

ERRATA
to the 2012 Edition of
the Wood Frame Construction Manual (WFCM) for One- and Two-Family Dwellings
(web version dated 11-11)

Page Revision

68 In Table 2.5A, delete reference to footnote 2 from the column header as follows:

Unit Lateral Loads for Roof Diaphragm, $w_{\text{roof,L}}$, (plf) ^{1,2,3,4,5}

69 In Table 2.5B, delete reference to footnote 2 from the column header as follows:

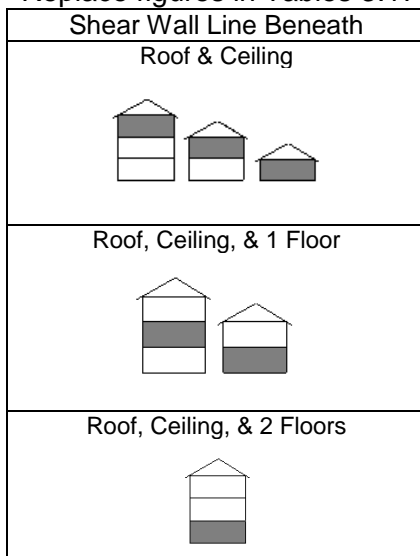
Unit Lateral Loads for Roof Diaphragm, $w_{\text{roof,L}}$, (plf) ^{1,2,3,4,5}

84 Replace Table 2.9C with revised Table 2.9C as shown in this Attachment.

199-
200 Replace Table 3.15 with revised Table 3.15 as shown in this Attachment.

202-
206 Replace Tables 3.16A and B with revised Tables 3.16A and B as shown in this Attachment.

214-
216 Replace figures in Tables 3.17C1, C2, and C3 with the following:



Reason for figure replacement: Shear wall sheathing length requirements for seismic in Tables 3.17C are based on seismic weight and are not based on a specific roof ridge-to-eave height as for wind.

Page Revision

219 In Table 3.17D, revise edge spacing as follows:

7/16" Wood Structural Panels (Blocked), maximum stud spacing 24" on center	8d common nails - 4" edge spacing						
No Sheathing or Non-Rated Sheathing		451	322	3.5:1	2:1 ⁴	0.97	0.74
1/2" Gypsum Wallboard (Unblocked) ²	5d cooler nails - 7" edge spacing	526	322	3.5:1	2:1 ⁴	0.83	0.74
7/16" Wood Structural Panels (Blocked)	8d common nails - 6" 4" edge spacing	902	644	3.5:1	2:1 ⁴	0.48	0.37
15/32" Wood Structural Panels (Blocked), maximum stud spacing 24" on center	8d common nails - 4" edge spacing						
No Sheathing or Non-Rated Sheathing		490	350	3.5:1	2:1 ⁴	0.89	0.68
1/2" Gypsum Wallboard (Unblocked) ²	5d cooler nails - 7" edge spacing	565	350	3.5:1	2:1 ⁴	0.77	0.68
7/16" Wood Structural Panels (Blocked)	8d common nails - 6" 4" edge spacing	980	700	3.5:1	2:1 ⁴	0.44	0.34

254 Revise Footnote "a" for Table 3.20B as follows:
 Maximum stud lengths in Table 3.20B are based on interior zone loads and assume that all studs are covered on the inside with a minimum of 1/2 inch gypsum wallboard, attached in accordance with minimum building code requirements and sheathed on the exterior side with a minimum of 3/8 inch wood structural panel sheathing with all panel joints occurring over studs or blocking and attached using a minimum 8d common nails spaced a maximum of 6" on center at panel edges and 12" on center at intermediate framing members. To address additional end zone loading requirements, end zone stud spacings shall be multiplied by 0.80. The additional bending capacity provided by the ~~wood structural panels or~~ reduced stud spacing is assumed to be sufficient to resist the additional end zone loading requirements.

255 In Table 3.21, revise number of 16d common nails for 36 ft. building dimension of wall as follows:

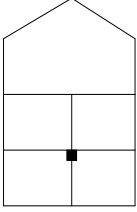
Building Dimension of Wall Containing Top Plate Splice (ft)	Number of 16d Common Nails per Each Side of Splice ^{1,2,3}
36	10 14

272,
 274 Revise the titles to Table 3.24A (dropped headers) and Table 3.24B (dropped headers) as follows:
 Table 3.24A¹ Laterally Unsupported (Dropped) Header Spans for Interior Loadbearing Walls
 Table 3.24B¹ Laterally Unsupported (Dropped) Header Spans for Interior Loadbearing Walls

273,
 275 Replace Table 3.24A (raised headers) and Table 3.24B (raised headers) with revised Table 3.24A2 and Table 3.24B2, respectively, as shown in this Attachment.

Page Revision

276 In Table 3.24C, revise header span column for header supporting two floors as follows:

Header Supporting	Header Span (ft)
Two Floors (Center Bearing)	20 <u>2</u>
	0 <u>4</u>
	2 <u>6</u>
	4 <u>8</u>
	6 <u>10</u>
	8 <u>12</u>
	10 <u>14</u>
	16
	18
	20

279 Revise the title to Table 3.25B as follows:
(Uninhabitable Attics ~~Without~~ With Limited Storage, Live Load = 20 psf, L/Δ = 240)

281 Revise the title to Table 3.26B as follows:
(Ceiling ~~Not~~ Attached to Rafters, Live Load = 20 psf, L/Δ = 240)

285 Revise the title to Table 3.26D as follows:
(Ceiling ~~Not~~ Attached to Rafters, Ground Snow Load = 30 psf, L/Δ = 240)

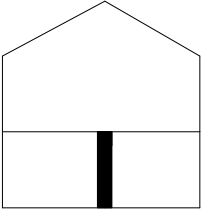
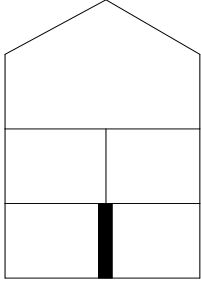
287 Revise the title to Table 3.26F as follows:
(Ceiling ~~Not~~ Attached to Rafters, Ground Snow Load = 50 psf, L/Δ = 240)

289 Revise the title to Table 3.26H as follows:
(Ceiling ~~Not~~ Attached to Rafters, Ground Snow Load = 70 psf, L/Δ = 240)

