

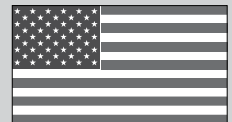
# CONNECTOR SELECTION GUIDE

**SIMPSON**  
**Strong-Tie**  
®

FOR USE WITH PRODUCTS  
MANUFACTURED BY:



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**

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800-999-5099  
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CSG-INTLBEAM09 4/09  
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## General Notes

1. See current *Wood Construction Connectors* catalog for Important Information and General Notes section and for hanger models, joist sizes, and header situations not shown. See pages 6-7 of this guide for installation information.
2. Unless otherwise noted, loads listed address hanger/header/fastener limitations assuming header material is Douglas Fir-Larch, Southern Pine, or Spruce Pine Fir. For LVL headers made primarily of Douglas Fir/Southern Pine, use the values found in the DF column. For LVL headers made primarily from Spruce Pine Fir or similar less dense veneers, use the values found in the SPF column. Loads are in pounds. Joist reaction should be checked by a qualified designer to ensure proper hanger selection.
3. Uplift loads 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.
4. If hanger height is less than 60% of joist height, joist rotation may occur; see information below.
5. Top flange hanger configuration and thickness of top flange need to be considered for flush frame conditions, see page 6.
6. For this publication, carrying members are assumed to be at least 5½" tall. The horizontal thickness of the carrying member must be at least the length of nail being used or the hanger top flange dimension, whichever is greater.  
**Exception:** narrower carrying members may be used with face mount hangers but the horizontal thickness must be at least 1¾" for 10d nails; 2" for 16d nails. Clinch nails on back side.
7. THAI hangers in this publication are based on a "top flange" installation and require that the carrying member have a horizontal thickness of at least 2½". Backer blocks are required when the header is an I-joist.
8. All nails shown are common nails unless otherwise noted.
9. I-joists that are used as headers require backer blocks. See Wood I-Joist Headers below for additional information.
10. **Multiple Members:** Multiple members should be adequately connected together to act as one unit.

## Wood I-Joist Headers

### I-Joist Headers:

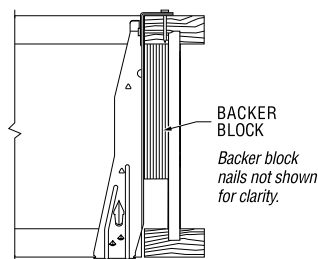
When supporting one I-joist from another, backer blocks must be used. Backer blocks are to be made from plywood, OSB, or dimension lumber. The thickness of a backer block should be the same thickness as the void in the side of the I-joist and a minimum of 12" wide. Attach with 10-10d common nails clinched 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 10d x 1½" nails for all Top Flange hangers attached to an I-joist header. See table for allowable loads.

Model No.	I-Joist Header: 1½" Thick Flange Material <sup>1</sup>	
	DF/SCL	SPF
ITS	1085	940
MIT	1230	885
LBV	1495	1350
BA	1495	1495

1. For flanges with thicknesses from 1⅝" to 1¾", use 0.85 of the I-joist header load. For flanges with thicknesses from 1⅞" to 1⅝", use 0.75 of the I-joist header load.

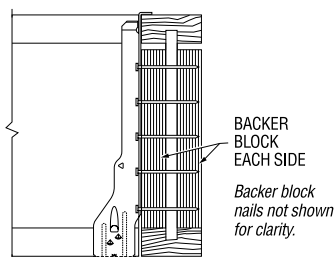


Top Flange

### Face Mount Hangers:

For Face Mount hangers using 16d nails with headers having a flange width less than 2" wide but at least 1½" wide, apply a reduction factor of 0.75 to all table loads.

For Face Mount hangers using 10d nails with headers having a flange width less than 1¾" wide but at least 1½" wide, apply a reduction factor of 0.85 to all table loads.



Face Mount

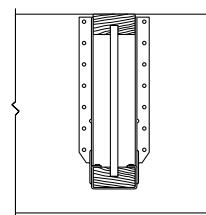
### Sloped Joists:

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

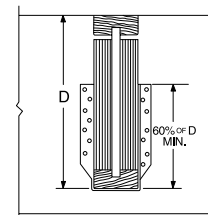
Sloped Joist		
Model	Slope	Reduction
ITS, IUS, MIT, MIU, LBV, B, HB	½:12 max	10%
WP, HW	¾:12 max	15%

## Prevent Rotation

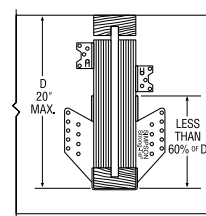
Hangers provide some joist rotation resistance; however, additional lateral restraint may be required for deep joists.



