

# CONNECTOR SELECTION GUIDE

for Residential Construction

**SIMPSON**

**Strong-Tie**

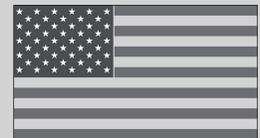
FOR USE WITH PRODUCTS  
MANUFACTURED BY:

*Trus Joist*<sup>™</sup>  
Weyerhaeuser

For Weyerhaeuser  
product support call  
(888) 453-8358



This guide lists popular options for Simpson Strong-Tie® hangers used with engineered wood products. Not all available hanger and installation combinations are listed. Use in conjunction with the current Simpson Strong-Tie **Wood Construction Connectors** catalog for detailed hanger information.



**ALLOWABLE  
STRESS DESIGN**

(800) 999-5099  
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CSG-TJUS23 06/23 exp. 06/25

# CONNECTOR SELECTOR NOTES



1. See current *Wood Construction Connectors* catalog for Important Information and General Notes section and for hanger models, joist sizes, and support conditions not shown. See pp. 10-11 of this guide for installation information.
2. Loads listed in tables are in pounds and address the attachment of the hanger to a solid support member. Loads listed under the DF heading cover Douglas Fir, Southern Pine, and engineered lumber made from D.Fir-L or Southern Pine equivalents. Loads listed under the SPF heading cover Spruce-Pine-Fir headers. Load resistance shown in I-joist tables is the lower of either the hanger capacity or the I-joist bearing capacity published by the manufacturer.
3. An I-joist must be laterally supported to prevent rotation; see Prevent Rotation below.
4. Some joists are not available in every height shown. Check with the manufacturer for availability.
5. Support members are assumed to be at least 5½" tall for top flange hangers and must be equal or greater to hanger height for face mount hangers. The horizontal thickness of the support member must be equal to or greater than the length of the nail being used and must be equal to or greater than the length of the hanger top flange (TF). Exception: Face-mount hangers may be mounted on support members narrower than the nail length provided that the nail penetration is at least 1¼" for 0.148" dia. x 3" long or 2 inches for 0.162" dia. x 3½" long. Clinch nails on back side.
6. Uplift loads listed for I-joists assume either LVL or SPF flanges and have been increased by 60% for earthquake and wind loading with no further increase allowed. Reduce loads according to code for normal duration loading such as cantilever construction.
7. The B dimension is the length of the hanger seat.

## I-Joist Headers

When supporting one I-joist from another, backer blocks must be used. Backer blocks are to be made from plywood, OSB, or dimension lumber. The thickness of a backer block should be the same thickness as the void in the side of the I-joist and a minimum of 12" wide. Attach with (10) 0.148" dia. x 3" long nails clinched as necessary, prior to installing the hanger. For top-flange hangers, install backer blocks tight to top flange. For face-mount hangers, install backer blocks tight to bottom flange. Refer to I-Joist manufacturer literature for specific guidelines.

### Top-Flange Hangers:

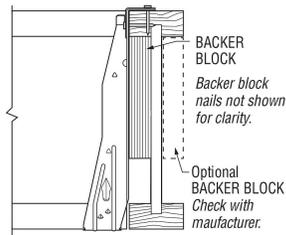
Use 0.148" dia. x 1½" nails for all top-flange hangers attached to an I-joist header. See table for allowable loads.

Model	I-Joist Header: 1 ½" Thick Flange Material <sup>1</sup>	
	DF/SCL	SPF
ITS	1,085	940
MIT	1,230	885
BA	1,495	1,495

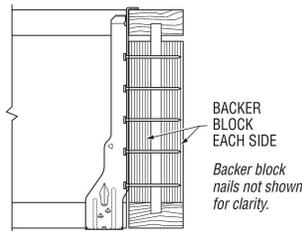
1. For flanges with thicknesses from 1⅞" to 1¾", use 0.85 of the I-joist header load. For flanges with thicknesses from 1½" to 1¼", use 0.75 of the I-joist header load.

### Face-Mount Hangers:

Nails that get less than 2 inches of penetration must be clinched on the back side. Double I-joist headers must be attached together to act as a single unit.



**Top Flange**



**Face Mount**

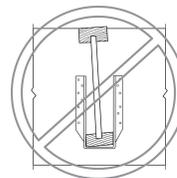
### Sloped Joists:

For joists sloped up to ¼:12, there is no reduction of load. For slopes greater than ¼:12, see table.

Sloped Joist		
Model	Slope	Reduction
ITS, IUS, MIT, MIU, BA, HB	½:12 max	10%
WP	¾:12 max	15%
HU	½:12 max	0%
HU	¾:12 max	10%

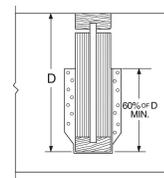
## Prevent Rotation

Hangers provide some joist rotation resistance; however, additional lateral restraint may be required for deep joists.



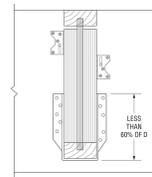
### No Rotation Resistance

Lack of web stiffeners combined with short hanger allows unwanted rotation.



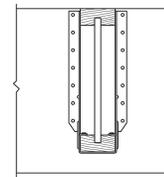
### Rotation Prevented By Web Stiffeners

Hanger height should be at least 60% of the joist height.



### Rotation Prevented By Lateral Blocking At Top

If hanger height is less than 60% of the joist height, add clips or blocking near the top.



### Rotation Prevented By Lateral Flange Support

Sides of hanger laterally support the top flange of the I-joist. No web stiffeners required!

# HOW TO PICK A HANGER



Follow these simple steps to choose your hanger:  
(For I-joist headers, see page 2)

<b>1</b>	Find your joist type in this guide. (Single I-joist, Double I-joist, Beam)
<b>2</b>	Locate your connector type in the table. <ul style="list-style-type: none"><li>• Face mount, top flange, skewed, sloped, etc.</li></ul>
<b>3</b>	Select a hanger from the table.
<b>4</b>	Confirm that your joist load is less than the hanger allowable load.
<b>5</b>	Check to see if the bearing length “B dim” meets the bearing length requirement of the I-Joist. If yes, you have successfully selected your hanger.
	If you did not find a suitable hanger; Please see the current <i>Wood Construction Connectors</i> catalog or call Simpson Strong-Tie at (800) 999-5099.  You will need the following information: <ul style="list-style-type: none"><li>• Download</li><li>• Uplift</li><li>• Header condition</li><li>• Bearing length requirement</li></ul>