293 Replace Table 3.29 with revised Table 3.29 as shown in this Attachment.

Table 2.9C Interior Loadbearing Wall Stud Compression Stresses from Live Loads

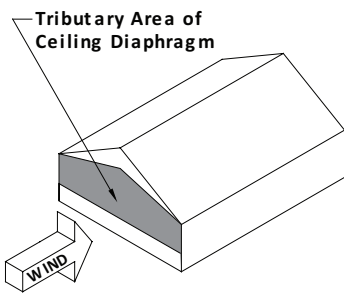
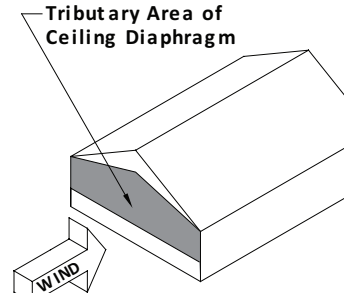
(Dead Load Assumptions: Wall Assembly DL = 121plf, Floor Assembly DL = 10 psf,
Floor LL = 40 psf)

Loadbearing Wall Supporting	Stud Spacing	Stud Size	Building Width (ft)			
			12	24	36	60
			Induced f_c (psi) ¹			
1 Floor Only 	12 in.	2x4	80	137	194	309
		2x6	51	87	124	196
		2x8	39	66	94	149
	16 in.	2x4	107	183	259	412
		2x6	68	117	165	262
		2x8	52	88	125	199
	24 in.	2x4	160	275	389	618
		2x6	102	175	248	393
		2x8	77	133	188	298
2 Floors Only 	12 in.	2x4	160	275	389	618
		2x6	102	175	248	393
		2x8	77	133	188	298
	16 in.	2x4	214	366	519	823
		2x6	136	233	330	524
		2x8	103	177	250	397
	24 in.	2x4	321	549	778	1235
		2x6	204	350	495	786
		2x8	155	265	376	596

¹ Tabulated compression stresses (f_c) shall be less than or equal to the allowable compression perpendicular to grain design value ($F_{c\perp}$) for top and bottom plates, and less than or equal to the allowable compression parallel to grain design value ($F_{c\parallel}$) for studs.

Table 3.15 Minimum Attic Floor/Ceiling Length When Bracing Gable Endwall for Wind Loads

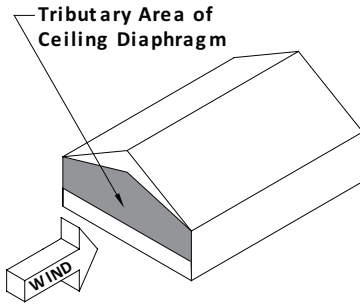
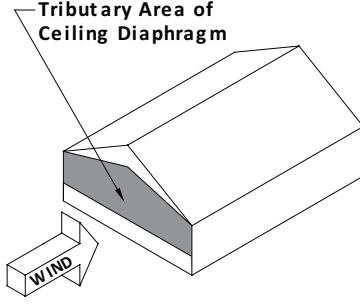
Exposure B

		700-yr. Wind Speed 3-second gust (mph)										
		110	115	120	130	140	150	160	170	180	195	
Assemblies	Roof Pitch	Roof Span (ft)	Length of Ceiling Diaphragm (ft) ^{1,2,3} (measured perpendicular to gable endwall)									
			<p><i>Sheathing Grade: Sheathing and Single-Floor Attic Floor or Ceiling Diaphragm Bracing Gable Endwall (Wind Parallel to Ridge)</i></p> 									
	1:12-3:12	12	4	4	4	4	4	4	4	4	4	4
		24	8	8	8	8	8	8	8	8	8	8
		36	12	12	12	12	12	12	12	12	12	13
	4:12	12	4	4	4	4	4	4	4	4	4	4
		24	8	8	8	8	8	8	8	8	8	9
		36	12	12	12	12	12	12	12	12	12	14
	5:12	12	4	4	4	4	4	4	4	4	4	5
		24	8	8	8	8	8	8	8	8	8	9
		36	12	12	12	12	12	12	12	12	12	14
	6:12	12	4	4	4	4	4	4	4	4	4	5
		24	8	8	8	8	8	8	8	8	8	9
		36	12	12	12	12	12	12	12	12	13	15
7:12	12	4	4	4	4	4	4	4	4	4	5	
	24	8	8	8	8	8	8	8	8	8	10	
	36	12	12	12	12	12	12	12	12	14	16	
8:12	12	4	4	4	4	4	4	4	4	4	5	
	24	8	8	8	8	8	8	8	8	9	10	
	36	12	12	12	12	12	12	12	13	14	17	
9:12	12	4	4	4	4	4	4	4	4	4	5	
	24	8	8	8	8	8	8	8	8	9	10	
	36	12	12	12	12	12	12	12	13	15	17	
10:12	12	4	4	4	4	4	4	4	4	4	5	
	24	8	8	8	8	8	8	8	8	9	11	
	36	12	12	12	12	12	12	12	14	15	18	
11:12	12	4	4	4	4	4	4	4	4	4	5	
	24	8	8	8	8	8	8	8	8	9	11	
	36	12	12	12	12	12	12	13	14	16	19	
12:12	12	4	4	4	4	4	4	4	4	4	5	
	24	8	8	8	8	8	8	8	9	10	11	
	36	12	12	12	12	12	12	13	15	17	20	
<p><i>Gypsum Ceiling Diaphragm Bracing Gable Endwall (Wind Parallel to Ridge)⁴</i></p> 												
	1:12-3:12	12	5	5	5	6	7	8	9	10	11	13
		24	9	9	10	12	14	16	18	20	23	26
		36	13	15	16	19	22	25	28	32	35	41
	4:12	12	5	5	5	6	7	8	9	10	12	14
		24	9	10	11	12	14	16	19	21	23	27
		36	14	16	17	20	23	26	30	33	37	44
	5:12	12	5	5	6	6	7	8	10	11	12	14
		24	9	10	11	13	15	17	19	22	24	29
		36	15	16	18	21	24	28	31	35	40	46
	6:12	12	5	5	6	7	8	9	10	11	12	14
		24	10	11	12	13	16	18	20	23	25	30
		36	16	17	19	22	25	29	33	37	42	49
7:12	12	5	5	6	7	8	9	10	11	12	14	
	24	10	11	12	14	16	18	21	24	26	31	
	36	17	18	20	23	27	31	35	39	44	51	
8:12	12	5	5	6	7	8	9	10	11	13	15	
	24	11	11	12	14	17	19	22	24	27	32	
	36	17	19	21	24	28	32	36	41	46	54	
9:12	12	5	6	6	7	8	9	10	12	13	15	
	24	11	12	13	15	17	20	22	25	28	33	
	36	18	20	22	25	29	34	38	43	48	56	
10:12	12	5	6	6	7	8	9	11	12	13	15	
	24	11	12	13	15	18	20	23	26	29	34	
	36	19	21	23	26	31	35	40	45	50	59	
11:12	12	5	6	6	7	8	9	11	12	13	16	
	24	12	13	14	16	18	21	24	27	30	35	
	36	20	22	24	28	32	36	41	47	52	61	
12:12	12	5	6	6	7	8	10	11	12	14	16	
	24	12	13	14	16	19	22	25	28	31	36	
	36	21	23	24	29	33	38	43	49	54	64	

See footnotes 1-4.