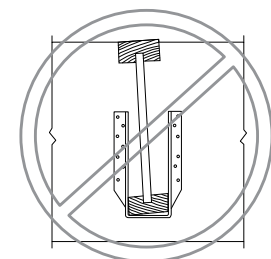
**No Web Stiffener Installed**  
Hanger side flange supports joist top flange.



**Web Stiffener Required**  
Hanger side flange should be at least 60% of joist depth or potential joist rotation must be addressed.



**Rotation Resistance**  
If non-skewed hanger side flange is less than 60% of joist depth, attach staggered A34 framing anchors above the hanger.



**No Web Stiffener Results in Rotation**  
Hanger side flange is below the joist top flange. No web stiffener results in rotation, unless restrained by other means.

# HOW TO PICK A HANGER



Follow these simple steps to choose your hanger:

1	Find your joist size in this guide.
2	Choose your header type. Solid header or I-joist. <ul style="list-style-type: none"><li>• Solid headers include solid sawn Douglas Fir or Southern Pine, Spruce Pine Fir and LVL.</li><li>• For I-joist header see page 2.</li></ul>
3	Locate your connector type in the table. <ul style="list-style-type: none"><li>• Face mount, top flange, skewed, sloped, etc.</li></ul>
4	Select a hanger from the table.
5	Confirm that your joist load is less than the hanger load. 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>

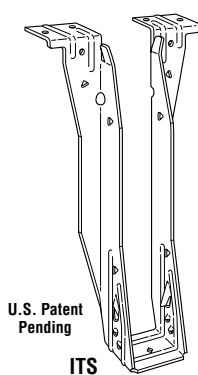
# SINGLE INTERNATIONAL BEAM® I-JOIST - U.S./Allowable Load (lbs.)



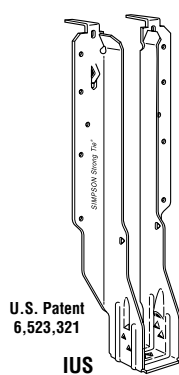
Joist Height	Top Flange						Face Mount						45° Skew								
	Model	B Dim	Fastener Type		Uplift (160)	Down Load		Model	B Dim	Fastener Type		Uplift (160)	Down Load		Model	B Dim	Fastener Type		Uplift (160)	Down Load	
			Header	Joist		DF	SPF			Header	Joist		DF	SPF			Header	Joist		DF	SPF
<b>IB 400 and IB 600</b>																					
<b>Joist Width = 2 1/2"</b>																					
9 1/2	ITS2.56/9.5	2	6-10d	—	105	1520	1150	IUS2.56/9.5	2	8-10d	—	75	935	810	SUR/L2.56/9	3 3/16	14-16d	2-10dx1 1/2	225	2015	1735
11 7/8	ITS2.56/11.88	2	6-10d	—	105	1520	1150	IUS2.56/11.88	2	10-10d	—	75	1170	1010	SUR/L2.56/11	3 3/16	16-16d	2-10dx1 1/2	225	2305	1980
14	ITS2.56/14	2	6-10d	—	105	1520	1150	IUS2.56/14	2	12-10d	—	75	1405	1210	SUR/L2.56/14	3 3/16	18-16d	2-10dx1 1/2	225	2590	2225
16	ITS2.56/16	2	6-10d	—	105	1520	1150	IUS2.56/16	2	14-10d	—	75	1640	1415	SUR/L2.56/14	3 3/16	18-16d	2-10dx1 1/2	225	2590	2225
<b>IB 800 and IB 900</b>																					
<b>Joist Width = 3 1/2"</b>																					
11 7/8	ITS3.56/11.88	2	6-10d	—	105	1520	1150	IUS3.56/11.88	2	12-10d	—	75	1405	1210	SUR/L410	2 5/8	14-16d	6-16d	1275	1860	1610
14	ITS3.56/14	2	6-10d	—	105	1520	1150	IUS3.56/14	2	12-10d	—	75	1405	1210	SUR/L414	2 1/2	18-16d	8-16d	1700	2395	1795
16	ITS3.56/16	2	6-10d	—	105	1520	1150	IUS3.56/16	2	14-10d	—	75	1640	1415	SUR/L414	2 1/2	18-16d	8-16d	1700	2395	1795
18	MIT418	2 1/2	8-16d	2-10dx1 1/2	215	2305	1665	MIU3.56/18	2 1/2	26-16d	2-10dx1 1/2	230	3690	3200	SUR/L414	2 1/2	18-16d	8-16d	1700	2395	1795
20	MIT420	2 1/2	8-16d	2-10dx1 1/2	215	2305	1665	MIU3.56/20	2 1/2	28-16d	2-10dx1 1/2	230	3975	3445	SUR/L414	2 1/2	18-16d	8-16d	1700	2395	1795

