

Holdowns are used to transfer tension loads between floors, to tie purlins to masonry or concrete, etc. Use HDAs and HDs for overturning requirements and other applications to transfer tension loads. **All HDAs and the HD15 are self-jigging, ensuring code-required minimum 7 bolt diameter spacing from the end of the wood member to the center of the first bolt hole.**

HD6A, HD8A, HD10A and HD14A's seat design allows greater installation adjustability. An overall width of 3¼" for the HD6A, HD8A and HD10A, and 3½" for the HD14A provides an easy fit in a standard 4x wall.

HDA SPECIAL FEATURES:

- Single piece non-welded design results in higher capacity.
- Load Transfer Plate eliminates the need for a seat washer.
- Fewer inspection problems.

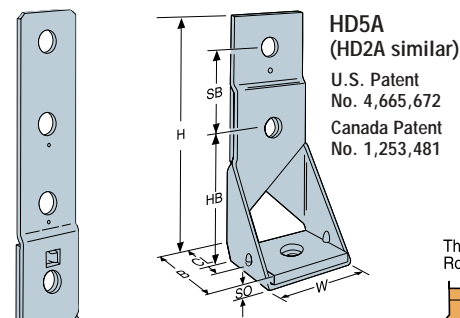
MATERIAL: See table

FINISH: HD2A, 5A, 6A, 8A, 10A—galvanized. HD8A may be ordered HDG; check with factory. HD14A, HD15—Simpson gray paint

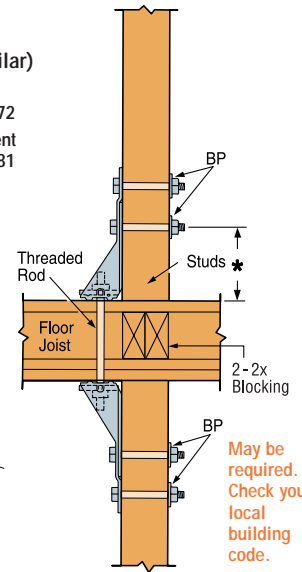
INSTALLATION: • Use all specified fasteners. See General Notes.

- For an improved connection, use a steel nylon locking nut or a thread adhesive on the anchor bolt.
- Bolt holes shall be a minimum of 1/32" to a maximum of 1/16" larger than the bolt diameter (per 1997 NDS, section 8.1.2.1.).
- Standard washers are required between the base plate and anchor nut (HD15 only), and on stud bolt nuts against the wood. The Load Transfer Plate is an integral part of the HDA Holddown and no washer is required. See page 12 for BP/LBP Bearing Plates.
- See SSTB Anchor Bolts, Simpson's Anchoring Systems and Additional Anchorage Designs for anchorage options. The design engineer may specify any alternate anchorage calculated to resist the tension load for a specific job.
- Locate on wood member to maintain a minimum distance of seven bolt diameters, distance is automatically maintained when end of wood member is flush with the bottom of the holddown.
- To tie double 2x members together, the designer must determine the fasteners required to bind members to act as one unit without splitting.
- **For holdowns, anchor bolt nuts should be finger-tight plus 1/8 to 1/2 turn with a wrench, with consideration given to possible future wood shrinkage. Care should be taken to not over-torque the nut.**
- Stud bolts should be snugly tightened (1997 NDS, section 8.1.2.4).
- **To tie double 2x members together, the designer must determine the fasteners required to bind members to act as one unit without splitting the wood.**
- For additional information, request **T-HD-01**.

CODES: See page 8 for Code Listing Key Chart.



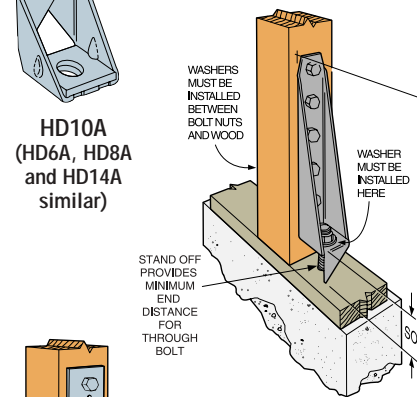
HD5A (HD2A similar)
U.S. Patent No. 4,665,672
Canada Patent No. 1,253,481



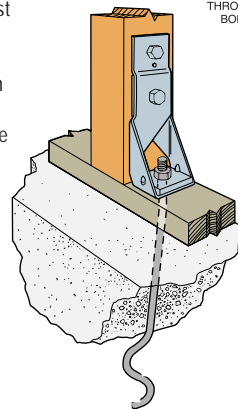
Typical HD5A Tie between Floors

* To achieve table loads, the minimum bolt end distance is seven bolt diameters. This distance is designed into holdowns. Bolt end distance may be increased, provided the anchor nut is not over-torqued, which could split the stud. Deflection values may be higher.

