

TOP FLANGE HANGERS HHB/GB/HGB *Beam & Purlin Hangers*

See table on page 115. See Hanger Options on pages 181-183 for hanger modifications, which may result in reduced loads.

This series of beam and purlin hangers may be used for wood to wood or wood to steel applications. Precision forming provides dimensional accuracy and helps ensure proper bearing area and connection.

MATERIAL: See table on page 115

FINISH: HHB, GB, HGB, all saddle hangers and all welded sloped and special hangers—

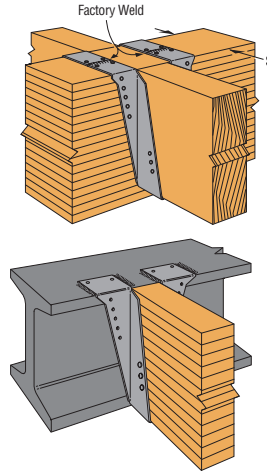
Simpson Strong-Tie® gray paint. HHB may be ordered hot-dip galvanized; specify HDG.

INSTALLATION: • Use specified fasteners. See General Notes.

- HHB, GB and HGB may be used for weld-on applications. The minimum required weld to the top flanges is 3/8" x 2" fillet weld to each side of each top flange tab. Distribute the weld equally on both top flanges. Welding cancels the top and face nailing requirements. Consult the code for special considerations when welding galvanized steel. The area should be well-ventilated. See page 14 for weld information. Weld on applications produce the maximum allowable load listed. Uplift loads do not apply to welded applications.
- Ledgers must be evaluated for each application separately. Check TF dimension, nail length and nail location on ledger.

OPTIONS: • HHB—other widths are available; specify W dimension (*the minimum W dimension is 2 1/2"*).

- Saddle hangers are made to order; add "D" to model (*e.g. HHB3D*); specify S (*for saddle*) dimension. They may be used for most conditions except at end wall locations, and are preferred for nailer applications.
- The coating on special B hangers will depend on the manufacturing process used. Check with your Simpson Strong-Tie representative for details. Hot-dip galvanized available; specify HDG.
- B dimensions may be increased on some models.
- See Hanger Options, pages 181-183.



Typical HHB, GB and HGB Saddle Installation

HHB, GB and HGB are acceptable for weld-on applications. See Installation Information.

TOP FLANGE HANGERS WM/WMU/WP/WPU/HW/HWU

The WPU, HWU and HW series purlin hangers offer the greatest design flexibility and versatility.

MATERIAL: WP/WPU—7 ga. top flange, 12 ga. stirrup; HW—3 ga. top flange, 11 ga. stirrup; HWU—3 ga. top flange, 10 ga. stirrup

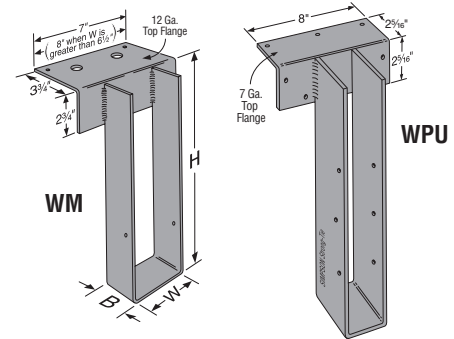
FINISH: Simpson Strong-Tie gray paint; hot-dip galvanized available; specify HDG.

INSTALLATION: • Hangers may be welded to steel headers with 3/16" for WPU/WP, and 1/4" for HW/HWU, by 1 1/2" fillet welds located at each end of the top flange. Weld-on applications produce maximum allowable load listed. See page 14 for weld information. For uplift loads refer to technical bulletin T-WELDUPLFT (*see page 191 for details*).

- Hangers can support multi-ply carried members; the individual members must be secured together to work as a single unit before installation into the hanger.
- **MID-WALL INSTALLATION:** Installed between blocks with duplex nails cast into grout with a minimum of one grouted course above and below the top flange and one #5 vertical rebar minimum 24" long in each adjacent cell.
- **TOP OF WALL INSTALLATION:** Install on top of wall to a grouted beam with masonry screws.

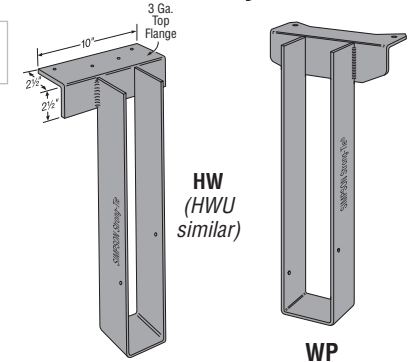
OPTIONS: See Hanger Options, pages 181-183, for hanger modifications and associated load reductions.