Joist Height	Adjustable Height						Field Slope & Skew							
	Model	B Dim	Fastener Type		Uplift (160)	Down Load		Model	B Dim	Fastener Type		Uplift (160)	Down Load	
			Header	Joist		DF	SPF			Header	Joist		DF	SPF
<b>IB 400 and IB 600</b>														
<b>Joist Width = 2 1/2"</b>														
9 1/2	THAI322 <sup>2</sup>	2 1/4	6-10d	2-10dx1 1/2	—	1715	1590	LSSUH310	3 1/2	14-16d	12-10dx1 1/2	1150	1600	1385
11 7/8	THAI322 <sup>2</sup>	2 1/4	6-10d	2-10dx1 1/2	—	1715	1590	LSSUH310	3 1/2	14-16d	12-10dx1 1/2	1150	1600	1385
14	THAI322 <sup>2</sup>	2 1/4	6-10d	2-10dx1 1/2	—	1715	1590	LSSUH310	3 1/2	14-16d	12-10dx1 1/2	1150	1600	1385
16	See <i>Wood Construction Connectors</i> catalog for hanger selection.						See <i>Wood Construction Connectors</i> catalog for hanger selection.							
<b>IB 800 and IB 900</b>														
<b>Joist Width = 3 1/2"</b>														
11 7/8	THAI422 <sup>2</sup>	2 1/4	6-10d	2-10dx1 1/2	—	1715	1590	LSSUH410	3 1/2	14-16d	12-10dx1 1/2	1150	1625	1365
14	THAI422 <sup>2</sup>	2 1/4	6-10d	2-10dx1 1/2	—	1715	1590	LSSUH410	3 1/2	14-16d	12-10dx1 1/2	1150	1625	1365
16														
18	See <i>Wood Construction Connectors</i> catalog for hanger selection.						See <i>Wood Construction Connectors</i> catalog for hanger selection.							
20														

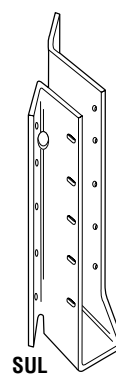
1. Shaded hangers require web stiffeners at joist ends. Web stiffeners may be required for non-shaded hangers by others.
2. THAI hangers require a minimum of 4 top and 2 face nails installed.
3. The B Dim is the depth of the hanger seat.
4. Loads listed assume a page 2 for I-Joist Headers.



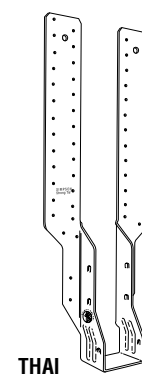
**ITS** – 18 gauge  
The new ITS top flange hanger with its Strong-Grip™ seat and Funnel Flange™ secures I-joists with flange thicknesses from 1 1/8" – 1 1/2" and installs faster than any other top flange hanger. Joist nails are not required.



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



**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.



**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 of the I-joist's bottom flange. Minimum nailing is shown in the table above. Strap must be field-formed over the top of the header by a minimum of 2 1/2". Web stiffeners required when used with I-joists.

