8									427
2x16	.075	12.2	506	467	432	403	377	354	333	283	230
	.105	13.8	573	527	489	455	426	400	377	320	260
	1/8	14.8	617	568	526	490	459	431	406	345	280
	3/16	18.1	754	695	644	600	561	527	497	422	343
	1/4	21.3									405

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

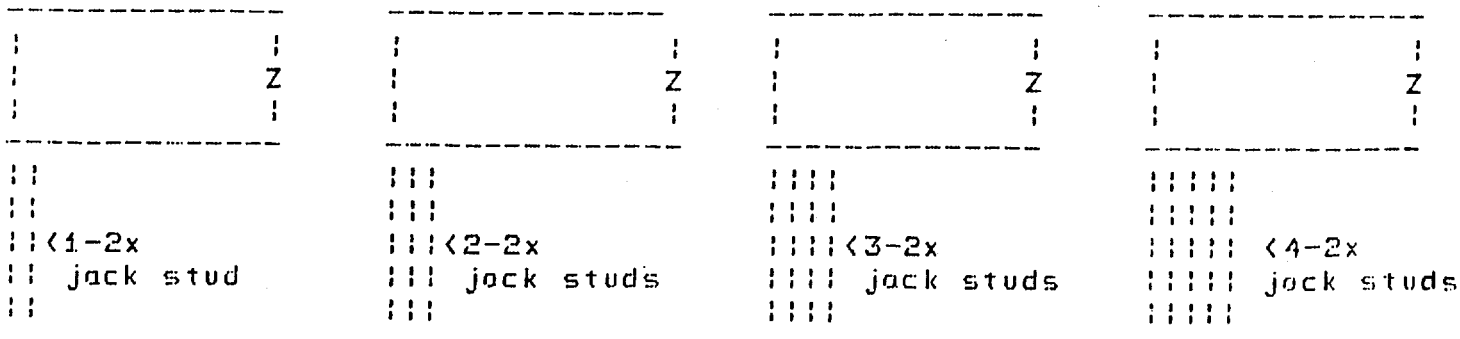


Table 30

ALLOWABLE LOADS (LB/FT)

for

STEEL FLITCH PLATE BEAMS

SPECIES: SPRUCE-PINE-FIR
GRADE: No.1
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	5.8	150	118	94	75	57	43	33	26	20
	.105	6.5	170	133	106	85	64	49	38	29	22
	1/8	7.0	183	143	114	92	69	53	41	31	24
	3/16	8.5	224	176	140	112	85	65	50	39	30
	1/4	10.0	265	208	165	133	101	77	59	46	35
	5/16	11.5	306	240	191	153	116	89	68	53	41
	3/8	13.1	347	272	216	174	132	101	78	60	47
	7/16	14.6	388	304	242	195	147	113	87	67	52
	1/2	16.1	429	336	267	215	163	125	96	74	58
2x10	.075	7.4	280	237	200	162	124	96	75	59	47
	.105	8.3	316	268	226	183	140	109	85	67	53
	1/8	8.9	341	289	243	197	151	117	92	72	57
	3/16	10.9	417	354	298	242	185	144	112	89	70
	1/4	12.8	493	418	352	286	219	170	133	105	83
	5/16	14.8	569	483	407	330	253	196	154	121	96
	3/8	16.7	_645	_547	461	374	287	222	174	137	109
	7/16	18.7	_722	_612	_516	419	321	249	195	154	122
	1/2	20.6		_677	_570	_463	355	275	215	170	135

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

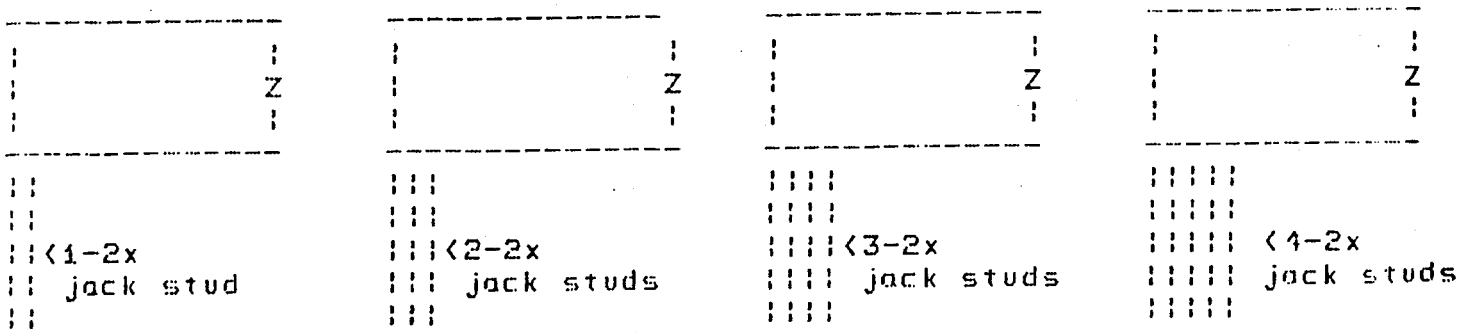


Table 30 (Cont'd)
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:SPRUCE-PINE-FIR
GRADE:No.1
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	9.0	371	342	306	266	227	177	140	111	89
	.105	10.2	420	387	346	300	257	200	158	126	101
	1/8	10.9	452	416	373	323	276	216	170	136	109
	3/16	13.3	553	509	456	396	338	264	209	166	133
	1/4	15.7	654	602	540	468	400	313	247	197	158
	5/16	18.1	755	696	623	540	462	361	285	227	182
	3/8	20.4				613	524	409	323	258	207
	7/16	22.8						457	361	288	231
	1/2	25.2						506	400	319	256
2x14	.075	10.6	439	404	375	349	326	288	231	185	150
	.105	12.0	496	457	423	394	369	326	261	209	169
	1/8	12.9	534	492	456	425	397	351	281	226	182
	3/16	15.7	654	602	558	520	486	429	344	276	223
	1/4	18.5	773	712	660	615	575	508	407	327	264
	5/16	21.3							470	377	305
	3/8	24.1								427	346
	7/16	26.9									387
	1/2	29.8									427
2x16	.075	12.2	506	467	432	403	377	354	333	283	230
	.105	13.8	573	527	489	455	426	400	377	320	260
	1/8	14.8	617	568	526	490	459	431	406	345	280
	3/16	18.1	754	695	644	600	561	527	497	422	343
	1/4	21.3									405

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

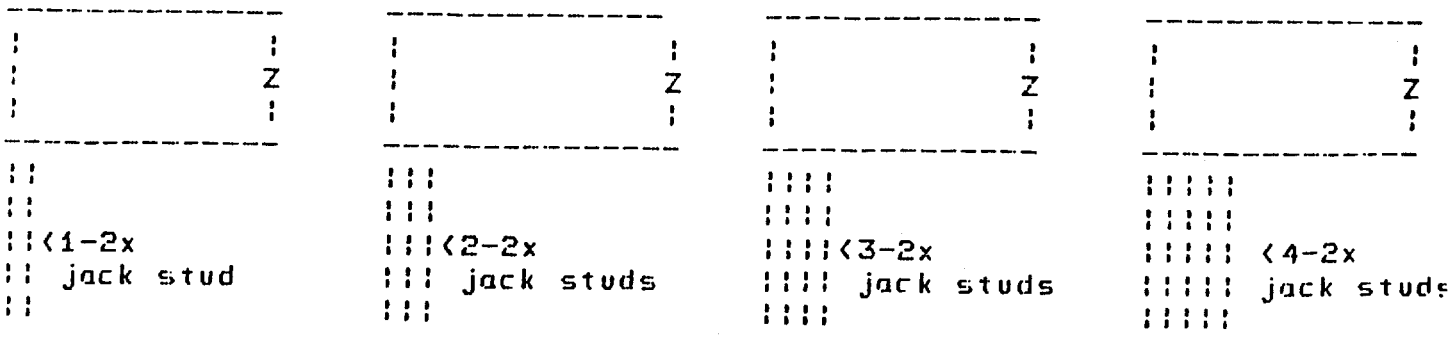


Table 31
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:SPRUCE-PINE-FIR
GRADE:No.2
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	5.8	136	107	85	68	51	39	30	23	17
	.105	6.5	156	122	97	78	59	45	34	26	20
	1/8	7.0	169	132	105	84	64	49	37	29	22
	3/16	8.5	210	164	131	105	79	60	46	36	27
	1/4	10.0	251	197	156	126	95	72	56	43	33
	5/16	11.5	292	229	182	146	111	84	65	50	39
	3/8	13.1	333	261	207	167	126	96	74	57	44
	7/16	14.6	374	293	233	187	142	108	83	64	50
	1/2	16.1	415	325	258	208	157	120	93	72	55
2x10	.075	7.4	248	210	180	147	112	87	68	53	42
	.105	8.3	283	240	206	168	129	99	78	61	48
	1/8	8.9	307	260	223	182	139	108	84	66	52
	3/16	10.9	381	323	277	226	173	134	105	83	65
	1/4	12.8	456	386	331	271	207	161	126	99	78
	5/16	14.8	530	449	385	315	241	187	146	115	91
	3/8	16.7	604	512	439	359	275	213	167	131	104
	7/16	18.7	679	575	493	403	309	239	187	148	117
	1/2	20.6	753	638	548	447	343	266	208	164	130

