

Foundation Connectors



Holdowns

HD Series



PRODUCT FEATURES:

Holdowns (HD) are used to resist uplift forces due to wind or overturning of shear walls. These are available in various sizes to meet the light to heavy load requirements using nails, screws and bolts as fasteners. Other HD applications include purlin-to-purlin, Concrete/Masonry walls to decking or flooring attachments.

MATERIAL:

See Allowable Loads Table.

COATING:

Galvanized (G185) - LTT20, HDTT, HDTT3, HDTT6, HD5, HD7, HD9 & HD11

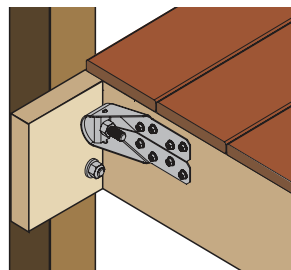
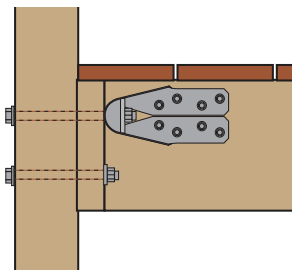
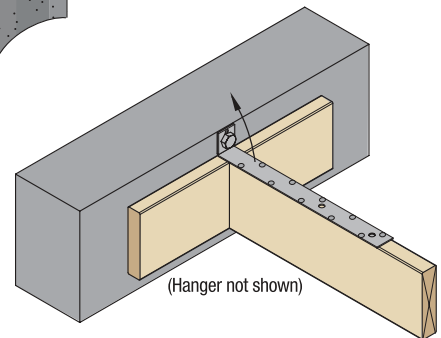
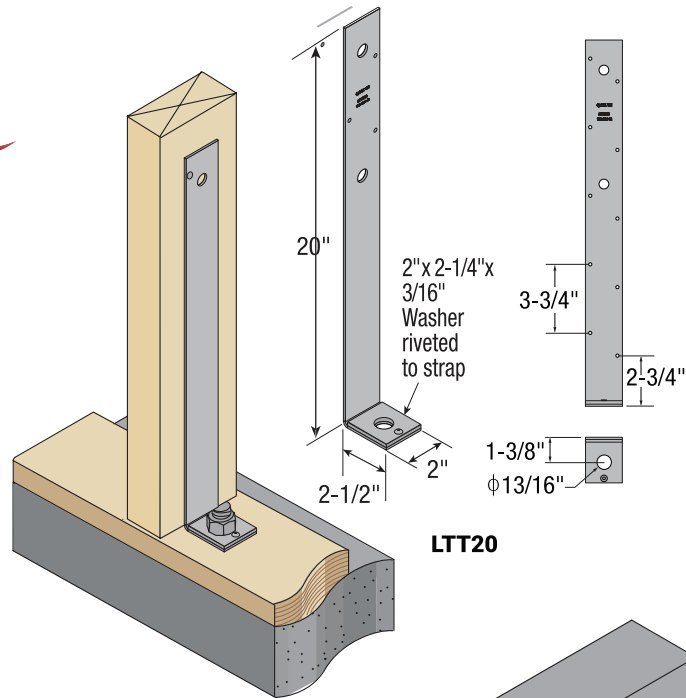
Spray Painted Primer (gray) - HD12, HD14, & HD22

INSTALLATION:

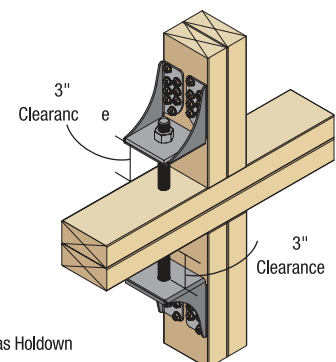
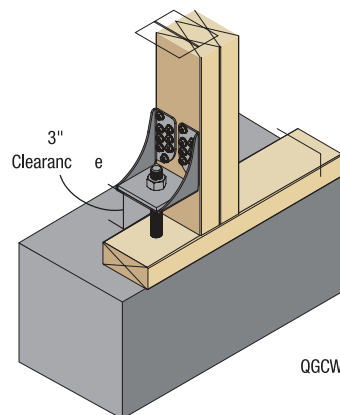
- Use all specified fasteners in schedule to achieve values indicated

