HDB/HD

Holdowns

Simpson Strong-Tie offers a wide variety of bolted holdowns offering low-deflection performance for a range of load requirements.

The HD3B is a light-duty holdown designed for use in shearwalls and braced-wall panels, as well as other lateral applications.

The HD5B, HD7B and HD9B bolted holdowns incorporate the proven design of our HDQ8 SDS-style holdown and feature a unique seat design which greatly minimizes deflection under load. HDB and HD holdowns are self-jigging, ensuring that the code-required minimum of seven bolt diameters from the end of the post is met. They can be installed directly on the sill plate or raised above it and are suitable for back-to-back applications where eccentricity is a concern. HDBs and HDs are designed to provide loads for intermediate-load-range shearwalls, braced-wall panels and lateral applications.

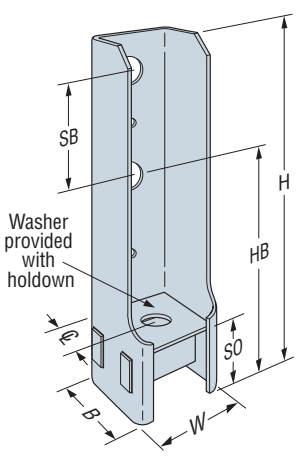
Material: See table

Finish: HD3B/HD5B/HD7B/HD9B — Galvanized;
HD — Simpson Strong-Tie gray paint; HDG available.
For stainless steel options, see engineering letter L-C-SSHD at **strongtie.com**.

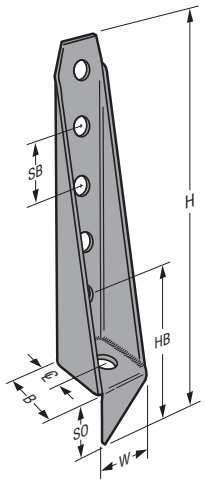
Installation:

- See Holdown and Tension Tie General Notes on pp. 49–50
- Bolt holes shall be a minimum of 1/32" to a maximum of 1/16" larger than the bolt diameter (per 2015/2018 NDS, section 12.1.3.2)
- Stud bolts should be snugly tightened with standard cut washers between the wood and nut (BPs are required in the City and County of Los Angeles)
- HD and HDB holdowns are self-jigging and will ensure minimum bolt end distance when installed flush with the sill plate
- Standard cut washer is required under the anchor nut for HD12 with 1" anchor and HD19 with 1⅛" anchors

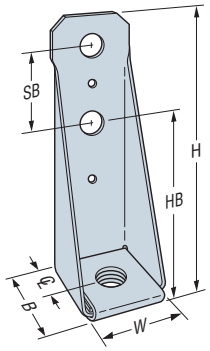
Codes: See p. 11 for Code Reference Key Chart



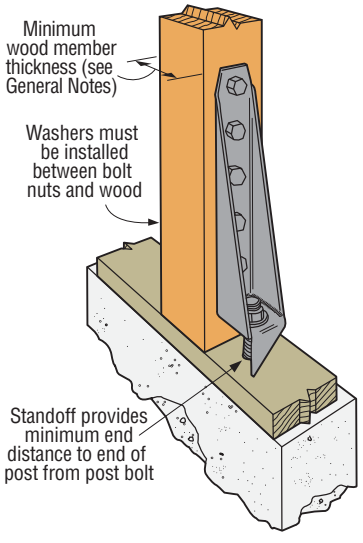
HD5B
(HD7B and HD9B similar)



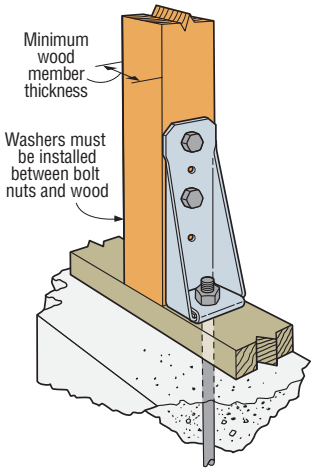
HD19
(HD12 similar)