CODES: See page 12 for Code Reference Key Chart.



WM

WPU



HW (HWU similar)

WP

Some model configurations may differ from those shown. Contact Simpson Strong-Tie for details.

NAILER TABLE

The table indicates the maximum allowable loads for WP, WPU, HW or HWU hanger used on wood nailers. Nailers are wood members attached to the top of a steel I-beam, concrete or masonry wall.

1. Uplift value for the HWU hanger is for depth ≤ 18". Refer to uplift values in table below for taller depths.
2. Attachment of nailer to supporting member is the responsibility of the Designer. See page 19 for TB screws attachment option.

Model	Nailer	Top Flange Nailing	Allowable Loads			
			Uplift (160)	DF/SP	SPF/HF	LSL
WP	2x	2-10dx1 1/2	—	2525	2500	3375
	2-2x	2-10d	—	3255	3255	—
	3x	2-16dx2 1/2	—	3000	2510	3375
	4x	2-10d	—	3255	3255	—
WPU	2-2x	7-10d	700	3255	—	—
	3x	7-16dx2 1/2	775	3000	—	—
	4x	4-16d	775	3255	—	—
HW	2-2x	4-10d	—	4845	—	—
	3x	4-16dx2 1/2	—	4860	—	—
	4x	4-16d	—	5285	—	—
HWU	2-2x	8-16dx2 1/2	710	5430	—	—
	3x	8-16dx2 1/2	810	5430	—	—
	4x	8-16d	810	5430	—	—

Model	Joist		Fasteners			Allowable Loads Header Type								Code Ref.	
	Width	Depth	Top	Face	Joist	Uplift (160)	LVL	PSL	LSL	DF/SP	SPF/HF	I-Joist	Masonry		
WM	1 1/2 to 7 1/2	3 1/2 to 30	2-16d DPLX	—	2-10dx1 1/2	—	MID-WALL INSTALLATIONS								4175
	1 1/2 to 7 1/2	3 1/2 to 30	2-1/4x1 3/4 Titens	—	2-10dx1 1/2	—	TOP OF WALL INSTALLATIONS								3380
WMU	1 1/2 to 7 1/2	9 to 28	2-16d DPLX	4-1/4x1 3/4 Titens	6-10dx1 1/2	625	MID-WALL INSTALLATIONS								4175
	1 1/2 to 7 1/2	9 to 28	2-1/4x1 3/4 Titens	4-1/4x1 3/4 Titens	6-10dx1 1/2	545	TOP OF WALL INSTALLATIONS								3380
WP	1 1/2 to 7 1/2	3 1/2 to 30	3-10dx1 1/2	—	2-10dx1 1/2	—	2865	3250	—	2500	2000	2030	—	170	
	1 1/2 to 7 1/2	3 1/2 to 30	3-10d	—	2-10dx1 1/2	—	2525	3250	3650	3255	2525	—	—		
	1 1/2 to 7 1/2	3 1/2 to 30	3-16d	—	2-10dx1 1/2	—	3635	3320	3650	3255	2600	—	—		
WPU	1 3/4 to 5 1/2	7 1/4 to 18	3-16d	4-16d	6-10dx1 1/2	775	4700	4880	3650	4165	4165	—	—	I19, F18	
	1 3/4 to 5 1/2	18 1/2 to 22 1/2	3-16d	4-16d	6-10dx1 1/2	485	4700	4880	3650	4165	4165	—	—		
	1 3/4 to 5 1/2	23 to 28	3-16d	4-16d	6-10dx1 1/2	315	4700	4880	3650	4165	4165	—	—		
HW	1 1/2 to 7 1/2	3 1/2 to 32	4-10d	—	2-10dx1 1/2	—	3100	4000	—	5285	3100	—	—	I10, I19, F9, F18	
	1 1/2 to 7 1/2	3 1/2 to 32	4-16d	—	2-10dx1 1/2	—	5100	4000	4500	5285	3665	—	—		
HWU	1 3/4 to 3 1/2	9 to 18	4-16d	4-16d	6-10dx1 1/2	810	6335	5500	5535	6335	5415	—	—	I19, F18	
	1 3/4 to 3 1/2	18 1/2 to 22 1/2	4-16d	4-16d	6-10dx1 1/2	765	6335	5500	5535	6335	5415	—	—		
	1 3/4 to 3 1/2	23 to 28	4-16d	4-16d	6-10dx1 1/2	635	6335	5500	5535	6335	5415	—	—		
	1 3/4 to 3 1/2	28 1/2 to 32	4-16d	4-16d	8-10dx1 1/2	1005	6335	5500	5535	6335	5415	—	—		
	4 1/2 to 7	9 to 18	4-16d	4-16d	6-10dx1 1/2	810	6000	5500	5535	6000	5415	—	—		
	4 1/2 to 7	18 1/2 to 22 1/2	4-16d	4-16d	6-10dx1 1/2	765	6000	5500	5535	6000	5415	—	—		
	4 1/2 to 7	23 to 28	4-16d	4-16d	6-10dx1 1/2	635	6000	5500	5535	6000	5415	—	—		
	4 1/2 to 7	28 1/2 to 32	4-16d	4-16d	8-10dx1 1/2	1005	6000	5500	5535	6000	5415	—	—		