CODE COMPLIANCE:

TER 0910-01; FL 3557



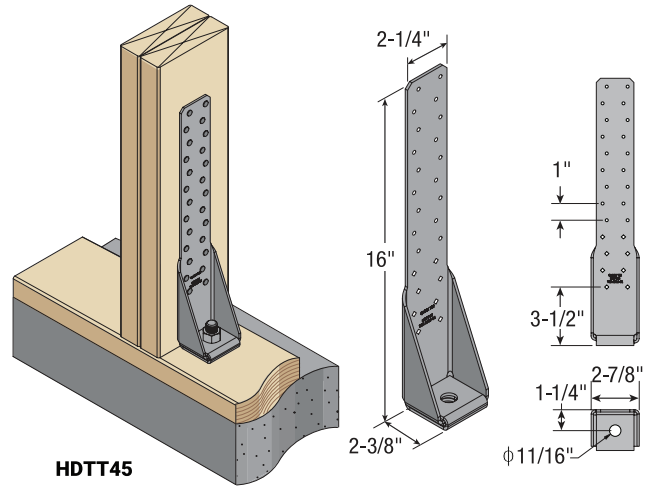
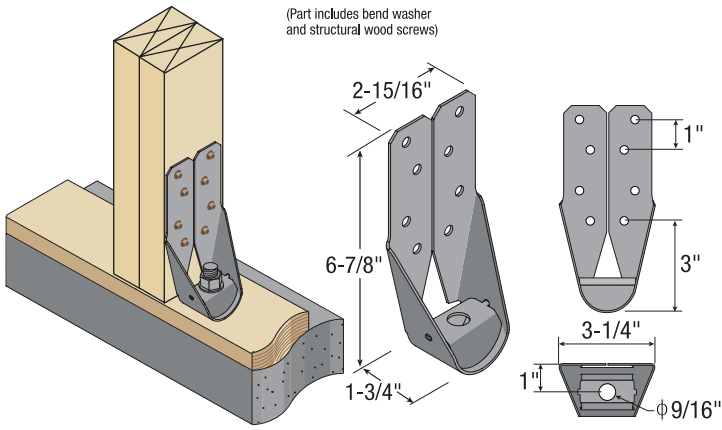
HDTT as Deck Tension Tie



QGCW as Holdown

HDTT

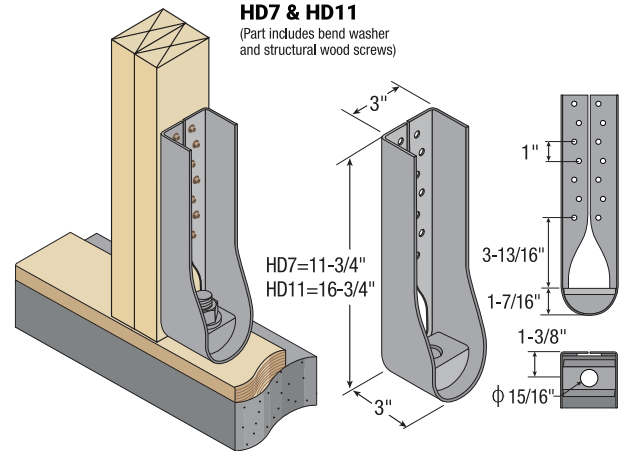
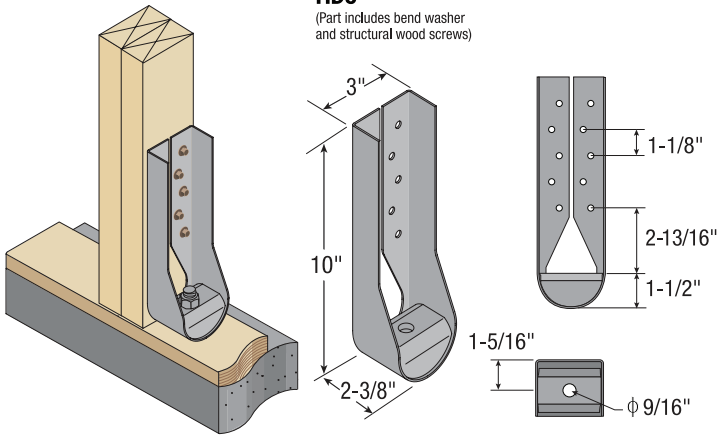
(Part includes bend washer and structural wood screws)



