ICC-ES Evaluation Report

ESR-2605

Reissued July 2026

This report also contains:

- **FL Supplement w/HVHZ**

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DIVISION: 06 00 00—WOOD, PLASTICS AND COMPOSITES Section: 06 05 23.30—Connectors — General	REPORT HOLDER: SIMPSON STRONG-TIE COMPANY INC.	EVALUATION SUBJECT: SIMPSON STRONG-TIE® CONNECTORS FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION	

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2024, 2021, 2018, 2015 and 2012 *International Building Code®* (IBC)
- 2024, 2021, 2018, 2015 and 2012 *International Residential Code®* (IRC)

Section number references in this report are for the 2024 IBC and IRC and the standards referenced therein. Corresponding section numbers for earlier code editions are shown in Table A.

Property evaluated:

- Structural

2.0 USES

Simpson Strong-Tie® connectors for metal plate connected wood truss construction are used as wood framing connectors in accordance with IBC Sections 2303.4 and 2304.10.4. The products may also be used in structures regulated under the IRC when an engineered design is submitted in accordance with Sections R301.1.3, R502.12, and R802.10 of the IRC.

3.0 DESCRIPTION

3.1 General:

The connectors described in this report connect wood framing members in metal plate connected wood truss floor or roof construction.

3.1.1 GBC Gable Brace Connectors: The GBC connects wood framed wall top plates to wood roof members to transfer out-of-plane loads on gable end walls. The product is formed from No. 16 gage galvanized steel. See Table 1 for required fasteners and allowable lateral loads perpendicular to the wall plate. See Figure 1 for drawings of the GBC connector showing product dimensions and typical installations.

3.1.2 TSBR Truss Spacer Restraint: The TSBR connectors are used as permanent truss lateral restraint that provides lateral support to trusses when installed at right angles to the plane of the truss members. The TSBR is formed from No. 22 gage galvanized steel. See Table 2 for the model number, required fasteners, TSBR connector length, and allowable tension and compression loads. See Figure 2 for drawings of the TSBR truss spacer restraint and a typical installation.

3.1.3 VTCR Single-Sided Valley Truss Clip: The VTCR clip provides a connection between the valley truss and the supporting framing below. It is installed over flat or sloped wood-based structural-use roof sheathing and fastened through the sheathing into the supporting framing below. The VTCR clip is formed from No. 18 gage galvanized steel. See Table 3 for the product model number dimensions, required fasteners and allowable loads. See Figure 3 for drawings of the VTCR clip showing overall dimensions, and typical installation details.

3.1.4 TC Truss Clip: The TC truss clip connects wood trusses to wood top plates of wood framed walls. The TC truss clips have horizontal slotted nail holes to allow for horizontal movement between the two members. The TC truss clip is formed from No. 16 gage galvanized steel. See Table 4 for model numbers, required fasteners, and allowable loads. See Figure 4 for drawings of the TC truss clips and typical installation details.

3.1.5 TBE Truss Bearing Enhancer: The TBE truss bearing enhancer transfers gravity loads from the truss to wood-framed wall double top plate and provides uplift capacity. The product is formed from No. 18 gage galvanized steel. See Table 5 for the model numbers, required fasteners, and allowable loads. See Figure 5 for drawings of the TBE4 connector showing overall dimensions and a typical installation detail.

3.1.6 LTHJA26 and THJA26 Hangers: The LTHJA26 hanger is formed from No. 18 gage galvanized steel, and the THJA26 hanger is formed from No. 14 gage galvanized steel. See Table 6 for required fasteners and allowable loads for hangers supporting hip and jack truss combinations or two hip trusses, and Figure 6 for a drawing showing the dimensions of the LTHJA26 and THJA26 hangers.

3.1.7 LTHMA Hanger: The LTHMA hanger is formed from No. 16 gage galvanized steel. The hanger has three U-shaped stirrups that may be field-adjusted to a maximum 45-degree slope from the horizontal. See Table 7 for required fasteners and allowable loads for carried hip and jack trusses, and Figure 7 for a drawing showing the dimensions of the LTHMA hanger.

3.1.8 THJM2-4 and THJM2-5 Hangers: The THJM2-4 and THJM2-5 hangers are designed to carry four or five radial members, respectively, into a supporting girder. The THJM2 hangers are fastened to the members with Simpson Strong-Tie SDS Strong-Drive Screws, which are supplied with the connectors. The THJM2-4 and THJM2-5 hangers are formed from No. 12 gage galvanized steel. See Table 8 for required fasteners and allowable loads. See Figure 8 for drawings of the THJM2-4 and THJM2-5 hangers showing overall dimensions and typical installation details.

3.1.9 THJU26 and THJU26-W Hangers: The THJU26 and THJU26-W hangers are formed from No. 12 gage galvanized steel. See Table 9 for required fasteners and allowable loads for hangers supporting hip and jack truss combinations. See Figure 9 for drawings of the THJU26 and THJU26-W hangers showing overall dimensions and typical installation details.

3.1.10 DSC2 and DSC5 Drag Strut Connectors: The DSC2 and DSC5 connectors transfer diaphragm shear forces from drag struts, such as drag trusses, to the shear walls. The connectors are available in left hand and right hand versions, designated with an L or R, respectively, in the model number (e.g., DSC2L-SDS3). The DSC connectors are fastened to the drag strut and wood top plate with Simpson Strong-Tie SDS Strong-Drive Screws, which are supplied with the connectors. The DSC2 is formed from No. 7 gage galvanized steel, and the DSC5 is formed from No. 3 gage steel. See Table 10 for model numbers and the required fasteners and allowable loads. See Figure 10 for drawings of the DSC2 and DSC5 showing overall dimensions and typical installation details.

3.1.11 AHEP Adjustable Hip-end Purlin: The AHEP connectors are used as structural purlins for hip-end systems to transfer loads from the roof sheathing to the primary framing members. The AHEP has an adjustable length to accommodate varying hip-end pitches, and is load-rated for pitches from 3-in-12 to 9-in-12. The AHEP is installed on the flat top chords of step-down hip trusses, and then the roof sheathing is installed over the AHEP and attached directly to it. The AHEP is formed from No. 20 gage galvanized steel. See Table 11 for required fasteners and allowable loads. See Figure 11 for a drawing of the AHEP and a typical installation detail.

