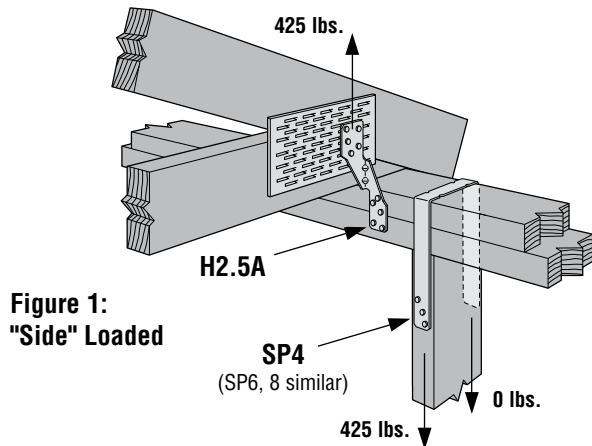


**ENSURING A CONTINUOUS LOAD PATH WHEN COMBINING ONE-SIDED AND TWO-SIDED CONNECTORS AT ROOF-TO-WALL CONNECTIONS**

In the design of any structure, a continuous load path must be provided to transfer loads from their point of origin to the final point of resistance – typically the foundation. Devising a continuous load path can be a challenge when designing connections in wood-frame structures; the continuous load path often requires multiple connection points and a well-thought-out path to prevent secondary effects from occurring.

For a continuous load path at the top plate, hurricane ties connecting the roof framing to the top plate must be on the same side as the top plate-to-stud connection, regardless of the connector model or brand.



A two-sided top plate-to-stud connector (such as an SP4) is an alternative to a one-sided connector such as an SSP. When the roof framing-to-top plate connection applies load to the top plate on both sides, the full capacity of a two-sided top plate-to-stud connection is available to transfer the uplift into the stud.

However, only half the capacity of two-sided top plate-to-stud connections may be used if the roof framing-to-top plate connection is on only one side of the plate. The load path forces the applied load to pass through only the elements of the top plate-to-stud connection that are on the same side as the roof framing-to-plate connection.

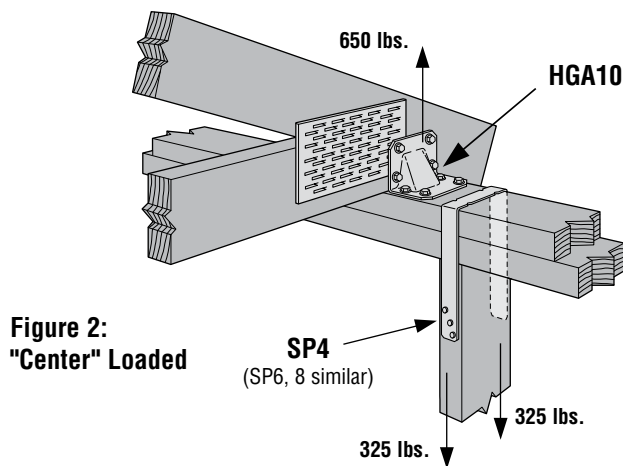
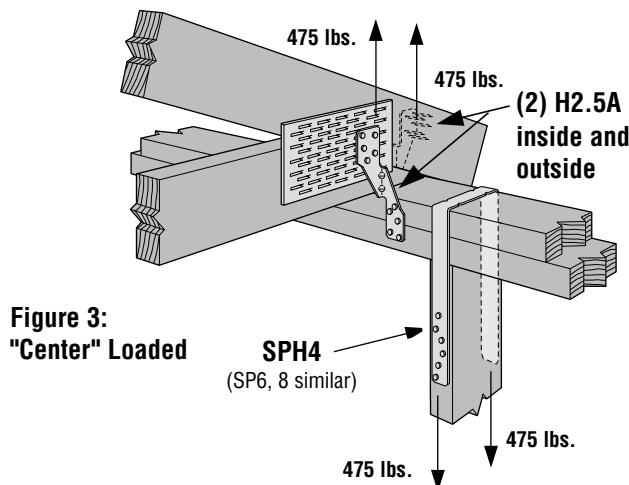


Figure 1 shows a two-sided top plate-to-stud connector where the "side" allowable uplift load must be used. (See table on page 2).

Figures 2 and 3 show examples of a continuous load path utilizing two-sided top plate-to-stud connectors that can use the "center" allowable uplift loads in the table on page 2.



**ENSURING A CONTINUOUS LOAD PATH WHEN COMBINING ONE-SIDED AND TWO-SIDED CONNECTORS AT ROOF-TO-WALL CONNECTIONS**

The table below gives the allowable connector uplift loads for **side** loading and **center** loading of the top plates.