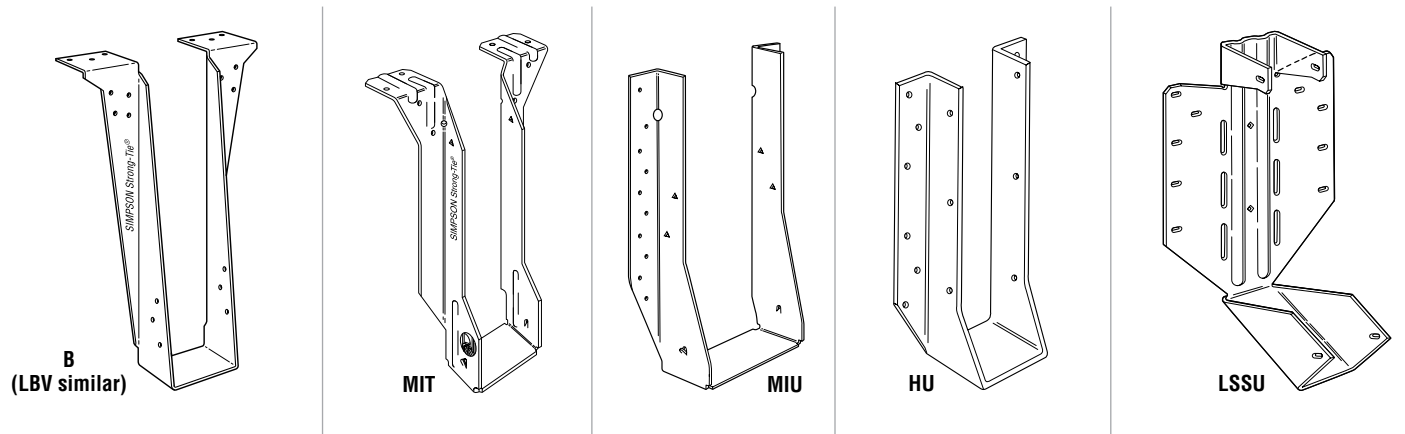
# DOUBLE INTERNATIONAL BEAM® I-JOIST - U.S./Allowable Load (lbs.)



Joist Height	Top Flange						Face Mount						45° Skew								
	Model	B Dim	Fastener Type		Uplift (160)	Down Load		Model	B Dim	Fastener Type		Uplift (160)	Down Load		Model	B Dim	Fastener Type		Uplift (160)	Down Load	
			Header	Joist		DF	SPF			Header	Joist		DF	SPF			Header	Joist		DF	SPF
<b>IB 400 and IB 600</b>																					
<b>Joist Width = 5"</b>																					
9½	MIT39.5-2	2½	8-16d	2-10dx1½	215	2305	1665	MIU5.12/9	2½	16-16d	2-10dx1½	230	2270	1970	HSUR/L5.12/9	2¼	12-10d	2-10dx1½	145	1655	1440
11⅞	MIT311.88-2	2½	8-16d	2-10dx1½	215	2305	1665	MIU5.12/11	2½	20-16d	2-10dx1½	230	2840	2460	HSUR/L5.12/11	2¼	16-10d	2-10dx1½	145	2210	1920
14	MIT314-2	2½	8-16d	2-10dx1½	215	2305	1665	MIU5.12/14	2½	22-16d	2-10dx1½	230	3125	2705	HSUR/L5.12/14	2¼	20-10d	2-10dx1½	145	2760	2400
16	MIT5.12/16	2½	8-16d	2-10dx1½	215	2305	1665	MIU5.12/16	2½	24-16d	2-10dx1½	230	3410	2950	HSUR/L5.12/16	2¼	24-10d	2-10dx1½	145	3050	2410
<b>IB 800 and IB 900</b>																					
<b>Joist Width = 7"</b>																					
11⅞	B7.12/11.88	2½	14-16d	6-16d	1010	3800	2650	HU412-2	2½	22-16d	8-16d	1715	2950	2550	HU412-2X <sup>4</sup>	2½	22-16d	8-16d	1285	2360	2040
14	B7.12/14	2½	14-16d	6-16d	1010	3800	2650	HU414-2	2½	26-16d	12-16d	2575	3485	3015	HU414-2X <sup>4</sup>	2½	26-16d	12-16d	1930	2790	2410
16	B7.12/16	2½	14-16d	6-16d	1010	3800	2650	HU414-2	2½	26-16d	12-16d	2575	3485	3015	HU414-2X <sup>4</sup>	2½	26-16d	12-16d	1930	2790	2410
18	B7.12/18	2½	14-16d	6-16d	1010	3800	2650	HU414-2	2½	26-16d	12-16d	2575	3485	3015	HU414-2X <sup>4</sup>	2½	26-16d	12-16d	1930	2790	2410
20	B7.12/20	2½	14-16d	6-16d	1010	3800	2650	HU414-2	2½	26-16d	12-16d	2575	3485	3015	HU414-2X <sup>4</sup>	2½	26-16d	12-16d	1930	2790	2410