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

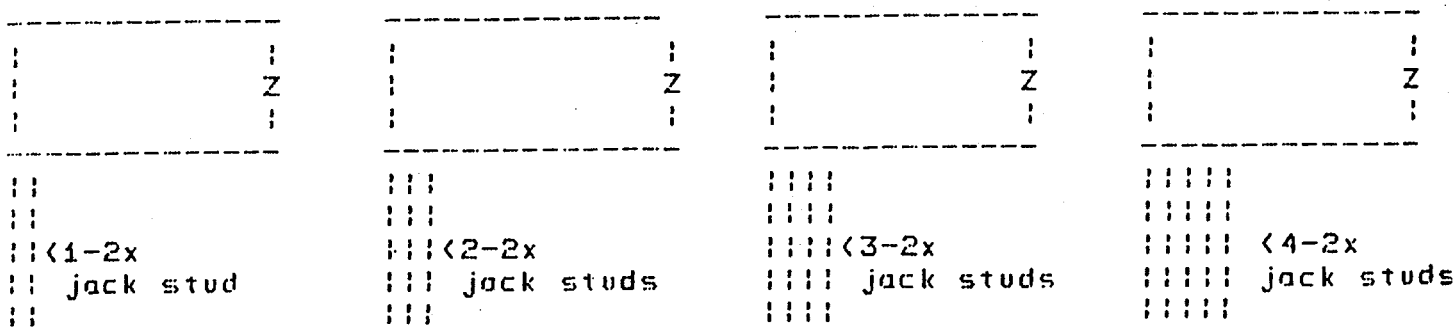


Table 31 (Cont'd)

ALLOWABLE LOADS (LB/FT)

for

STEEL FLITCH PLATE BEAMS

SPECIES:SPRUCE-PINE-FIR
GRADE:No.2
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	9.0	372	316	271	235	205	160	126	101	81
	.105	10.2	426	361	310	269	235	184	145	115	92
	1/8	10.9	461	392	336	291	255	199	157	125	100
	3/16	13.3	573	486	417	362	316	247	195	155	125
	1/4	15.7	685	581	499	432	378	296	233	186	149
	5/16	18.1		676	580	503	440	344	272	216	174
	3/8	20.4				573	501	392	310	247	198
	7/16	22.8					563	441	348	277	222
	1/2	25.2						489	386	308	247
2x14	.075	10.6	461	425	381	330	289	255	209	168	135
	.105	12.0	528	486	435	378	330	291	239	192	155
	1/8	12.9	572	527	472	409	358	316	260	208	168
	3/16	15.7	710	654	586	508	445	392	322	258	209
	1/4	18.5				607	531	469	385	309	250
	5/16	21.3							448	359	290
	3/8	24.1								410	331
	7/16	26.9								460	372
	1/2	29.8									413
2x16	.075	12.2	532	491	455	423	387	341	303	256	208
	.105	13.8	609	561	520	484	442	390	346	293	238
	1/8	14.8	660	608	564	525	479	423	375	318	258
	3/16	18.1						525	466	395	321
	1/4	21.3								472	384
	5/16	24.6									446

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

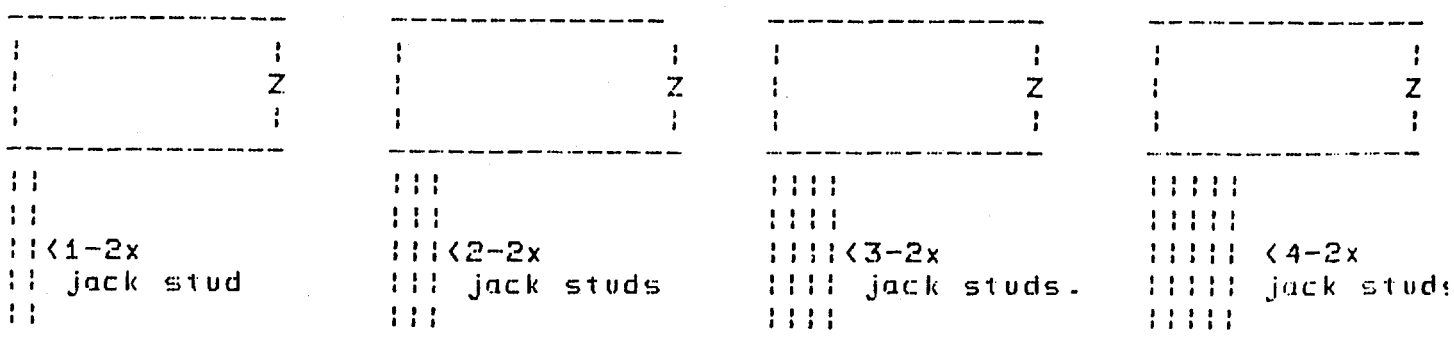


Table 32
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:SPRUCE-PINE-FIR
GRADE:No.3
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	5.8	85	71	61	52	45	37	28	21	16
	.105	6.5	98	82	70	60	52	42	32	25	19
	1/8	7.0	106	89	76	65	57	46	35	27	21
	3/16	8.5	133	112	96	82	71	58	45	34	26
	1/4	10.0	160	135	115	99	86	70	54	41	32
	5/16	11.5	187	158	135	116	100	82	63	49	37
	3/8	13.1	214	181	154	132	115	94	72	56	43
	7/16	14.6	242	204	173	149	129	106	82	63	49
	1/2	16.1	269	226	193	166	144	118	91	70	54
2x10	.075	7.4	143	120	103	88	77	67	59	50	40
	.105	8.3	164	139	118	102	88	77	68	58	46
	1/8	8.9	179	151	129	111	96	84	74	63	50
	3/16	10.9	224	189	162	139	121	106	93	80	63
	1/4	12.8	269	227	194	167	146	127	112	96	76
	5/16	14.8	314	266	227	196	170	149	131	112	89
	3/8	16.7	360	304	260	224	195	171	150	128	102
	7/16	18.7	405	342	292	252	219	192	169	145	115
	1/2	20.6	450	380	325	281	244	214	188	161	128

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

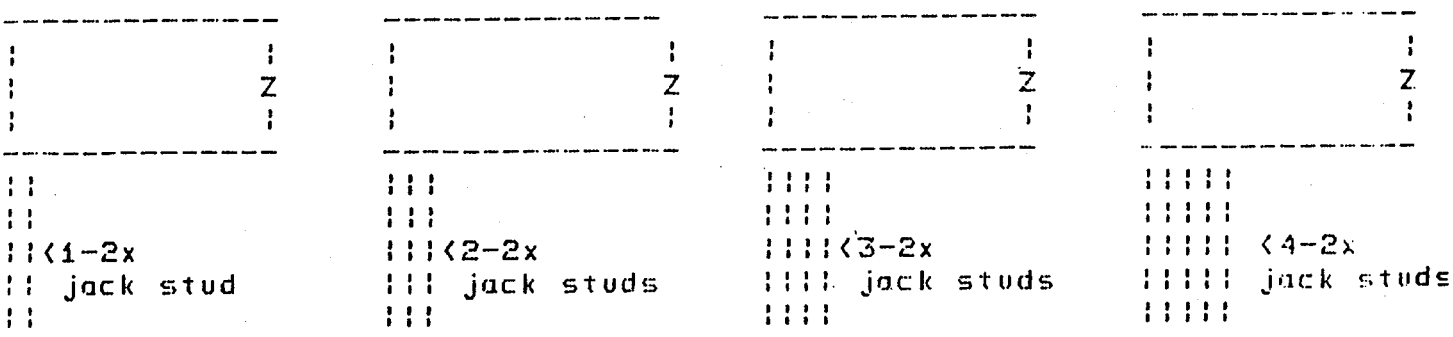


Table 32 (Cont'd)
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:SPRUCE-PINE-FIR
GRADE:No.3
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	9.0	215	182	156	134	117	102	90	80	71
	.105	10.2	248	210	179	155	135	118	104	92	82
	1/8	10.9	270	228	195	168	147	129	114	101	90
	3/16	13.3	338	286	245	211	184	161	142	126	113
	1/4	15.7	406	343	294	254	221	194	171	152	136
	5/16	18.1	474	401	343	297	259	227	200	178	159
	3/8	20.4	542	459	393	339	296	260	229	204	182
	7/16	22.8	610	517	442	382	333	292	258	229	205
	1/2	25.2	678	574	492	425	370	325	287	255	228
2x14	.075	10.6	303	256	219	190	165	145	128	114	102
	.105	12.0	349	295	253	219	191	167	148	132	117
	1/8	12.9	379	321	275	238	207	182	161	143	128
	3/16	15.7	475	402	345	298	260	228	202	180	161
	1/4	18.5	571	483	414	358	313	275	243	216	193
	5/16	21.3	666	564	484	419	365	321	284	253	226
	3/8	24.1	762	646	553	479	418	367	325	289	259
	7/16	26.9			623	539	470	414	366	326	291
	1/2	29.8				599	523	460	407	362	324
2x16	.075	12.2	405	343	294	255	222	195	173	154	138
	.105	13.8	466	395	339	293	256	225	199	177	159
	1/8	14.8	507	430	369	319	279	245	217	193	173
	3/16	18.1	635	538	462	400	349	307	272	242	217
	1/4	21.3	763	647	555	480	420	369	327	291	261
	5/16	24.6			648	561	490	431	382	340	305
	3/8	27.8					561	493	437	389	349
	7/16	31.1							492	438	393
	1/2	34.3									437

