TOP FLANGE HANGERS LBV/BA/B/HB *I-Joist & Structural Composite Lumber Hangers*

SIMPSON Strong-Tie®

This product is preferable to similar connectors because of a) easier installation, b) higher loads, c) lower installed cost, or a combination of these features.

The BA hanger is a cost effective hanger targeted at high capacity I-joists and common Structural Composite Lumber applications. A min/max joist nail option gives dual use of this hanger. Minimum values featuring positive angle nailing are targeted at I-joist without web stiffeners requirement and the maximum nailing generates higher loads to support structural composite lumber. The unique two level embossment provides added stiffness to the top flange.

The newly improved LBV, B and HB hangers offer wide versatility for I-joists and structural composite lumber. The enhanced load capacity widens the range of applications for these hangers. The LBV still features positive angle nailing and does not require the use of web stiffeners for standard non modified I-joist installations.

See Top Flange tables on pages 114-122. See Hanger Options on pages 200-202 for hanger modifications, which may result in reduced loads.

MATERIAL: See tables, pages 114-122.

FINISH: LBV, B, BA and HB—Galvanized; all saddle hangers and all welded sloped and special hangers—Simpson Strong-Tie® gray paint. LBV, B, BA and HB may be ordered hot-dip galvanized; specify HDG.

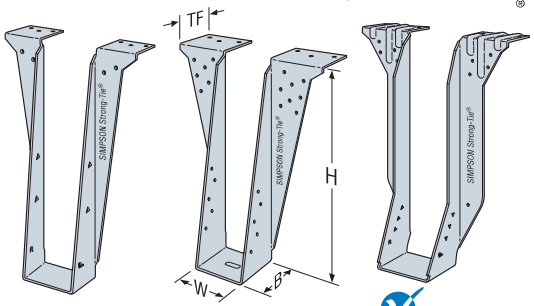
INSTALLATION: • Use all specified fasteners. See General Notes and nailer table.

- LBV, B, BA and HB may be used for weld-on applications. Weld size to match material thickness *(approximate thickness shown)*. The minimum required weld to the top flanges is ⅛" x 2" fillet weld to each side of each top flange tab for 14 and 12 gauge and 3⁄16" x 2" fillet weld to each side of each top flange tab for 7 gauge and 10 gauge. Distribute the weld equally on both top flanges. Welding cancels the top and face nailing requirements. Consult the code for special considerations when welding galvanized steel. The area should be well-ventilated, see page 22 for weld information. Weld on applications produce the maximum allowable down load listed. For uplift loads refer to T-WELDUPLFT.
- LBV hangers do not require the use of web stiffeners for non-sloped or non-skewed applications.
- B and HB hangers require the use of web stiffeners. BA MIN nailing does not require web stiffeners. BA MAX nailing requires the use of web stiffeners.
- Ledgers must be evaluated for each application separately. Check TF dimension, nail length and nail location on ledger.
- Refer to technical bulletin T-SLOPEJST *(see page 215 for details)* for information regarding load reductions on selected hangers which can be used without modification to support joists which have shallow slopes (≤¾:12).

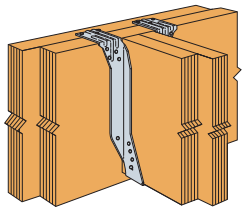
OPTIONS: • LBV, B and HB

- Other widths are available; specify W dimension *(the minimum W dimension is 1⁹⁄₁₆")*.
- The coating on special B hangers will depend on the manufacturing process used. Check with your Simpson Strong-Tie representative for details. Hot-dip galvanized available: specify HDG.
- Refer to technical bulletin T-BSERIES *(see page 213 for details)* for the complete line of LBV, BA, B and HB hangers, including models not shown here, their available modification combinations and their associated reduction factors.
- Modified hangers have reduced loads, see Hanger Options, pages 200-202.

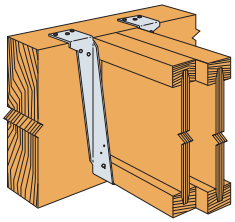
CODES: See page 20 for Code Reference Key Chart.



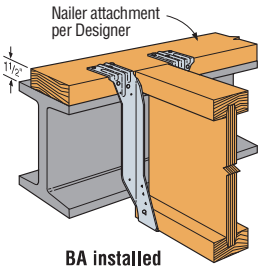
LBV **HB** *(B Similar)* **BA** U.S. Patent 7,334,372



BA Installed LVL to LVL Max Nailing

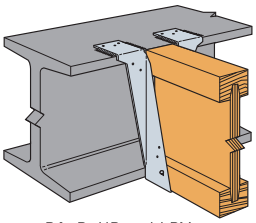


Typical Double LBV Hanger Installation



BA installed 2X nailer on steel beam minimum nailing

LBV features positive angle nailing, no web stiffeners are required



BA, B, HB and LBV are acceptable for weld-on applications *(LBV shown)*. See Installation Information.

NAILS: 16d = 0.162" dia. x 3½" long, 16dx2½ = 0.162" dia. x 2½" long, 10d = 0.148" dia. x 3" long, 10dx1½ = 0.148" dia. x 1½" long. See page 16-17 for other nail sizes and information.