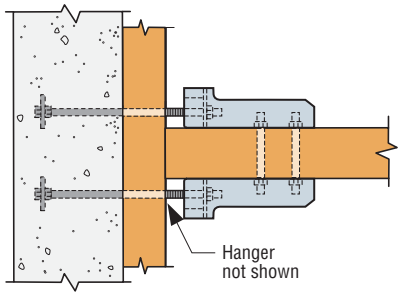
HD3B



Vertical HD19 Installation



Vertical HD3B Installation



Horizontal HDB Installation
(plan view)

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HDB/HD

Holdowns (cont.)

These products are available with additional corrosion protection. For more information, see p. 14.

Model No.	Material		Dimensions (in.)							Fasteners (in.)		Minimum Wood Member Size (in.)	Allowable Tension Loads (160)		Deflection at Highest Allowable Load	Code Ref.
	Base (in.)	Body (ga.)	HB	SB	W	H	B	CL	SO	Anchor Dia. Bolt	Stud Bolts		DF/SP	SPF/HF		
HD3B	—	12	4¾	2½	2½	8⅝	2¼	1⁵⁄₁₆	⅜	⅝	(2) ⅝	1½ x 3½	1,895	1,610	0.156	IBC, FL, LA
												2½ x 3½	2,525	2,145	0.169	
												3 x 3½	3,130	3,050	0.12	
												3½ x 3½	3,130	3,050	0.12	
HD5B	³⁄₁₆	10	5¼	3	2½	9⅜	2½	1¼	2	⅝	(2) ¾	1½ x 3½	2,405	2,070	0.153	
												2½ x 3½	3,750	3,190	0.129	
												3 x 3½	4,505	3,785	0.156	
												3½ x 3½	4,935	4,195	0.15	
HD7B	³⁄₁₆	10	5¼	3	2½	12⅜	2½	1¼	2	⅞	(3) ¾	3 x 3½	6,645	5,650	0.142	
												3½ x 3½	7,310	6,215	0.154	
												3½ x 4½	7,345	6,245	0.155	
HD9B	⅜	7	6⅛	3½	2⅞	14	2½	1¼	2⅜	⅞	(3) ⅞	3½ x 3½	7,740	6,580	0.159	
												3½ x 4½	9,920	8,430	0.178	
												3½ x 5½	9,920	8,430	0.178	
												3½ x 7¼	10,035	8,530	0.179	
HD12	⅜	3	7	4	3½	20⁵⁄₁₆	4¼	2⅛	3⅝	1	(4) 1	3½ x 3½	11,350	9,215	0.171	
												3½ x 4½	12,665	10,765	0.171	
												5½ x 5½	14,220	12,085	0.162	
										1⅛	(4) 1	3½ x 3½	11,775	9,215	0.171	
												3½ x 4½	13,335	11,055	0.177	
												3½ x 7¼	15,435	13,120	0.194	
												5½ x 5½	15,510	12,690	0.162	
HD19	⅜	3	7	4	3½	24½	4¼	2⅛	3⅝	1⅛	(5) 1	3½ x 7¼	16,735	14,225	0.191	
												5½ x 5½	16,775	12,690	0.2	
										1¼	(5) 1	3½ x 7¼	19,360	15,270	0.18	
												5½ x 5½	19,070	16,210	0.137	

1. To achieve published loads, machine bolts shall be installed with the nut on the opposite side of the holdown. If this orientation is reversed, the designer shall reduce the allowable loads shown per NDS requirements when bolt threads are in the shear plane.
2. All references to bolts are for structural quality through bolts (not lag screw or carriage bolts) equal to or better than ASTM A307, Grade A.
3. HD19 with 1¼" anchor rod requires No.1 post (or better) to achieve published loads.

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