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

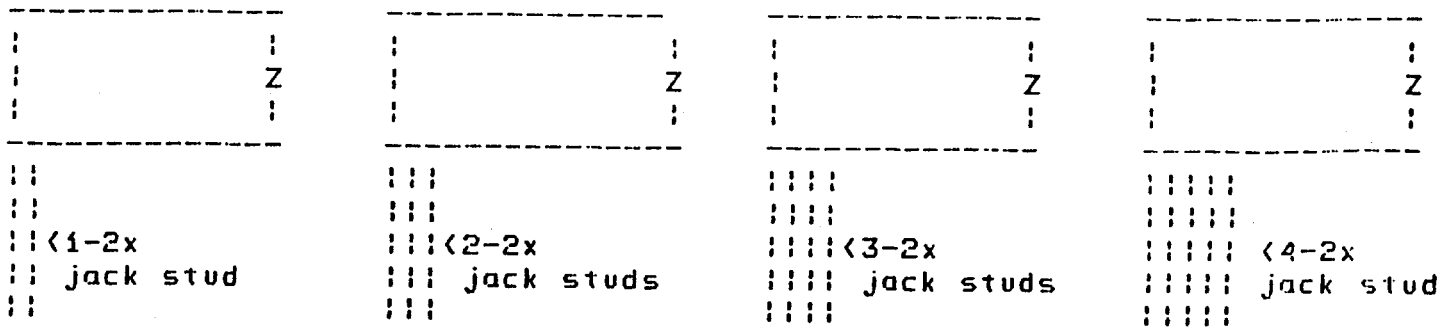


Table 33
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES: WESTERN HEMLOCK
GRADE: Sel.Str.
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	6.3	157	123	97	78	59	45	35	27	20
	.105	7.1	177	138	110	88	67	51	39	30	23
	1/8	7.6	190	148	118	95	72	55	42	32	25
	3/16	9.1	231	181	143	115	87	67	51	39	30
	1/4	10.6	272	213	169	136	103	79	60	47	36
	5/16	12.1	313	245	195	157	118	91	70	54	42
	3/8	13.6	354	277	220	177	134	103	79	61	47
	7/16	15.1	395	309	246	198	150	114	88	68	53
	1/2	16.7	436	341	271	218	165	126	97	75	58
2x10	.075	8.1	292	248	208	169	129	100	78	62	49
	.105	9.1	329	279	235	190	146	113	88	69	55
	1/8	9.7	353	299	252	204	156	121	95	75	59
	3/16	11.6	429	364	306	249	190	147	115	91	72
	1/4	13.6	505	428	361	293	224	174	136	107	85
	5/16	15.5	581	493	415	337	258	200	157	123	98
	3/8	17.5	658	558	470	381	292	226	177	140	111
	7/16	19.4	734	622	524	425	326	253	198	156	124
	1/2	21.4	810	687	579	470	360	279	218	172	137

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

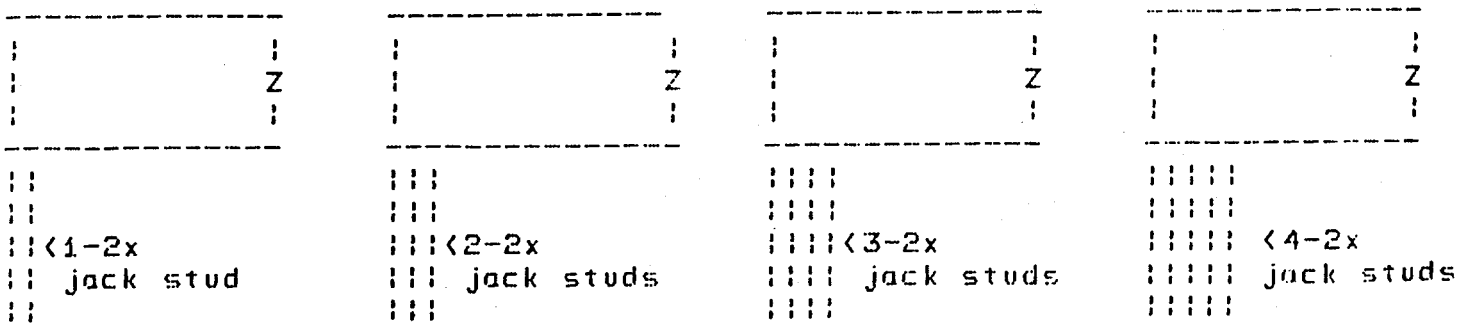


Table 33 (Cont'd)

ALLOWABLE LOADS (LB/FT) for STEEL FLITCH PLATE BEAMS

SPECIES: WESTERN HEMLOCK
GRADE: Sel.Str.
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	9.9	439	372	320	277	237	185	146	116	93
	.105	11.1	494	419	360	312	266	208	164	131	105
	1/8	11.8	530	450	386	335	286	223	176	140	113
	3/16	14.2	_645	547	470	407	348	272	214	171	137
	1/4	16.6	_759	_644	_553	480	410	320	253	201	161
	5/16	18.9		_741	_636	_552	_471	368	291	232	186
	3/8	21.3				_624	_533	417	329	262	210
	7/16	23.7					_595	_465	367	293	235
	1/2	26.1						_513	_405	323	259
2x14	.075	11.6	555	511	449	389	341	300	241	193	156
	.105	13.0	_624	_575	505	438	383	338	271	217	175
	1/8	13.9	_670	_617	_542	470	412	363	291	233	189
	3/16	16.7	_815	_751	_659	_572	_501	_442	354	284	229
	1/4	19.5					_590	_520	_417	334	270
	5/16	22.4							_480	_385	311
	3/8	25.2								_435	352
	7/16	28.0								_486	393
	1/2	30.8									_434
2x16	.075	13.4	_640	_590	_547	_509	456	402	357	295	240
	.105	15.0	_720	_663	_615	_573	_513	_452	402	332	270
	1/8	16.0	_773	_713	_660	_615	_551	_486	_432	357	290
	3/16	19.3							_525	_434	352
	1/4	22.5									415

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

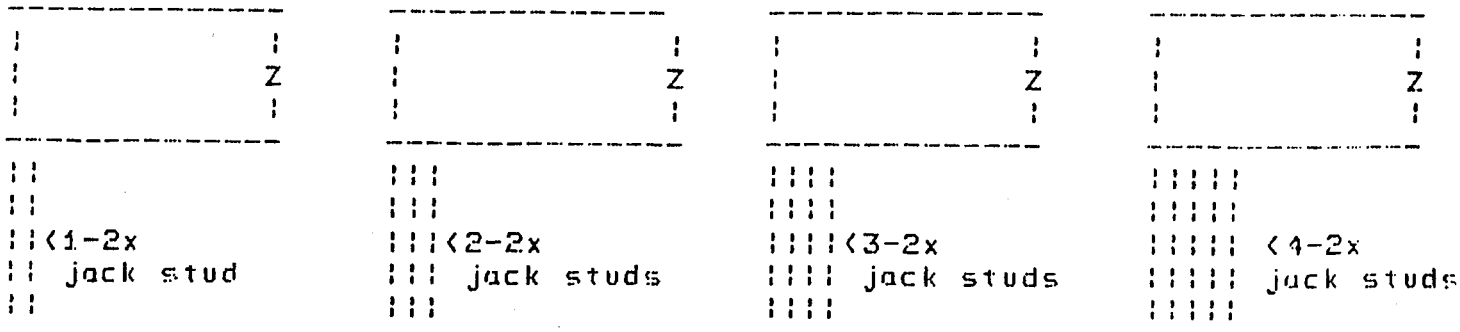


Table 34
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES: WESTERN HEMLOCK
GRADE: No.1
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	6.3	157	123	97	78	59	45	35	27	20
	.105	7.1	177	138	110	88	67	51	39	30	23
	1/8	7.6	190	148	118	95	72	55	42	32	25
	3/16	9.1	231	181	143	115	87	67	51	39	30
	1/4	10.6	272	213	169	136	103	79	60	47	36
	5/16	12.1	313	245	195	157	118	91	70	54	42
	3/8	13.6	354	277	220	177	134	103	79	61	47
	7/16	15.1	395	309	246	198	150	114	88	68	53
	1/2	16.7	436	341	271	218	165	126	97	75	58
2x10	.075	8.1	292	248	208	169	129	100	78	62	49
	.105	9.1	329	279	235	190	146	113	88	69	55
	1/8	9.7	353	299	252	204	156	121	95	75	59
	3/16	11.6	429	364	306	249	190	147	115	91	72
	1/4	13.6	505	428	361	293	224	174	136	107	85
	5/16	15.5	581	493	415	337	258	200	157	123	98
	3/8	17.5	658	558	470	381	292	226	177	140	111
	7/16	19.4	734	622	524	425	326	253	198	156	124
	1/2	21.4	810	687	579	470	360	279	218	172	137