Joist Height	Adjustable Height						Field Slope & Skew							
	Model	B Dim	Fastener Type		Uplift (160)	Down Load		Model	B Dim	Fastener Type		Uplift (160)	Down Load	
			Header	Joist		DF	SPF			Header	Joist		DF	SPF
<b>IB 400 and IB 600</b>														
<b>Joist Width = 5"</b>														
9½	THAI-2 <sup>2</sup>	2½	6-10d	2-10dx1½	—	2020	2020	LSU5.12 <sup>3</sup>	3½	24-16d	16-10dx1½	885	1790	1550
11⅞	THAI-2 <sup>2</sup>	2½	6-10d	2-10dx1½	—	2020	2020	LSU5.12 <sup>3</sup>	3½	24-16d	16-10dx1½	885	1790	1550
14	THAI-2 <sup>2</sup>	2½	6-10d	2-10dx1½	—	2020	2020	LSU5.12 <sup>3</sup>	3½	24-16d	16-10dx1½	885	1790	1550
16	See <i>Wood Construction Connectors</i> catalog for hanger selection.						See <i>Wood Construction Connectors</i> catalog for hanger selection.							
<b>IB 800 and IB 900</b>														
<b>Joist Width = 7"</b>														
11⅞	See <i>Wood Construction Connectors</i> catalog for hanger selection.						See <i>Wood Construction Connectors</i> catalog for hanger selection.							
14														
16														
18														
20														

1. Shaded hangers require web stiffeners at joist ends. Web stiffeners may be required for non-shaded hangers by others.
2. THAI hangers require a minimum of 4 top and 2 face nails installed. THAI-2 must be special ordered, specify hanger seat width between 3⅛" and 5⅞".
3. LSU5.12 skew option must be factory-ordered.
4. Skewed option must be special ordered. Specify skew angle and direction (i.e. HU410-2X, SKR45°).
5. The B Dim is the depth of the hanger seat.
6. Loads listed assume a solid header. See page 2 for I-Joist Headers.



**B** – 12 gauge  
**LBV** – 14 gauge  
 The B series offers versatility for I-joists and SCL lumber. Enhanced load capacity widens the range of applications for these hangers.  
 The LBV 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-joist's bottom flange. Features uplift capacity and extended seat design (to allow installation of slightly undercut joists).

**MIU** – 16 gauge  
 The MIU series features 16 gauge steel and extra nailing for higher loads.

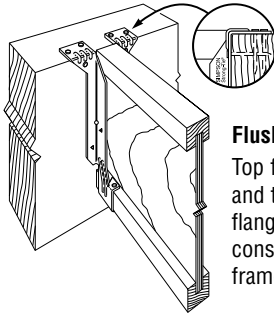
**HU** – 14 gauge  
 The HU series features uplift capacity and a large selection of sizes and load ranges. HU hangers have triangle holes that can be filled for increased loads. Web stiffeners required when used with I-joists.

**LSSU, LSSUI** – 18 gauge  
**LSSU210-2, LSSU410, and LSSUH310** – 16 gauge  
**LSU** – 14 gauge  
 LSSU models provide uplift capacity and can be field sloped and/or skewed to 45°. Web stiffeners required when used with I-joists; cut web stiffener to match angle on sloped conditions.

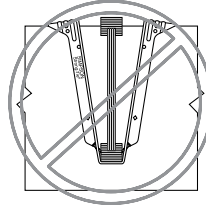
# GENERAL CONNECTOR INSTALLATION



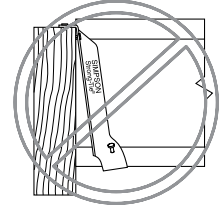
## Top Flange Hangers



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

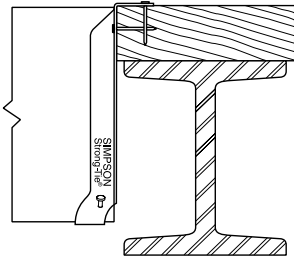


**Hanger Over-Spread**  
If the hanger is over-spread, it can raise the I-Joist above the header and may cause uneven surfaces and squeaky floors.

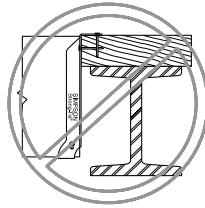


**Hanger Not Plumb**  
A hanger "kicked out" from the header can cause uneven surfaces and squeaky floors.

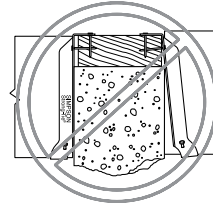
## Wood Nailers



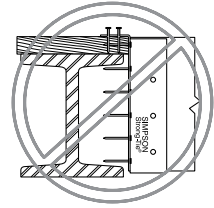
Correct Attachment



**Nailer Too Wide**  
The loading may cause cross-grain bending. As a general rule, the maximum allowable overhang is 1/4", depending on nailer thickness.