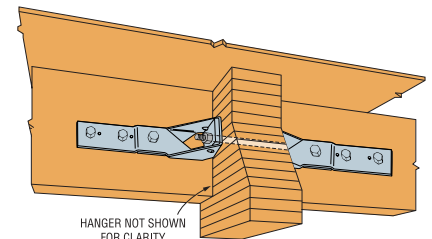
May be required. Check your local building code.



Typical HD15 Holddown Installation



Typical HD5A Holddown Installation with SSTB anchor bolt.
Washers are not required at the base.



HD8A Installed in Pairs (Top View)

Model No.	Material		Dimensions							Fasteners		Avg Ult	Allowable Tension Loads ^{1,7,9} (DF/SP) (133)						Holddown ¹⁰ Deflection at Highest Allowable Design Load	Holddown ¹⁰ Deflection at Highest Allowable Design Load When Raised Off The Sill Plate	Code Ref.	
	Base Ga	Body Ga	HB ⁴	SB	W	H	B	SO	CL	Anchor Dia ^{5,8}	Stud Machine Bolts Qty		Dia	Length of Bolt ^{2,3} in Vertical Wood Member								
														1½	2	2½	3	3½				5½
HD2A	7	12	4 9/16	2 1/2	2 3/4	8	2 3/16	3/8	1 1/16	5/8	2	5/8	12150	1555	2055	2565	2775	2775	2760	0.058	0.077	2, 43, 82
HD5A	3	10	5 1/4	3	3 3/8	9 1/16	3 3/16	1/2	2 3/16	5/8 or 3/4	2	3/4	20767	1870	2485	3095	3705	4010	3980	0.067	0.117	
HD6A	3/8	7	6 3/16	3 1/2	3 3/4	11 1/16	3 1/16	5/8	2 3/16	7/8	2	7/8	27333	2275	2980	3685	4405	5105	5510	0.041	0.125	2, 82
HD8A	3/8	7	6 3/16	3 1/2	3 3/4	14 9/16	3 1/16	5/8	2 3/16	7/8	3	7/8	28667	3220	4350	5415	6465	7460	7910	0.111	0.121	2, 37, 82
HD10A	3/8	7	6 3/16	3 1/2	3 3/4	18 1/16	3 1/16	5/8	2 3/16	7/8	4	7/8	28667	3945	5540	6935	8310	9540	9900	0.269	0.269	
HD14A	3/8	3	7	4	3 1/2	20 9/16	3 3/8	5/8	2 3/16	1	4	1	38167	—	—	—	—	11080	13380	0.215	0.282	2, 82
HD15	3/8	3	7	4	3 1/2	24 1/2	4 7/16	3 3/8	2 1/2	1 1/4	5	1	55333	—	—	—	—	—	15305	0.082	0.082	2, 43, 82

1. Allowable loads have been increased 33% for earthquake or wind loading with no further increase allowed; reduce where other loads govern.
2. HD15 requires a minimum 6x6 nominal post. Minimum post size is required to ensure the tension load carrying capacity of the critical net section meets the holddown capacity.
3. Use a minimum 4x6 nominal post for the HD14A. Minimum post size is required to ensure the tension load carrying capacity of the critical net section meets the holddown capacity.

4. HB is the required minimum distance from the end of the stud to the center of the first stud bolt hole. End distance may be increased as necessary for installation.
5. The designer must specify anchor bolt type, length and embedment. See SSTB Anchor Bolts and Additional Anchor Designs.
6. See page 10 for anchor bolt retrofit.
7. Lag bolts will not develop the listed loads.
8. Full tension loads apply when HD5A is used with a 5/8" anchor bolt.

9. See page 9 for testing and other important information.
10. Deflection at Highest Allowable Design Load: The deflection of a holddown measured between the anchor bolt and the strap portion of the holddown when loaded to the highest allowable load listed in the catalog table. This movement is strictly due to the holddown deformation under a static load test conducted on a steel jig.
11. For Hem Fir values request **T-HEMFIHRDA**.