Table 3.15 Minimum Attic Floor/Ceiling Length When Bracing Gable Endwall for Wind Loads

Exposure C

			700-yr. Wind Speed 3-second gust (mph)									
			110	115	120	130	140	150	160	170	180	195
Assemblies	Roof Pitch	Roof Span (ft)	Length of Ceiling Diaphragm (ft) ^{1,2,3} (measured perpendicular to gable endwall)									
			Sheathing Grade: Sheathing and Single-Floor Attic Floor or Ceiling Diaphragm Bracing Gable Endwall (Wind Parallel to Ridge) 	1:12-3:12	12	4	4	4	4	4	4	4
24	8	8			8	8	8	8	8	9	10	11
36	12	12			12	12	12	12	12	13	15	18
4:12	12	4		4	4	4	4	4	4	5	5	6
	24	8		8	8	8	8	8	8	9	10	12
	36	12		12	12	12	12	12	13	14	16	19
5:12	12	4		4	4	4	4	4	4	5	5	6
	24	8		8	8	8	8	8	8	9	11	12
	36	12		12	12	12	12	12	13	15	17	20
6:12	12	4		4	4	4	4	4	4	5	5	6
	24	8		8	8	8	8	8	9	10	11	13
	36	12		12	12	12	12	12	14	16	18	21
7:12	12	4	4	4	4	4	4	4	5	5	6	
	24	8	8	8	8	8	8	9	10	11	13	
	36	12	12	12	12	12	13	15	17	19	22	
8:12	12	4	4	4	4	4	4	5	5	6	6	
	24	8	8	8	8	8	8	9	11	12	14	
	36	12	12	12	12	12	14	16	17	20	23	
9:12	12	4	4	4	4	4	4	5	5	6	7	
	24	8	8	8	8	8	9	10	11	12	14	
	36	12	12	12	12	13	14	16	18	20	24	
10:12	12	4	4	4	4	4	4	5	5	6	7	
	24	8	8	8	8	8	9	10	11	13	15	
	36	12	12	12	12	13	15	17	19	21	25	
11:12	12	4	4	4	4	4	4	5	5	6	7	
	24	8	8	8	8	8	9	10	12	13	15	
	36	12	12	12	12	14	16	18	20	22	26	
12:12	12	4	4	4	4	4	4	5	5	6	7	
	24	8	8	8	8	8	9	11	12	13	16	
	36	12	12	12	12	14	16	18	21	23	27	
Gypsum Ceiling Diaphragm Bracing Gable Endwall (Wind Parallel to Ridge)⁴ 	1:12-3:12	12	6	7	7	8	10	11	12	14	16	18
		24	12	13	14	16	19	22	25	28	31	36
		36	19	20	22	26	30	34	39	44	49	57
	4:12	12	6	7	7	9	10	11	13	14	16	19
		24	12	14	15	17	20	23	26	29	32	38
		36	20	21	23	27	32	36	41	46	52	61
	5:12	12	6	7	8	9	10	12	13	15	16	19
		24	13	14	15	18	21	24	27	30	34	40
		36	21	23	25	29	33	38	43	49	55	64
	6:12	12	7	7	8	9	10	12	13	15	17	20
		24	13	15	16	19	21	25	28	31	35	41
		36	22	24	26	30	35	40	46	51	58	68
7:12	12	7	7	8	9	11	12	14	15	17	20	
	24	14	15	16	19	22	25	29	33	36	43	
	36	23	25	27	32	37	42	48	54	61	71	
8:12	12	7	7	8	9	11	12	14	16	17	20	
	24	14	16	17	20	23	26	30	34	38	44	
	36	24	26	29	33	39	44	50	57	64	75	
9:12	12	7	8	8	10	11	12	14	16	18	21	
	24	15	16	18	21	24	27	31	35	39	46	
	36	25	27	30	35	40	46	53	59	67	78	
10:12	12	7	8	8	10	11	13	14	16	18	21	
	24	15	17	18	21	25	28	32	36	40	47	
	36	26	29	31	36	42	48	55	62	70	81	
11:12	12	7	8	8	10	11	13	15	17	18	22	
	24	16	17	19	22	25	29	33	37	42	49	
	36	27	30	32	38	44	50	57	65	72	85	
12:12	12	7	8	9	10	12	13	15	17	19	22	
	24	16	18	19	23	26	30	34	38	43	50	
	36	28	31	34	40	46	53	60	67	75	88	

See footnotes 1-4.

Table 3.16A1 Roof Diaphragm Limits for Wind¹

(Applicable to All Roof Slopes with and without Roof Irregularities)