1. 16d sinkers (0.148" dia x 3 1/4" long) may be used where 10d commons are called out with no load reduction.
2. Uplift loads are based on DF/SP lumber and have been increased 60% for wind or earthquake loading with no further increase allowed. For normal loading applications such as cantilever construction refer to Simpson Strong-Tie® Connector Selector™ software or conservatively divide the uplift load by 1.6.
3. Minimum f_m = 1500 psi. See Installation Notes on page 93.
4. For hanger heights exceeding the joist height, the allowable load is 0.50 of the table load.
5. **NAILS:** 16d = 0.162" dia x 3 1/2" long, 10d = 0.148" dia x 3" long, 10dx1 1/2 = 0.148" dia. x 1 1/2" long. See page 16-17 for other nail sizes and information.

TOP FLANGE HANGERS GLS/HGLS/GLT/HGLT *Beam & Glulam Saddle Hangers*

See table on page 115. See Hanger Options on pages 181-183 for hanger modifications, which may result in reduced loads.

GLT and HGLT accommodate typical structural requirements for timber and glulam beams. GLT top flange depth allows installation on minimum 4x ledger (*3 1/2" net*). Not acceptable for nailer applications. Funnel Flanges® allow easy installation of beams.

GLS and HGLS are heavy glulam saddle hangers. Tested and code-listed seismic tie provisions are added to the GLS or HGLS—order GLST or HGLST. The seismic tie models use three extra 3/4" bolts through each carried member and two 3/4" bolts through the supporting member. Bolt holes shall be a minimum of 1/32" to a maximum of 1/16" larger than the bolt diameter (*2005 NDS 11.1.2.2*).

MATERIAL: All welded GL series glulam hangers have a 3 gauge top flange.

See page 115 for stirrup gauge.

FINISH: Simpson Strong-Tie® gray paint.

Hot-dip galvanized available; specify HDG.

INSTALLATION: • Use all specified fasteners. See General Notes.

GLT/HGLT • All GLTs used with sawn timbers have a 12" L dimension.

• Fasteners are included.

• GLT may be attached to steel headers by 3/16" x 2 1/2" fillet welds at each end of the header angle to obtain the tabulated loads. HGLT may be attached to steel headers by 1/4" x 2 1/2" fillet welds at each end of the header angle to obtain the lesser of the tabulated loads or 12,000 lbs. For uplift loads refer to technical bulletin T-WELDUPLFT (*see page 191 for details*). See page 14 for weld information.

• Not for use with SCL or LVL headers.

See GLTV, HGLTV.

GLS/HGLS • N54A nails are included with the hangers.

• Seismic Ties: the carried member bolts should be located in the upper half of the 1 3/16" x 1 1/2" slotted holes. Standard washers must be used with all bolts.

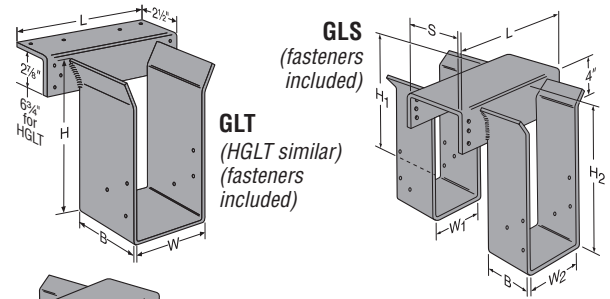
• Loads listed are per stirrup.

TO ORDER: • GLS/HGLS—Specify H₁, H₂, and S dimensions (*see illustration*).