3.2 Materials:

3.2.1 Steel: The connectors described in this report, with the exception of the DSC5, are manufactured from galvanized sheet steel complying with ASTM A653, SS designation, Grade 33, with a minimum yield strength, F_y, of 33,000 psi (227 MPa) and a minimum tensile strength, F_u, of 45,000 psi (310 MPa). The DSC5 is manufactured from ASTM A1011 Grade 33, with a minimum yield strength, F_y, of 33,000 psi (227 MPa) and a minimum tensile strength, F_u, of 55,000 psi (358 MPa). Base-metal thicknesses for the connectors in this report are as follows:

NOMINAL THICKNESS (Gage)	MINIMUM BASE-METAL THICKNESS (inch)
No. 3	0.2285
No. 7	0.1715
No. 12	0.0975
No. 14	0.0685
No. 16	0.0555
No. 18	0.0445
No. 20	0.0350
No. 22	0.0275

For **SI:** 1 inch = 25.4 mm.

The galvanized zinc coating conforms to ASTM A653 with a G90 designation. Some models (designated with a model number ending with Z) are available with a G185 zinc coating specification in accordance with ASTM A653. Some models (designated with a model number ending with HDG) are available with a hot-dip galvanization, also known as "batch" galvanization, in accordance with ASTM A123, with a minimum specified coating weight of 2.0 ounces of zinc per square foot of surface area (610 g/m^2), total for both sides. Model numbers in this report do not include the Z or HDG ending, but the information shown applies. The lumber treater and the holder of this report (Simpson Strong-Tie Company) should be contacted for recommendations on the appropriate coating or material to specify for use of the steel connectors in contact with the specific proprietary preservative-treated or fire-retardant-treated lumber.

3.2.2 Wood: Wood members with which the connectors are used must be either sawn lumber or engineered lumber having a minimum specific gravity of 0.50 (minimum equivalent specific gravity of 0.50 for engineered lumber), and having a maximum moisture content of 19 percent (16 percent for engineered lumber), except as noted in Section 4.1. Unless otherwise noted, the thickness of the supporting wood main member must be equal to or greater than the length of the fasteners specified in the tables of this report, or as required by wood member design, whichever is greater. For installation in engineered wood members, minimum allowable nail spacing and end and edge distances, as specified in the applicable evaluation report for the engineered wood product, must be met.

3.2.3 Fasteners: Nails used with connectors described in this report must be bright or hot-dipped galvanized carbon steel nails complying with the material requirements, physical properties, tolerances, workmanship, protective coating and finishes, certification, and packaging and package marking requirements specified in ASTM F1667. The nails must have the following minimum fastener dimensions and bending yield strengths (F_{yb}):

FASTENER	SHANK DIAMETER (inch)	FASTENER LENGTH (inches)	F_{yb} (psi)
8d × 1^1/$_2$	0.131	1^1/$_2$	100,000
8d	0.131	2^1/$_2$	100,000
10d × 1^1/$_2$	0.148	1^1/$_2$	90,000
10d	0.148	3	90,000
16d	0.162	3^1/$_2$	90,000

For **SI:** 1 inch = 25.4 mm, 1 psi = 6.895 kPa.

Alternatively, nails of other materials or finishes may be used when they are recognized in an ICC-ES evaluation report as having bending yield strength and withdrawal capacity to or better than those of a bright carbon steel of the same nominal diameter.

Some of the connectors described in this report are attached to the wood members using Simpson Strong-Tie Strong-Drive SDS series wood screws as described in ESR-2236, or Simpson Strong-Tie Strong-Drive SD series wood screws as described in ESR-3046.

Fasteners used in contact with preservative-treated or fire-retardant-treated lumber must comply with Section 2304.10.6 of the IBC and IRC Section R304.3. For use with treated lumber, the lumber treater or this report holder (Simpson Strong-Tie Company), or both, should be contacted for recommendations on the appropriate coating or material to specify for the fasteners as well as the connection capacities of fasteners used with the specific proprietary preservative-treated or fire-retardant-treated lumber.

4.0 DESIGN AND INSTALLATION

4.1 Design:

The tabulated allowable loads shown in the product tables of this report are based on Allowable Stress Design (ASD) and include the load duration factor, C_D, corresponding with the applicable loads in accordance with the *National Design Specification® for Wood Construction* (NDS) and its supplement.

Tabulated allowable loads apply to products connected to wood used under dry conditions and where sustained temperatures are 100°F (37.8°C) or less. When products are installed in wood having a moisture content greater than 19 percent (16 percent for engineered wood products), or where wet service is expected, the allowable loads must be adjusted by the wet service factor, C_M, specified in the NDS for dowel-type fasteners. When connectors are installed in wood that will experience sustained exposure to temperatures exceeding 100°F (37.8°C), the allowable loads in this report must be adjusted by the applicable temperature factor, C_t, specified in the NDS. Connected wood members must be analyzed for load-carrying capacity at the connection in accordance with the NDS.

4.2 Installation:

Installation of the connectors must be in accordance with this evaluation report and the manufacturer's published installation instructions. Bolts and nails must be installed in accordance with the applicable provisions in the NDS. In the event of a conflict between this report and the manufacturer's published installation instructions, this report governs.

5.0 CONDITIONS OF USE:

The Simpson Strong-Tie connectors described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 The connectors must be manufactured, identified and installed in accordance with this report and the manufacturer's published installation instructions. A copy of the instructions must be available at the jobsite at all times during installation.

5.2 Calculations showing compliance with this report must be submitted to the code official. The calculations must be prepared by a registered design professional where required by the statues of the jurisdiction in which the project is to be constructed.

5.3 Adjustment factors noted in Section 4.1 and the applicable codes must be considered, where applicable.

5.4 Connected wood members and fasteners must comply, respectively, with Sections 3.2.2 and 3.2.3 of this report.

5.5 Use of connectors with preservative-treated or fire- retardant-treated lumber must be in accordance with Section 3.2.1 of this report. Use of fasteners with preservative-treated or fire-retardant-treated lumber must be in accordance with Section 3.2.3 of this report.

6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Joist Hangers and Similar Devices (AC13), dated April 2024.