**Exposure B
All Slopes**

700-yr. Wind Speed 3-second gust (mph)		110	115	120	130	140	150	160	170	180	195										
Maximum Top Plate to Ridge Height (ft)	Roof Diaphragm Width (ft) ²	Roof Diaphragm Length (ft) ³																			
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max								
5	12	4	36	4	36	4	36	4	36	4	35	4	31	5	28	6	24				
	16	6	48	6	48	6	48	6	48	6	47	6	42	6	37	7	32				
	20	7	60	7	60	7	60	7	60	7	59	7	52	8	47	9	40				
	24	8	72	8	72	8	72	8	72	8	71	8	63	9	56	11	48				
	28	10	80	10	80	10	80	10	80	10	80	10	74	11	66	13	56				
	32	11	80	11	80	11	80	11	80	11	80	11	80	11	80	12	75	14	64		
	36	12	80	12	80	12	80	12	80	12	80	12	80	12	80	14	80	16	72		
10	12	4	36	4	36	4	36	4	33	5	28	5	25	6	22	6	20	7	17		
	16	6	48	6	48	6	48	6	44	6	38	7	33	8	30	8	26	10	22		
	20	7	60	7	60	7	60	7	55	7	48	8	42	9	37	10	33	12	28		
	24	8	72	8	72	8	72	8	66	9	57	10	50	11	45	12	40	14	34		
	28	10	80	10	80	10	80	10	77	10	67	11	59	13	52	14	46	17	39		
	32	11	80	11	80	11	80	11	80	12	77	13	67	15	60	16	53	19	45		
	36	12	80	12	80	12	80	12	80	13	80	15	76	16	67	18	60	21	51		
15	12	4	36	4	36	4	35	4	29	5	25	6	22	6	19	7	17	8	15	9	13
	16	6	48	6	48	6	46	6	39	7	34	7	29	8	26	9	23	10	20	12	17
	20	7	60	7	60	7	58	7	49	8	42	9	37	10	32	12	29	13	26	15	22
	24	8	72	8	72	8	70	8	59	10	51	11	44	12	39	14	34	15	31	18	26
	28	10	80	10	80	10	80	10	69	11	60	13	52	14	46	16	40	18	36	21	31
	32	11	80	11	80	11	80	11	79	13	68	14	59	16	52	18	46	20	41	24	35
	36	12	80	12	80	12	80	12	80	14	77	16	67	18	59	20	52	23	46	27	39
20	12	4	34	4	31	4	28	5	24	6	21	7	18	8	16	8	14	9	12		
	16	6	45	6	41	6	38	7	32	8	28	9	24	10	21	11	19	12	16		
	20	7	56	7	52	7	47	8	40	10	35	11	30	12	26	14	23	15	21		
	24	8	68	8	62	8	57	10	48	11	42	13	36	15	32	16	28	18	25		
	28	10	79	10	72	10	66	11	57	13	49	15	42	17	37	19	33	21	29		
	32	11	80	11	80	11	76	13	65	15	56	17	48	19	43	22	38	24	33		
	36	12	80	12	80	12	80	14	73	17	63	19	55	22	48	24	42	27	38		

1 Roof sheathing applied with long dimension perpendicular to roof framing and staggered.

2 Roof diaphragm width dimension measured parallel to direction of framing span.

3 Roof diaphragm length dimension measured perpendicular to direction of framing span.

Table 3.16A2 Roof Diaphragm Limits for Wind ¹

(Applicable to Simple Gable and Hip Roofs with Roof Slopes ≤ 6:12 without Roof Irregularities (dormers, accent panels, etc))

**Exposure B
Low Slopes**

700-yr. Wind Speed 3-second gust (mph)		110	115	120	130	140	150	160	170	180	195		
Maximum Top Plate to Ridge Height (ft)	Roof Diaphragm Width (ft) ²	Roof Diaphragm Length (ft) ³											
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
0 (flat roof)	12	4	36	4	36	4	36	4	36	4	36	4	36
	16	6	48	6	48	6	48	6	48	6	48	6	48
	20	7	60	7	60	7	60	7	60	7	60	7	60
	24	8	72	8	72	8	72	8	72	8	72	8	72
	28	10	80	10	80	10	80	10	80	10	80	10	80
	32	11	80	11	80	11	80	11	80	11	80	11	80
	36	12	80	12	80	12	80	12	80	12	80	12	80
5	12	4	36	4	36	4	36	4	36	4	36	5	34
	16	6	48	6	48	6	48	6	48	6	48	6	45
	20	7	60	7	60	7	60	7	60	7	60	8	57
	24	8	72	8	72	8	72	8	72	8	72	9	68
	28	10	80	10	80	10	80	10	80	10	80	11	79
	32	11	80	11	80	11	80	11	80	11	80	12	80
	36	12	80	12	80	12	80	12	80	12	80	14	80
10	12	4	36	4	36	4	36	4	36	5	36	5	34
	16	6	48	6	48	6	48	6	48	6	48	7	45
	20	7	60	7	60	7	60	7	60	7	60	8	57
	24	8	72	8	72	8	72	8	72	9	72	10	68
	28	10	80	10	80	10	80	10	80	10	80	11	80
	32	11	80	11	80	11	80	11	80	11	80	12	80
	36	12	80	12	80	12	80	12	80	13	80	15	80

- 1 Roof sheathing applied with long dimension perpendicular to roof framing and staggered.
- 2 Roof diaphragm width dimension measured parallel to direction of framing span.
- 3 Roof diaphragm length dimension measured perpendicular to direction of framing span.

Table 3.16A3 Roof Diaphragm Limits for Wind ¹

(Applicable to All Roof Slopes with and without Roof Irregularities)

**Exposure C
All Slopes**

700-yr. Wind Speed 3-second gust (mph)		110	115	120	130	140	150	160	170	180	195										
Maximum Top Plate to Ridge Height (ft)	Roof Diaphragm Width (ft) ²	Roof Diaphragm Length (ft) ³																			
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max								
5	12	4	36	4	36	4	36	4	33	5	29	5	25	6	22	7	20	8	17		
	16	6	48	6	48	6	48	6	44	6	39	7	34	8	30	9	27	10	23		
	20	7	60	7	60	7	60	7	56	8	48	9	42	10	38	11	33	13	28		
	24	8	72	8	72	8	72	8	67	9	58	10	51	12	45	13	40	15	34		
	28	10	80	10	80	10	80	10	78	11	68	12	60	13	53	15	47	17	40		
	32	11	80	11	80	11	80	11	80	12	78	14	68	15	60	17	54	20	46		
36	12	80	12	80	12	80	12	80	13	80	15	77	17	68	19	61	22	52			
10	12	4	36	4	35	4	32	5	27	6	23	6	20	7	18	8	16	9	14	10	12
	16	6	48	6	47	6	43	6	37	7	31	8	27	9	24	10	21	12	19	13	16
	20	7	60	7	59	7	54	8	46	9	39	10	34	11	30	13	27	14	24	17	20
	24	8	72	8	70	8	65	9	55	11	47	12	41	14	36	15	32	17	28	20	24
	28	10	80	10	80	10	76	11	64	12	55	14	48	16	42	18	37	20	33	23	28
	32	11	80	11	80	11	80	12	74	14	63	16	55	18	48	20	43	23	38	26	32
36	12	80	12	80	12	80	13	80	16	71	18	62	20	55	23	48	25	43	30	37	
15	12	4	30	5	27	5	25	6	21	7	18	8	16	9	14	10	12				
	16	6	40	6	36	7	33	8	28	9	24	10	21	11	18	13	16				
	20	7	50	8	45	8	42	9	35	11	30	12	26	14	23	16	20				
	24	8	60	9	55	10	50	11	43	13	37	15	32	17	28	19	25				
	28	10	70	10	64	11	58	13	50	15	43	17	37	20	33	22	29				
	32	11	80	12	73	13	67	15	57	17	49	20	43	22	37	25	33				
36	12	80	13	80	14	75	17	64	19	55	22	48	25	42	28	37					
20	12	5	24	6	22	6	20	7	17	8	15	9	13								
	16	7	32	7	29	8	27	9	23	11	20	12	17								
	20	8	40	9	37	10	34	11	29	13	25	15	22								
	24	10	49	11	44	12	41	13	35	16	30	18	26								
	28	11	57	12	52	13	48	16	41	18	35	21	30								
	32	13	65	14	59	15	55	18	46	21	40	23	35								
36	14	73	16	67	17	61	20	52	23	45	26	39									