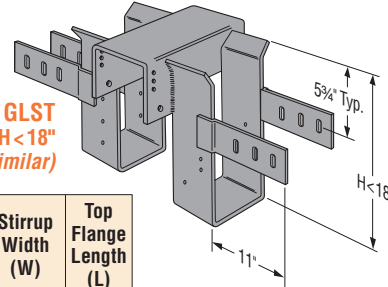
• Some engineered wood sizes are also available.

OPTIONS: See Hanger Options pages 181-183.

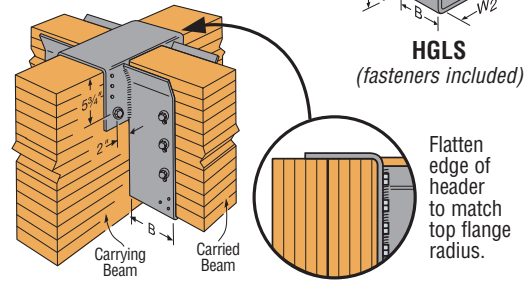
No options on GLST and HGLST.



GLST
when H < 18"
(HGLST similar)



Model	Top Flange Ga	Stirrup Width (W)	Top Flange Length (L)
GLT	3	2 5/8 - 5 1/2	10
		5 9/16 - 6 7/8	12
HGLT	3	2 5/8 - 8 1/4	12
		8 7/8	14
		3 1/4	6
GLS	3	5 1/4	9
		6 7/8	12
		5 1/4 - 8 7/8	12
HGLS	3	3 1/4	10 1/2
		5 1/4	12 1/2
		6 7/8	13 3/4
GLST	3	5 1/4	12 1/2
		6 7/8	13 3/4
		8 7/8	15 3/4



GLST Installed with Glulam Beams (HGLST similar)
When H dimension is ≤ 18", product is supplied with seismic straps.

Glulam Beam Connectors

TOP FLANGE HANGERS LEG/MEG/EG *Beam & Glulam Hangers*

See Hanger Options on page 182-183 for hanger modifications, which may result in reduced loads.

Designed to support large members typically found in glulam beam construction.

MATERIAL: See table

FINISH: Simpson Strong-Tie gray paint.

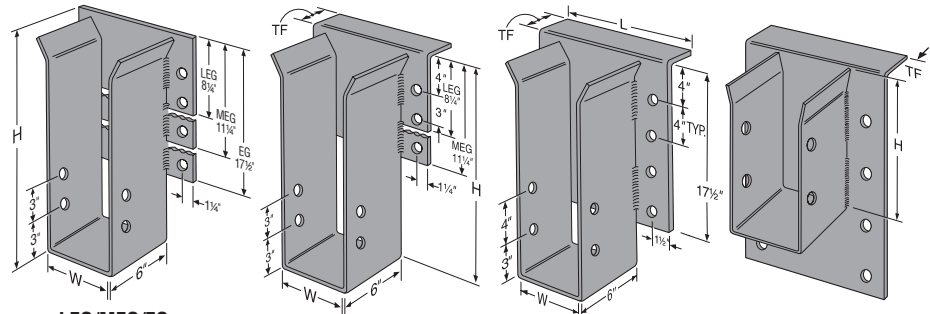
Hot-dip galvanized available; specify HDG.

INSTALLATION: • Use all specified fasteners. See General Notes.

OPTIONS: • See Hanger Options, pages 181-183.

• Models available without top flanges; see table loads.

CODES: See page 12 for Code Reference Key Chart.



LEG/MEG/EG
without Top Flange
(see options)

LEG and MEG

EG

EG with "H" dimension less than the face plate height. The EG's back plate is always 17 1/2", regardless of the stirrup height.

Joist or Purlin Size	Model No.	Stirrup Ga	Dimensions			Min. Header Depth	Bolts		Allowable Loads				Code Ref.				
			W	Min ³ H	TF		Header Qty	Header Dia	Without Top Flange		Top Flange No Triangle Theory						
									Floor (100)	Roof (125)	Floor (100)	Roof (125)					
3 1/2 LAM	LEG3	7	3 1/4	9	2 1/2	10	4	3/4	2	3/4	3465	4330	12675	13215	11865	12730	I19, F18
	LEG5	7	5 1/4	9	2 1/2	10	4	3/4	2	3/4	3465	4330	16290	16290	11865	12730	
	MEG5	7	5 1/4	9	2 1/2	13	6	3/4	2	3/4	5170	6460	19710	19710	13570	14865	
5 1/2 LAM	EG5	7	5 1/4	11	2 1/2	20	8	1	2	1	8870	11085	20895	21815	17095	19310	
	LEG7	7	6 7/8	9	2 1/2	10	4	3/4	2	3/4	3465	4330	16290	16290	11865	12730	
	MEG7	7	6 7/8	9	2 1/2	13	6	3/4	2	3/4	5170	6460	19710	19710	13570	14865	
6 3/4 LAM	EG7	7	6 7/8	11	2 1/2	20	8	1	2	1	8870	11085	25320	25835	17095	19310	
	EG9	7	8 7/8	11	2 1/2	20	8	1	2	1	8870	11085	25320	25835	17095	19310	