Model No.	Nailer	Top Flange Nailing	Uplift[1] (160)	Allowable Loads DF/SP	Allowable Loads SPF/HF
LBV	2x	10-10dx1½	265	2280	2085
	2-2x	10-10d	265	1955	1530
	3x	10-16dx2½	265	2490	—
	4x	10-16d	265	2590	—
BA1.81/11.88 BA2.56/11.88, 14, 16 BA3.56/11.88, 14, 16	2x	10-10dx1½	265	2220	1755
	2-2x	14-10d	265	2695	2235
	3x	14-16dx2½	265	3230	—
	4x	14-16d	265	3230	—
B	2-2x	14-10d	710	3615	2770
	3x	14-16dx2½	825	3725	—
	4x	14-16d	825	3800	—
HB	4x	22-16d	1550	5500	—

NAILER TABLE

The table indicates the maximum allowable loads for LBV, BA, B and HB hangers used on wood nailers. Nailers are wood members attached to the top of a steel I-beam, concrete or masonry wall.

1. Uplift values are for DF/SP members only. LBV and BA hangers resist more uplift when web stiffeners are used. Refer to technical bulletin T-NAILERUPLFT for additional information *(see page 214 for details)*.
2. See page 184 for reductions on modified hangers on nailers.
3. B hangers require 6-10dx1½ joist nails to achieve published loads. For joist members 2½" or wider, 16dx2½" joist nails should be installed for additional uplift loads on the 3x and 4x nailer applications of 970 lbs. and 1010 lbs. respectively.

B SERIES WITH VARIOUS HEADER APPLICATIONS

Model Series	Fasteners Top	Fasteners Face	Fasteners Joist	Allowable Loads Header Type Uplift[3] (160)	LVL[8]	PSL	LSL	DF/SP	SPF/HF	I-Joist[9] DF/SCL	I-Joist[9] SPF/HF	Code Ref.
LBV (Min)	6-10dx1½	4-10dx1½	2-10dx1½	265	2295	2610	2270	1790	1835	1495	1340	I1, L13, F21
	6-10d	4-10d	2-10dx1½	265	2295	2610	2645	2310	2060	—	—	
	6-16d	4-16d	2-10dx1½	265	2910	2885	3190	2460	2060	—	—	
LBV (Max)	6-10dx1½	4-10dx1½	6-10dx1½	635	2295	2610	2270	1790	1835	1495	1350	
	6-10d	4-10d	6-10dx1½	785	2295	2610	2645	2310	2060	—	—	
	6-16d	4-16d	6-10dx1½	895	2910	2885	3190	2460	2060	—	—	
BA (Min)	6-10dx1½	10-10dx1½	2-10dx1½	—	—	—	—	—	—	1495	1495	
	6-10d	10-10d	2-10dx1½	265	3230	3630	4005	3080	2425	—	—	
	6-16d	10-16d	2-10dx1½	265	4015	3705	4005	3435	2665	—	—	
BA (Max)	6-10d	10-10d	8-10dx1½	1170	3555	3630	4120	3625	2465	—	—	
	6-16d	10-16d	8-10dx1½	1170	4715	4320	4500	3800	2665	—	—	
B[2]	6-10d	8-10d	6-10dx1½	990	3575	3195	3640	3625	2190	—	—	
	6-16d	8-16d	6-16dx2½	1010	4135	3355	4500	3800	2650	—	—	
HB[2]	6-16d	16-16d	10-16dx2½	2610	5815	5640	6395	5650	3820	—	—	

1. This table assumes joists with Fc⊥ = 750 psi. For other joists, check that bearing and joist nails are adequate.
2. Loads for B's and HB's assume a joist width of 2½" or greater.
3. Uplift loads are based on DF/SP lumber and have been increased for wind or earthquake loading with no further increase allowed. Reduce where other loads govern.For SPF/HF use 0.86 x DF/SP uplift load.
4. Loads may not be increased for short term loading.
5. Web stiffeners required when more than two joist nails are used.
6. SCL *(structural composite lumber)* is LVL *(laminated veneer lumber)*, LSL *(laminated strand lumber)*, and Parallam® PSL.
7. Code values are based on DF/SP header species.
8. Applies to LVL headers made primarily from Douglas Fir or Southern Pine. For LVL made primarily from Spruce-Pine-Fir or similar less dense veneers, use the values found in the SPF/HF column.
9. DF I-joists include flanges made from solid sawn Douglas Fir, LVL made primarily of Douglas Fir/ Southern Pine, or LSL. For flanges with thicknesses from 1⁵⁄₁₆ to 1⅜, use 0.85 of the I-joist header load. For flanges with thicknesses from 1⅛ to 1¼, use 0.75 of the I-joist header load.

Parallam® is registered trademark of iLevel by Weyerhaeuser.

C-2011 © 2011 SIMPSON STRONG-TIE COMPANY INC. PRINTED 12/10

Columbia EX2009
Simpson Strong-Tie Company Inc. v. Columbia Insurance Company
PGR2024-00050
Top Flange Hangers LBV/BA/B/HB
0001