- 1 Roof sheathing applied with long dimension perpendicular to roof framing and staggered.
- 2 Roof diaphragm width dimension measured parallel to direction of framing span.
- 3 Roof diaphragm length dimension measured perpendicular to direction of framing span.

Table 3.16A4 Roof Diaphragm Limits for Wind ¹

(Applicable to Simple Gable and Hip Roofs with Roof Slopes ≤ 6:12 without Roof Irregularities (dormers, accent panels, etc))

**Exposure C
Low Slopes**

700-yr. Wind Speed 3-second gust (mph)		110	115	120	130	140	150	160	170	180	195										
Maximum Top Plate to Ridge Height (ft)	Roof Diaphragm Width (ft) ²	Roof Diaphragm Length (ft) ³																			
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max								
0 (flat roof)	12	4	36	4	36	4	36	4	36	4	36	5	33	5	28						
	16	6	48	6	48	6	48	6	48	6	48	6	44	7	37						
	20	7	60	7	60	7	60	7	60	7	60	7	55	9	47						
	24	8	72	8	72	8	72	8	72	8	72	8	66	10	56						
	28	10	80	10	80	10	80	10	80	10	80	10	80	10	77	12	66				
	36	12	80	12	80	12	80	12	80	12	80	12	80	12	80	13	80				
5	12	4	36	4	36	4	36	4	36	5	35	5	31	6	27	7	24	8	21		
	16	6	48	6	48	6	48	6	48	6	47	7	41	8	36	9	32	10	28		
	20	7	60	7	60	7	60	7	60	7	60	8	59	9	52	10	46	11	41	13	35
	24	8	72	8	72	8	72	8	72	8	72	9	71	10	62	12	55	13	49	15	42
	28	10	80	10	80	10	80	10	80	10	80	11	80	12	72	13	64	15	57	17	49
	36	12	80	12	80	12	80	12	80	12	80	13	80	15	80	17	80	19	73	22	63
10	12	4	36	4	36	4	36	5	36	6	32	6	28	7	24	8	21	9	19	10	16
	16	6	48	6	48	6	48	6	48	7	43	8	37	9	33	10	29	12	26	13	22
	20	7	60	7	60	7	60	8	60	9	53	10	46	11	41	13	36	14	32	17	27
	24	8	72	8	72	8	72	9	72	11	64	12	56	14	49	15	43	17	39	20	33
	28	10	80	10	80	10	80	11	80	12	75	14	65	16	57	18	51	20	45	23	38
	36	12	80	12	80	12	80	13	80	14	80	16	75	18	66	20	58	23	52	26	44
		12	80	12	80	12	80	13	80	16	80	18	80	20	74	23	65	25	58	30	50

- 1 Roof sheathing applied with long dimension perpendicular to roof framing and staggered.
- 2 Roof diaphragm width dimension measured parallel to direction of framing span.
- 3 Roof diaphragm length dimension measured perpendicular to direction of framing span.



Table 3.16B Floor Diaphragm Limits for Wind¹

Exposure B

700-yr. Wind Speed 3-second gust (mph)		110	115	120	130	140	150	160	170	180	195										
Wall Height (ft)	Floor Diaphragm Width (ft) ²	Floor Diaphragm Length (ft) ³																			
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max								
8	12	4	36	4	36	4	36	4	36	4	35	5	31	5	27	6	24	7	21		
	16	6	48	6	48	6	48	6	48	6	47	6	42	7	37	7	33	9	28		
	20	7	60	7	60	7	60	7	60	7	59	7	52	8	46	9	41	11	35		
	24	8	72	8	72	8	72	8	72	8	71	9	63	10	55	11	49	13	42		
	28	10	80	10	80	10	80	10	80	10	80	10	73	11	65	13	58	15	49		
	36	12	80	12	80	12	80	12	80	12	80	12	80	13	80	14	80	16	74	19	63
10	12	4	36	4	36	4	36	4	33	5	29	6	25	6	22	7	20	8	17		
	16	6	48	6	48	6	48	6	45	6	39	7	34	8	30	9	27	11	23		
	20	7	60	7	60	7	60	7	56	8	49	9	43	10	38	11	34	13	29		
	24	8	72	8	72	8	72	8	72	8	67	9	58	11	51	12	45	13	40		
	28	10	80	10	80	10	80	10	80	10	78	11	68	12	60	14	53	15	47		
	36	12	80	12	80	12	80	12	80	12	80	12	80	14	80	16	77	18	68	20	61
	36	12	80	12	80	12	80	12	80	12	80	14	80	16	77	18	68	20	61	23	52

- 1 Floor sheathing applied with long dimension perpendicular to floor framing and staggered.
- 2 Floor diaphragm width dimension measured parallel to direction of framing span.
- 3 Floor diaphragm length dimension measured perpendicular to direction of framing span.