Model	Top Flange Ga	Top Flange Length (L)
LEG/MEG	7	12
EG5	3	11 3/4
EG7		13 1/2
EG9		15 1/2

1. Roof loads are 125% of floor loads unless limited by other criteria.
2. Allowable loads assume a carrying member width of 5 1/2".
3. Specify H dimension.

4. Triangle Theory: Some code jurisdictions allow only half of the top flange bearing area to be considered when performing a top flange calculation as there is non-uniform stress under the top flange (*presumed to be a triangular shaped distribution*). Therefore, loads are published above using the calculated "Triangle Theory". Loads are also published in the "No Triangle Theory" columns which are based on calculations assuming full bearing on the top flange which do not exceed the tested value with a reduction factor of 3.

TOP FLANGE HANGERS – GLULAM BEAM

Joist or Purlin Size	Model No.	Ga	Dimensions				Fasteners		Allowable Loads				Code Ref.
			W	H	B	TF	Header	Joist	Uplift (160)	Floor (100)	Snow (115)	Roof (125)	
3½ LAM	GLT3	7	3¼	7½ MIN	5	2½	10-N54A	6-N54A	1745	8165	8165	8165	I19, F18
	HGLT3	7	3¼	7½ MIN	6	2½	18-N54A	6-N54A	1745	11590	11755	11865	
	GLS3-5 ⁸	7	3¼	8½ MIN	5	5¼	6-N54A	6-N54A	1745	9790	9965	10080	
	GLST3-5 ⁸	7	3¼	9 MIN	6½	5¼	6-N54A	6-N54A	1745	12465	12630	12740	170
	GLS3-7 ⁸	7	3¼	8½ MIN	5	6¾	6-N54A	6-N54A	1745	9840	10005	10115	I19, F18
	GLST3-7 ⁸	7	3¼	9 MIN	6½	6¾	6-N54A	6-N54A	1745	12465	12630	12740	170
	GLS3-9 ⁸	7	3¼	8½ MIN	5	8¾	6-N54A	6-N54A	1745	9840	10005	10115	I19, F18
	GLST3-9 ⁸	7	3¼	9 MIN	6½	8¾	6-N54A	6-N54A	1745	12465	12630	12740	170
	HW3.25	11	3¼	5 MIN	4	2½	4-10d	2-10d	—	5285	5285	5285	I10, F9
	HHB3	7	3¼	7½ MIN	3	2½	10-N54A	6-N54A	1745	6105	6235	6235	I19, F18
	GB3	7	3¼	7½ MIN	3½	2½	14-N54A	6-N54A	1745	7215	7380	7490	
HU3.25/12TF	12	3¼	12	2½	2½	16-16d	6-10d	1125	4310	4335	4335	170	
HU3.25/16.5TF	12	3¼	16½	2½	2½	20-16d	8-10d	1500	4860	5275	5545		
3½ LAM	GLTV4	7	3¾	7½ MIN	5	2¾	10-16d	6-16d	1640	7000	7000	7000	I19, F18
	HGLTV4	7	3¾	7½ MIN	6	2¾	18-16d	6-16d	1640	8665	8665	8665	
5½ LAM	GLT5	7	5¼	7½ MIN	5	2½	10-N54A	6-N54A	1745	8165	8165	8165	I19, F18
	HGLT5	7	5¼	7½ MIN	6	2½	18-N54A	6-N54A	1745	11930	12455	12750	
	GLS5-5 ⁸	7	5¼	8½ MIN	5	5¼	6-N54A	6-N54A	1745	13080	13080	13080	
	GLST5-5 ⁸	7	5¼	9 MIN	6½	5¼	6-N54A	6-N54A	1745	14685	14685	14685	170
	GLS5-7 ⁸	7	5¼	8½ MIN	5	6¾	6-N54A	6-N54A	1745	13080	13080	13080	I19, F18
	GLST5-7 ⁸	7	5¼	9 MIN	6½	6¾	6-N54A	6-N54A	1745	14685	14685	14685	170
	HGLS5 ⁸	7	5¼	10½ MIN	6	SPEC	14-N54A	8-N54A	2330	16835	16835	16835	I19, F18
	HGLST5 ⁸	7	5¼	10½ MIN	6½	SPEC	14-N54A	8-N54A	2330	16835	16835	16835	