# SINGLE I-JOISTS – US/Allowable Load (lb.)

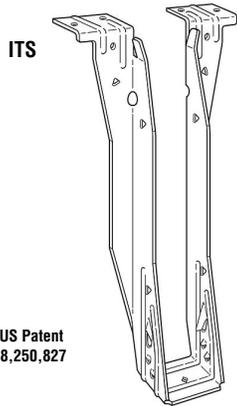


Joist Height	Top Flange				Face Mount				45° Skew						
	Model	Fastener Type		Download		Model	Fastener Type		Download		Model	Fastener Type		Download	
		Header	Joist	DF	SPF		Header	Joist	DF	SPF		Header	Joist	DF	SPF
<b>TJI® 110</b>															
Joist Width = 1¾"															
9½	ITS1.81/9.5	(6) 10d	—	955	955	IUS1.81/9.5	(8) 10d	—	950	815	SUR/L1.81/9	(12) 16d	(2) N10	1,130	1,130
11¾	ITS1.81/11.88	(6) 10d	—	975	975	IUS1.81/11.88	(10) 10d	—	975	975	SUR/L1.81/11	(16) 16d	(2) N10	1,240	1,240
14	ITS1.81/14	(6) 10d	—	975	975	IUS1.81/14	(12) 10d	—	975	975	SUR/L1.81/14	(20) 16d	(2) N10	1,240	1,240
16	ITS1.81/16	(6) 10d	—	975	975	IUS1.81/16	(14) 10d	—	975	975	SUR/L1.81/14	(20) 16d	(2) N10	1,590	1,590
<b>TJI® 210</b>															
Joist Width = 2¼"															
9½	ITS2.06/9.5	(6) 10d	—	1,050	1,050	IUS2.06/9.5	(8) 10d	—	950	815	SUR/L2.1/9	(14) 16d	(2) N10	1,270	1,270
11¾	ITS2.06/11.88	(6) 10d	—	1,070	1,070	IUS2.06/11.88	(10) 10d	—	1,070	1,020	SUR/L2.1/11	(16) 16d	(2) N10	1,380	1,380
14	ITS2.06/14	(6) 10d	—	1,070	1,070	IUS2.06/14	(12) 10d	—	1,070	1,070	SUR/L2.1/14	(18) 16d	(2) N10	1,380	1,380
16	ITS2.06/16	(6) 10d	—	1,070	1,070	IUS2.06/16	(14) 10d	—	1,070	1,070	SUR/L2.1/14	(18) 16d	(2) N10	1,735	1,735
<b>TJI® 230</b>															
Joist Width = 2¾"															
9½	ITS2.37/9.5	(6) 10d	—	1,100	1,100	IUS2.37/9.5	(8) 10d	—	950	815	SUR/L2.37/9	(14) 16d	(2) N10	1,280	1,280
11¾	ITS2.37/11.88	(6) 10d	—	1,120	1,120	IUS2.37/11.88	(10) 10d	—	1,120	1,020	SUR/L2.37/11	(16) 16d	(2) N10	1,410	1,410
14	ITS2.37/14	(6) 10d	—	1,120	1,120	IUS2.37/14	(12) 10d	—	1,120	1,120	SUR/L2.37/14	(18) 16d	(2) N10	1,410	1,410
16	ITS2.37/16	(6) 10d	—	1,120	1,120	IUS2.37/16	(14) 10d	—	1,120	1,120	SUR/L2.37/14	(18) 16d	(2) N10	1,765	1,765
<b>TJI® 360</b>															
Joist Width = 2¾"															
11¾	ITS2.37/11.88	(6) 10d	—	1,140	1,140	IUS2.37/11.88	(10) 10d	—	1,140	1,020	SUR/L2.37/11	(16) 16d	(2) N10	1,430	1,430
14	ITS2.37/14	(6) 10d	—	1,140	1,140	IUS2.37/14	(12) 10d	—	1,140	1,140	SUR/L2.37/14	(18) 16d	(2) N10	1,430	1,430
16	ITS2.37/16	(6) 10d	—	1,140	1,140	IUS2.37/16	(14) 10d	—	1,140	1,140	SUR/L2.37/14	(18) 16d	(2) N10	1,790	1,790
18	MIT3518	(8) 16d	(2) N10	1,620	1,620	MIU2.37/18	(26) 16d	(2) N10	1,620	1,620	SUR/L2.37/14	(18) 16d	(2) N10	1,790	1,790
20	MIT3520	(8) 16d	(2) N10	1,620	1,620	MIU2.37/20	(28) 16d	(2) N10	1,620	1,620	SUR/L2.37/14	(18) 16d	(2) N10	1,790	1,790
<b>TJI® 560</b>															
Joist Width = 3½"															
11¾	ITS3.56/11.88	(6) 10d	—	1,330	1,150	IUS3.56/11.88	(12) 10d	—	1,330	1,220	SUR/L410	(14) 16d	(6) 16d	1,895	1,735
14	ITS3.56/14	(6) 10d	—	1,330	1,150	IUS3.56/14	(12) 10d	—	1,330	1,220	SUR/L414	(18) 16d	(8) 16d	1,970	1,970
16	ITS3.56/16	(6) 10d	—	1,330	1,150	IUS3.56/16	(14) 10d	—	1,330	1,330	SUR/L414	(18) 16d	(8) 16d	1,970	1,970
18	MIT418	(8) 16d	(2) N10	1,935	1,665	MIU3.56/18	(26) 16d	(2) N10	1,935	1,935	SUR/L414	(18) 16d	(8) 16d	1,970	1,970
20	MIT420	(8) 16d	(2) N10	1,935	1,665	MIU3.56/20	(28) 16d	(2) N10	1,935	1,935	SUR/L414	(18) 16d	(8) 16d	1,970	1,970

- Shaded hangers require web stiffeners at joist ends. Joist manufacturers may also require web stiffeners for non-shaded areas.
- THAI hangers shown are based on the "top flange" installation and require that the carrying member have a horizontal thickness of at least 2½". Install four top nails and two face nails.

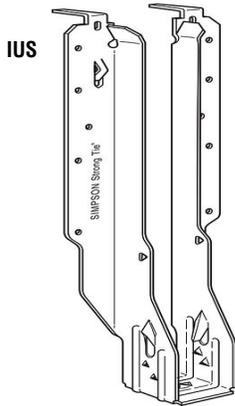
- The LSSR requires web stiffeners that are 4" wide and attached with (4) nails each side.
- LSSR nails and loads shown are for skewed rafter condition. See *Wood Construction Connectors* catalog for nailing options with higher loads.

**Fastener Sizes**  
 N10 = 0.148" x 1½"  
 10d = 0.148" x 3"  
 16d = 0.162" x 3½"



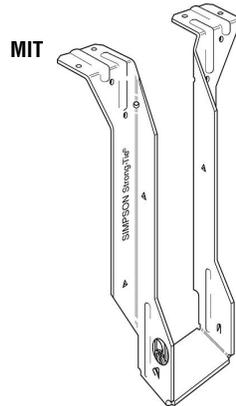
ITS  
US Patent 8,250,827

B = 2"



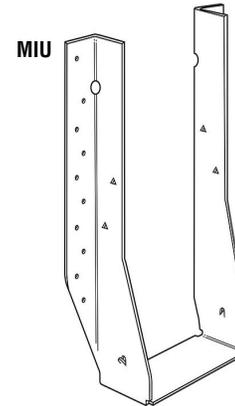
IUS

B = 2"



MIT

B = 2½"



MIU

B = 2½"

**ITS – 18 gauge**  
 The ITS top-flange hanger with its Strong-Grip™ seat and Funnel Flange™ installs faster than any other top-flange hanger. Joist nails are not required. Has uplift resistance of 120 lb.

**IUS – 18 gauge**  
 The IUS is a hybrid hanger that incorporates the advantages of both face-mount and top-flange hangers. Joist nails are not required. Has uplift resistance of 70 lb.

**MIT – 16 gauge**  
 The MIT's Positive Angle Nailing helps minimize splitting of the I-joist's bottom flange. Features uplift capacity and extended seat design (to allow installation of slightly undercut joists). Has uplift resistance of 215 lb.

**MIU – 16 gauge**  
 The MIU series features 16-gauge steel and extra nailing for higher loads. Has uplift resistance of 230 lb.