7.0 IDENTIFICATION

7.1 The products described in this report are identified with a die-stamped label or an adhesive label indicating the name of the manufacturer (Simpson Strong-Tie), the model number, and the number of an index evaluation report (ESR-2523) that is used as an identifier for the products recognized in this report.

7.2 The report holder's contact information is the following:

SIMPSON STRONG-TIE COMPANY INC.
5956 WEST LAS POSITAS BOULEVARD
PLEASANTON, CALIFORNIA 94588
(800) 925-5099
www.strongtie.com

TABLE A—CODE SECTION NUMBER REFERENCE MATRIX

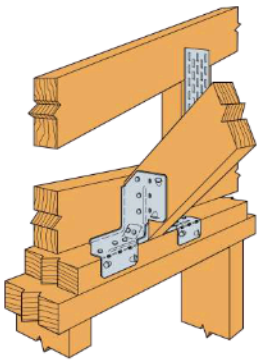
2024 IBC	2021 IBC	2018 IBC	2015 IBC	2012 IBC
2303.4	2303.4	2303.4	2303.4	2303.4
2303.4.1.2	2303.4.1.2	2303.4.1.2	2303.4.1.2	2303.4.1.2
2304.10.4	2304.10.4	2304.10.3	2304.10.3	2304.9.3
2304.10.6	2304.10.6	2304.10.5	2304.10.5	2304.9.5
2024 IRC	**2021 IRC**	**2018 IRC**	**2015 IRC**	**2012 IRC**
R301.1.3	R301.1.3	R301.1.3	R301.1.3	R301.1.3
R304.3	R317.3	R317.3	R317.3	R317.3
R502.12	R502.11	R502.11	R502.11	R502.11
R802.10	R802.10	R802.10	R802.10	R802.10

TABLE 1—GBC GABLE BRACE CONNECTOR

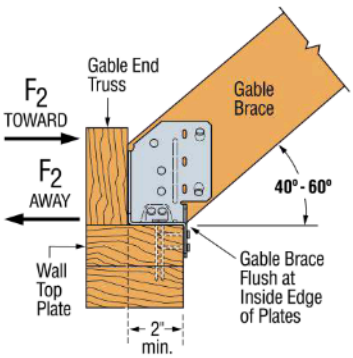
MODEL NO.	FASTENERS PER CONNECTOR[1] (Quantity-Type)		ALLOWABLE LOADS (F_2) PERPENDICULAR TO WALL TOP PLATE[2,3] (lbs) C_D = 1.6			
			Allowable Tension (F_2 Away) for Gable Brace Installed at a Slope between:		Allowable Compression (F_2 Toward) for Gable Brace Installed at a Slope between:	
	Brace Member[4]	Top Plates	40°– 45°	46° – 60°	40°– 45°	46° – 60°
GBC	5 – 8d x 1 1/2	7 – 8d	390[5]	300	650[5]	825

For **SI:** 1 inch = 25.4 mm, 1 lbs = 4.45 N.

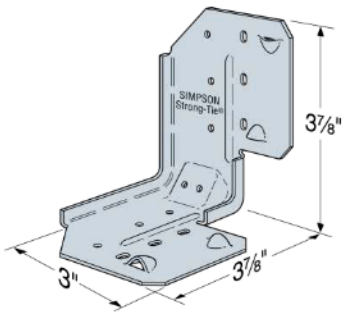
[1]Nails used with the GBC connector and LVL products (see footnote 5) must also comply with the minimum edge and spacing limitations specified in the evaluation report for the specific LVL product.
[2]Allowable loads have been increased for wind or earthquake loading with no further increases allowed. Allowable loads must be reduced when other load durations govern.
[3] Allowable loads shown are for one pair of connectors. The GBC connectors must be installed in pairs, as shown in Figure 1.
[4]Minimum brace member size must be nominal 2x4 lumber having a minimum specific gravity of 0.50 or LVL having an equivalent minimum specific gravity of 0.50 (see footnote 5).
[5]Brace members consisting of minimum 1 3/4" x 3 1/2" LVL, the allowable loads at 40 to 45 degrees are 515 lbs tension (F_2 Away) and 635 lbs compression (F_2 Toward).



GBC Typical Installation



GBC Installation Detail and Allowable Load Directions F_2 (toward) and F_2 (away)



GBC Gable Brace Connector Dimensions
U.S. Patent
7,788,873;
5.603.580

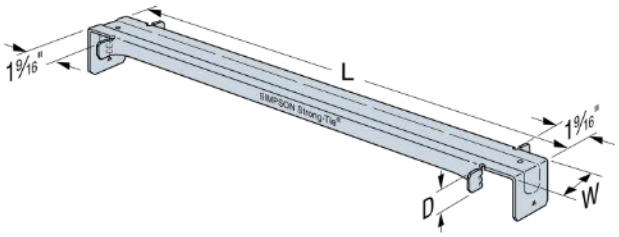
FIGURE 1—GBC GABLE BRACE CONNECTOR

TABLE 2—TSBR TRUSS SPACER-RESTRAINT[1,2]

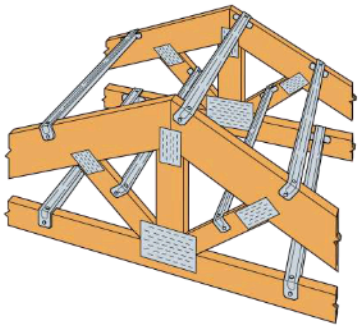
MODEL NO.	FASTENERS (Total Quantity - Type)	DIMENSIONS (inches)			ALLOWABLE LOADS[3] (lbs) C_D = 1.6	
		Length (L)	Width (W)	Depth (D)	Compression	Tension
TSBR2-24 (Min)[4]	2-10d	25 1/2	1 3/4	1	500	180
TSBR2-24 (Max)[5]	4-10dx1 1/2				500	465

For **SI:** 1 inch = 25.4 mm, 1 pound = 4.45 N.