HDTT45

HD5

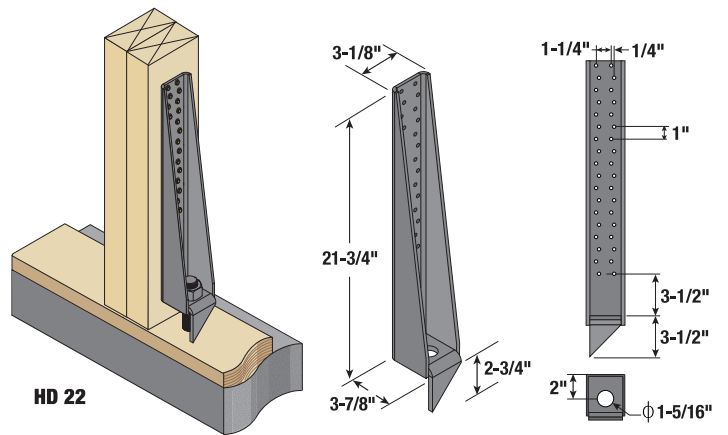
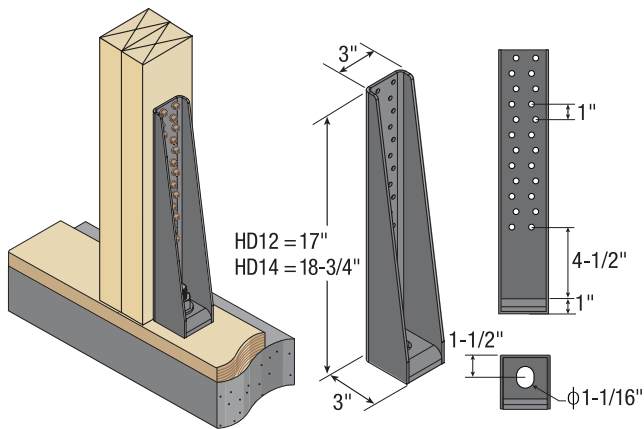
(Part includes bend washer and structural wood screws)



HD7 & HD11

(Part includes bend washer and structural wood screws)

HD7=11-3/4"
HD11=16-3/4"



HD 22

HD12 & HD14

(Part includes structural wood screws)

