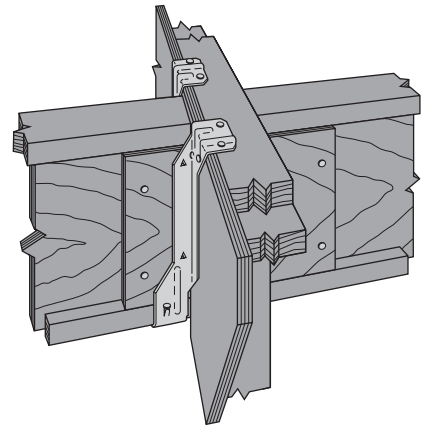


# TOP-FLANGE JOIST HANGERS INSTALLED ON WALLS OVER WOOD STRUCTURAL PANEL SHEATHING OR DRYWALL

This technical bulletin provides allowable loads for top-flange joist hangers installed on walls, either over wood structural panel sheathing or over gypsum board (drywall), such as in firewall applications. Factors that may affect the performance of a top-flange joist hanger installed on a wall covered with sheathing or drywall include the following:

- Drywall or wood sheathing tends to crush more easily than solid wood headers as the hanger deflects downward.
- The thickness of the drywall or sheathing brings the top-flange nails closer to the edge of the top plate, which can cause the top plate to split more easily.
- Face nails located in or near the junction of the top plates have less load resistance, and face nails installed through drywall have less load resistance than nails installed into a solid header.

Testing was performed on several top-flange hangers installed on walls comprised of 2x4 studs spaced at 16" o.c. and double top plates that were fastened together according to minimum code requirements. Table A provides the allowable loads for joist hangers installed on walls sheathed with plywood or oriented-strand board (OSB). Table B provides allowable loads for joist hangers installed on walls covered with drywall.



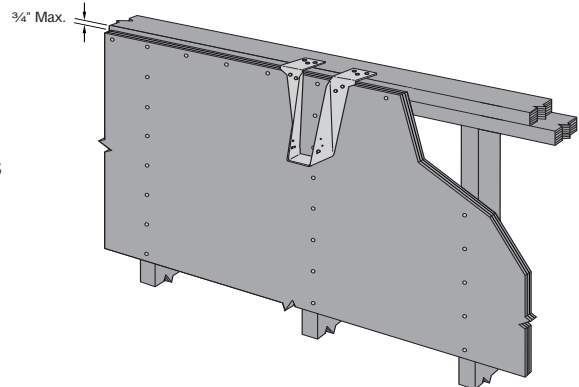
Top-Flange Joist Hanger Installation on Wall with Sheathing Flush with Top of Wall

### JOIST HANGERS ON PLYWOOD OR OSB-SHEATHED WALLS:

To achieve uplift capacities and maximum download capacities, the plywood or OSB must be installed flush with the top of the wall. Where the sheathing is dropped down by 3/4", maximum, reduced download capacities apply. In both cases, the joist may be installed either between studs or directly over the stud.

### INSTALLATION:

- Use specified fasteners.
- Plywood or OSB (3/4" max.) on the joist hanger side must be attached to the wall framing per code.
- Stud-to-plate connectors may be required, as determined by the Designer.



Top-Flange Joist Hanger Installation on Wall with Sheathing Dropped Down

TABLE A – ALLOWABLE LOADS FOR INSTALLATION ON WALLS WITH WOOD STRUCTURAL SHEATHING

Model No.	Fasteners			Allowable Loads (lbs.) <sup>1,2,3</sup>				
				Sheathing Flush with Top of Wall <sup>4</sup>		Sheathing Dropped 3/4" Max. <sup>4</sup>		
	Top	Face	Joist	Uplift <sup>5</sup> (160)	Download		Download	
DF					SPF	DF	SPF	
ITS	4-10d	2-10d	---	105	1195	1150	765	765
MIT	4-10d	4-10d	2-10dx1 1/2"	215	2180	1665	1280	1280
HIT	4-10d	6-10d	2-10dx1 1/2"	315	2180	2000	1280	1280
LBV	6-10d	4-10d	2-10dx1 1/2"	265	2080	2060	1305	1305
B and BA	6-10d	8-10d	B: 6-10dx1 1/2"	265	2555	2425	2045	2045
			BA: 2-10dx1 1/2"					
HB	6-16d	16-16d	10-16dx2 1/2"	710	5650	3820	3385	3385
HW and HWI	4-16d	---	2-10dx1 1/2"	---	3775	3665	2290	2290

1. Loads may not be increased for short-term loading.  
 2. Loads are based on unmodified hangers.  
 3. Loads are for the hanger only; the Designer must evaluate the capacity of wall.  
 4. Sheathing refers to wood structural panel sheathing (OSB or plywood).  
 5. Uplift loads have been increased 60% for wind or earthquake loading with no further increase allowed. Reduce where other loads govern. For SPF/HF joists, use 0.86 x the tabulated uplift load. (Exception: ITS uplift load is also valid for SPF/HF joists and all load durations.)  
 6. **NAILS:** 10d = 0.148" dia. x 3" long, 10dx1 1/2" = 0.148" dia. x 1 1/2" long, 16d = 0.162" dia. x 3 1/2" long, 16dx2 1/2" = 0.162"