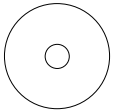


**Nailer Too Narrow**  
A maximum mismatch of 1/8" for normal installations is acceptable.



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

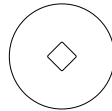
## Nail Hole Shapes



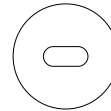
**Round Holes**  
All holes must be filled except for the THAI adjustable height hanger. Refer to load tables for THAI nail quantities.



**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.

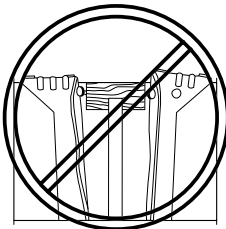


**Diamond Holes**  
Optional holes to temporarily secure connectors to the member during installation.



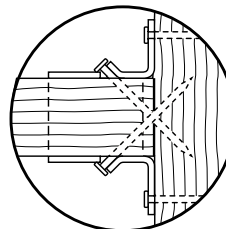
**Obround Holes**  
Used to provide easier nailing access in tight locations. All holes must be filled except for the LSSU hanger when skewed. Refer to load tables for LSSU nail quantities.

## Toe Nailed I-Joist



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

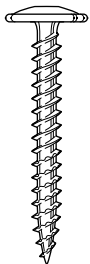
## Double Shear Nailing



The nail is installed into joist and header, distributing load through two points on each nail for greater strength.  
U.S. Patent 4,480,941  
Canada Patent 1,193,418

## Alternate Joist Installation with NO JOIST NAILS

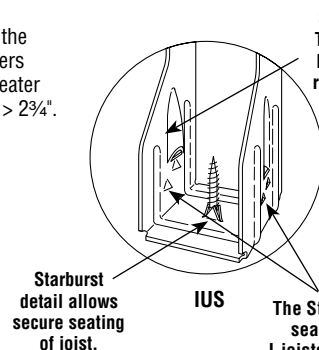
Install Simpson's SD8x1.25 screw through the existing hole in the bottom of the seat. It is not necessary to bend tabs or install nails through tabs in ITT hangers when the screw is installed. This installation works for I-joists with 1 1/8" or greater depth of bottom flange. This application is not recommended for seat widths > 2 3/4".



SD8x1.25 (Actual Size)

Model No.	Joist Fasteners	Uplift (160)			
		Joist Widths			
		1 1/2 - 1 3/4		2 - 2 1/2	
		DF	SPF	DF	SPF
IUS	Simpson SD8x1.25 Tapping Screw <sup>1</sup>	150	105	95	95
ITT		130	90	65	65
ITS	Screw in the seat is not recommended for the ITS				

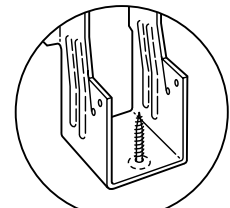
- Any #8x1.25 self-drilling screw may be used.
- Loads are in pounds.



Starburst detail allows secure seating of joist.

IUS

The Strong-Grip™ seat secures I-joists in position without joist nails

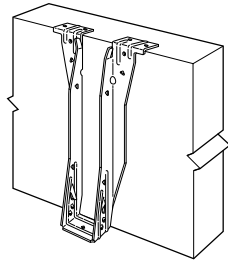


ITT

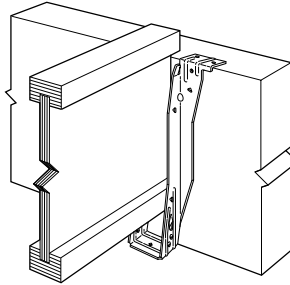
Snap-In Teardrop No nails required!