Table 3.16B Floor Diaphragm Limits for Wind¹

Exposure C

700-yr. Wind Speed 3-second gust (mph)		110	115	120	130	140	150	160	170	180	195										
Wall Height (ft)	Floor Diaphragm Width (ft) ²	Floor Diaphragm Length (ft) ³																			
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max								
8	12	4	36	4	36	4	34	5	29	6	25	6	22	7	20	8	17	9	15		
	16	6	48	6	48	6	45	6	39	7	34	8	30	9	26	10	23	12	20		
	20	7	60	7	60	7	57	8	49	9	43	10	37	11	33	13	29	15	25		
	24	8	72	8	72	8	68	9	59	11	51	12	45	13	40	15	35	17	30		
	28	10	80	10	80	10	80	11	69	12	60	14	53	16	47	17	41	20	35		
	36	12	80	12	80	12	80	12	80	14	80	16	77	18	68	20	60	22	53	26	45
10	12	4	36	4	36	4	33	5	28	6	24	7	21	7	18	8	16	9	14		
	16	6	48	6	48	6	44	7	37	8	32	9	28	10	24	11	21	12	19		
	20	7	60	7	60	7	55	8	46	9	40	11	35	12	31	14	27	15	24		
	24	8	72	8	72	8	66	10	56	11	48	13	42	14	37	16	32	18	29		
	28	10	80	10	80	10	77	11	65	13	56	15	49	17	43	19	38	21	34		
	36	12	80	12	80	12	80	14	80	17	72	19	63	21	55	24	49	27	44		
	36	12	80	12	80	12	80	14	80	17	72	19	63	21	55	24	49	27	44	32	37

- 1 Floor sheathing applied with long dimension perpendicular to floor framing and staggered.
- 2 Floor diaphragm width dimension measured parallel to direction of framing span.
- 3 Floor diaphragm length dimension measured perpendicular to direction of framing span.

Table 3.24A2 Laterally Supported (Raised) Header Spans for Interior Loadbearing Walls

(Supporting One Center Bearing Floor)

Dead Load Assumptions: Floor Assembly = 10 psf

Raised Interior

Headers Supporting	Size	Building Width (ft)		
		12	24	36
		Maximum Header/Girder Spans (ft-in.) for Common Lumber Species ^{1,3,4}		
One Floor Only (Center Bearing)	1-2x6	4 - 4	3 - 1	2 - 6
	1-2x8	5 - 5	3 - 10	3 - 2
	1-2x10	6 - 8	4 - 9	3 - 10
	1-2x12	7 - 9	5 - 6	4 - 6
	2-2x4	4 - 4	3 - 1	2 - 6
	2-2x6	6 - 5	4 - 6	3 - 8
	2-2x8	8 - 1	5 - 9	4 - 8
	2-2x10	9 - 11	7 - 0	5 - 9
	2-2x12	11 - 6	8 - 1	6 - 7
	3-2x8	10 - 2	7 - 2	5 - 10
	3-2x10	12 - 5	8 - 9	7 - 2
	3-2x12	14 - 4	10 - 2	8 - 3
	4-2x8	11 - 6	8 - 3	6 - 9
	4-2x10	14 - 4	10 - 1	8 - 3
	4-2x12	16 - 7	11 - 9	9 - 7
		Size	Maximum Header/Girder Spans (ft-in.) for Glued Laminated Beams ^{2,3,4}	
	3.125x5.500	7 - 5	5 - 10	4 - 10
	3.125x6.875	9 - 3	7 - 4	6 - 0
	3.125x8.250	11 - 1	8 - 9	7 - 3
	3.125x9.625	12 - 11	10 - 3	8 - 5
	3.125x11.000	14 - 9	11 - 8	9 - 8
	3.125x12.375	16 - 7	13 - 2	10 - 10
	3.125x13.750	18 - 5	14 - 8	12 - 1
	3.125x15.125	20-0 [†]	16 - 1	13 - 3
	3.125x16.500	20-0 [†]	17 - 7	14 - 6
	3.125x17.875	20-0 [†]	19 - 0	15 - 8
	3.125x19.250	20-0 [†]	20-0 [†]	16 - 11
	3.125x20.625	20-0 [†]	20-0 [†]	18 - 1
	5.125x5.500	8 - 8	6 - 11	6 - 0
	5.125x6.875	10 - 10	8 - 8	7 - 6
	5.125x8.25	13 - 1	10 - 4	9 - 1
	5.125x9.625	15 - 3	12 - 1	10 - 7
	5.125x11.000	17 - 5	13 - 10	12 - 1
	5.125x12.375	19 - 7	15 - 6	13 - 7
	5.125x13.750	20-0 [†]	17 - 3	15 - 1
	5.125x15.125	20-0 [†]	19 - 0	16 - 7
	5.125x16.500	20-0 [†]	20-0 [†]	18 - 1
	5.125x17.875	20-0 [†]	20-0 [†]	19 - 7

[†] Spans are limited to 20 feet in length.

¹ Tabulated spans are based on #2 Grade Hem-Fir, and are applicable to species with equal or greater F_b and E from the NDS Supplement (i.e., Douglas Fir-Larch, Southern Pine, or Spruce-Pine-Fir). For #3 Grade lumber, spans shall be multiplied by 0.75.

² Tabulated spans assume 20F combination glulam with a minimum $F_{bx}=2,000$ psi, $F_{vx}=210$ psi, and $E=1,500,000$ psi.

³ Tabulated spans assume headers supporting single span floor joists. For headers supporting continuous two span floor joists, tabulated spans shall be multiplied by 0.89.

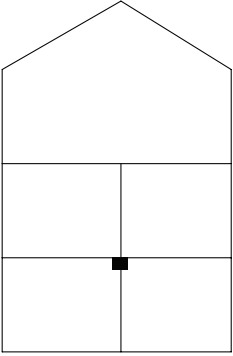
⁴ The number of jack studs required at each end of the header shall be determined from Table 3.24C.

Raised Interior

Table 3.24B2 Laterally Supported (Raised) Header Spans for Interior Loadbearing Walls

(Supporting Two Center Bearing Floors)

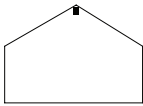
Dead Load Assumptions: Floor Assembly = 10 psf