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

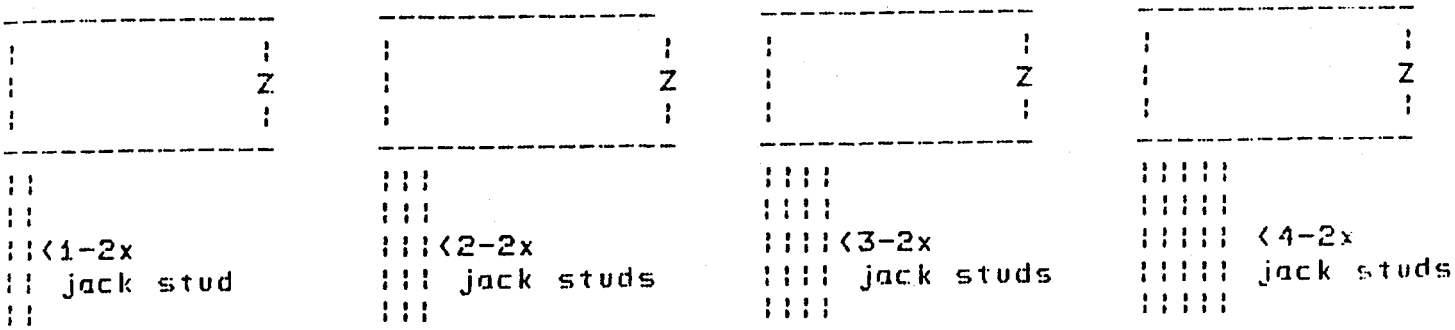


Table 34 (Cont'd)
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES: WESTERN HEMLOCK
GRADE: No.1
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	9.9	439	372	320	277	237	185	146	116	93
	.105	11.1	494	419	360	312	266	208	164	131	105
	1/8	11.8	530	450	386	335	286	223	176	140	113
	3/16	14.2	645	547	470	407	348	272	214	171	137
	1/4	16.6	759	644	553	480	410	320	253	201	161
	5/16	18.9		741	636	552	471	368	291	232	186
	3/8	21.3				624	533	417	329	262	210
	7/16	23.7					595	465	367	293	235
	1/2	26.1						513	405	323	259
2x14	.075	11.6	555	511	449	389	341	300	241	193	156
	.105	13.0	624	575	505	438	383	338	271	217	175
	1/8	13.9	670	617	542	470	412	363	291	233	189
	3/16	16.7	815	751	659	572	501	442	354	284	229
	1/4	19.5					590	520	417	334	270
	5/16	22.4							480	385	311
	3/8	25.2								435	352
	7/16	28.0								486	393
	1/2	30.8									434
2x16	.075	13.4	640	590	547	509	456	402	357	295	240
	.105	15.0	720	663	615	573	513	452	402	332	270
	1/8	16.0	773	713	660	615	551	486	432	357	290
	3/16	19.3							525	434	352
	1/4	22.5									415

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

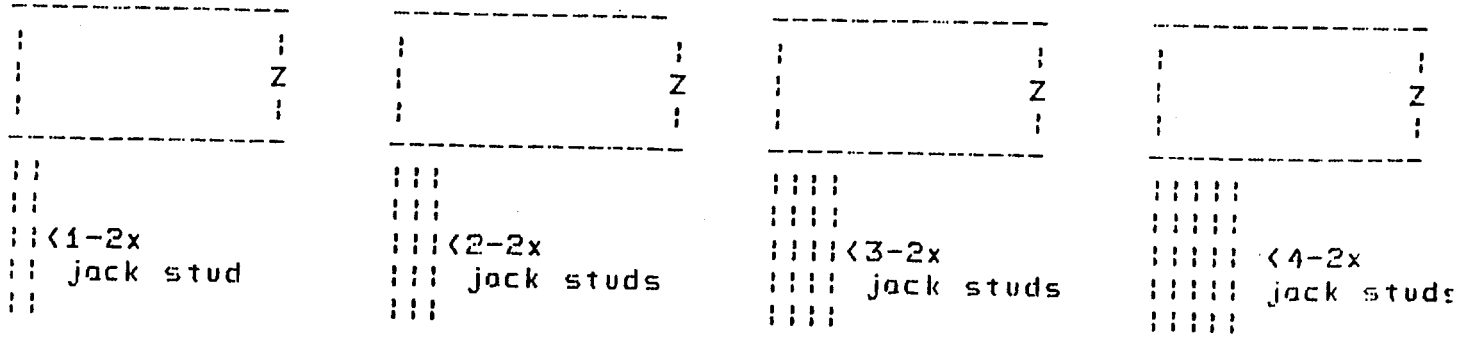


Table 35

ALLOWABLE LOADS (LB/FT)

for

STEEL FLITCH PLATE BEAMS

SPECIES: WESTERN HEMLOCK
GRADE: No.2
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	6.3	143	112	88	71	53	41	31	24	18
	.105	7.1	162	127	101	81	61	46	35	27	21
	1/8	7.6	176	137	109	87	66	50	38	29	23
	3/16	9.1	217	169	134	108	82	62	48	37	28
	1/4	10.6	258	202	160	129	97	74	57	44	34
	5/16	12.1	299	234	186	149	113	86	66	51	39
	3/8	13.6	340	266	211	170	128	98	75	58	45
	7/16	15.1	381	298	237	190	144	110	85	65	50
	1/2	16.7	422	330	262	211	160	122	94	72	56
2x10	.075	8.1	266	226	190	154	118	91	71	56	44
	.105	9.1	303	257	216	175	134	103	81	63	50
	1/8	9.7	327	277	233	189	145	112	87	69	54
	3/16	11.6	403	342	288	233	179	138	108	85	67
	1/4	13.6	479	406	342	278	212	164	129	101	80
	5/16	15.5	556	471	397	322	246	191	149	117	93
	3/8	17.5	632	536	451	366	280	217	170	134	106
	7/16	19.4	708	600	506	410	314	243	190	150	119
	1/2	21.4	784	665	560	454	348	270	211	166	132

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

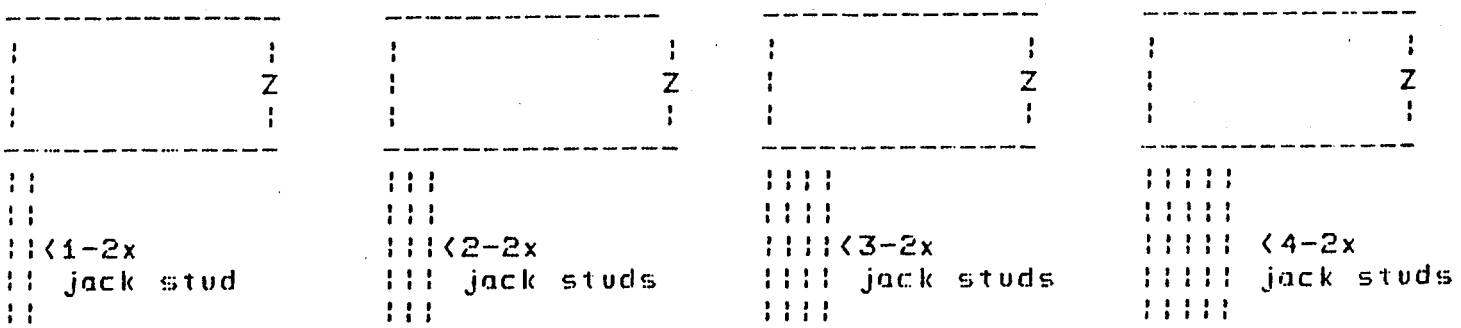


Table 35 (Cont'd)

ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES: WESTERN HEMLOCK
GRADE: No.2
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	9.9	400	339	291	252	215	168	132	105	84
	.105	11.1	455	386	331	287	245	191	151	120	96
	1/8	11.8	492	417	358	310	265	207	163	129	104
	3/16	14.2	606	514	441	382	327	255	201	160	128
	1/4	16.6	_720	_611	_525	455	388	303	239	190	153
	5/16	18.9		_708	_608	_527	450	352	277	221	177
	3/8	21.3			_691	_599	_512	400	316	251	202
	7/16	23.7					_574	_448	354	282	226
	1/2	26.1						_497	392	312	250
2x14	.075	11.6	561	476	409	355	310	274	219	175	141
	.105	13.0	_638	542	465	403	353	311	249	199	161
	1/8	13.9	_689	_585	503	436	381	336	269	216	174
	3/16	16.7		_721	_620	_537	_470	415	332	266	215
	1/4	19.5				_639	_559	_493	395	317	256
	5/16	22.4							_458	367	297
	3/8	25.2							_521	_418	337
	7/16	28.0								_468	_378
	1/2	30.8									_419
2x16	.075	13.4	_669	_617	_547	475	415	366	325	269	218
	.105	15.0	_761	_701	_622	_540	_472	417	370	306	248
	1/8	16.0	_822	_757	_672	_583	_510	_450	400	330	268
	3/16	19.3						_555	_493	_407	331
	1/4	22.5								_484	_393
	5/16	25.8									_456

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

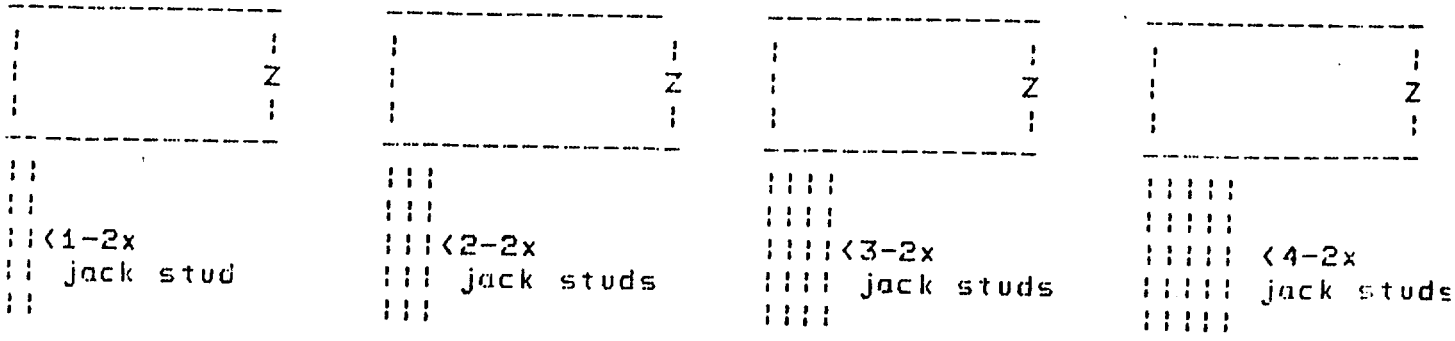


Table 36
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:WESTERN HEMLOCK
GRADE:No.3
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	6.3	108	91	78	67	51	38	29	22	17
	.105	7.1	124	104	89	76	58	44	34	26	20
	1/8	7.6	134	113	96	83	63	48	37	28	21
	3/16	9.1	167	141	120	103	79	60	46	35	27
	1/4	10.6	200	169	144	124	94	72	55	42	32
	5/16	12.1	232	196	167	144	110	84	64	49	38
	3/8	13.6	265	224	191	165	126	96	74	57	44
	7/16	15.1	298	252	215	185	141	108	83	64	49
	1/2	16.7	331	279	238	205	157	120	92	71	55
2x10	.075	8.1	181	153	131	113	98	86	67	53	41
	.105	9.1	207	175	150	129	112	99	77	60	48
	1/8	9.7	225	190	163	140	122	107	84	66	52
	3/16	11.6	280	237	202	175	152	133	104	82	65
	1/4	13.6	334	283	242	209	182	160	125	98	78
	5/16	15.5	389	329	282	243	212	186	145	114	91
	3/8	17.5	444	375	321	278	242	212	166	131	103
	7/16	19.4	498	422	361	312	272	238	187	147	116
	1/2	21.4	553	468	401	346	302	265	207	163	129

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

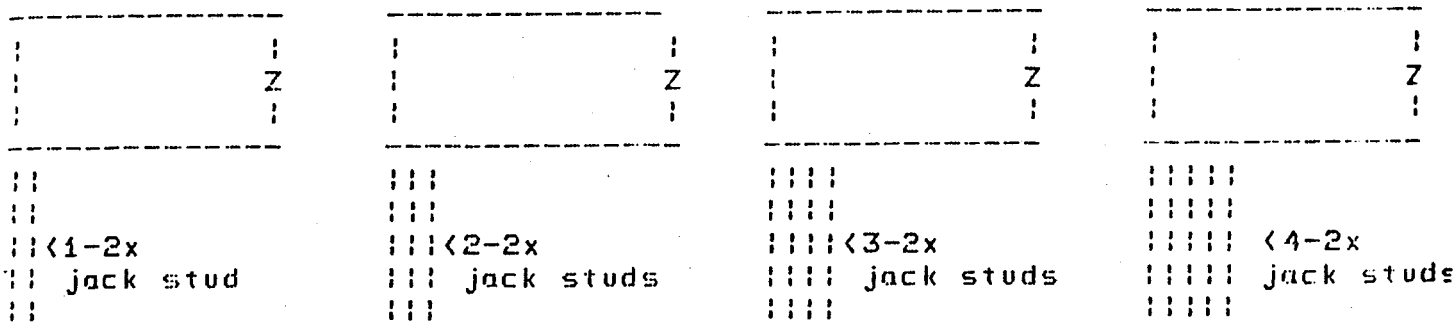


Table 36 (Cont'd)
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES: WESTERN HEMLOCK
GRADE: No.3
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS .25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	9.9	273	231	198	171	149	131	116	100	80
	.105	11.1	313	265	227	196	171	150	133	114	91
	1/8	11.8	339	287	246	213	185	163	144	124	99
	3/16	14.2	421	357	306	264	231	203	179	154	124
	1/4	16.6	503	426	365	316	276	242	214	185	148
	5/16	18.9	586	496	425	368	321	282	249	215	173
	3/8	21.3	_668	_566	485	420	366	322	285	246	197
	7/16	23.7	_750	_636	_545	471	411	362	320	276	222
	1/2	26.1		_705	_604	_523	_457	401	355	307	246
2x14	.075	11.6	384	325	279	241	211	185	164	146	130
	.105	13.0	439	372	319	276	241	212	188	167	149
	1/8	13.9	476	404	346	300	262	230	204	181	162
	3/16	16.7	592	502	430	372	325	286	253	226	202
	1/4	19.5	_707	_599	514	445	389	342	303	270	242
	5/16	22.4		_697	_598	_518	_453	398	353	314	281
	3/8	25.2			_682	_591	_516	_454	_402	359	321
	7/16	28.0					_580	_510	_452	_403	_361
	1/2	30.8							_502	_447	_401
2x16	.075	13.4	513	435	374	324	283	249	220	196	176
	.105	15.0	587	498	427	370	324	285	252	225	202
	1/8	16.0	_637	540	463	402	351	309	274	244	219
	3/16	19.3	_791	_671	_576	_499	436	384	340	304	272
	1/4	22.5			_688	_596	_521	_459	_407	363	325
	5/16	25.8						_534	_474	_423	_379
	3/8	29.0								_482	_432

