

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

The Predeflected Holdown (PHD) is a revolutionary development in holdown connections. Predeflected during manufacturing, the PHD virtually eliminates deflection from material stretch.

**PHD SPECIAL FEATURES:**

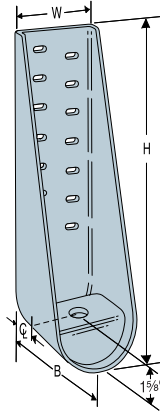
- Wood screws reduce slip due to overdrilled bolt holes.
- Smaller centerline reduces eccentricity in the stud.
- No stud bolts to countersink.
- The slot in the seat provides anchor bolt adjustment.
- Fits easily on a 4x stud.

**MATERIAL:** See table. **FINISH:** Galvanized.

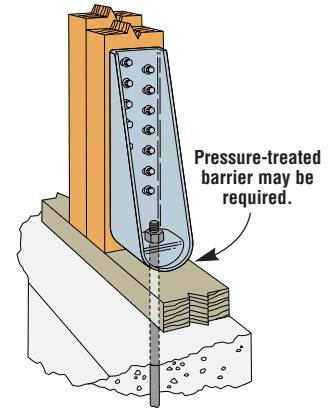
**INSTALLATION:** • Use all specified fasteners. See General Notes.

- Place the PHD or HDQ8 over the anchor bolt.
- HDQ8: 5/8" of adjustability perpendicular to the wall.
- HDQ8: 1/4" center line for reduced eccentricity.
- HDQ8: Use in vertical and horizontal applications.
- **Install Simpson's code-recognized SDS1/4x3 wood screws, which are provided with the holdown.** (Lag screws will not achieve the same load.)
- For an improved connection, use a steel nylon locking nut or a thread adhesive on the anchor bolt. (No washer required.)
- See SSTB Anchor Bolts, page 24, for anchorage options. The design engineer may specify any alternate anchorage calculated to resist the tension load for a specific job. Anchorage length should take the bearing plate/washer height into account, to ensure adequate length of threads to engage the nut. **For 3x sill plates use SSTBL.**
- **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.**
- **See Simpson Anchor Systems for tested, load-rated anchors and request T-Anchorspec for more information.**

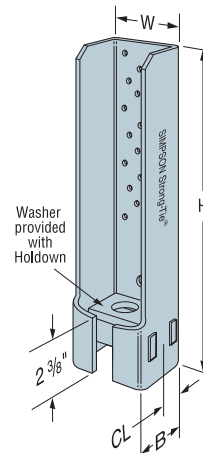
**CODES:** See page 10 for Code Listing Key Chart.



**PHD5**  
(others similar)  
US Patent No. 5,979,130

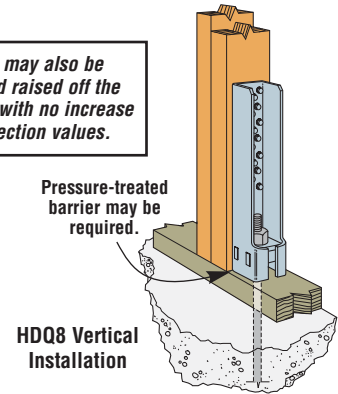


**Typical PHD Installation as a Holdown**  
(shown "flush", touching sill plate)



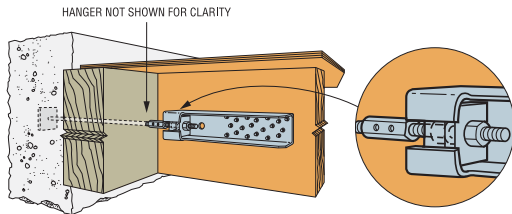
**HDQ8**  
US Patents 6,006,487 and 6,327,831

**HDQ8 may also be installed raised off the sill plate with no increase in deflection values.**



**HDQ8 Vertical Installation**

**For holdowns, per ASTM test standards, anchor bolt nuts should be finger-tight plus 1/3 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.**



**Horizontal HDQ8 Installation**

**Available with additional corrosion protection. Check with factory.**

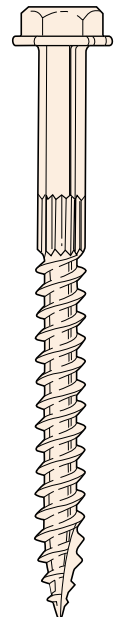
Model No.	Ga	Dimensions				Fasteners		Avg UIt	Allowable Tension Loads 2-2x and Greater Vertical Wood Member DF/SP (133)	Allowable Tension Loads 2-2x and Greater Vertical Wood Member SPF/HF (133)	Holdown <sup>5</sup> Deflection at Highest Allowable Design Load Flush	Holdown <sup>5</sup> Deflection at Highest Allowable Design Load Raised	Code Ref.
		W	H	B	CL	Anchor Dia.	No. of Simpson SDS1/4x3 Wood Screws						
PHD2-SDS3	14	3	9 5/16	2 7/8	1 1/8	7/8	10	12,520	3610	3375	.063	.081	31, 98, 122, 140
PHD5-SDS3	14	3	11 1/16	2 7/8	1 1/8	7/8	14	15,670	4685	4380	.077	.077	
PHD6-SDS3	12	3 1/8	13 3/16	2 7/8	1 1/8	7/8	18	18,250	5860	5480	.068	.073	

**PHD8-SDS3 deleted — see HDQ8-SDS3**

Model No.	Ga	W	H	B	CL	Anchor Dia.	No. of SDS1/4x3 Wood Screws	Avg UIt Tension	Compression Load <sup>10</sup> (lbs)	Allowable Tension (lbs) 133 DF/SP	Allowable Tension (lbs) 133 SPF/HF	Holdown Deflection at Highest Allowable Tension Design Load	Code Ref.
HDQ8-SDS3	7	2 7/8	14	2 1/2	1 1/4	7/8	20	27192	7175	8325	7210	.052	45, 106, 126

1. Allowable loads have been increased 33% for earthquake or wind loading with no further increase allowed; reduce where other loads govern.
2. The Designer must specify anchor bolt type, length and embedment. See the SSTB and SSTBL Anchor Bolts.
3. See page 16 and 22 for retrofit anchor bolt.
4. Loads are based on static tests on wood studs, limited by the lowest of 0.125" deflection, ultimate divided by 3, or the wood screw value.
5. Deflection at Highest Allowable Design Load: The deflection of a holdown measured between the anchor bolt and the strap portion of the holdown when loaded to the highest allowable load listed in the catalog table. This movement is strictly due to the holdown deformation under a static load test conducted on a wood jig.

6. Installs best with a low speed 1/2" right angle drill with a 3/8" hex head driver.
7. **SDS1/4x3 screws are required for PHD's. See T-HDLA04 for PHD loads using shorter screws.**
8. When using structural composite lumber columns, screws must be applied to the wide face of the column.
9. For HDQ8 double installation, offset holdowns to eliminate screw interference. This achieves double the load capacity (16,650 lbs).
10. HDQ8's compression load requires an additional standard nut and square washer below the holdown. Maximum rod length is 6' from the concrete to achieve 7175 lbs using A36 steel. If rod length is longer, designer needs to check rod for buckling capacity.



**SDS1/4x3 Screw**  
US Patent No. 6,109,850  
See screw info on page 13