[1]The TSBR connectors are used as a permanent truss lateral restraint that provides lateral support to trusses when installed at right angles to the plane of the truss member. The design of the TSBR connectors must comply with Section 2303.4.1.2 of the IBC.
[2]TSBR connectors must be free of deformations such as dents, bends, or other defects that will adversely affect the performance of the connector in compression.
[3]Allowable loads have been increased for wind or earthquake loading with no further increases allowed. Allowable loads must be reduced when other load durations govern.
[4]The suffix (Min) corresponds to a minimum nailing condition in which the nails specified in the table are installed into the round holes in the TSBR connectors.
[5]The suffix (Max) corresponds to a maximum nailing condition in which all the pre-punched nail holes (round and triangle) in the TSBR connectors are filled with the nails specified in the table.



TSBR Truss Spacer-Restraint
U.S. Patent 6,993,882



TSBR Installation on Nominally 2-inch-wide Wood Trusses

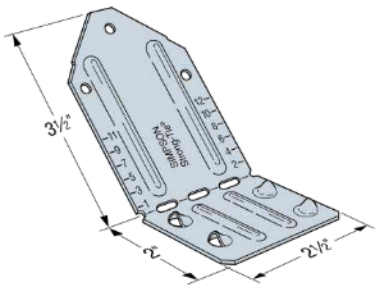
FIGURE 2—TSBR TRUSS SPACER-RESTRAINT

TABLE 3—VTCR SINGLE-SIDED VALLEY TRUSS CLIP

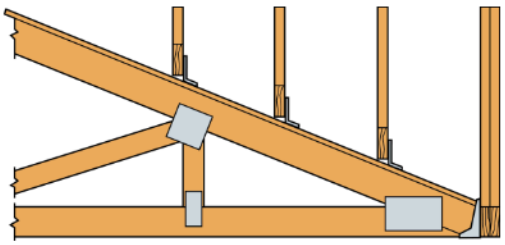
MODEL NO.	FASTENERS (Quantity – Type)		SUPPORTING ROOF PITCH	ALLOWABLE LOADS[1] (lbs)	
	Supporting Framing	Valley Truss		Uplift[2] (C_D = 1.6)	Download[3] C_D = 1.0 C_D = 1.15 C_D = 1.25
VTCR	4-10d	3-10dx1 1/2"	< 5:12	325	790
			5:12 to 12:12	325	790
	4-SD#9x2 1/2"	3-SD#9x1 1/2"	< 5:12	340	790
			5:12 to 12:12	415	790

For **SI:** 1 inch = 25.4 mm, 1 pound = 4.45 N.

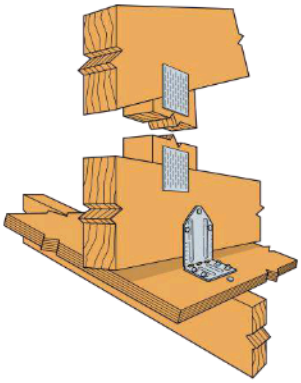
[1]Tabulated allowable loads are applicable to installation over roof sheathing having a nominal thickness of 7/16 inch or 15/32 inch.
[2]The uplift load capacities have been increased for wind or earthquake loading with no further increases allowed. Allowable loads must be reduced when other load durations govern.
[3]The download capacities may not be increased.



VTCR Single-Sided Valley Truss Clip
U.S. Patent
D640,916



Typical VTCR Installation Side View



Typical VTCR Installation

FIGURE 3—VTCR SINGLE-SIDED VALLEY TRUSS CLIP

TABLE 4—TC TRUSS CLIP

MODEL NO.	FASTENERS (Quantity - Type)		ALLOWABLE UPLIFT LOADS[1] (lbs) C_D = 1.6
	Truss[2]	Plate	
TC24	4-10d	4-10d	310
TC26	5-10d	6-10d	575
TC28	5-10d	6-10d	575

For **SI:** 1 inch = 25.4 mm, 1 pound = 4.45 N.

[1]The load capacities have been increased for wind or earthquake loading with no further increases allowed. Allowable loads must be reduced when other load durations govern.

[2]Truss nails must be driven into the truss at the inside end of the slotted holes (towards the center of the truss) and clinched on the opposite side of the truss.

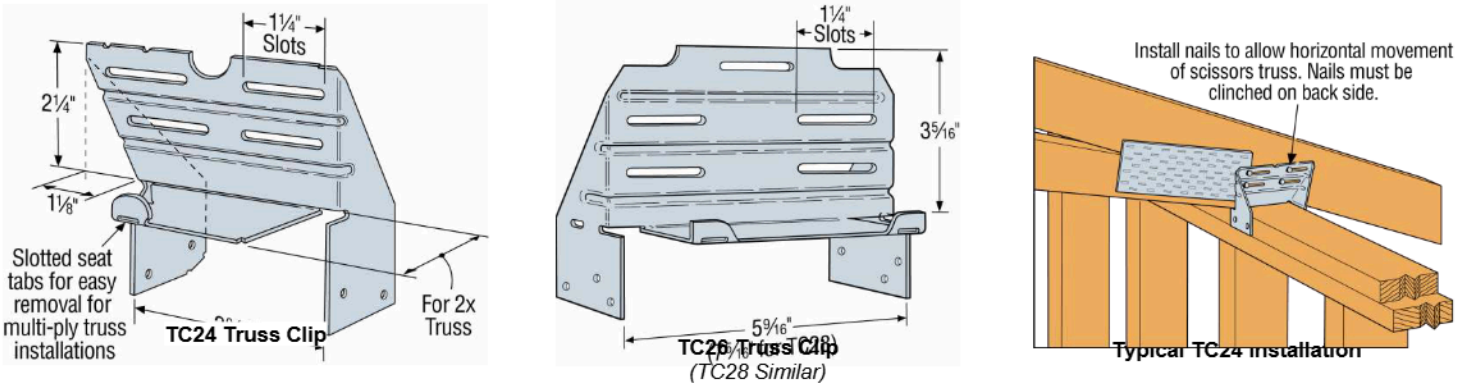


FIGURE 4—TC TRUSS CLIP

TABLE 5—TBE TRUSS BEARING ENHANCER

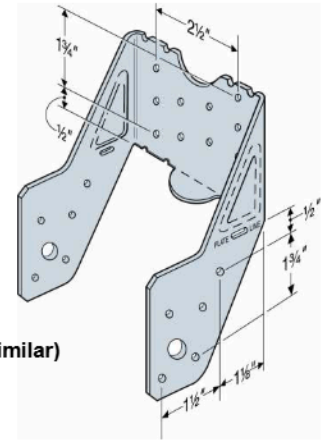
MODEL NO.	TRUSS PLIES[1]	FASTENERS (Quantity – Type)		ALLOWABLE LOADS[2,3] (lbs) C_D = 1.6		
		Rafter	Plate	Uplift	Lateral	
					Parallel-to-Plate (F1)	Perpendicular-to-Plate (F2)
TBE4	1	10 – 10d x 1½	10 – 10d x 1½	690	370	810
	2	10 – 10d	10 – 10d			
	3	10 – 10d	10 – 10d			
	4	10 – 10d	10 – 10d			
TBE6	1	10 – 10d x 1½	10 – 10d x 1½	880	255	860
	2	10 – 10d	10 – 10d			
	3	10 – 10d	10 – 10d			
	4	10 – 10d	10 – 10d			

For **SI:** 1 inch = 25.4 mm, 1 lbs = 4.45 N.