	HW5.25	11	5¼	5 MIN	2½	2½	4-10d	2-10d	—	5285	5285	5285	I10, F9
	HHB5	7	5¼	7½ MIN	3	2½	10-N54A	6-N54A	1745	6105	6235	6235	I19, F18
	GB5	7	5¼	7½ MIN	3½	2½	14-N54A	6-N54A	1745	7370	7640	8005	
HGB5	7	5¼	7½ MIN	4	2½	14-N54A	6-N54A	1745	7885	8265	8520	170	
HU5.25/12TF	12	5¼	12	2½	2½	16-16d	6-16d	1325	4310	4335	4335		
HU5.25/16.5TF	12	5¼	16½	2½	2½	20-16d	8-16d	1765	4860	5275	5550		
5½ LAM	GLTV6	7	5¾	7½ MIN	5	2¾	10-16d	6-16d	1640	7000	7000	7000	I19, F18
	HGLTV6	7	5¾	7½ MIN	6	2¾	18-16d	6-16d	1640	8665	8665	8665	
6¾ LAM	HHB7	7	6¾	7½ MIN	3	2½	10-N54A	6-N54A	1745	6105	6235	6235	I19, F18
	GB7	7	6¾	7½ MIN	3½	2½	14-N54A	6-N54A	1745	7370	7750	8005	
	HGB7	7	6¾	7½ MIN	4	2½	14-N54A	6-N54A	1745	7885	8265	8520	
	GLT7	7	6¾	7½ MIN	5	2½	10-N54A	6-N54A	1745	8165	8165	8165	170
	HGLT7	7	6¾	7½ MIN	6	2½	18-N54A	6-N54A	1745	11930	12455	12750	
	GLS7-7 ⁸	7	6¾	8½ MIN	5	6¾	6-N54A	6-N54A	1745	14040	14040	14040	I19, F18
	GLST7-7 ⁸	7	6¾	9 MIN	6½	6¾	6-N54A	6-N54A	1745	14685	14685	14685	
	GLS7-9 ⁸	7	6¾	8½ MIN	5	8¾	6-N54A	6-N54A	1745	14040	14040	14040	170
	GLST7-9 ⁸	7	6¾	9 MIN	6½	8¾	6-N54A	6-N54A	1745	14685	14685	14685	
HGLS7 ⁸	7	6¾	10½ MIN	6	SPEC	14-N54A	8-N54A	2330	16835	16835	16835	I19, F18	
HGLST7 ⁸	7	6¾	10½ MIN	6½	SPEC	14-N54A	8-N54A	2330	16835	16835	16835		
7 LAM	GLTV7.12	7	7½	7½ MIN	5	2¾	10-16d	6-16d	1640	7000	7000	7000	170
	HGLTV7.12	7	7½	7½ MIN	6	2¾	18-16d	6-16d	1640	8665	8665	8665	
8¾ LAM	HGLT9	7	8¾	7½ MIN	6	2½	18-N54A	6-N54A	1745	12750	12750	12750	I19, F18
	HGLS9 ⁸	7	8¾	10½ MIN	6	SPEC	14-N54A	8-N54A	2330	16835	16835	16835	
	HGLST9 ⁸	7	8¾	10½ MIN	6½	SPEC	14-N54A	8-N54A	2330	16835	16835	16835	

- N54A fasteners are supplied with hangers.
- Roof loads are 125% of floor loads unless limited by other criteria.
- Uplift loads have been increased 60% for wind or earthquake loading with no further increase allowed. For normal loading applications such as cantilever construction refer to Simpson Strong-Tie® Connector Selector™ software or conservatively divide the uplift load by 1.6.
- GLT, HGLT, GLS, HGLS uplift loads only apply when "H" is 28" or less.
- Allowable loads for glulam sizes are based on 560 psi wood bearing.
- Maximum allowable horizontal load for the GLST/HGLST is 14580 lbs. (160). Load is horizontal across the supporting member and independent of vertical loads and includes a 60% increase for wind or earthquake loading with no further increase allowed.
- "Min H" is the minimum H dimension that may be specified. For GLT, HGLT, GLS, HGLS hanger heights that exceed the joist height, allowable load is 0.50 of the table load.