Headers Supporting	Size	Building Width (ft)		
		12	24	36
Two Floors Only (Center Bearing) 	1-2x6	2 - 9	2 - 1	1 - 8
	1-2x8	3 - 6	2 - 7	2 - 2
	1-2x10	4 - 4	3 - 2	2 - 8
	1-2x12	5 - 0	3 - 8	3 - 1
	2-2x4	2 - 10	2 - 1	1 - 8
	2-2x6	4 - 1	3 - 1	2 - 6
	2-2x8	5 - 3	3 - 10	3 - 2
	2-2x10	6 - 5	4 - 9	3 - 11
	2-2x12	7 - 5	5 - 6	4 - 6
	3-2x8	6 - 6	4 - 10	4 - 0
	3-2x10	8 - 0	5 - 11	4 - 11
	3-2x12	9 - 3	6 - 10	5 - 8
	4-2x8	7 - 7	5 - 7	4 - 8
	4-2x10	9 - 3	6 - 10	5 - 8
	4-2x12	10 - 8	7 - 11	6 - 7
	Size	Maximum Header/Girder Spans (ft.-in.) for Glued Laminated Beams ^{2,3,4}		
	3.125x5.500	5 - 5	4 - 0	3 - 4
	3.125x6.875	6 - 9	5 - 0	4 - 2
	3.125x8.250	8 - 1	6 - 0	5 - 0
	3.125x9.625	9 - 5	7 - 0	5 - 9
3.125x11.000	10 - 10	8 - 0	6 - 7	
3.125x12.375	12 - 2	9 - 0	7 - 5	
3.125x13.750	13 - 6	10 - 0	8 - 3	
3.125x15.125	14 - 10	11 - 0	9 - 1	
3.125x16.500	16 - 2	12 - 0	9 - 11	
3.125x17.875	17 - 7	13 - 0	10 - 9	
3.125x19.250	18 - 11	14 - 0	11 - 7	
3.125x20.625	20-0†	15 - 0	12 - 5	
3.125x22.000	20-0†	16 - 0	13 - 3	
3.125x23.375	20-0†	16 - 11	14 - 1	
3.125x24.750	20-0†	17 - 11	14 - 11	
5.125x5.500	6 - 11	5 - 1	4 - 3	
5.125x6.875	8 - 8	6 - 5	5 - 4	
5.125x8.25	10 - 4	7 - 8	6 - 4	
5.125x9.625	12 - 1	8 - 11	7 - 5	
5.125x11.000	13 - 10	10 - 3	8 - 6	
5.125x12.375	15 - 6	11 - 6	9 - 6	
5.125x13.750	17 - 3	12 - 9	10 - 7	
5.125x15.125	18 - 11	14 - 1	11 - 8	
5.125x16.500	20-0†	15 - 4	12 - 8	
5.125x17.875	20-0†	16 - 6	13 - 9	
5.125x19.250	20-0†	17 - 7	14 - 9	
5.125x20.625	20-0†	18 - 9	15 - 8	
5.125x22.000	20-0†	19 - 10	16 - 8	
5.125x23.375	20-0†	20-0†	17 - 7	

† Spans are limited to 20 feet in length.
¹ Tabulated spans are based on #2 Grade Hem-Fir, and are applicable to species with equal or greater F_b and E from the NDS Supplement (i.e., Douglas Fir-Larch, Southern Pine, or Spruce-Pine-Fir). For #3 Grade lumber, spans shall be multiplied by 0.75.
² Tabulated spans assume 20F combination glulam with a minimum $F_{bx}=2,000$ psi, $F_{vx}=210$ psi, and $E=1,500,000$ psi.
³ Tabulated spans assume headers supporting single span floor joists. For headers supporting continuous two span floor joists, tabulated spans shall be multiplied by 0.89.
⁴ The number of jack studs required at each end of the header shall be determined from Table 3.24C.

Table 3.29 Ridge Beam Spans

(Dead Load Assumptions: Roof/Ceiling Assembly = 20 psf)