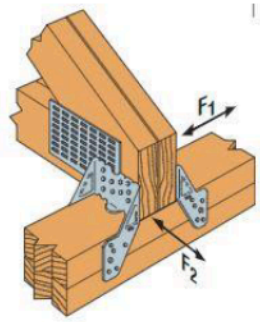
[1]Truss plies are nominally 2 inches wide.

[2]The load capacities have been increased for wind or earthquake loading with no further increases allowed. Allowable loads must be reduced when other load durations govern.

[3]Although the required fastener quantities are for a single TBE connector, the connectors must be installed in pairs as shown in Figure 5.



TBE4 (TBE6 Similar)



TBE Typical Installation on 2-ply Truss

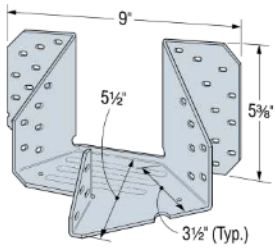
FIGURE 5—TBE TRUSS BEARING ENHANCER

TABLE 6—LTHJA26/THJA26 MULTIPLE TRUSS HANGERS

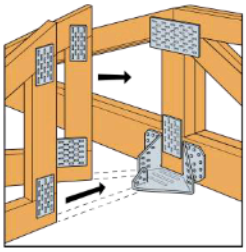
MODEL NO.	CARRIED MEMBER COMBINATION	FASTENERS (Quantity-Type)			ALLOWABLE LOADS[1] (lbs)				
		Header	Hip (each)	Jack	Carried Member	Uplift[2]	Download		
						C_D = 1.6	C_D = 1.0	C_D = 1.15	C_D = 1.25
LTHJA26	Hip & Jack	20-10d	7-10d x 1½	4-10d x 1½	Hip	220	845	845	845
					Jack	75	280	280	280
					Total[3]	295	1,125	1,125	1,125
	Double (Terminal) Hip	20-10d	7-10d x 1½	—	Hip (each)	285	630	630	630
					Total	565	1,260	1,260	1,260
THJA26	Hip & Jack	20-16d	6-10d x 1½	4-10d x 1½	Hip	680	2,010	2,080	2,080
					Jack	230	670	695	695
					Total[3]	910	2,530	2,845	2,875
	Double (Terminal) Hip	20-16d	6-10d x 1½	—	Hip (each)	480	1,265	1,420	1,430
					Total[3]	910	2,530	2,845	2,875

For **SI:** 1 inch = 25.4 mm, 1 lb = 4.45 N.

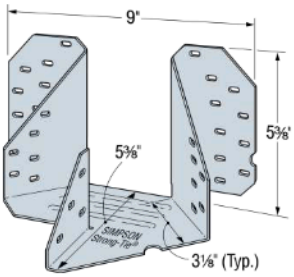
[1]Tabulated allowable loads must be selected based on duration of load as permitted by the applicable building code.
[2]The uplift loads have been increased for wind or earthquake loading with no further increases allowed. Allowable loads must be reduced when other load durations govern.
[3]Total allowable loads (uplift and download) are the loads from all carried members combined (hip and jack, or double hip).



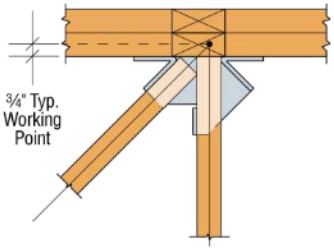
LTHJA26
U.S. Patent
7,913,472



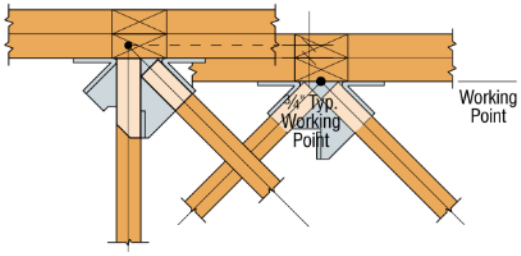
Typical LTHJA26/THJA26 Installation



THJA26



Top View Left Hand Installation



Top View Right Hand Installation

Top View Terminal Hip without Center Common Jack

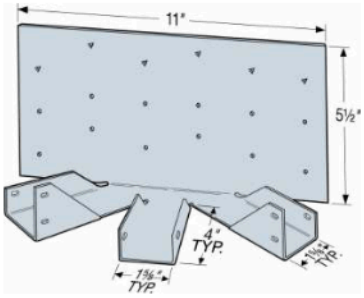
FIGURE 6—LTHJA26 AND THJA26 MULTIPLE TRUSS HANGERS