# SINGLE I-JOISTS – US/Allowable Load (lb.)



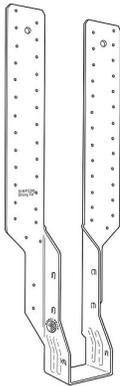
Joist Height	Adjustable Height					Field Slope & Skew				
	Model	Fastener Type		Download		Model	Fastener Type		Download	
		Header	Joist	DF	SPF		Header	Joist	DF	SPF
<b>TJI® 110</b>						<b>Joist Width = 1¾"</b>				
9½	THAI1.81/22	(6) 10d	(2) N10	1,000	1,000	LSSR1.81Z	(13) 10DN	(9) N10	930	930
11⅞	THAI1.81/22	(6) 10d	(2) N10	1,320	1,320	LSSR1.81Z	(13) 10DN	(9) N10	1,105	950
14	THAI1.81/22	(6) 10d	(2) N10	1,370	1,370	LSSR1.81Z	(13) 10DN	(9) N10	1,105	950
16	Reference Connector Catalog					Reference Connector Catalog				
<b>TJI® 210</b>						<b>Joist Width = 2⅞"</b>				
9½	THAI2.1/22	(6) 10d	(2) N10	1,100	1,100	LSSR2.1Z	(13) 10DN	(9) N10	1,030	950
11⅞	THAI2.1/22	(6) 10d	(2) N10	1,450	1,450	LSSR2.1Z	(13) 10DN	(9) N10	1,105	950
14	THAI2.1/22	(6) 10d	(2) N10	1,495	1,495	LSSR2.1Z	(13) 10DN	(9) N10	1,105	950
16	Reference Connector Catalog					Reference Connector Catalog				
<b>TJI® 230</b>						<b>Joist Width = 2⅝"</b>				
9½	THAI3522	(6) 10d	(2) N10	1,135	1,135	LSSR2.37Z	(13) 10DN	(9) N10	1,080	950
11⅞	THAI3522	(6) 10d	(2) N10	1,485	1,485	LSSR2.37Z	(13) 10DN	(9) N10	1,105	950
14	THAI3522	(6) 10d	(2) N10	1,540	1,540	LSSR2.37Z	(13) 10DN	(9) N10	1,105	950
16	Reference Connector Catalog					Reference Connector Catalog				
<b>TJI® 360</b>						<b>Joist Width = 2⅝"</b>				
11⅞	THAI3522	(6) 10d	(2) N10	1,515	1,515	LSSR2.37Z	(13) 10DN	(9) N10	1,105	950
14	THAI3522	(6) 10d	(2) N10	1,560	1,560	LSSR2.37Z	(13) 10DN	(9) N10	1,105	950
16 - 20	Reference Connector Catalog					Reference Connector Catalog				
<b>TJI® 560</b>						<b>Joist Width = 3½"</b>				
11⅞	THAI422	(6) 10d	(2) N10	1,735	1,680	LSSR410Z	(20) N16	(13) N16	1,760	1,555
14	THAI422	(6) 10d	(2) N10	1,735	1,680	LSSR410Z	(20) N16	(13) N16	1,775	1,555
16 - 20	Reference Connector Catalog					Reference Connector Catalog				

1. See notes on page 4.

### Fastener Sizes

N10 = 0.148" x 1½"  
 10DN = 0.148" x 2½"  
 10d = 0.148" x 3"  
 N16 = 0.162" x 2½"

### THAI

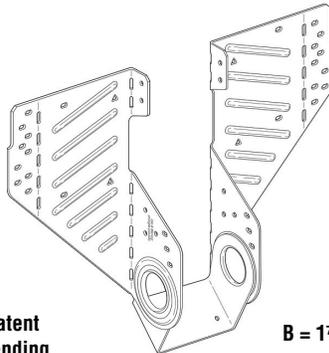


B = 2¼"

### THAI – 18 gauge

This hanger has extra-long straps and can be field-formed to give height adjustability and top-flange hanger convenience. Positive angle nailing helps minimize splitting. Strap must be field-formed over the top of the header by a minimum of 2½". Web stiffeners required. No uplift resistance.

### LSSR



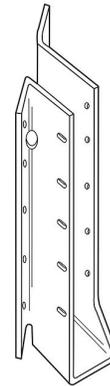
Patent Pending

B = 1⅞"

### LSSR – 18 gauge most models

**LSSR410Z – 16 gauge**  
 The LSSR is the next generation of a field-adjustable rafter hanger. It can be installed after all the rafters have been tacked into place, is field-adjustable for skews up to 45°, and features a hinged swivel seat that can adjust its slope 45° either up or down. Has uplift resistance of 510 lb.

### SUL



B = See Wood Construction Connectors catalog.

### SUR/L – 16 gauge

**HSUR/L – 14 gauge**  
 All models are skewed 45°. Normally accommodates a 40° - 50° skew. The installation of these hangers does not require a beveled end cut. Has uplift resistance of 165 lb.

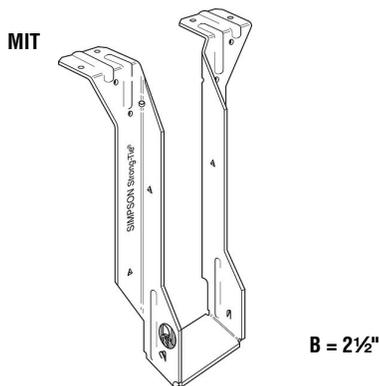
# DOUBLE I-JOISTS — US Allowable Loads (lb.)



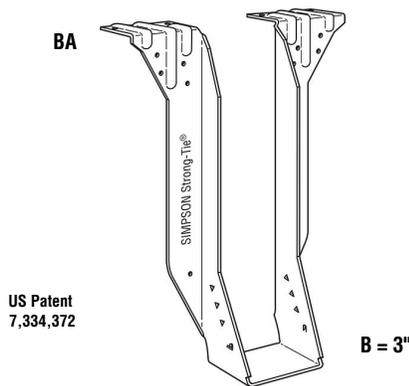
Joist Height	Top Flange					Face Mount				45° Skew					
	Model	Fastener Type		Download		Model	Fastener Type		Download		Model	Fastener Type		Download	
		Header	Joist	DF	SPF		Header	Joist	DF	SPF		Header	Joist	DF	SPF
<b>Double TJI® 110</b>															
Joist Width = 3½"															
9½	MIT49.5	(8) 16d	(2) N10	2,085	1,665	MIU3.56/9	(16) 16d	(2) N10	2,085	1,980	SUR/L410	(14) 16d	(6) 16d	2,015	1,735
11½	MIT411.88	(8) 16d	(2) N10	2,575	1,665	MIU3.56/11	(20) 16d	(2) N10	2,735	2,475	SUR/L410	(14) 16d	(6) 16d	2,015	1,735
14	MIT414	(8) 16d	(2) N10	2,575	1,665	MIU3.56/14	(22) 16d	(2) N10	2,885	2,725	SUR/L414	(18) 16d	(8) 16d	2,400	2,065
16	MIT416	(8) 16d	(2) N10	2,575	1,665	MIU3.56/16	(24) 16d	(2) N10	2,885	2,885	SUR/L414	(18) 16d	(8) 16d	2,400	2,065
<b>Double TJI® 210</b>															
Joist Width = 4½"															
9½	MIT4.28/9.5	(8) 16d	(2) N10	2,290	1,665	MIU4.28/9	(16) 16d	(2) N10	2,290	1,980	HSUR/L4.28/9	(12) 16d	(2) N10	1,785	1,535
11½	MIT4.28/11.88	(8) 16d	(2) N10	2,575	1,665	MIU4.28/11	(20) 16d	(2) N10	2,880	2,475	HSUR/L4.28/11	(16) 16d	(2) N10	2,380	2,045
14	MIT4.28/14	(8) 16d	(2) N10	2,575	1,665	MIU4.28/14	(22) 16d	(2) N10	3,115	2,725	HSUR/L4.28/14	(16) 16d	(2) N10	2,380	2,045
16	BA4.28/16	(16) 16d	(2) N10	3,375	3,095	MIU4.28/16	(24) 16d	(2) N10	3,115	2,970	HSUR/L4.28/16	(16) 16d	(2) N10	2,380	2,045
<b>Double TJI® 230</b>															
Joist Width = 4¾"															
9½	BA4.75/9.5	(16) 16d	(2) N10	2,505	2,505	MIU4.75/9	(16) 16d	(2) N10	2,305	1,980	HSUR/L4.75/9	(12) 16d	(2) N10	1,785	1,535
11½	MIT3511.88-2	(8) 16d	(2) N10	2,575	1,665	MIU4.75/11	(20) 16d	(2) N10	2,880	2,475	HSUR/L4.75/11	(16) 16d	(2) N10	2,380	2,045
14	MIT3514-2	(8) 16d	(2) N10	2,575	1,665	MIU4.75/14	(22) 16d	(2) N10	3,170	2,725	HSUR/L4.75/14	(20) 16d	(2) N10	2,975	2,560
16	MIT4.75/16	(8) 16d	(2) N10	2,575	1,665	MIU4.75/16	(24) 16d	(2) N10	3,200	2,970	HSUR/L4.75/16	(24) 16d	(2) N10	3,320	2,865
<b>Double TJI® 360</b>															
Joist Width = 4¾"															
11½	MIT3511.88-2	(8) 16d	(2) N10	2,575	1,665	MIU4.75/11	(20) 16d	(2) N10	2,880	2,475	HSUR/L4.75/11	(16) 16d	(2) N10	2,380	2,045
14	MIT3514-2	(8) 16d	(2) N10	2,575	1,665	MIU4.75/14	(22) 16d	(2) N10	3,170	2,725	HSUR/L4.75/14	(20) 16d	(2) N10	2,975	2,560
16	MIT4.75/16	(8) 16d	(2) N10	2,575	1,665	MIU4.75/16	(24) 16d	(2) N10	3,245	2,970	HSUR/L4.75/16	(24) 16d	(2) N10	3,330	2,865
18	BA4.75/18	(16) 16d	(2) N10	3,485	3,095	MIU4.75/18	(26) 16d	(2) N10	3,245	3,220	HSUR/L4.75/18	(24) 16d	(2) N10	3,330	2,865
20	BA4.75/20	(16) 16d	(2) N10	3,485	3,095	MIU4.75/20	(28) 16d	(2) N10	3,245	3,245	HSUR/L4.75/20	(24) 16d	(2) N10	3,330	2,865
<b>Double TJI® 560</b>															
Joist Width = 7"															
11½	BA7.12/11.88	(16) 16d	(8) N10	3,925	3,925	HU412-2	(22) 16d	(8) 16d	3,280	2,815	HU412-2X	(22) 16d	(8) 16d	2,625	2,250
14	BA7.12/14	(16) 16d	(8) N10	4,135	4,005	HU414-2	(26) 16d	(12) 16d	3,875	3,330	HU414-2X	(26) 16d	(12) 16d	3,100	2,665
16	BA7.12/16	(16) 16d	(8) N10	4,135	4,005	HU414-2	(26) 16d	(12) 16d	3,875	3,330	HU414-2X	(26) 16d	(12) 16d	3,100	2,665
18	BA7.12/18	(16) 16d	(8) N10	4,135	4,005	HU414-2	(26) 16d	(12) 16d	3,875	3,330	HU414-2X	(26) 16d	(12) 16d	3,100	2,665
20	BA7.12/20	(16) 16d	(8) N10	4,135	4,005	HU414-2	(26) 16d	(12) 16d	3,875	3,330	HU414-2X	(26) 16d	(12) 16d	3,100	2,665