# GENERAL CONNECTOR INSTALLATION

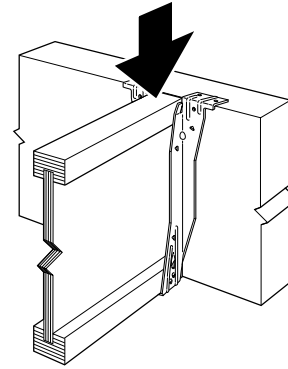
## ITS Installation Sequence (IUS Similar)



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

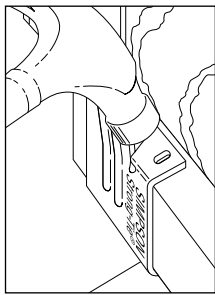


**STEP 2**  
Slide the I-joist  
downward into  
the ITS until it  
rests above the  
Strong-Grip™  
seat.

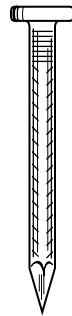


**STEP 3**  
Firmly push or  
snap  
I-joist fully  
into the seat  
of the ITS.

## IUT & ITT Tab Installation (VPA Similar)

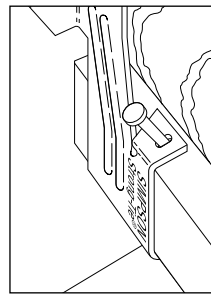


Bend the  
tab with a  
hammer.

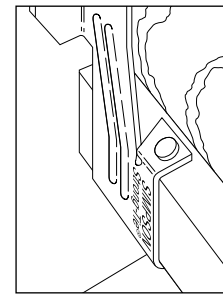


**ACTUAL SIZE**

Use a  
10d x 1 1/2" nail  
(Simpson's  
N10 nail  
shown).

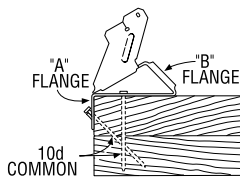


Hammer  
the nail in at  
approx. (45°)  
angle to limit  
splitting.

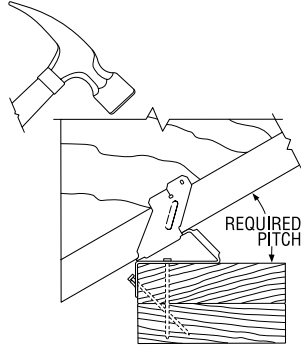


The tab  
is now  
correctly  
installed.

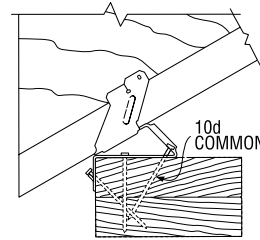
## VPA Installation



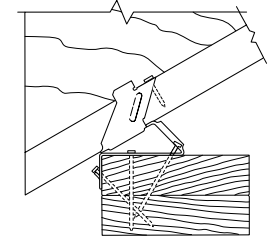
**Step 1**  
Install top nails and face  
PAN nails in "A" flange  
to outside wall top plate.



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

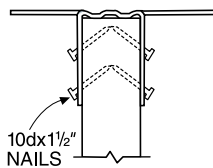


**Step 3**  
Install "B" flange nails  
in the obround nail holes,  
locking the pitch.

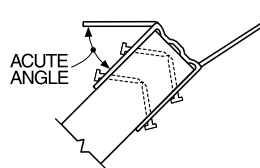


**Step 4**  
Bend tab with hammer and install  
nail into tab nail hole. Hammer nail in at  
approx. (45°) angle to limit splitting.

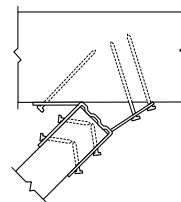
## LSSU Installation



1. Nail hanger to  
slope-cut joist,  
installing seat nail first.  
No bevel necessary for  
skewed installation.



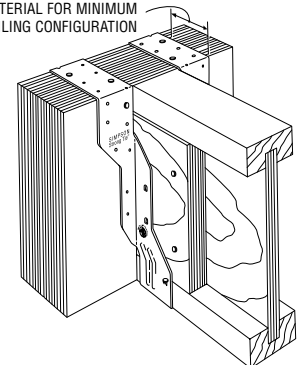
2. Skew flange to form acute  
angle. Bend other flange  
back. Bend along the  
centerline of slots.  
Bend one time only.



