HHDQ *Heavy Duty Holdowns*

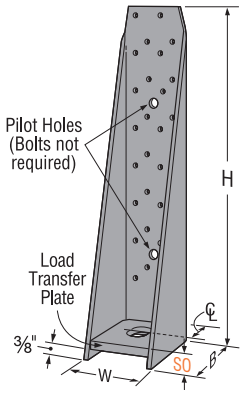
The HHDQ series of holdowns combine low deflection and high loads with ease of installation by using Simpson Strong-Tie® patented SDS screws. They may be installed either flush or raised off the mudsill without a reduction in load value.

MATERIAL: 7 gauge body; ½" base plate.

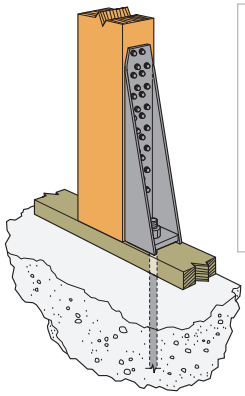
FINISH: Gray paint

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

- 1½" centerline dimension for reduced eccentricity.
- Use in vertical or horizontal applications.
- Install Simpson SDS ¼"x2½" wood screws, which are supplied. *(Lag screws will not achieve the same load.)*
- The load transfer plate is an integral part of the HHDQ; no additional washer is required.
- **SDS screws install best with a low speed high torque drill with a ⅜" hex head driver.**
- Refer to technical bulletin T-ANCHORSPEC for post-installed anchorage solutions.
- **To tie multiple 2x members together, the Designer must determine the fasteners required to join members to act as one unit without splitting the wood. See page 15 for SDS values.**
- Check Simpson Strong-Tie for availability.



HHDQ11



Vertical HHDQ11 Installation

For holdowns, per ASTM test standards, anchor bolt nut should be finger-tight plus ⅓ to ½ turn with a hand wrench, with consideration given to possible future wood shrinkage. Care should be taken to not over-torque the nut. Impact wrenches should not be used.

Model No.	Ga	Dimensions (in.) W	H	B	℄	SO	Fasteners Anchor Bolt Dia. (in.)	SDS Screws	Factored Tensile Resistance (K_D=1.15) D.Fir-L lbs / kN	S-P-F lbs / kN
HHDQ11-SDS2.5	7	3	15⅛	3½	1½	⅞	1	24-SDS ¼"x2½"	12670 / 56.44	11185 / 49.82
HHDQ14-SDS2.5	7	3	18¾	3½	1½	⅞	1	30-SDS ¼"x2½"	15840 / 70.56	13980 / 62.27

1. Factored tensile resistances have been increased 15% for earthquake or wind loading. No further increase is allowed.
2. HHDQ's can be raised off the sill with no reduction in resistance or increase in deflection.
3. The Designer must specify anchor bolt type, length and embedment.
4. When using structural composite lumber columns,screws must be applied to the wide face of the column.
5. **Requires heavy hex anchor nut to achieve tabulated values.**

HDC *Concentric Holdown*

VALUE ENGINEERED

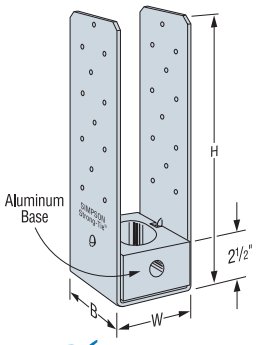
This product is preferable to similar connectors because of a) easier installation, b) higher loads, c) lower installed cost, or a combination of these features.

The unique design of the HDC holdowns eliminate eccentricity. They install with SDS screws *(included)* to reduce slip and provide a greater net section area of the post compared to bolts.

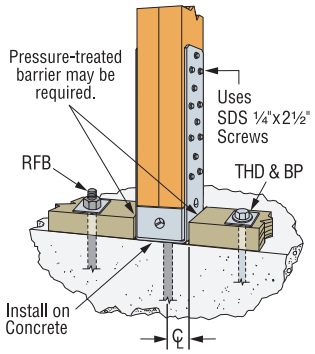
MATERIAL: 10 gauge strap **FINISH**: Galvanized strap, aluminum base

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

- Install on concrete.
- Sized for 2-2x, and 4x. Center 2-2x posts on holdown.
- Install Simpson's SDS ¼"x2½" wood screws, which are provided with the holdown. *(Lag screws will not achieve the same load.)*
- Slot in the seat allows for ⅜" of adjustment perpendicular to plate. *(Standard N series cut washer required, 1¾" diameter - 0.134" thick.)*
- Witness slot in the base to inspect the nut .
- Maximum anchor bolt height above concrete is 2½".
- To tie multiple 2x members together, the Designer must determine the fasteners required to join members to act as one unit without splitting the wood. See page 15 for SDS values.
- Aluminum standoff cannot be in contact with pressure-treated wood.
- **SDS screws install best with a low speed high torque drill with a ⅜" hex head driver.**
- Refer to technical bulletin T-ANCHORSPEC for post-installed anchorage solutions.



HDC10
U.S. Patent 6,513,290



Typical HDC Installation with 2-2x4 studs
(Similar with 2-2x6 studs)

For holdowns, per ASTM test standards, anchor bolt nut should be finger-tight plus ⅓ to ½ turn with a hand wrench, with consideration given to possible future wood shrinkage. Care should be taken to not over-torque the nut. Impact wrenches should not be used.

Model No.	Post Size	Dimensions (in.) W	H	B	℄	Anchor Bolt	Number of SDS ¼"x2½"	Factored Tensile Resistance (K_D=1.15) D.Fir-L lbs / kN	S-P-F lbs / kN	Concrete Bearing (f'_c=20 MPa) lbs / kN
HDC5/22-SDS2.5	2-2x4	3⅛	9⅜	3	1 9⁄16	⅝	12	6470 / 28.82	5715 / 25.46	11945 / 53.21
HDC5/4-SDS2.5	4x4	3 9⁄16	9⅛	3	1 13⁄16	⅝	12	6470 / 28.82	5715 / 25.46	14545 / 64.78
HDC10/22-SDS2.5	2-2x4	3⅛	14⅜	3	1 9⁄16	⅞	24	12945 / 57.66	11425 / 50.89	11945 / 53.21
HDC10/4-SDS2.5	4x4	3 9⁄16	14⅛	3	1 13⁄16	⅞	24	12945 / 57.66	11425 / 50.89	14545 / 64.78

1. Factored resistances have been increased 15% for short term 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 anchor bolts.
3. Concrete bearing resistance has been calculated in accordance with section 10.8 of CSA A23.3-04 and may be increased when HDC is not placed near an edge or with f'_c > 20 MPa.
4. When using structural composite lumber columns, screws must be applied to the wide face of the column.