TABLE 7—LTHMA MULTIPLE-TRUSS HANGER

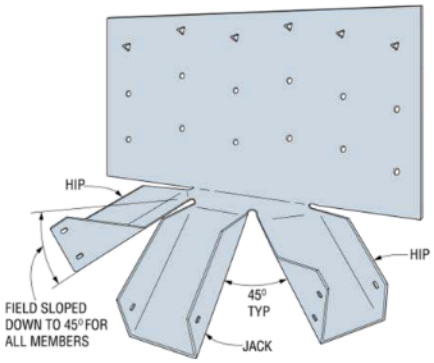
CARRIED MEMBER COMBINATION	HEADER NOMINAL SIZE	FASTENERS (Quantity-Type)			ALLOWABLE LOADS[1,2] (lbs)				
		Header	Hip (each)	Jack	Carried Member	Uplift[2]	Download		
						C_D =1.6	C_D = 1.0	C_D = 1.15	C_D = 1.25
Left and Right Hip & Center Jack	1 ply 2x4	12-10d x 1½	3-10d x 1½	2-10d x 1½	Hip (each)	65	655	660	660
					Jack	15	150	155	155
					Total[3]	140	1,460	1,475	1,475
	2 ply 2x4	12-10d	3-10d x 1½	2-10d x 1½	Hip (each)	65	660	700	700
					Jack	15	140	160	160
					Total[3]	140	1,460	1,560	1,560
	1 ply 2x6	18-10d x 1½	3-10d x 1½	2-10d x 1½	Hip (each)	65	685	685	685
					Jack	15	155	155	155
					Total[3]	140	1,525	1,525	1,525
	2 ply 2x6	18-10d	3-10d x 1½	2-10d x 1½	Hip (each)	85	985	1,085	1,085
					Jack	25	220	245	245
					Total[3]	195	2,190	2,415	2,415

For **SI:** 1 inch = 25.4 mm, 1 psi = 6.89 kPa, 1 lbf = 4.45 N.

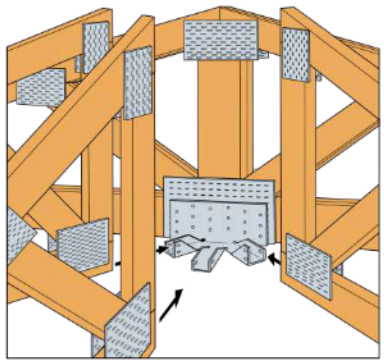
[1]Tabulated allowable loads must be selected based on duration of load as permitted by the applicable building code.
[2]The uplift loads have been increased for wind or earthquake loading with no further increases allowed. The allowable uplift loads must be reduced when other load durations govern.
[3]Total allowable loads (uplift and download) are the loads from all carried members combined (left and right hip & center jack). Total load must be evenly distributed about the centerline to avoid eccentric loading.



LTHMA Hanger



LTHMA with Field Formed U-shaped Seats for Carried Jack and Hip Trusses



LTHMA Typical Installation

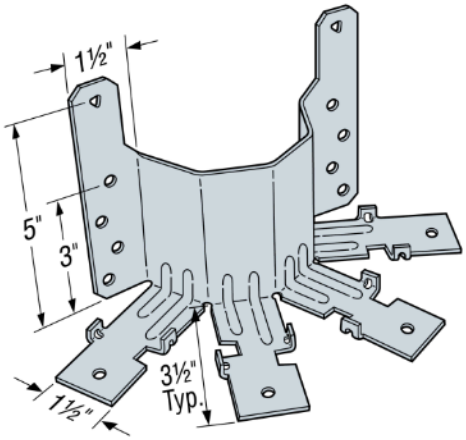
FIGURE 7—LTHMA MULTIPLE-TRUSS HANGER DETAILS

TABLE 8—THJM2-4 AND THJM2-5 MULTIPLE TRUSS HANGERS

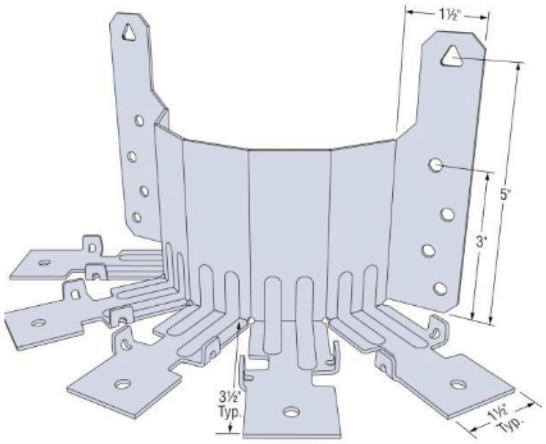
MODEL No.	FASTENERS (Quantity-Type)		ALLOWABLE LOADS[1,2] (lbs)				
			Uplift[3]	Download			
	Header	Carried Truss (Each)	C_D=1.60	C_D=1.00	C_D=1.15	C_D=1.25	C_D=1.60
THJM2-4-SDS3	8-SDS1/4"x3"	1-SDS1/4"x3"	535	3,270	3,270	3,270	3,270
	8-SDS1/4"x1 1/2"	1-SDS1/4"x3"	535	2,000	2,300	2,500	3,030
THJM2-5-SDS3	8-SDS1/4"x3"	1-SDS1/4"x3"	620	3,360	3,765	3,765	3,765
	8-SDS1/4"x1 1/2"	1-SDS1/4"x3"	620	2,000	2,300	2,500	3,030

For **SI:** 1 inch = 25.4 mm, 1 pound = 4.45 N.

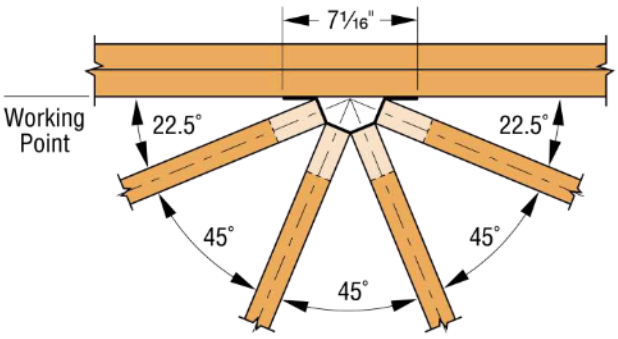
[1]Tabulated allowable loads must be selected based on duration of load as permitted by the applicable building code.
[2]Tabulated allowable loads are the total allowable loads of all carried trusses combined; the load on any single carried truss must not exceed 25 percent of the total published load for the THJM2-4 or 20 percent for the THJM2-5.
[3]The uplift loads have been increased for wind or earthquake loading with no further increases allowed. The allowable uplift loads must be reduced when other load durations govern.