- Shaded hangers require web stiffeners at joist ends. Joist manufacturers may also require web stiffeners for non-shaded areas.
- THAI hangers shown are based on the "top flange" installation and require that the carrying member have a horizontal thickness of at least 2½". Install four top nails and two face nails.
- The LSSR requires web stiffeners that are 4" wide and attached with (4) nails each side.
- LSSR nails and loads shown are for skewed rafter condition. See Wood Construction Connectors catalog for nailing options with higher loads.
- LSUs are not field skewable. (Field-slope only.) Skewed option must be special ordered, specify skew angle.
- Skewed option must be special ordered. Specify skew angle and direction (e.g. HU414-2X R45°)

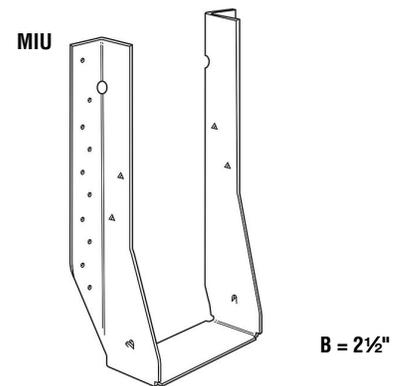
**Fastener Sizes**  
 N10 = 0.148" x 1½"  
 16d = 0.162" x 3½"



**MIT** – 16 gauge  
 The MIT's Positive Angle Nailing helps minimize splitting of the I-joist's bottom flange. Features uplift capacity and extended seat design (to allow installation of slightly undercut joists). Has uplift resistance of 215 lb.



**BA** – 14 gauge  
 The BA is designed especially for use with multiple ply headers 1½" to 1¾" thick, and may be used for weld-on applications. Has uplift resistance of 1225 lb.



**MIU** – 16 gauge  
 The MIU series features 16 gauge steel and extra nailing for higher loads. Has uplift resistance of 230 lb.

# DOUBLE I-JOISTS — US Allowable Loads (lb.)



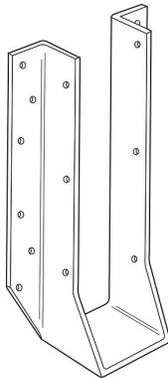
Joist Height	Adjustable Height					Field Slope & Skew				
	Model	Fastener Type		Download		Model	Fastener Type		Download	
		Header	Joist	DF	SPF		Header	Joist	DF	SPF
<b>Double TJI® 110</b>						<b>Joist Width = 3½"</b>				
9½	THAI422	(6) 10d	(2) N10	1,735	1,680	LSSR410Z	(20) N16	(13) N16	1,810	1,555
117⁄₈	THAI422	(6) 10d	(2) N10	1,735	1,680	LSSR410Z	(20) N16	(13) N16	1,810	1,555
14	THAI422	(6) 10d	(2) N10	1,735	1,680	LSSR410Z	(20) N16	(13) N16	1,810	1,555
16	Reference Connector Catalog					Reference Connector Catalog				
<b>Double TJI® 210</b>						<b>Joist Width = 4½"</b>				
9½	THAI-2(W=4.25)	(6) 10d	(2) N10	2,095	2,095	LSU4.28	(24) 16d	(16) N10	2,300	1,990
117⁄₈	THAI-2(W=4.25)	(6) 10d	(2) N10	2,095	2,095	LSU4.28	(24) 16d	(16) N10	2,300	1,990
14	THAI-2(W=4.25)	(6) 10d	(2) N10	2,095	2,095	LSU4.28	(24) 16d	(16) N10	2,300	1,990
16	Reference Connector Catalog					Reference Connector Catalog				
<b>Double TJI® 230</b>						<b>Joist Width = 4¾"</b>				
9½	THAI-2(W=4.75)	(6) 10d	(2) N10	2,095	2,095	LSU3510-2	(24) 16d	(16) N10	2,300	1,990
117⁄₈	THAI-2(W=4.75)	(6) 10d	(2) N10	2,095	2,095	LSU3510-2	(24) 16d	(16) N10	2,300	1,990
14	THAI-2(W=4.75)	(6) 10d	(2) N10	2,095	2,095	LSU3510-2	(24) 16d	(16) N10	2,300	1,990
16	Reference Connector Catalog					Reference Connector Catalog				
<b>Double TJI® 360</b>						<b>Joist Width = 4¾"</b>				
117⁄₈	THAI-2(W=4.75)	(6) 10d	(2) N10	2,095	2,095	LSU3510-2	(24) 16d	(16) N10	2,300	1,990
14	THAI-2(W=4.75)	(6) 10d	(2) N10	2,095	2,095	LSU3510-2	(24) 16d	(16) N10	2,300	1,990
16 - 20	Reference Connector Catalog					Reference Connector Catalog				
<b>Double TJI® 560</b>						<b>Joist Width = 7"</b>				
117⁄₈ - 20	Reference Connector Catalog					Reference Connector Catalog				

1. See notes on page 6.

### Fastener Sizes

N10 = 0.148" x 1½"  
 10d = 0.148" x 3"  
 N16 = 0.162" x 2½"  
 16d = 0.162" x 3½"

**HU**

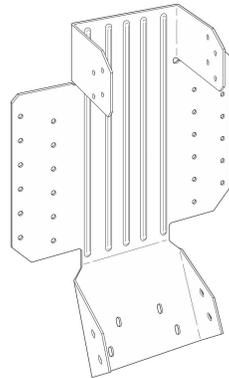


**B = 2½"**

**HU** – 14 gauge

The HU series features uplift capacity and a large selection of sizes and load ranges. HU hangers have triangle holes that can be filled for increased loads. Web stiffeners required. See Wood Construction Connectors catalog for uplift resistance.