NOTE: The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

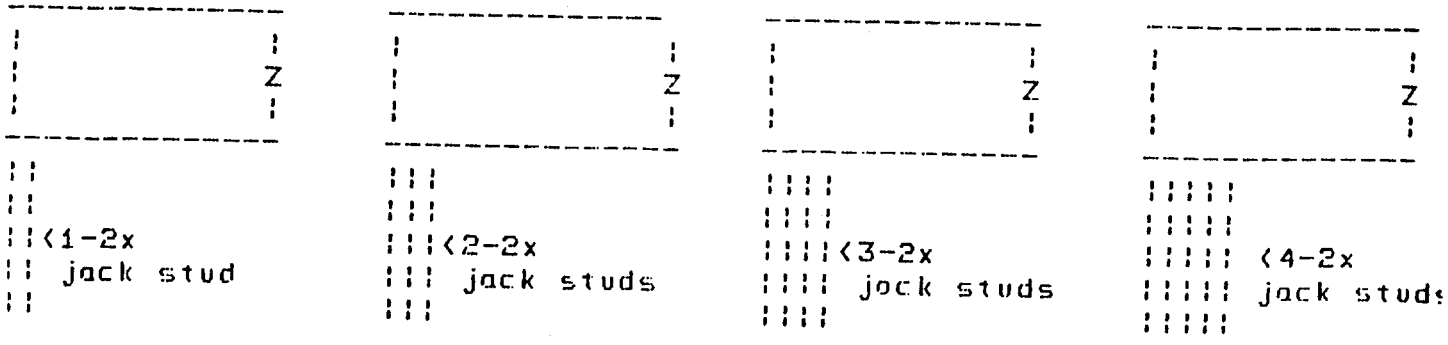


Table 37

ALLOWABLE LOADS (LB/FT)

for

STEEL FLITCH PLATE BEAMS

SPECIES:WHITE WOODS
GRADE:Sel.Str.
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	5.1	123	96	76	61	46	35	27	21	16
	.105	5.9	143	112	88	71	54	41	31	24	18
	1/8	6.3	156	122	97	78	59	45	34	26	20
	3/16	7.8	197	154	122	98	74	57	44	34	26
	1/4	9.4	238	186	148	119	90	69	53	41	31
	5/16	10.9	279	218	173	139	106	81	62	48	37
	3/8	12.4	320	250	199	160	121	93	71	55	43
	7/16	13.9	361	283	225	181	137	105	80	62	48
	1/2	15.4	402	315	250	201	152	117	90	69	54
2x10	.075	6.5	229	194	163	132	101	78	61	48	38
	.105	7.5	265	225	189	154	118	91	71	56	44
	1/8	8.1	290	246	207	168	128	99	78	61	48
	3/16	10.1	366	310	261	212	162	126	98	77	61
	1/4	12.0	_442	375	316	256	196	152	119	94	74
	5/16	14.0	_518	_440	_370	300	230	178	140	110	87
	3/8	15.9		_504	_425	_345	264	205	160	126	100
	7/16	17.9				_389	298	231	181	143	113
	1/2	19.8				_433	_332	257	201	159	126

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to soppport the beam at each end.

BEARING AREA CODE:

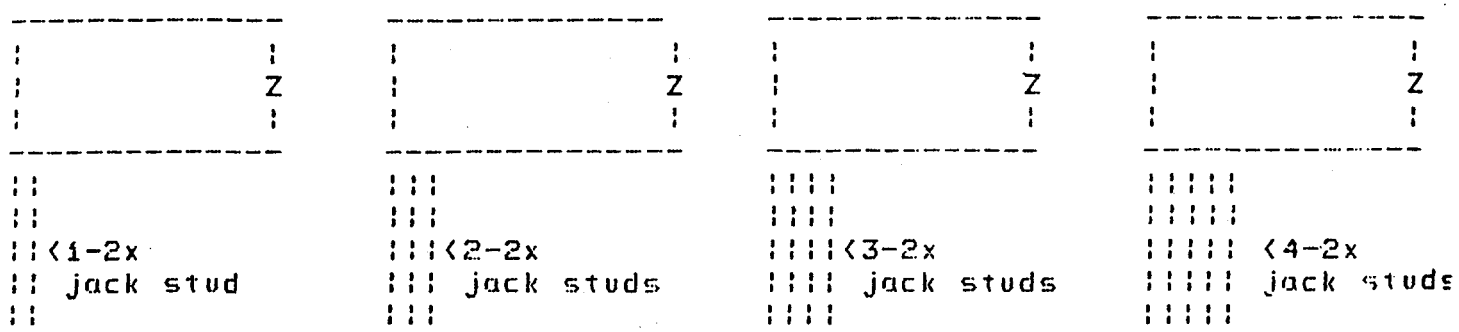


Table 37 (Cont'd)

ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:WHITE WOODS
GRADE:Sel.Str.
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	8.0	344	292	251	217	185	145	114	91	73
	.105	9.1	399	338	291	252	215	168	132	105	84
	1/8	9.9	436	370	317	275	235	183	145	115	92
	3/16	12.3	550	467	401	347	297	232	183	146	117
	1/4	14.6				420	358	280	221	176	141
	5/16	17.0						328	259	206	166
	3/8	19.4						377	297	237	190
	7/16	21.8							336	267	215
	1/2	24.2								298	239
2x14	.075	9.4	483	410	352	305	267	235	189	151	122
	.105	10.8		475	408	354	310	273	219	175	142
	1/8	11.7			445	386	338	298	239	191	155
	3/16	14.5						377	302	242	195
	1/4	17.3								292	236
	5/16	20.1									277
	3/8	22.9									318
2x16	.075	10.8			470	408	357	315	280	231	188
	.105	12.4					414	366	325	268	218
	1/8	13.4							355	293	238
	3/16	16.7									301

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

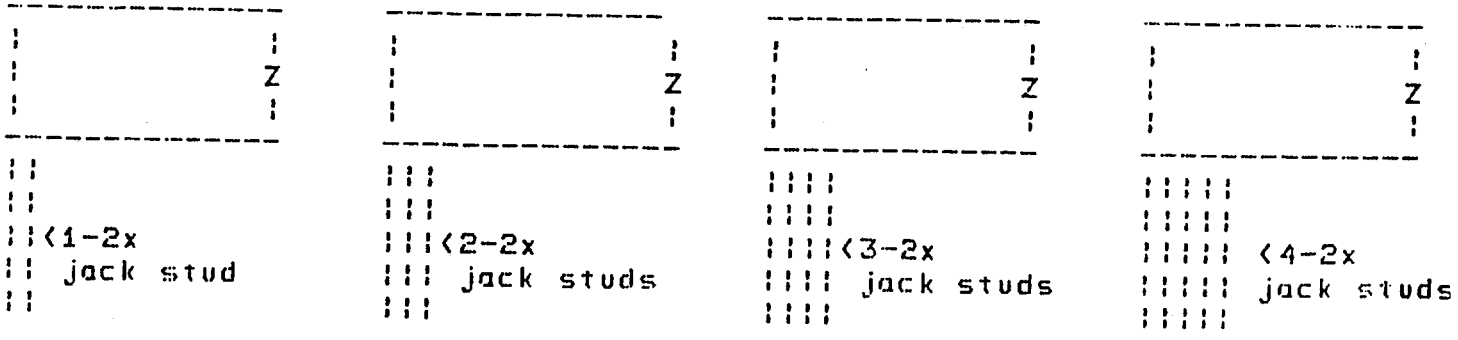


Table 38

ALLOWABLE LOADS (LB/FT)

for

STEEL FLITCH PLATE BEAMS

SPECIES:WHITE WOODS
GRADE:No.1
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	5.1	123	96	76	61	46	35	27	21	16
	.105	5.9	143	112	88	71	54	41	31	24	18
	1/8	6.3	156	122	97	78	59	45	34	26	20
	3/16	7.8	197	154	122	98	74	57	44	34	26
	1/4	9.4	238	186	148	119	90	69	53	41	31
	5/16	10.9	279	218	173	139	106	81	62	48	37
	3/8	12.4	320	250	199	160	121	93	71	55	43
	7/16	13.9	361	283	225	181	137	105	80	62	48
	1/2	15.4	402	315	250	201	152	117	90	69	54
2x10	.075	6.5	229	194	163	132	101	78	61	48	38
	.105	7.5	265	225	189	154	118	91	71	56	44
	1/8	8.1	290	246	207	168	128	99	78	61	48
	3/16	10.1	366	310	261	212	162	126	98	77	61
	1/4	12.0	442	375	316	256	196	152	119	94	74
	5/16	14.0	518	440	370	300	230	178	140	110	87
	3/8	15.9		504	425	345	264	205	160	126	100
	7/16	17.9				389	298	231	181	143	113
	1/2	19.8				433	332	257	201	159	126