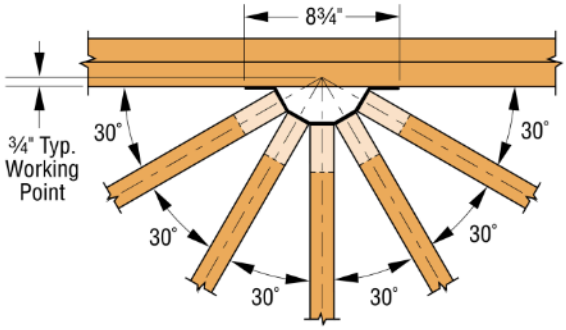
THJM2-4-SDS3



THJM2-5-SDS3



Typical THJM2-4 Installation Top View



Typical THJM2-5 Installation Top View

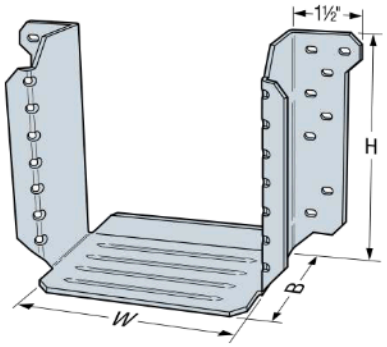
FIGURE 8—THJM2-4 AND THJM2-5 MULTIPLE TRUSS HANGERS

TABLE 9—THJU26 AND THJU26-W MULTIPLE TRUSS HANGERS

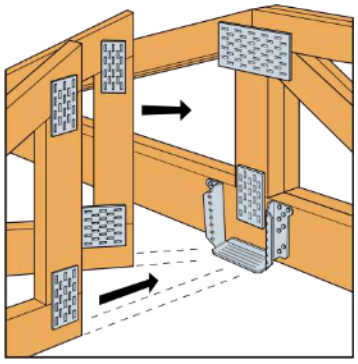
MODEL No.	Carried Member Combination	Dimensions[1] (inches)			FASTENERS (Quantity-Type)			ALLOWABLE LOADS[2,3,4] (lbs)		
								Uplift[5] C_D=1.6	Download	
		W	H	B	Header	Hip	Jack		C_D = 1.0	C_D = 1.15 C_D = 1.25 C_D = 1.60
THJU26	Min. 2x4 Hip & Jack	5 1/8	5 3/8	3 1/2	16-10d	4-10d	4-10d	780	1,915	1,915
	Min. 2x6 Hip & Jack					7-10d	7-10d	1,310	2,250	2,350
THJU26-W	Min. 2x4 Hip & Jack	7 7/8	5 3/8	3 1/2	16-10d	4-10d	4-10d	685	1,825	1,825
	Min. 2x6 Hip & Jack					7-10d	7-10d	1,240	1,965	1,965

For **SI:** 1 inch = 25.4 mm, 1 pound = 4.45 N.

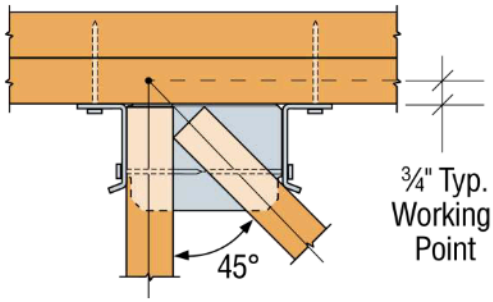
[1]Refer to Figure 9 for definitions of hanger nomenclature.
[2]Tabulated allowable loads must be selected based on duration of load as permitted by the applicable building code.
[3]Tabulated allowable loads are applicable to nonskewed jacks and hip skews of 45-degrees for the THJU26 and 67.5-degrees for the THJU26-W.
[4]Tabulated allowable loads are the total allowable loads of the hip and jack members combined. The load on the hip must not exceed 65 percent of the total load, and the load on the jack member must not exceed 35 percent of the total load.
[5]The uplift loads have been increased for wind or earthquake loading with no further increases allowed. The allowable uplift loads must be reduced when other load durations govern.



THJU26
(THJU26-W Similar)



Typical THJU26 installation



Typical THJU26 installation Top View

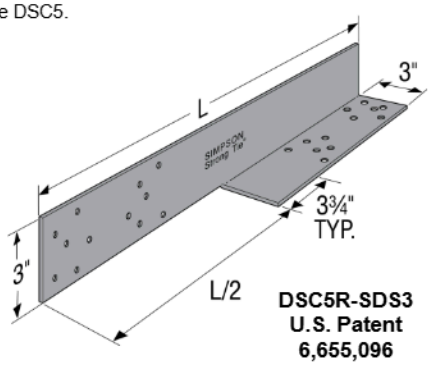
FIGURE 9—THJU26 AND THJU26-W MULTIPLE TRUSS HANGERS

TABLE 10—DSC SERIES DRAG STRUT CONNECTORS

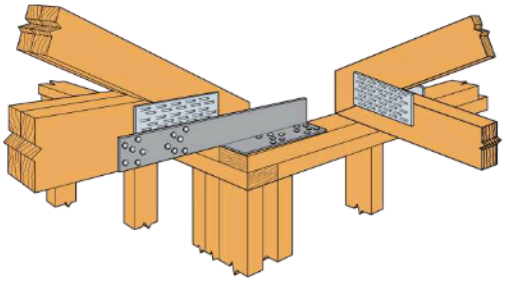
MODEL NO.	FASTENERS (Total Quantity - Type)	LENGTH (Inches)	ALLOWABLE LOADS[1] (lbs) C_D = 1.6	
			Compression	Tension
DSC2R/L-SDS3	20-SDS 1/4 x 3"	16	2,590	3,475
DSC5R/L-SDS3	24-SDS 1/4 x 3"	21	4,340	4,150

For **SI:** 1 inch = 25.4 mm, 1 pound = 4.45 N.

[1]Allowable loads have been increased for wind or earthquake loading with no further increases allowed. Allowable loads must be reduced when other load durations govern.
[2]Tabulated allowable loads require the fasteners to have a minimum edge distance of 5/8 inch, and minimum end distance of 2 1/2 inches for the DSC2 and 3 3/4 inches for the DSC5.