**LSU**

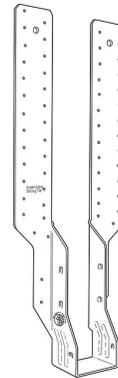


**B = 3½"**

**LSU** – 14 gauge

LSU models provide uplift capacity and can be field sloped and/or skewed to 45°. Web stiffeners required when used with I-Joists. See Wood Construction Connectors catalog for uplift resistance.

**THAI/  
THAI-2**



**B = See Wood  
Construction  
Connectors catalog.**

**THAI** – 18 gauge

**THAI-2** – 14 gauge

This hanger has extra-long straps and can be field-formed to give height adjustability and top-flange hanger convenience. Positive angle nailing helps minimize splitting. Strap must be field-formed over the top of the header by a minimum of 2½". Web stiffeners required. No uplift resistance.

# BEAMS and HEADERS — US Allowable Loads (lb.)



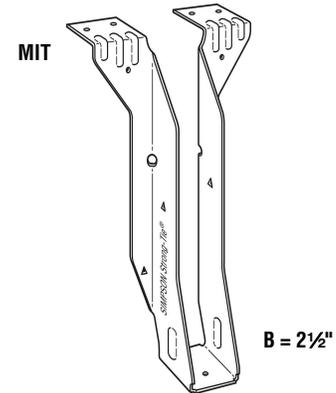
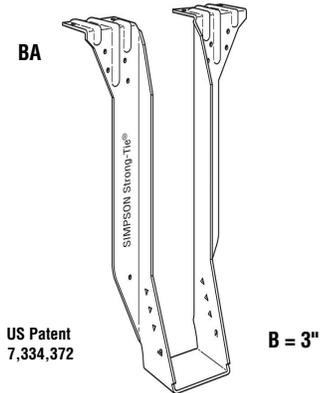
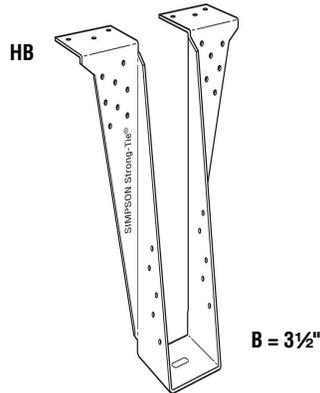
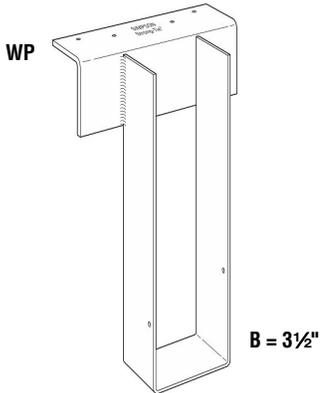
Beam Height	Top Flange							Face Mount				
	Model	Fastener Type		Uplift (160)	Download			Model	Fastener Type		Uplift (160)	Download
		Header	Joist		LVL	LSL	PSL		Header	Joist		
<b>1¾" Microllam® LVL or Parallam® PSL or TimberStrand® LSL</b>												
7¼	BA1.81/7.25	(16) 16d	(8) N10	1,225	4,715	4,500	—	HU7	(16) 16d	(8) N10	1,515	2,380
9¼	BA1.81/9.25	(16) 16d	(8) N10	1,225	4,715	4,500	—	HUS1.81/10	(30) 16d	(10) 16d	2,675	5,510
9½	MIT9.5	(8) 16d	(2) N10	215	2,550	2,115	—	HU9	(24) 16d	(10) N10	1,795	3,570
	BA1.81/9.5	(16) 16d	(8) N10	1,225	4,715	4,500	—	HUS1.81/10	(30) 16d	(10) 16d	2,675	5,510
11¼	WP1.81X(H=11.25)	(4) N16	(2) N10	—	3,095	3,605	—	HU11	(30) 16d	(10) N10	1,795	4,465
	BA1.81/11.25	(16) 16d	(8) N10	1,225	4,715	4,500	—	HUS1.81/10	(30) 16d	(10) 16d	2,675	5,510
11⅞	MIT11.88	(8) 16d	(2) N10	215	2,550	2,115	—	HU11	(30) 16d	(10) N10	1,795	4,465
	BA1.81/11.88	(16) 16d	(8) N10	1,225	4,715	4,500	—	HUS1.81/10	(30) 16d	(10) 16d	2,675	5,510
14	MIT1.81/14	(8) 16d	(2) N10	215	2,550	2,115	—	HU14	(36) 16d	(14) N10	1,795	5,055
	BA1.81/14	(16) 16d	(8) N10	1,225	4,715	4,500	—	HUS1.81/10	(30) 16d	(10) 16d	2,675	5,510
16	MIT1.81/16	(8) 16d	(2) N10	215	2,550	2,115	—	HU14	(36) 16d	(14) N10	1,795	5,055
	BA1.81X(H=16)	(16) 16d	(8) N10	1,225	4,715	4,500	—	HUS1.81/10	(30) 16d	(10) 16d	2,675	5,510
<b>2 Ply 1¾" or 3½" Microllam® LVL or Parallam® PSL or TimberStrand® LSL</b>												
7¼	BA3.56/7.25	(16) 16d	(8) N10	1,225	4,715	4,500	4,320	HHUS48	(22) 16d	(8) 16d	1,780	4,210
9¼	BA3.56/9.25	(16) 16d	(8) N10	1,225	4,715	4,500	4,320	HHUS410	(30) 16d	(10) 16d	3,565	5,635
	HB3.56/9.25	(22) 16d	(10) 16d	2,075	5,815	6,395	5,640	HGUS410	(46) 16d	(16) 16d	4,095	9,100
9½	BA3.56/9.5	(16) 16d	(8) N10	1,225	4,715	4,500	4,320	HHUS410	(30) 16d	(10) 16d	3,565	5,635
	HB3.56/9.5	(22) 16d	(10) 16d	2,075	5,815	6,395	5,640	HGUS410	(46) 16d	(16) 16d	4,095	9,100
11¼	BA3.56/11.25	(16) 16d	(8) N10	1,225	4,715	4,500	4,320	HHUS410	(30) 16d	(10) 16d	3,565	5,635
	HB3.56/11.25	(22) 16d	(10) 16d	2,075	5,815	6,395	5,640	HGUS410	(46) 16d	(16) 16d	4,095	9,100
11⅞	BA3.56/11.88	(16) 16d	(8) N10	1,225	4,715	4,500	4,320	HHUS410	(30) 16d	(10) 16d	3,565	5,635
	HB3.56/11.88	(22) 16d	(10) 16d	2,075	5,815	6,395	5,640	HGUS410	(46) 16d	(16) 16d	4,095	9,100
14	HB3.56/14	(22) 16d	(10) 16d	2,075	5,815	6,395	5,640	HHUS410	(30) 16d	(10) 16d	3,565	5,635
	HGLTV3.514	(18) 16d	(6) 16d	1,120	10,585	9,500	9,485	HGUS414	(66) 16d	(22) 16d	5,360	13,860
16	HB3.56/16	(22) 16d	(10) 16d	2,075	5,815	6,395	5,640	HHUS410	(30) 16d	(10) 16d	3,565	5,635
	HGLTV3.516	(18) 16d	(6) 16d	1,120	10,585	9,500	9,485	HGUS414	(66) 16d	(22) 16d	5,360	13,860
18	HB3.56/18	(22) 16d	(10) 16d	2,075	5,815	6,395	5,640	HGU3.63-SDS(H=18)	(36) SDS25212	(24) SDS25212	9,460	13,160
	HGLTV3.518	(18) 16d	(6) 16d	1,120	10,585	9,500	9,485	HGUS414	(66) 16d	(22) 16d	5,360	13,860

1. Download column for top flange hangers represents floor loads (100%) and may not be increased for other load durations.

2. HU hangers use both round and triangle holes.

3. When ordering the EQG, HGU, HHGU specify height.

4. Microllam® Parallam® and TimberStrand® are registered trademarks of Weyerhaeuser Company



**WP** – Top flange – 7 gauge; Stirrup – 12 gauge  
This welded series offers the greatest design flexibility and versatility, and a large selection of sizes. Suitable for welded and nailer applications, and modifications including slopes and skews. No uplift resistance.