- Allowable loads assume GLS, GLST, HGLS and HGLST loads are distributed evenly on each side of the header with loads shown for each stirrup. When the load is not evenly distributed, use the equivalent single-sided top flange hanger allowable load for each side. (e.g., for uneven load distribution on a GLS3-5, use the GLT3 allowable loads for each side.)
- GLS, GLST, HGLS, HGLST fasteners listed are for one side only. Fasteners supplied are for both sides of the saddle.
- SPEC: Specify the header dimensions for the saddle hangers. ("S" dimension is illustrated on pages 113-114.)
- NAILS:** 16d = 0.162" dia. x 3½" long, 10d = 0.148" dia. x 3" long, N54A = 0.250" dia. x 2½" long - annular ring. See page 16-17 for other nail sizes and information.

CODES: See page 12 for Code Reference Key Chart.

HCA Hinge Connectors

HCA's offer single-piece side plates, for fewer welds and higher horizontal loads.

MATERIAL: Side plates—7 gauge; Top and bottom plates—see PT dimensions in table.

FINISH: Simpson Strong-Tie® gray paint

INSTALLATION: • Use all specified fasteners. See General Notes.

- Bolt holes shall be a minimum of 1/32" and a maximum of 1/16" larger than the bolt diameter (per 2005 NDS 11.1.2.2).
- The model number column in the Allowable Download Table gives the basic HCA model with two rotation bolts.
- Contact Simpson Strong-Tie for heights greater than 60".
- Position 3/4" dia. machine bolts in slots away from bearing seat to allow for wood shrinkage.

OPTIONS: The Horizontal Load Table gives other bolt options.

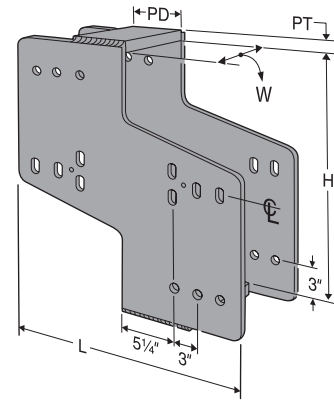
ORDERING: • To order, add the width and bearing plate size designation after the model name. Specify the H dimension. For dapped beams, reduce the H dimension by the PT dimension for each dap.

- Specify Model No., Model Size, and height H.

Ordering Example: HC4C3TA5-6 H = 18".

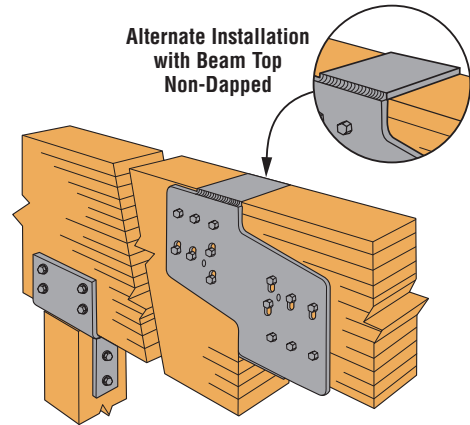
CODES: See page 12 for Code Reference Key Chart.

Refer to technical bulletin T-HCAGUIDE for specification examples and additional information (see page 191 for details).



HC4C3TA
U.S. Patent
5,324,132

Alternate Installation
with Beam Top
Non-Dapped



Typical HC4C3TA Installation
with Beam Top Dapped

HORIZONTAL LOAD TABLE

Model No. (Prefix)	L	H ³ Min	H Max	Rotation Bolts Per Beam	Slotted Tension Bolts	Allowable Horizontal Loads ^{2,3} (160)
HCA	19 1/2	8	60	2	—	—
HC2CTA	19 1/2	14	60	2	2	9920
HCCTA	19 1/2	14	60	2	3	14850
HC4CTA	25 1/2	14	60	2	4	19720
HC3A	25 1/2	8	60	3	—	—
HCC3TA	25 1/2	14	60	3	3	14850
HC4C3TA	25 1/2	14	60	3	4	19720

1. Loads include a 60% increase for wind or earthquake loading with no further increase allowed.

2. Horizontal loads are for Doug Fir-larch glulams minimum W = 3 1/8". For other wood types, adjust the load according to the code.

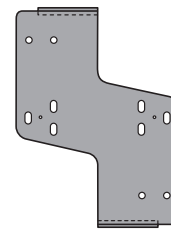
3. H MIN is the absolute minimum height. Reduce downloads according to footnote 1 in the Allowable Download Table.