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

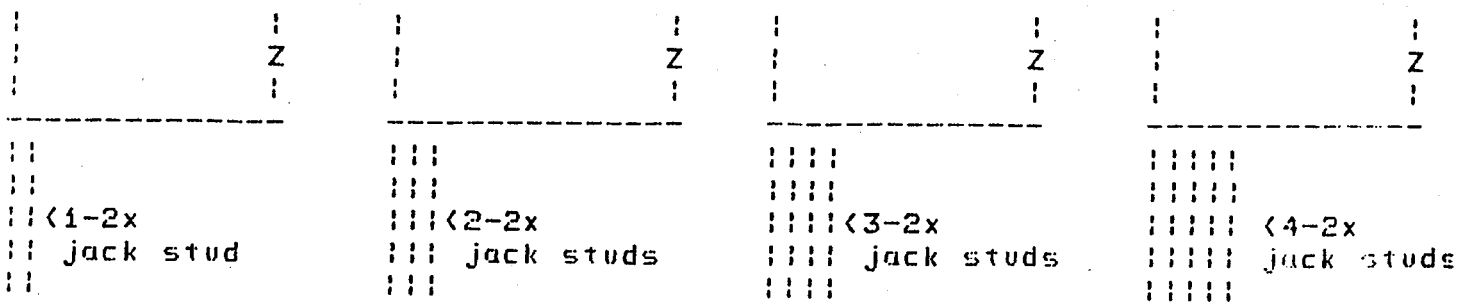


Table 38 (Cont'd)
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:WHITE WOODS
GRADE:No.1
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	8.0	344	292	251	217	185	145	114	91	73
	.105	9.1	399	338	291	252	215	168	132	105	84
	1/8	9.9	_436	370	317	275	235	183	145	115	92
	3/16	12.3	_550	_467	_401	_347	297	232	183	146	117
	1/4	14.6				_420	_358	280	221	176	141
	5/16	17.0						_328	259	206	166
	3/8	19.4						_377	_297	237	190
	7/16	21.8							_336	_267	215
	1/2	24.2								_298	_239
2x14	.075	9.4	_483	_410	352	305	267	235	189	151	122
	.105	10.8		_475	_408	_354	_310	273	219	175	142
	1/8	11.7			_445	_386	_338	_298	239	191	155
	3/16	14.5						_377	_302	242	195
	1/4	17.3								_292	236
	5/16	20.1									_277
	3/8	22.9									_318
2x16	.075	10.8			_470	_408	_357	_315	_280	231	188
	.105	12.4					_414	_366	_325	_268	218
	1/8	13.4							_355	_293	238
	3/16	16.7									_301

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

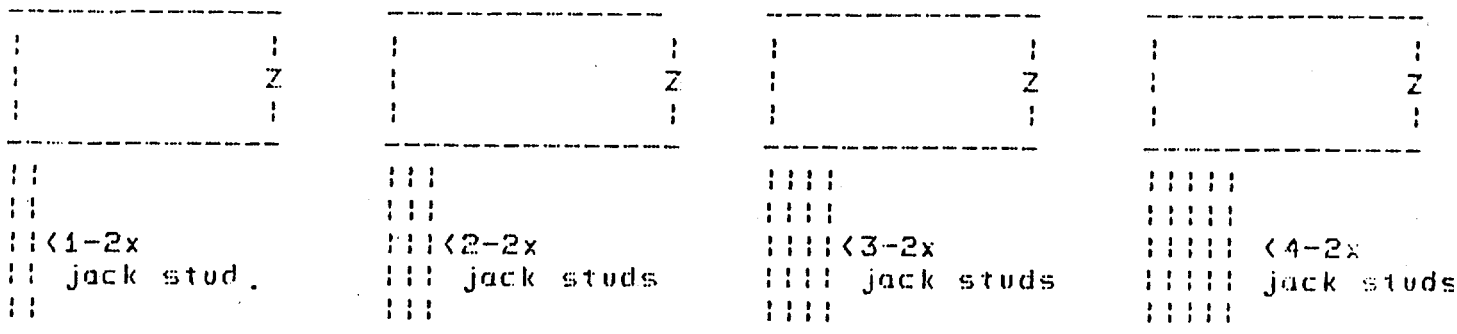


Table 39
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:WHITE WOODS
GRADE:No.2
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	5.1	116	91	72	58	43	33	25	19	15
	.105	5.9	136	106	84	67	51	39	30	23	17
	1/8	6.3	149	116	92	74	56	42	32	25	19
	3/16	7.8	190	148	118	95	71	54	42	32	25
	1/4	9.4	231	181	143	115	87	66	51	39	30
	5/16	10.9	272	213	169	136	103	78	60	46	36
	3/8	12.4	313	245	195	156	118	90	69	54	41
	7/16	13.9	354	277	220	177	134	102	79	61	47
	1/2	15.4	395	309	246	198	150	114	88	68	52
2x10	.075	6.5	216	183	154	125	95	74	57	45	36
	.105	7.5	253	214	180	146	112	86	67	53	42
	1/8	8.1	277	235	198	160	122	95	74	58	46
	3/16	10.1	353	299	252	204	156	121	95	74	59
	1/4	12.0	429	364	306	249	190	147	115	91	72
	5/16	14.0	505	429	361	293	224	174	136	107	85
	3/8	15.9		493	415	337	258	200	156	123	98
	7/16	17.9			470	381	292	226	177	140	111
	1/2	19.8				425	326	253	198	156	124

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to support the beam at each end.

BEARING AREA CODE:

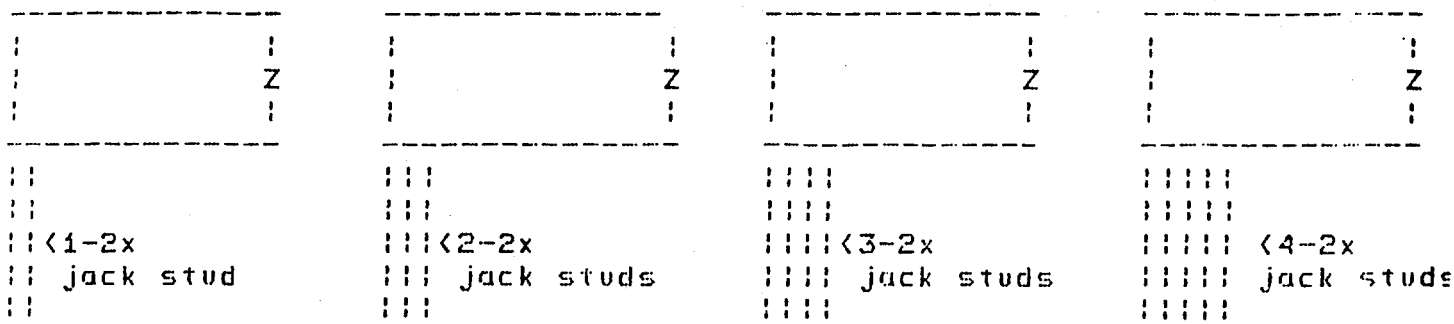


Table 39 (Cont'd)
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:WHITE WOODS
GRADE:No.2
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	8.0	325	275	236	205	175	136	107	85	68
	.105	9.1	380	322	276	239	204	159	126	100	80
	1/8	9.9	416	353	303	263	224	175	138	110	88
	3/16	12.3	_531	_450	_386	_335	286	223	176	140	112
	1/4	14.6			_470	_407	_348	272	214	171	137
	5/16	17.0					_410	_320	252	201	161
	3/8	19.4						_368	_291	231	186
	7/16	21.8							_329	_262	210
	1/2	24.2								_292	_235
2x14	.075	9.4	_456	_387	332	288	252	222	178	142	115
	.105	10.8	_532	_452	_388	_337	295	260	208	166	134
	1/8	11.7		_496	_426	_369	_323	285	228	183	147
	3/16	14.5					_412	_363	_291	233	188
	1/4	17.3							_354	_284	229
	5/16	20.1								_334	_270
	3/8	22.9									_311
2x16	.075	10.8			_444	_385	_337	_297	264	218	177
	.105	12.4					_394	_348	_309	255	207
	1/8	13.4						_381	_339	_280	227
	3/16	16.7									_290

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

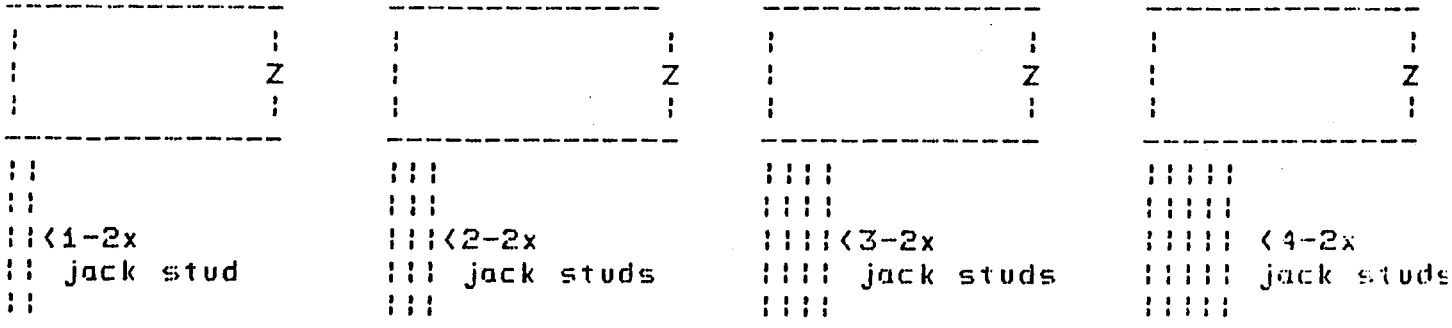


Table 40
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

SPECIES:WHITE WOODS
GRADE:No.3
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x 8	.075	5.1	92	77	66	54	41	31	23	18	13
	.105	5.9	108	91	78	64	48	36	28	21	16
	1/8	6.3	119	101	86	70	53	40	31	23	18
	3/16	7.8	154	130	111	91	69	52	40	31	23
	1/4	9.4	189	159	136	112	84	64	49	38	29
	5/16	10.9	223	189	161	132	100	76	58	45	35
	3/8	12.4	258	218	186	153	115	88	68	52	40
	7/16	13.9	293	247	211	173	131	100	77	59	46
	1/2	15.4	327	277	236	194	147	112	86	66	51
2x10	.075	6.5	154	130	111	96	83	69	54	42	33
	.105	7.5	182	153	131	113	99	82	64	50	39
	1/8	8.1	200	169	145	125	109	90	70	55	43
	3/16	10.1	258	218	187	161	140	116	91	71	56
	1/4	12.0	316	267	229	198	172	143	111	88	69
	5/16	14.0	374	316	271	234	204	169	132	104	82
	3/8	15.9	431	365	313	270	235	195	153	120	95
	7/16	17.9	489	414	355	306	267	222	173	137	108
	1/2	19.8	547	463	397	343	299	248	194	153	121