**HB** — 10 gauge  
The HB hanger is available with higher capacity for structural composite lumber and heavier I-joist applications.

**BA** – 14 gauge  
The BA is designed especially for use with multiple ply headers 1½" to 1¾" thick, and may be used for weld-on applications.

**MIT** – 16 gauge  
The MIT's positive-angle nailing helps minimize splitting of the I-joists' bottom flange.

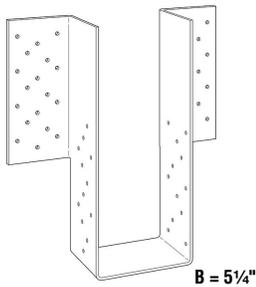
# BEAMS and HEADERS — US Allowable Loads (lb.)



Beam Height	Top Flange							Face Mount				
	Model	Fastener Type		Uplift (160)	Download			Model	Fastener Type		Uplift (160)	Download
		Header	Joist		LVL	LSL	PSL		Header	Joist		
3 Ply 1 3/4" or 5/4" Microllam® LVL or Parallam® PSL or TimberStrand® LSL												
7 1/4	BA5.37X(H=7.25)	(16) 16d	(8) N10	1,225	4,715	4,500	4,320	HGUS5.50/8	(36) 16d	(12) 16d	3,235	7,460
9 1/4	HB5.37X(H=9.25)	(22) 16d	(10) 16d	2,075	5,815	6,395	5,640	HHUS5.50/10	(30) 16d	(10) 16d	3,565	5,635
	HGLTV5.37(H=9.25)	(18) 16d	(6) 16d	1,120	10,585	9,500	9,485	HGUS5.50/10	(46) 16d	(16) 16d	4,095	9,100
9 1/2	HB5.37X(H=9.5)	(22) 16d	(10) 16d	2,075	5,815	6,395	5,640	HHUS5.50/10	(30) 16d	(10) 16d	3,565	5,635
	HGLTV5.37(H=9.5)	(18) 16d	(6) 16d	1,120	10,585	9,500	9,485	HGUS5.50/10	(46) 16d	(16) 16d	4,095	9,100
11 1/4	HB5.37X(H=11.25)	(22) 16d	(10) 16d	2,075	5,815	6,395	5,640	HHUS5.50/10	(30) 16d	(10) 16d	3,565	5,635
	HGLTV5.37(H=11.25)	(18) 16d	(6) 16d	1,120	10,585	9,500	9,485	HGUS5.50/12	(56) 16d	(20) 16d	5,205	11,915
11 7/8	HB5.37X(H=11.875)	(22) 16d	(10) 16d	2,075	5,815	6,395	5,640	HHUS5.50/10	(30) 16d	(10) 16d	3,565	5,635
	HGLTV5.37(H=11.875)	(18) 16d	(6) 16d	1,120	10,585	9,500	9,485	HGUS5.50/12	(56) 16d	(20) 16d	5,205	11,915
14	HB5.37X(H=14)	(22) 16d	(10) 16d	2,075	5,815	6,395	5,640	HHUS5.50/10	(30) 16d	(10) 16d	3,565	5,635
	EGQ5.37-SDS3(H=14)	(28) SDS25300	(12) SDS25300	7,670	19,800	19,800	18,680	HGUS5.50/14	(66) 16d	(22) 16d	5,360	13,860
16	HGLTV5.37(H=16)	(18) 16d	(6) 16d	1,120	10,585	9,500	9,485	HGU5.50-SDS(H=16)	(36) SDS25212	(24) SDS25212	9,460	13,160
	EGQ5.37-SDS3(H=16)	(28) SDS25300	(12) SDS25300	7,670	19,800	19,800	18,680	HGUS5.50/14	(66) 16d	(22) 16d	5,360	13,860
18	HGLTV5.37(H=18)	(18) 16d	(6) 16d	1,120	10,585	9,500	9,485	HGU5.50-SDS(H=18)	(36) SDS25212	(24) SDS25212	9,460	13,160
	EGQ5.37-SDS3(H=18)	(28) SDS25300	(12) SDS25300	7,670	19,800	19,800	18,680	HGUS5.50/14	(66) 16d	(22) 16d	5,360	13,860
4 Ply 1 3/4" or 7" Microllam® LVL or Parallam® PSL or TimberStrand® LSL												
9 1/4	HB7.12/9.25	(22) 16d	(10) 16d	2,075	5,815	6,395	5,640	HHUS7.25/10	(30) 16d	(10) 16d	3,565	5,635
	HGLTV7.12(H=9.25)	(18) 16d	(6) 16d	1,120	10,585	9,500	9,485	HGUS7.25/10	(46) 16d	(16) 16d	4,095	9,100
9 1/2	HB7.12/9.5	(22) 16d	(10) 16d	2,075	5,815	6,395	5,640	HHUS7.25/10	(30) 16d	(10) 16d	3,565	5,635
	HGLTV7.12(H=9.5)	(18) 16d	(6) 16d	1,120	10,585	9,500	9,485	HGUS7.25/10	(46) 16d	(16) 16d	4,095	9,100
11 1/4	HGLTV411.25-2	(18) 16d	(6) 16d	1,120	10,585	9,500	9,485	HHUS7.25/10	(30) 16d	(10) 16d	3,565	5,635
	EGQ7.25-SDS3(H=11.25)	(28) SDS25300	(12) SDS25300	7,670	19,800	19,800	18,680	HGUS7.25/12	(56) 16d	(20) 16d	5,205	11,915
11 7/8	HGLTV411.88-2	(18) 16d	(6) 16d	1,120	10,585	9,500	9,485	HHUS7.25/10	(30) 16d	(10) 16d	3,565	5,635
	EGQ7.25-SDS3(H=11.875)	(28) SDS25300	(12) SDS25300	7,670	19,800	19,800	18,680	HGUS7.25/12	(56) 16d	(20) 16d	5,205	11,915
14	HGLTV414-2	(18) 16d	(6) 16d	1,120	10,585	9,500	9,485	HGU7.25-SDS(H=14)	(36) SDS25212	(24) SDS25212	9,460	13,160
	EGQ7.25-SDS3(H=14)	(28) SDS25300	(12) SDS25300	7,670	19,800	19,800	18,680	HGUS7.25/14	(66) 16d	(22) 16d	5,360	13,860
16	EGQ7.25-SDS3(H=16)	(28) SDS25300	(12) SDS25300	7,670	19,800	19,800	18,680	HHGU7.25-SDS(H=16)	(44) SDS25212	(28) SDS25212	14,550	18,480
18	EGQ7.25-SDS3(H=18)	(28) SDS25300	(12) SDS25300	7,670	19,800	19,800	18,680	HHGU7.25-SDS(H=18)	(44) SDS25212	(28) SDS25212	14,550	18,480

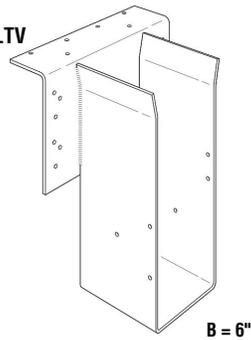
1. See notes on page 8.

HGU



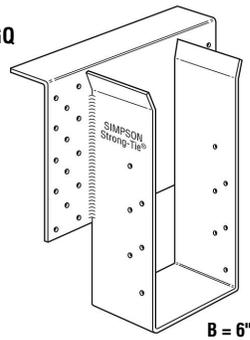
**HGU** – 7 gauge  
**HHGU** – 3 gauge  
 The GU hangers are a high-capacity girder hanger designed for situations where the header and joist are flush at top.

HGLTV



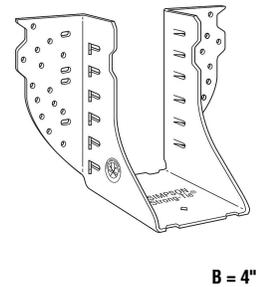
**HGLTV** – Top flange – 3 gauge  
 Stirrup – 7 gauge  
 This welded series provides high load carrying capacity and design flexibility and versatility. May be sloped, skewed and modified in other ways, and may be welded to steel I-beams.