3. Attach hanger to header,  
acute angle first. Install  
nails at an angle.

## THAI Minimum Nailing

MINIMUM OF 2 1/2" OF TOP FLANGE  
MATERIAL FOR MINIMUM  
NAILING CONFIGURATION

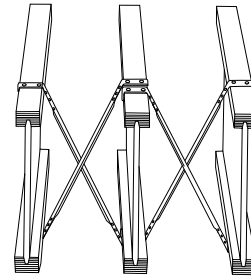


# GENERAL CONNECTOR INSTALLATION



## TB - Tension Bridging

Joist Height	Joist Spacing (Inches)								
	12	16	19.2	24	30	32	36	42	48
9½	TB20	TB27	TB27	TB30	TB36	TB36	TB42	TB48	TB54
11¾	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

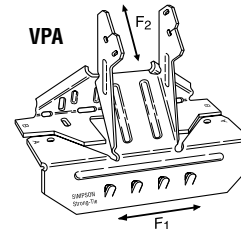


Typical TB Installation

## 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	F <sub>1</sub>	F <sub>2</sub>	F <sub>1</sub>	F <sub>2</sub>
2½	VPA3	9-10d	2-10dx1½	295	250	1230	1020	375	250	325	250
3½	VPA4	11-10d	2-10dx1½	295	250	1230	1020	375	250	325	250

1. VPA's are not appropriate for applications that require more than 2" of bearing, such as intermediate supports.



U.S. Patent 5,335,469

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.

## STRONG-DRIVE® SCREW INSTALLATION FOR LVL

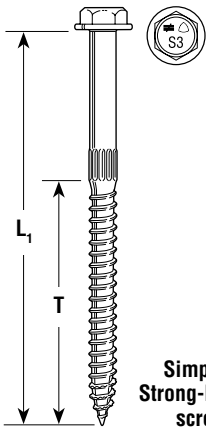
### INSTALLATION

- No pre-drilling required.
- See illustrations for SDS positioning on different assemblies.
- SDS screws install best with a low speed ½" drill with a ⅜" hex head driver.
- Do not over-drive the SDS screws.

### DESIGN

- Allowable load values are derived from testing based on ICC ESR-2236. The Designer shall apply adjustment factors per current NDS. Loads shown are  $C_D = 1.0$ . Increase as allowed per code to a maximum  $C_D = 1.60$ .
- This document uses Douglas Fir-Larch values ( $G = 0.5$ ), as per the manufacturer specifications.

- The designer shall specify the location of all screws (*stagger screws on opposite faces*). Minimum recommended spacing—Wide Face: end distance 4", edge distance 1½", spacing parallel to grain 4", spacing perpendicular to grain 2".
- Uniform loads in the table below are based on the capacity of the fasteners to transfer loads between plies. The capacity of the LVL beam may be less and should be checked by a qualified designer or with the manufacturer's literature.



Simpson Strong-Drive™ screw

ASSEMBLIES A-F SHOW LAMINATED VENEER LUMBER (LVL)

Assembly	Components
Assembly A	2 - 1¾" SDS½x3½
Assembly B1	3 - 1¾" SDS½x3½
Assembly B2	3 - 1¾" SDS½x4½
Assembly C	4 - 1¾" SDS½x6
Assembly D	1 - 1¾", 1 - 3½" SDS½x3½
Assembly E	2 - 1¾", 1 - 3½" SDS½x3½
Assembly F	2 - 3½" SDS½x6

### MAXIMUM ALLOWABLE UNIFORM LOAD (LBS PER LINEAL FT)

Assembly	Multiple Members Components	Screws					
		SDS Screws, 12" OC		SDS Screws, 16" OC		SDS Screws, 24" OC	
		2 Rows	3 Rows	2 Rows	3 Rows	2 Rows	3 Rows
A	2 pieces (all 1¾")	1360	2040	1020	1530	680	1020
B1	3 pieces (all 1¾")	1020	1530	765	1150	510	765
B2	3 pieces (all 1¾")	1290	1935	970	1450	645	970
C	4 pieces (all 1¾")	1110	1665	835	1250	555	835
D	2 pieces (1¾" - 3½")	1020	1530	765	1150	510	765
E	3 pieces (1¾" - 3½" - 1¾")	905	1360	680	1020	455	680
F	2 pieces (3½" - 3½")	1360	2040	1020	1530	680	1020

### Screw Dimensions

Model No.	L <sub>1</sub> (in.)	T (in.)	Head Stamp
SDS25312	3½	2¼	S3.5
SDS25412	4½	2¾	S4.5
SDS25600	6	3¼	S6

1. If 7" wide beams are not equally loaded on each side, the plf load from the lesser side should be at least 25% of the opposite side.
2. Quantity and spacing of screws in table are for each screw head side of the assembly as shown in the Assembly figures above.
3. The design professional shall ensure that adequate lateral bracing is provided to prevent displacement of the beam due to the torsion created by the structural members framing into the side of the beam assembly.

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.