Model No.	Dim. (in.)		Stud	Plate Width	Fasteners	Allowable Uplift Loads					
	W	L				Stud	Plate	DF/SP		SPF/HF	
								Side (160)	Center (160)	Side (160)	Center (160)
SP4	3 <sup>5</sup> / <sub>16</sub>	7 <sup>1</sup> / <sub>4</sub>	2x	4x	(6)10dx1 1/2"	—	440	885	380	760	
SP6	5 <sup>5</sup> / <sub>16</sub>	7 <sup>3</sup> / <sub>4</sub>	2x	6x	(6)10dx1 1/2"	—	440	885	380	760	
SP8	7 <sup>5</sup> / <sub>16</sub>	8 <sup>5</sup> / <sub>16</sub>	2x	8x	(6)10dx1 1/2"	—	440	885	380	760	
SPH4 or SPH4R	3 <sup>5</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>4</sub>	2x	4x	(10)10dx1 1/2"	—	620	1240	530	1065	
	4 <sup>1</sup> / <sub>16</sub>	8 <sup>1</sup> / <sub>4</sub>			(12)10dx1 1/2"	—	680	1360	585	1170	
SPH6 or SPH6R	5 <sup>5</sup> / <sub>16</sub>	9 <sup>1</sup> / <sub>4</sub>	2x	6x	(10)10dx1 1/2"	—	620	1240	530	1065	
	6 <sup>1</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>4</sub>			(12)10dx1 1/2"	—	680	1360	585	1170	
SPH8	7 <sup>5</sup> / <sub>16</sub>	8 <sup>3</sup> / <sub>4</sub>	2x	8x	(10)10dx1 1/2"	—	620	1240	530	1065	
			2x	8x	(12)10dx1 1/2"	—	680	1360	585	1170	

Figure 4 shows two load scenarios for the SP4 connection.

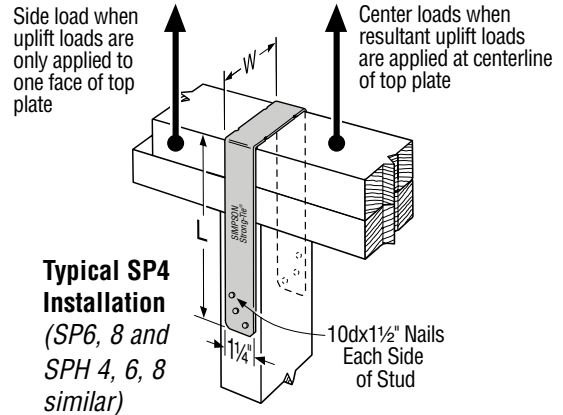
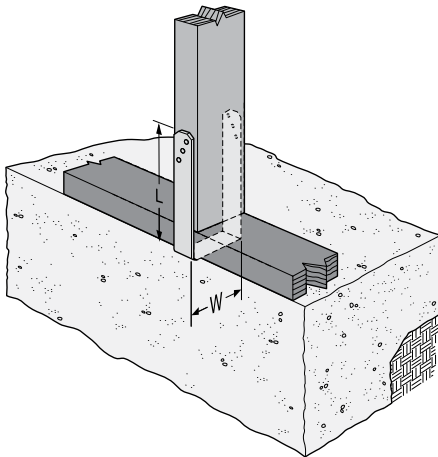
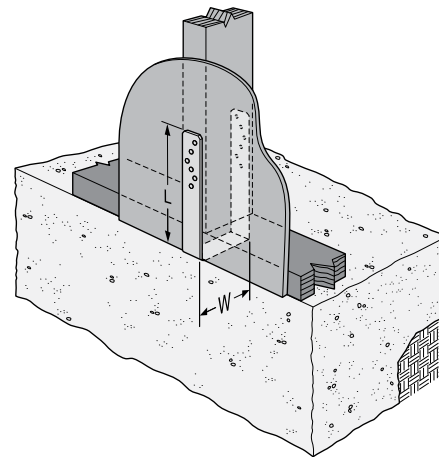


Figure 4

Two-sided connections, including applications shown in Simpson Strong-Tie technical bulletin T-STRAPS, installed at the stud-to-bottom plate may use the "center" loads or full maximum allowable loads for the appropriate connector listed.



**SP4**  
(SP6, 8 and SPH6, 8 similar)



**Typical SPH4R installed on bottom of 2x stud wall**  
(Sill plate anchorage not shown)

Please see the current Simpson Strong-Tie® Wood Construction Connectors catalog for additional top plate-to-stud connectors. Be sure to consider the effects of combining one-sided and two-sided connectors on the connection load path, and select the appropriate connector to achieve the desired load and load path.