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:

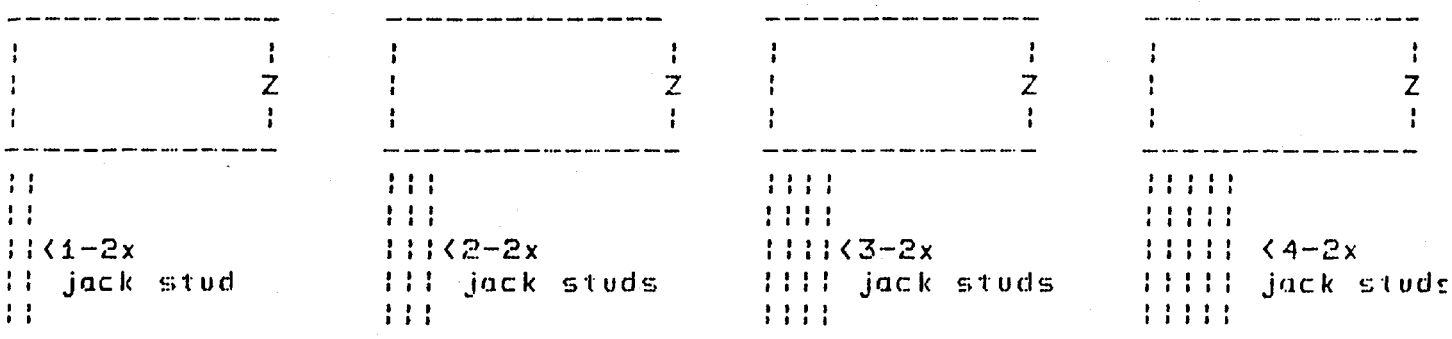


Table 40 (Cont'd)
ALLOWABLE LOADS (LB/FT)
for
STEEL FLITCH PLATE BEAMS

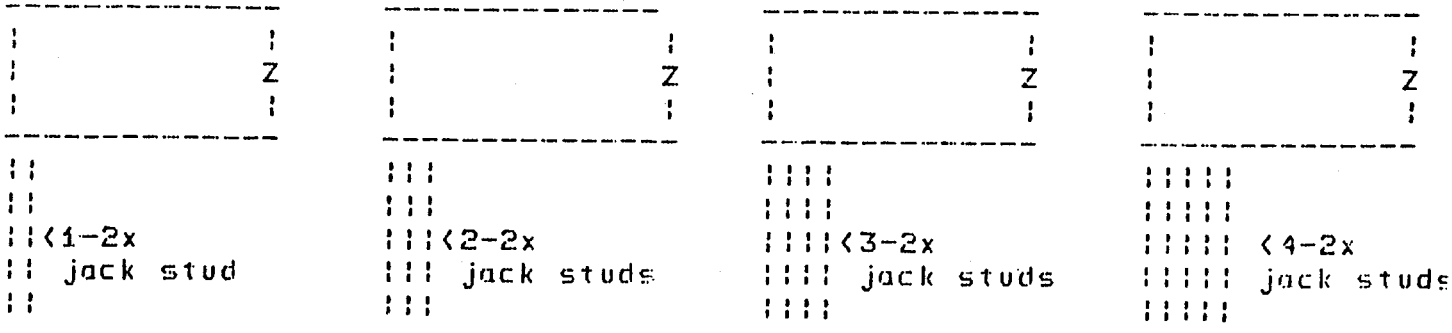
SPECIES:WHITE WOODS
GRADE:No.3
NUMBER OF WOOD MEMBERS: 2

FLITCH PLATE DEPTH IS
.25" LESS THAN BEAM DEPTH
NUMBER OF STEEL PLATES: 1

Size	Steel Thickness	Weight lbs./ft.	SPAN IN FEET 12	13	14	15	16	17	18	19	20
2x12	.075	8.0	232	196	168	145	127	111	98	80	64
	.105	9.1	273	232	198	172	150	131	116	94	75
	1/8	9.9	301	255	219	189	165	145	128	104	83
	3/16	12.3	388	329	282	244	213	187	165	135	108
	1/4	14.6	475	403	345	299	261	229	203	165	132
	5/16	17.0		476	408	353	309	271	240	196	157
	3/8	19.4				408	356	313	277	226	181
	7/16	21.8					404	356	315	256	206
	1/2	24.2							352	287	230
2x14	.075	9.4	326	276	237	205	179	157	139	124	108
	.105	10.8	384	326	279	242	211	186	164	146	127
	1/8	11.7	423	359	308	266	233	205	181	161	140
	3/16	14.5	545	462	396	343	300	264	234	208	181
	1/4	17.3				420	367	323	287	255	222
	5/16	20.1							339	302	263
	3/8	22.9									304
2x16	.075	10.8	435	369	317	275	240	211	187	167	150
	.105	12.4	513	436	374	324	283	249	221	197	177
	1/8	13.4		480	412	357	312	275	244	217	195
	3/16	16.7					402	354	314	280	251
	1/4	19.9									308

NOTE:The number of dashes under each load represents the number of 2x jack studs needed to sopport the beam at each end.

BEARING AREA CODE:



Steel I-Beams

Occasionally in residential construction, problems are encountered where the loads are too great, or the space available is too small, to permit the use of a solid wood or build-up beam. In these cases, one of the hot rolled structural steel shapes will usually suffice. Therefore, the table on page 96 gives the allowable line loads for several of the lighter, rolled steel shapes.

Selection of Correct Beam

The numbers in the table give the design load, in pounds per foot, that each beam will support. These loads were computed in accordance with American Institute of Steel Construction (AISC) criteria for bending and deflection. The beam weight is already included in the calculations.

The numbers in the top horizontal line of the table give the clear span distance in feet. The first vertical column gives the AISC designation. The second vertical column gives the beam dimensions. The columns in the table give the maximum load in pounds per foot that each beam will safely support, with the FHA deflection limitation of 1/360 of the span, or a maximum of ½ inch.

BEAM COST ESTIMATE SHEET

Materials	Quantity	Unit	Unit Cost	Total
TOTAL MATERIAL COST				

Labor	Hours	Rate	Total
TOTAL LABOR COST			
TOTAL COST (MATERIAL PLUS LABOR)			

Table 41
ALLOWABLE LOADS (LB/FT)
for
STEEL SHAPE BEAMS

ASCI Desionation	Beam Dimension (inches)	SPAN IN FEET								
		12	13	14	15	16	17	18	19	20
W 4X13	4-1/8X4	267	207	163	130	98	74	56	42	32
W 5X19	5-1/8X5	632	493	391	314	238	183	141	110	86
W 6X25	6-3/8X6-1/8	1302	1019	811	654	500	387	302	239	190
W 8X18	8-1/8X5-1/4	1502	1192	951	769	590	459	362	288	231
W 10X22	10-1/8X5-3/	2298	1954	1682	1462	1138	888	702	561	453
8JR 6.5	8X2-1/4	458	359	286	231	177	137	108	85	68
10JR 9.0	10X2-3/4	771	655	564	487	374	291	230	183	148
12JR 11.8	12X3	1188	1010	869	756	663	545	431	345	279
5 I 10.0	5X3	290	226	179	144	108	83	64	49	38
6 I 12.5	6X3-3/8	529	413	328	265	201	155	121	95	75
7 I 15.3	7X3-5/8	884	692	551	445	340	264	206	163	130
8 I 18.4	8X4	1396	1094	872	705	541	420	330	262	210
10 I 25.4	10X4-5/8	2414	2053	1767	1528	1175	916	724	578	466
12 I 31.8	12X5	3568	3035	2613	2272	1993	1633	1292	1035	837
6B 8.5	5-7/8X4	359	280	223	179	137	105	82	64	51
8B 10	7-7/8X4	755	592	472	382	292	227	179	142	114
10B 11.5	9-7/8X4	1038	883	759	649	498	388	307	245	197
12B 14	11-7/8X4	1465	1247	1073	933	818	666	527	422	341