Ridge Beam Supporting	Size	Roof Live Load			Ground Snow Load								
		20 psf			30 psf			50 psf			70 psf		
		Building Width (ft)											
		12	24	36	12	24	36	12	24	36	12	24	36
 <p>Roof and Ceiling (attached to rafters)</p>	1-2x6	5 - 5	3 - 10	3 - 1	5 - 0	3 - 6	2 - 10	4 - 3	3 - 0	2 - 6	3 - 10	2 - 8	2 - 2
	1-2x8	6 - 10	4 - 10	3 - 11	6 - 4	4 - 5	3 - 8	5 - 5	3 - 10	3 - 1	4 - 10	3 - 5	2 - 9
	1-2x10	8 - 4	5 - 11	4 - 10	7 - 8	5 - 5	4 - 5	6 - 7	4 - 8	3 - 10	5 - 11	4 - 2	3 - 5
	1-2x12	9 - 8	6 - 10	5 - 7	8 - 11	6 - 4	5 - 2	7 - 8	5 - 5	4 - 5	6 - 10	4 - 10	3 - 11
	2-2x4	5 - 6	3 - 10	3 - 2	5 - 1	3 - 7	2 - 11	4 - 4	3 - 1	2 - 6	3 - 10	2 - 9	2 - 3
	2-2x6	8 - 0	5 - 8	4 - 7	7 - 5	5 - 3	4 - 3	6 - 4	4 - 6	3 - 8	5 - 8	4 - 0	3 - 3
	2-2x8	10 - 1	7 - 2	5 - 10	9 - 4	6 - 7	5 - 5	8 - 0	5 - 8	4 - 8	7 - 2	5 - 1	4 - 1
	2-2x10	12 - 4	8 - 9	7 - 2	11 - 5	8 - 1	6 - 7	9 - 10	6 - 11	5 - 8	8 - 9	6 - 2	5 - 0
	2-2x12	14 - 4	10 - 2	8 - 3	13 - 3	9 - 4	7 - 8	11 - 4	8 - 0	6 - 7	10 - 1	7 - 2	5 - 10
	3-2x8	12 - 8	9 - 0	7 - 4	11 - 9	8 - 3	6 - 9	10 - 1	7 - 1	5 - 10	8 - 11	6 - 4	5 - 2
	3-2x10	15 - 6	10 - 11	8 - 11	14 - 4	10 - 1	8 - 3	12 - 3	8 - 8	7 - 1	10 - 11	7 - 9	6 - 4
	3-2x12	17 - 11	12 - 8	10 - 4	16 - 7	11 - 9	9 - 7	14 - 3	10 - 1	8 - 3	12 - 8	9 - 0	7 - 4
	4-2x8	14 - 8	10 - 4	8 - 5	13 - 6	9 - 7	7 - 10	11 - 7	8 - 2	6 - 8	10 - 4	7 - 4	6 - 0
	4-2x10	17 - 10	12 - 8	10 - 4	16 - 6	11 - 8	9 - 6	14 - 2	10 - 0	8 - 2	12 - 7	8 - 11	7 - 3
	4-2x12	20 - 9	14 - 8	12 - 0	19 - 2	13 - 7	11 - 1	16 - 5	11 - 7	9 - 6	14 - 8	10 - 4	8 - 5
		Size	Maximum Ridge Beam Spans (ft.-in.) for Glued Laminated Timber Beams ²										
	3.125x5.500	10 - 6	7 - 5	6 - 0	9 - 8	6 - 10	5 - 7	8 - 4	5 - 10	4 - 9	7 - 5	5 - 3	4 - 3
	3.125x6.875	13 - 1	9 - 3	7 - 7	12 - 1	8 - 7	7 - 0	10 - 4	7 - 4	6 - 0	9 - 3	6 - 6	5 - 4
	3.125x8.250	15 - 8	11 - 1	9 - 1	14 - 6	10 - 3	8 - 4	12 - 5	8 - 10	7 - 2	11 - 1	7 - 10	6 - 5
	3.125x9.625	18 - 4	12 - 11	10 - 7	16 - 11	12 - 0	9 - 9	14 - 6	10 - 3	8 - 5	12 - 11	9 - 2	7 - 5
	3.125x11.000	20 - 11	14 - 10	12 - 1	19 - 4	13 - 8	11 - 2	16 - 7	11 - 9	9 - 7	14 - 9	10 - 5	8 - 6
	3.125x12.375	23 - 6	16 - 8	13 - 7	21 - 9	15 - 5	12 - 7	18 - 8	13 - 2	10 - 9	16 - 7	11 - 9	9 - 7
	3.125x13.750	26 - 2	18 - 6	15 - 1	24 - 2	17 - 1	14 - 0	20 - 9	14 - 8	12 - 0	18 - 5	13 - 1	10 - 8
	3.125x15.125	28 - 8	20 - 4	16 - 7	26 - 7	18 - 10	15 - 4	22 - 10	16 - 2	13 - 2	20 - 4	14 - 4	11 - 9
	3.125x16.500	31 - 1	22 - 2	18 - 1	28 - 10	20 - 6	16 - 9	24 - 11	17 - 7	14 - 4	22 - 2	15 - 8	12 - 9
	3.125x17.875	33 - 5	24 - 0	19 - 8	31 - 0	22 - 3	18 - 2	26 - 9	19 - 1	15 - 7	23 - 11	17 - 0	13 - 10
	3.125x19.250	35 - 8	25 - 8	21 - 2	33 - 1	23 - 10	19 - 6	28 - 7	20 - 6	16 - 9	25 - 7	18 - 3	14 - 11
	3.125x20.625	38 - 0	27 - 4	22 - 6	35 - 3	25 - 4	20 - 11	30 - 6	21 - 11	18 - 0	27 - 3	19 - 7	16 - 0
	3.125x22.000	40 - 3	29 - 0	23 - 10	37 - 4	26 - 10	22 - 2	32 - 4	23 - 3	19 - 2	28 - 11	20 - 9	17 - 1
	3.125x23.375	42 - 7	30 - 7	25 - 3	39 - 6	28 - 4	23 - 5	34 - 1	24 - 6	20 - 3	30 - 6	21 - 11	18 - 1
	3.125x24.750	44 - 10	32 - 2	26 - 7	41 - 7	29 - 10	24 - 8	35 - 11	25 - 10	21 - 4	32 - 2	23 - 1	19 - 1
	5.125x5.500	12 - 7	9 - 6	7 - 9	12 - 0	8 - 9	7 - 2	10 - 1	7 - 6	6 - 2	9 - 0	6 - 8	5 - 5
	5.125x6.875	15 - 8	11 - 10	9 - 8	14 - 11	10 - 11	8 - 11	12 - 7	9 - 5	7 - 8	11 - 3	8 - 4	6 - 10
	5.125x8.250	18 - 10	14 - 2	11 - 7	17 - 11	13 - 2	10 - 9	15 - 2	11 - 3	9 - 2	13 - 6	10 - 0	8 - 2
	5.125x9.625	22 - 0	16 - 7	13 - 6	20 - 11	15 - 4	12 - 6	17 - 8	13 - 2	10 - 9	15 - 9	11 - 8	9 - 7
	5.125x11.000	25 - 1	18 - 11	15 - 6	23 - 11	17 - 6	14 - 4	20 - 2	15 - 0	12 - 3	18 - 0	13 - 4	10 - 11
	5.125x12.375	28 - 3	21 - 3	17 - 5	26 - 11	19 - 8	16 - 1	22 - 8	16 - 11	13 - 10	20 - 3	15 - 0	12 - 3
	5.125x13.750	31 - 4	23 - 5	19 - 3	29 - 11	21 - 8	17 - 10	25 - 3	18 - 9	15 - 4	22 - 6	16 - 9	13 - 8
	5.125x15.125	34 - 6	25 - 6	21 - 0	32 - 11	23 - 8	19 - 6	27 - 9	20 - 5	16 - 10	24 - 9	18 - 4	15 - 0
	5.125x16.500	37 - 8	27 - 7	22 - 9	35 - 7	25 - 7	21 - 1	30 - 3	22 - 1	18 - 3	27 - 1	19 - 10	16 - 4
	5.125x17.875	40 - 9	29 - 8	24 - 5	38 - 3	27 - 6	22 - 8	32 - 9	23 - 9	19 - 7	29 - 4	21 - 3	17 - 7
	5.125x19.250	43 - 11	31 - 9	26 - 2	40 - 11	29 - 5	24 - 3	35 - 4	25 - 5	21 - 0	31 - 7	22 - 9	18 - 9
	5.125x20.625	47 - 0	33 - 9	27 - 10	43 - 7	31 - 4	25 - 10	37 - 8	27 - 1	22 - 4	33 - 8	24 - 3	20 - 0
	5.125x22.000	49 - 9	35 - 9	29 - 6	46 - 2	33 - 2	27 - 4	39 - 11	28 - 8	23 - 8	35 - 9	25 - 8	21 - 2
	5.125x23.375	52 - 7	37 - 10	31 - 2	48 - 9	35 - 1	28 - 11	42 - 2	30 - 4	25 - 0	37 - 9	27 - 2	22 - 4
	5.125x24.750	55 - 5	39 - 10	32 - 10	51 - 4	36 - 11	30 - 5	44 - 5	31 - 11	26 - 4	39 - 9	28 - 7	23 - 7

1 Tabulated spans are based on #2 Grade Hem-Fir, and are applicable to species with equal or greater F_b and E from the NDS Supplement (i.e., Douglas Fir-Larch, Southern Pine, or Spruce-Pine-Fir). For #3 Grade lumber, spans shall be multiplied by 0.75.
 2 Tabulated spans assume 20F combination glulam with a minimum $F_{bx}=2,000$ psi, $F_{vx}=210$ psi, and $E=1,500,000$ psi.