DSC5R-SDS3
U.S. Patent
6,655,096



Typical DSC5R-SDS3 Installation

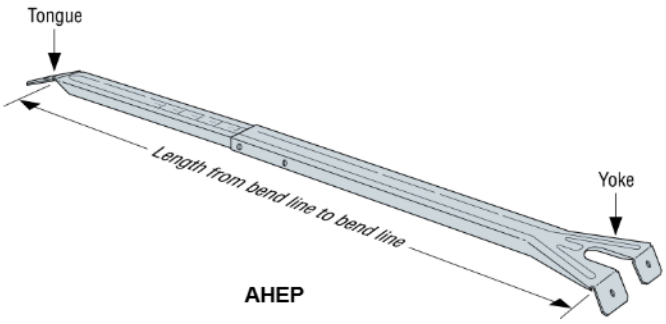
FIGURE 10—DSC DRAG STRUT CONNECTORS

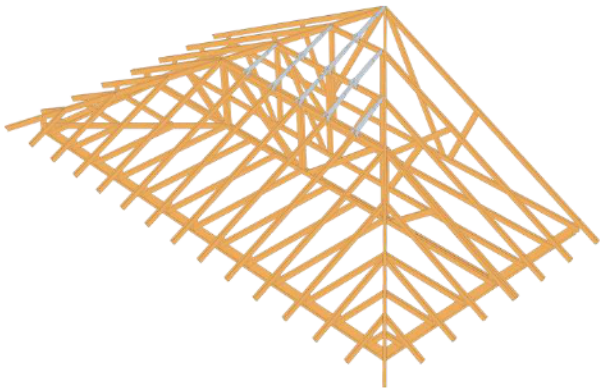
TABLE 11—AHEP ADJUSTABLE HIP-END CONNECTOR[1]

MODEL NO.	FASTENERS (Total Quantity-Type)			LENGTH[6,7] (Inches)	PITCH[5]	ALLOWABLE DOWNLOADS FOR CONNECTOR AND SHEATHING COMBINED[2,3,4,9,10] (lbs) C_D = 1.0; C_D = 1.15; C_D = 1.25	
	AHEP Side Flanges[6]	Hip Trusses[8]	Sheathing -to-AHEP[3]			L/180 Max. Deflection[3]	$^3/_{16}$" Max. Deflection[3]
AHEP	4-#10x$^3/_4$"	4-10d	#8 Screws at 12"o.c.	19$^3/_4$ to 30	3:12	250	345
					3.1:12	210	275
					6:12	185	225
					9:12	160	175

For **SI:** 1 inch = 25.4 mm, 1 pound = 4.45 N.

[1]The AHEP connectors are used as structural purlins in hip-end systems to support the roof sheathing and transfer live and dead loads to the step-down hip trusses or framing members. The designer must insure the wood members are adequately designed to resist the applied loads.
[2]Tabulated allowable loads are applicable to installations on wood framing members spaced up to 24 inches on center, with roof sheathing directly attached to the AHEP using low-profile head, self-drilling No. 8 screws at 12 inches on center or less. The roof sheathing must have a minimum nominal thickness of $^{15}/_{32}$ inch with a minimum span rating of 32/16, and may be oriented with the strength axis either parallel or perpendicular to the long axis of the AHEP.
[3]Tabulated allowable downloads are for concentrated loads applied to the roof sheathing at any point along the length of the AHEP, and must be selected based on allowable maximum deflection (L/180 or $^3/_{16}$ inch) as determined by the designer.
[4]The tabulated allowable loads may not be increased.
[5]Straight line interpolation can be used to determine allowable loads for pitches between 3.1-in-12 and 9-in-12. Use of the AHEP for roof pitches less than 3:12 or greater than 9:12 are outside the scope of this report.
[6]Prior to installation, the AHEP must be set to the calculated sloping length (from leading edge to leading edge of the step-down hip trusses), and the inner and outer tubes must be fastened together with (4)-#10x$^3/_4$" self-drilling screws through the round holes in the side flanges. The #10 self-drilling screws must have a nominal diameter of 0.190" and must comply with ASTM C1513.
[7]Minimum AHEP Length is 21 inches at the 3-in-12 pitch and 19$^3/_4$ inches at pitches of 4-in-12 and higher. Minimum lengths for pitches between 3-in-12 and 4-in-12 shall be determined using straight line interpolation. Maximum AHEP length at each pitch is the calculated sloping length between framing members spaced at 24 inches on center.
[8]The two 10d common nails at the bottom (lower end) of the AHEP must be clinched on the back side of 2x framing members.
[9]The AHEP must be free of dents or other deleterious deformations at the time of installation and in service.
[10]The AHEP has not been evaluated for uplift resistance.





Typical AHEP Installation on Step-Down Hip Trusses
(Roof sheathing not shown for clarity)

FIGURE 11—AHEP ADJUSTABLE HIP-END CONNECTOR

DIVISION: 06 00 00—WOOD, PLASTICS, AND COMPOSITES
Section: 06 05 23.30—Connectors - General

REPORT HOLDER:

SIMPSON STRONG-TIE COMPANY INC.

EVALUATION SUBJECT:

SIMPSON STRONG-TIE® CONNECTORS FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION

1.0 REPORT PURPOSE AND SCOPE

Purpose:

The purpose of this evaluation report supplement is to indicate that the Simpson Strong-Tie® connectors for metal plate connected wood truss construction, described in ICC-ES evaluation report ESR-2605, have also been evaluated for compliance with the codes noted below.

Applicable code editions:

- 2023 *Florida Building Code—Building*
- 2023 *Florida Building Code—Residential*

2.0 CONCLUSIONS

The Simpson Strong-Tie® connectors for metal plate connected wood truss construction, described in Sections 2.0 through 7.0 of ICC-ES evaluation report ESR-2605, comply with the *Florida Building Code—Building*, and the *Florida Building Code—Residential*. The design requirements must be determined in accordance with the *Florida Building Code—Building* or the *Florida Building Code—Residential,* as applicable. The installation requirements noted in ICC-ES evaluation report ESR-2605 for the 2021 *International Building Code®* meet the requirements of the *Florida Building Code—Building* or the *Florida Building Code—Residential,* as applicable.

Use of the Simpson Strong-Tie® connectors for metal plate connected wood truss construction has also been found to be in compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building*, and the *Florida Building Code—Residential* with the following condition:

a. For connections subject to uplift, the connection must be designed for no less than 700 pounds (3114 N).

For products falling under Florida Rule 61G20-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission). Florida Rule 61G20-3 is applicable to products and/or systems which comprise the building envelope and structural frame for compliance with the structural requirements of the Florida Building Code

This supplement expires concurrently with the evaluation report, reissued July 2026.

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