ALLOWABLE DOWNLOAD TABLE

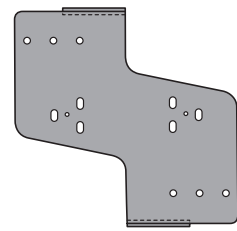
Model Size (Suffix)	Dimensions				Bolt Dia.	Two Rotation Bolts Per Beam				Three Rotation Bolts Per Beam ⁴				Code Ref.
	Beam Width	W	PT	PD		H ₁	H ₁ Allowable Roof Loads (125) ^{2,3}	Min H	Min H Allowable Roof Loads (125)	H ₁	H ₁ Allowable Roof Loads (125) ^{2,3}	Min H	Min H Allowable Roof Loads (125)	
3-5	3 1/8	3 1/4	3/4	5	3/4	12	8750	8	3070	10	8750	8	4465	170
3-6	3 1/8	3 1/4	3/4	6	3/4	15	10500	8	2570	12	10500	8	3735	
3-7	3 1/8	3 1/4	3/4	7	3/4	18	12250	8	2210	14	12250	8	3210	
5-5	5 1/8	5 1/4	3/4	5	3/4	16	14350	8	3100	13	14350	8	4560	
5-6	5 1/8	5 1/4	3/4	6	3/4	20	17220	8	2595	16	17220	8	3815	
5-7	5 1/8	5 1/4	3/4	7	3/4	25	20090	8	2230	19	20090	8	3280	
5-9	5 1/8	5 1/4	3/4	9	3/4	36	25830	8	1740	27	25830	8	2560	
7-5	6 3/8	6 7/8	1	5	3/4	19	18900	8	3100	15	18900	8	4605	
7-6	6 3/8	6 7/8	1	6	3/4	24	22680	8	2595	18	22680	8	3855	
7-7	6 3/8	6 7/8	1	7	3/4	30	26460	8	2230	22	26460	8	3315	
7-9	6 3/8	6 7/8	1	9	3/4	40	29615	8	1740	33	34020	8	2585	
9-5	8 3/8	8 7/8	1 1/4	5	3/4	22	24500	8	3100	17	24500	8	4605	
9-6	8 3/8	8 7/8	1 1/4	6	3/4	29	29400	8	2595	22	29400	8	3855	
9-7	8 3/8	8 7/8	1 1/4	7	3/4	37	34300	8	2230	27	34300	8	3315	
9-9	8 3/8	8 7/8	1 1/4	9	3/4	40	29615	8	1740	40	43975	8	2585	
11-5	10 3/8	10 7/8	1 1/2	5	3/4	26	30100	8	3100	20	30100	8	4605	
11-6	10 3/8	10 7/8	1 1/2	6	3/4	34	36120	8	2595	25	36120	8	3855	
11-7	10 3/8	10 7/8	1 1/2	7	3/4	40	37925	8	2230	32	42140	8	3315	
11-9	10 3/8	10 7/8	1 1/2	9	3/4	40	29615	8	1740	40	43975	8	2585	
3.62	3 1/2	3 5/8	3/4			Refer to technical bulletin T-HCAGUIDE for more information on these sizes (see page 191 for details)							170	
4.50	4 3/8	4 1/2	1											
5.37	5 1/4	5 5/8	1 1/4											
7.12	7	7 1/8	1 1/2											

- For H dimension between H₁ and Minimum H, decrease allowable loads in direct proportion to depth.
- Loads include a 25% increase for roof live loads; reduce for other load durations according to the code.
- Loads are for 560 psi wood bearing.

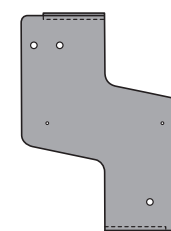
- See Horizontal Load Table for models with three rotation bolts.
- Other widths are available for structural composite lumber. Contact Simpson Strong-Tie.
- Beams must be the same width for both members in the connection. For alternate applications, contact Simpson Strong-Tie.



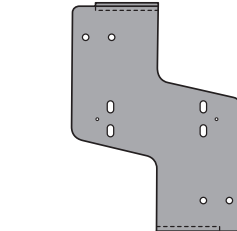
HCCTA



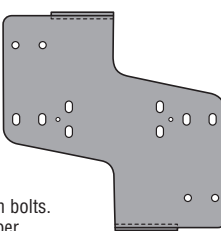
HCC3TA



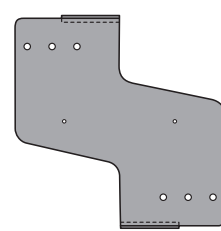
HCA



HC2CTA



HC4CTA



HC3A