# TOP-FLANGE JOISTHANGERS INSTALLED ON WALLS OVER WOOD STRUCTURAL PANEL SHEATHING OR DRYWALL

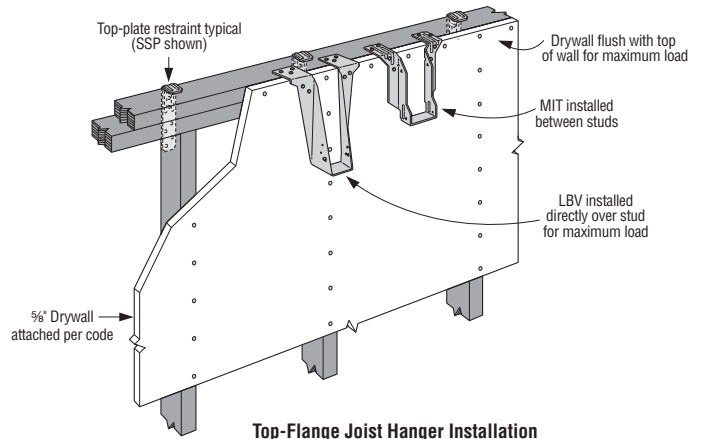


## JOIST HANGERS ON WALLS COVERED BY DRYWALL:

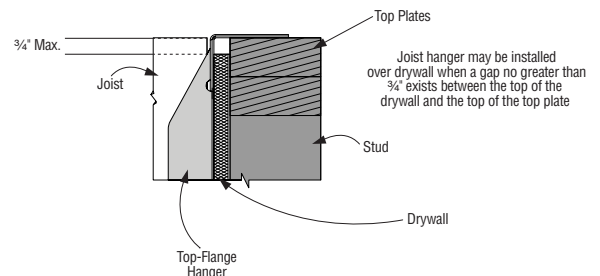
Drywall that is installed flush with the top of the wall, and joist hangers that are installed directly over a stud result in the highest download capacities (exception: the ITS and MIT do not require a stud directly below for maximum load). Reduced download capacities are provided for joist hangers installed between studs with drywall flush with top of the wall, and for conditions when the drywall is dropped down by up to 3/4". Uplift loads do not apply to hangers installed over drywall.

### INSTALLATION:

- Use specified fasteners.
- Drywall (5/8" maximum thickness) on the joist hanger side must be attached to the wall framing per code.
- Top plates must be restrained from rotating off the studs. Floor joists on the opposite side of the wall, or a bearing wall on top of the top plates will restrain the top plates. Other means of restraint include: nailing structural sheathing to the plates and studs on the side of the wall opposite the joist hangers; installing Simpson Strong-Tie® stud-to-plate connectors (e.g., SSP, RSP4) on the side of the wall opposite the joist hangers; or another method as determined by the Designer.



**Top-Flange Joist Hanger Installation on Wall with Drywall Flush with Top of Wall**  
(Drywall may be dropped up to 3/4" with reduced loads)



**TABLE B – ALLOWABLE LOADS FOR INSTALLATION ON WALLS WITH DRYWALL**

Model No.	Fasteners			Allowable Loads (lbs.) <sup>1,2,3</sup>					
				Drywall Flush with Top of Wall				Drywall Dropped 3/4" Max.	
	Top	Face	Joist	Between 2x Studs @ 16" o.c. (Max.)		2x Stud Directly Below Hanger		Between 2x Studs @ 16" o.c. (Max.)	
				DF/SP	SPF/HF	DF/SP	SPF/HF	DF/SP	SPF/HF
ITS	4-10d	2-10d	---	835	680	835	680	670	545
MIT	4-16d	4-16d	2-10dx1 1/2"	1735	1380	1735	1380	1665	1325
HIT	4-16d	6-16d	2-10dx1 1/2"	1735	1380	2070	1555	1665	1325
LBV	6-16d	4-16d	2-10dx1 1/2"	1735	1380	1845	1845	1665	1325
B & BA	6-16d	8-16d	B: 6-10dx1 1/2"	1735	1380	2365	1835	1665	1325
			BA: 2-10dx1 1/2"						
HB	6-16d	16-16d	10-16dx2 1/2"	1735	1380	2725	2725	1665	1325
HW & HWI	4-16d	---	2-10dx1 1/2"	2615	2080	2910	2910	2615	2080

1. Loads may not be increased for short-term loading.
2. Loads are based on unmodified hangers.
3. Loads are for the hanger only; the Designer must evaluate the capacity of wall.
4. **NAILS:** 10d = 0.148" dia. x 3" long, 10dx1 1/2" = 0.148" dia. x 1 1/2" long, 16d = 0.162" dia. x 3 1/2" long, 16dx2 1/2" = 0.162" dia. x 2 1/2" long.