EGQ



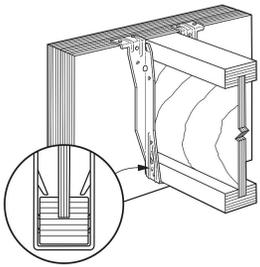
**EGQ** – Top flange – 3 gauge  
 Stirrup – 7 gauge  
 A high-capacity top-flange connector designed for use with Structural Composite Lumber beams.

HGUS

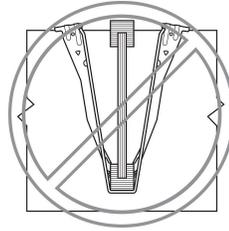


**HGUS** – 12 gauge  
**HHUS** – 14 gauge  
 Features double shear nailing for high strength and lowest installed cost due to the reduced nail quantity requirement. Not suitable for use with I-joists.

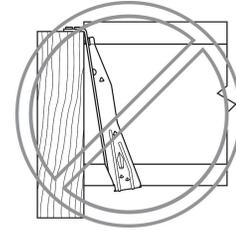
## Top-Flange Hangers



**Flush Framing**  
Top flange configuration and thickness of top flange need to be considered for flush frame conditions.

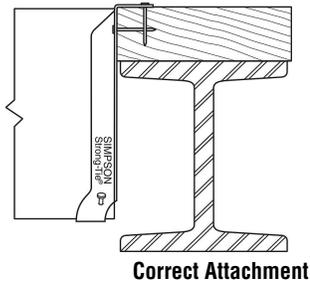


**Hanger Over-Spread**  
Hanger over-spread can raise the I-Joist above the header and may cause uneven surfaces and squeaky floors.

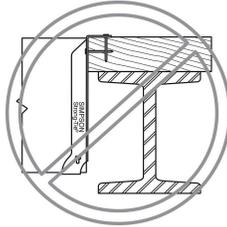


**Hanger Not Plumb**  
A hanger "kicked out" from the header can cause uneven surfaces and squeaky floors.

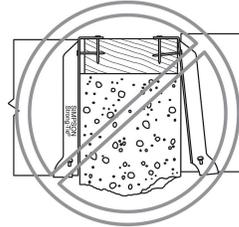
## Wood Nailers



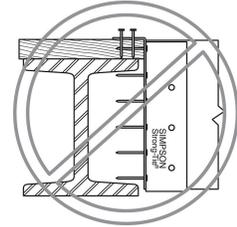
Correct Attachment



**Nailer Too Wide**  
The loading may cause cross-grain bending.

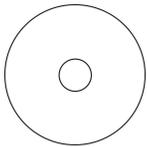


**Nailer Too Narrow**  
Nailer should be full width.

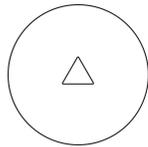


**Nailer Too Thin** and the wrong hanger for a nailer application.

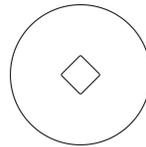
## Nail Hole Shapes



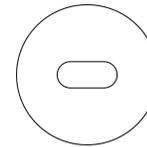
**Round Holes**  
All holes must be filled except for the THAI adjustable height hanger.



**Triangle Holes**  
Provided on some products in addition to round holes. Round and triangle holes must be filled to achieve the published maximum load value.



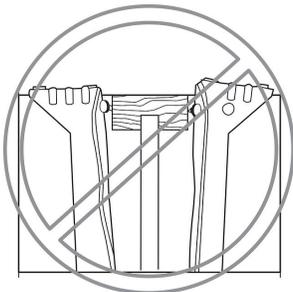
**Diamond Holes**  
Optional holes to temporarily secure connectors to the member during installation.



**Obround Holes**  
Used to provide easier nailing access in tight locations. All holes must be filled except for the LSSR hanger when skewed.

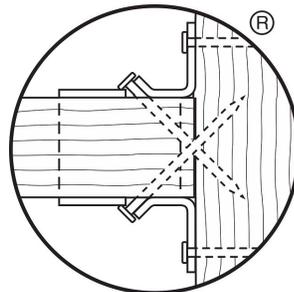
## Toenailed I-Joist

Toenailing causes squeaks and improper hanger installations. **Do not toe nail I-joists prior to installing either top flange or face mount hangers.**



## Double-Shear Nailing

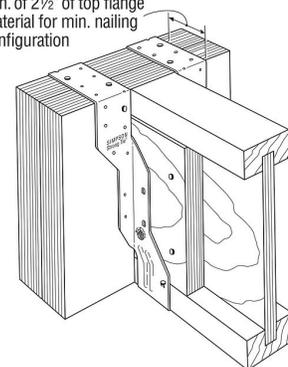
The nail is installed into joist and header, distributing load through two points on each nail for greater strength.



## THAI/THAI-2 Minimum Nailing

Min. of 2 1/2" of top flange material for min. nailing configuration

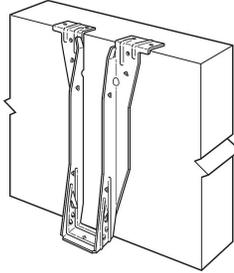
Do not nail within 1/4" of multiple ply seam.



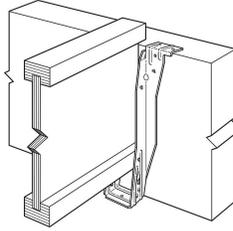
# GENERAL CONNECTOR INSTALLATION



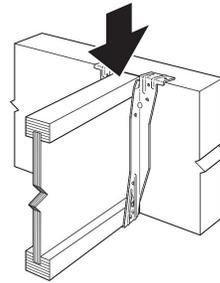
## ITS Installation Sequence (IUS Similar)



**STEP 1**  
Attach the ITS to the header

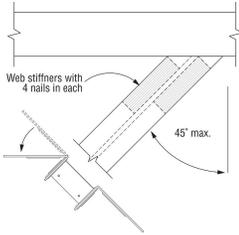


**STEP 2**  
Slide the joist downward into the ITS until it rests above the Strong-Grip™ seat.

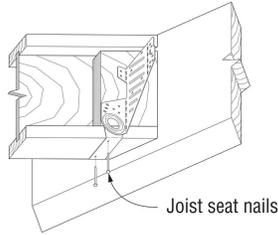


**STEP 3**  
Firmly push or snap joist fully into the seat of the ITS.

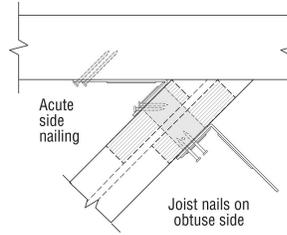
## LSSR Installation



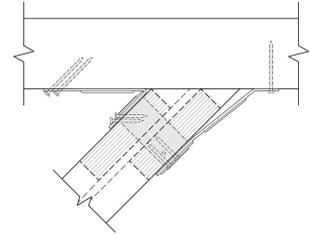
**STEP 1**  
Fold acute side in.



**STEP 2**  
Set hanger snug against header and install seat nails.

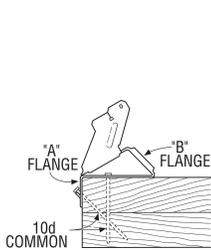


**STEP 3**  
Install all obround nails on acute side first. Then install all joist nails on the obtuse side.

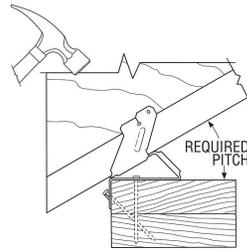


**STEP 4**  
Bend remaining flange backward and install nails in all obround holes.

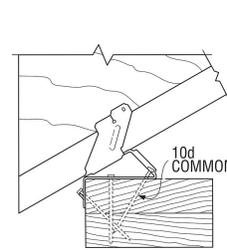
## VPA Installation



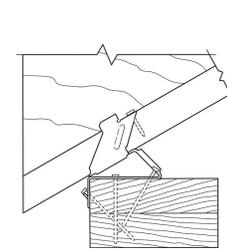
**STEP 1**  
Install top nails and face PAN nails in "A" flange to outside wall top plate.