ALLOWABLE LOADS FOR HOLDOWNS (LB)¹

PART NO.			STEEL THICK. (GA)		DIMENSIONS (IN.)						FASTENERS				ALLOWABLE LOAD VALUES					
											Nails / Screws / Bolts		Anchor Bolt		SP (SG = 0.55)		DF-L (SG = 0.50)		S-P-F (SG = 0.42)	
QuickTie	Reference No.		Strap	Washer	Height H	Width W	Depth D	Stud Face to Anchor CL	Top of Bottom Plate to Top of Washer	Min. Wood Member Size (in.)	Qty	Type / Size	Qty	Size	C _D = 1.6		C _D = 1.6		C _D = 1.6	
	Simpson®	MiTek®													Uplift (lb)	Δ (in.)	Uplift (lb)	Δ (in.)	Uplift (lb)	Δ (in.)
LTT20	LTT20B	LTS20B	12 ga	7 ga	20	2	2-1/2	1-3/8	9/32	(2) 2x4	10	10dx1-1/2	1	3/4"	1,680	0.194	1,575	0.186	1,375	0.172
HDTT	DTT2Z, DTT2Z-SDS2.5	DTB-TZ	14 ga	14 ga	6-7/8	3-1/4	1-3/4	1	1-1/8	2x4	8	SWH15	1	1/2"	2,300	0.190	2,055	0.149	1,525	0.088
HDTT3	HDU2-SDS2.5, HD3B	PHD2A, TDX2-TZ	12 ga	10 ga	6-7/8	3-1/4	1-3/4	1	1-3/16	(2) 2x4	8	SWH3	1	1/2"	3,475	0.074	3,210	0.067	2,770	0.055
QGCW	HDU2-SDS2.5	PHD2A	12 ga	3 ga	3-7/8	3-1/4	3	1-3/4	3-3/8	(2) 2x4	16	SWH3	1	5/8"	4,300	0.228	4,295	0.227	3,705	0.188
HD5	HDU4-SDS2.5	PHD4A	14 ga	3 ga	10	3	2-3/8	1-3/8	1-1/2	(2) 2x4	10	SWH3	1	1/2"	5,885	0.197	5,445	0.181	2,080	0.059
HDTT6	HTT4, HTT5	HTT45	10 ga	7 ga	16	3-1/4	1-7/8	1	1-1/4	(2) 2x4	26	16dx2-1/2	1	5/8"	5,730	0.111	5,730	0.111	5,280	0.099
HD7	HDU5-SDS2.5	PHD5A	12 ga	3 ga	11-3/4	3	3	1-3/8	1-1/2	(2) 2x4	14	SWH3	1	7/8"	7,280	0.102	6,980	0.098	4,845	0.069
HD9	HDU8-SDS2.5	PHD8	12 ga	3 ga	12-3/4	3	3	1-3/8	1-1/2	(2) 2x6	18	SWH3	1	7/8"	??	??	??	??	??	??
HD11	HDQ8-SDS3, HDU11-SDS2.5, HHDQ11-SDS2.5	UPHD8, UPHD9	12 ga	3 ga	16-3/4	3	3	1-3/8	1-1/2	(2) 2x4	24	SWH3	1	7/8"	11,855	0.118	11,080	0.112	8,305	0.088
										4x6	24	SWH3	1	7/8"	12,755	0.063	12,755	0.063	8,310	0.034
HD14	HHDQ14-SDS2.5	---	7 ga	3/8" Flat	18-3/4	3	3-1/2	1 1/2	1	4x6	30	SWH3	1	1"	14,120	0.095	14,060	0.095	11,170	0.075
HD22	HD19, HDU14-SDS2.5	TD15, UPHD11, UPHD14	7 ga	3/8" Point	24-1/2	3-1/8	3-7/8	2	3-1/2	4x6	36	SWH3	1	1-1/4"	22,245	0.087	20,115	0.078	14,280	0.053

NOTES:

- Anchor bolt installation into any substrates should be designed to resist the allowable uplift loads.
- Refer to page 54 for structural wood screw SWH3 (1/4" x 3") and SWH15 (1/4" x 1-1/2") details.
- HDTT: Allowable loads based on connector attached to 2x4 from 1" above the base (i.e. no resistance from prying action).
- QGCW shall be installed with at least 3" offset from the end of the stud.
- HD12 & HD14: Bend washer (3/8") welded to bend strap around perimeter with 1" offset from the base.
- HD15/20: Bend washer (3/8") welded to bend strap around perimeter with 3-1/2" offset from the base.
- Minimum bolt requirements: Bending yield strength, F_{yb} = 45,000 psi and Dowel Bearing strength, F_{dBS} = 87,000 psi.