**STEP 2**  
Seat rafter with a hammer, adjusting "B" flange to the required pitch.



**STEP 3**  
Install "B" flange nails in the obround nail holes, locking the pitch.

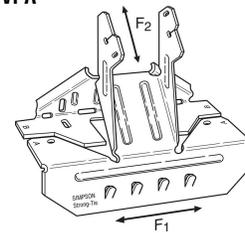


**STEP 4**  
Bend tab with hammer and install nail into tab nail hole. Hammer nail in at approx. 45° angle.

## VPA - Variable Pitch Connectors

Joist Width	Model No.	Fasteners		Allowable Loads							
		Top Plate	Rafter	Uplift (160)		Download (100)		Lateral Load (160)			
				DF/SP	SPF	DF/SP	SPF	DF/SP		SPF	
1 3/4	VPA25	(8) 10d	(2) N10	255	220	975	950	345	300	295	260
2 1/16	VPA2.1	(9) 10d	(2) N10	255	220	1,070	1,070	345	300	295	260
2 5/16	VPA35	(9) 10d	(2) N10	255	220	1,120	1,070	345	300	295	260
3 1/2	VPA4	(11) 10d	(2) N10	255	220	1,120	1,070	345	300	295	260

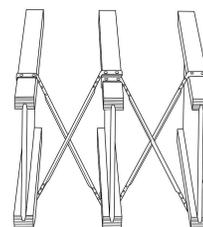
### VPA



**VPA-18 gauge** This variable-pitch connector allows a sloped beam to sit on a top plate without having to notch, birdmouth, bevel, or toe nail. It also provides uplift capacity. Adjustable from 3:12 to 12:12 pitch.

## TB — Tension Bridging

Joist Height	Joist Spacing (Inches)								
	12	16	19.2	24	30	32	36	42	48
9 1/2	TB20	TB27	TB27	TB30	TB36	TB36	TB42	TB48	TB54
11 7/8	TB20	TB27	TB27	TB30	TB36	TB36	TB42	TB48	TB54
14	TB27	TB27	TB27	TB36	TB36	TB42	TB42	TB48	TB54
16	TB27	TB27	TB30	TB36	TB42	TB42	TB42	TB48	TB54



For all bridging avoid contact between steel members (this may cause squeaks).

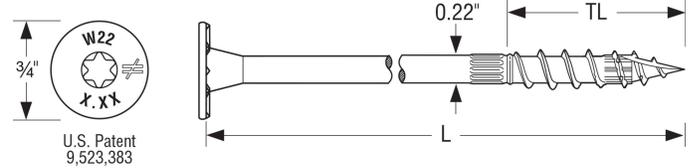
**Typical TB Installation**

# GENERAL CONNECTOR INSTALLATION



## Strong-Drive® SDW EWP-PLY Structural Wood Screws

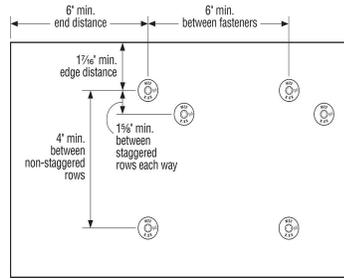
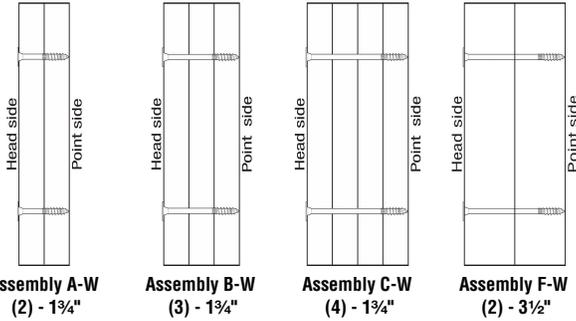
- SDW screws install best with a low-speed ½" drill and a T40 6-lobe bit. The matched bit included with the screws is recommended for best results.
- Screw heads that are countersunk flush to the wood surface are acceptable if the screw has not spun out.
- Individual screw locations may be adjusted up to 3" to avoid conflicts with other hardware or to avoid lumber defects.
- Predrilling is typically not required.



Strong-Drive SDW EWP-PLY Screw

### Screw Dimensions

Model No.	Nominal Screw Length (L) (in.)	Thread Length (TL) (in.)	Head Stamp Length
SDW22338	3¾	1¼	3.37
SDW22500	5	1¼	5.00
SDW22634	6¾	1¼	6.75



Spacing Requirements

## Sideloaded Multi-Ply SCL Assemblies — Allowable Uniform Load

Multiple Members		Nominal Screw Length (in.)	Loaded Side	Structural Composite Lumber (SG=0.5)					
				SDW @ 12" o.c.		SDW @ 16" o.c.		SDW @ 24" o.c.	
				2 Rows	3 Rows	2 Rows	3 Rows	2 Rows	3 Rows
A-W	2-Ply 1¾ SCL	3¾	Head	1,600	2,400	1,200	1,800	800	1,200
			Point	1,600	2,400	1,200	1,800	800	1,200
B-W	3-Ply 1¾ SCL	5	Head	1,200	1,800	900	1,350	600	900
			Point	900	1,350	675	1,015	450	675
C-W	4-Ply 1¾ SCL	6¾	Head	1,065	1,600	800	1,200	535	800
			Point	800	1,200	600	900	400	600
F-W	2-Ply 3½ SCL	6¾	Head	1,600	2,400	1,200	1,800	800	1,200
			Point	1,600	2,400	1,200	1,800	800	1,200

1. Each ply is assumed to carry same proportion of load.
2. Loads may be applied to the head side and point side concurrently provided neither published allowable load is exceeded. (Example: a 3-ply SCL (SG-0.50) assembly with a head side load of 1,300 plf and point side load of 1,000 plf may be fastened together with 3 rows of SDW @ 16" o.c.)

## LSC Adjustable Stringer Connector

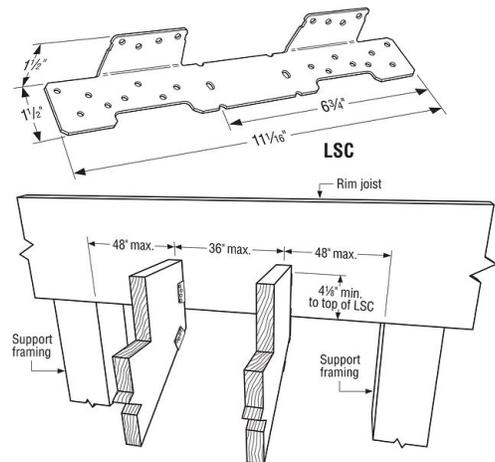
The LSC adjustable stair-stringer connector offers a versatile, concealed connection between the stair stringer and the carrying header or rim joist while replacing costly framing. Field slopeable to all common stair stringer pitches, the LSC connector is suitable for either solid or notched stringers.

Model No.	Fastener Schedule			DF/SP Allowable Loads		SPF/HF Allowable Loads	
	Rim Joist	Stringer Wide Face	Stringer Narrow Face	Floor (100)	Snow (115)	Floor (100)	Snow (115)
	(8) N10 (8) SD9112	(8) N10 (8) SD9112	(1) N10 (1) SD9112	755 755	755 755	650 650	650 650
LSCZ							

1. Stair stringer must be minimum 1½" LVL or minimum 1¼" LSL. Allowable loads for DF/SP species material shall apply.
2. When cross-grain tension forces cannot be avoided in the members, mechanical reinforcement to resist such forces may be considered.
3. A minimum distance of ¾" measured from the lowest rim-joist fastener to edge of rim joist is required.

### INSTALLATION

Suitable for most installations on 2x10 or 2x12 header/rim joist. May be installed flush with the top of the carrying member or lower on the face. Interchangeable for left or right applications.



Standard LSC Installation

Refer to the current *Wood Construction Connectors* catalog for General Notes, Warranty Information and other important information, including Terms and Conditions of Sale, Building Code Evaluation listings and Corrosion Resistance.

(800) 999-5099  
strongtie.com