

The HTT22 is a single-piece formed tension tie—no rivets, and a 4-ply formed seat which won't unfold during loading. No washers required. The LTT19 Light Tension Tie is designed for 2x joists or purlins and the LTT20B is for nail- or bolt-on applications. The 3" nail spacing makes the LTT20B suitable for wood I-joists if 10dx1½" nails are substituted for the specified 16d's.

The LTTI31 is designed for wood chord open web truss attachments to concrete or masonry walls.

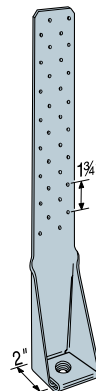
MATERIAL: See table

FINISH: Galvanized. May be ordered HDG; check factory.

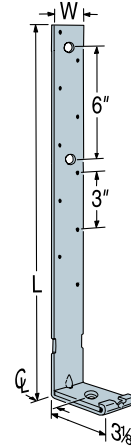
INSTALLATION: • Use all specified fasteners. See General Notes.

- Use the specified number and type of nails to attach the strap portion to the top or side of purlin or beam (minimum 4x width (2-2x4 or 4x4), except LTT19). Bolt the base to the wall or foundation with a suitable anchor; see table for the required bolt diameter.
- Do not install LTT and MTT tension ties raised.
- **The HTT22 can be substituted for the MTT28B.**
- See Epoxy-Tie Adhesive System, pages 22 for tested, load-rated epoxies for anchor bolt options.

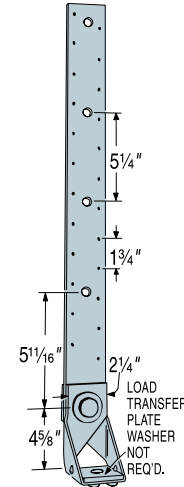
CODES: See page 10 for Code Listing Key Chart.



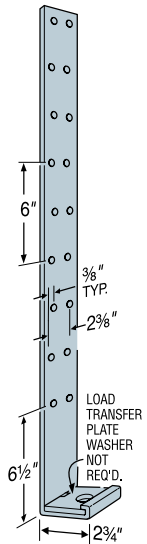
HTT22
(HTT16 similar)
U.S. Patent 5,467,570



LTT20B

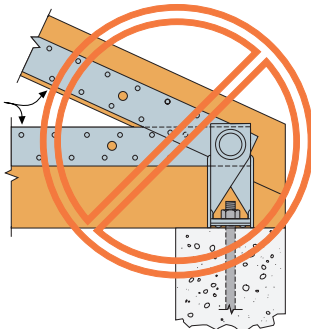


MTT28B
U.S. Patent 4,744,192



LTTI31

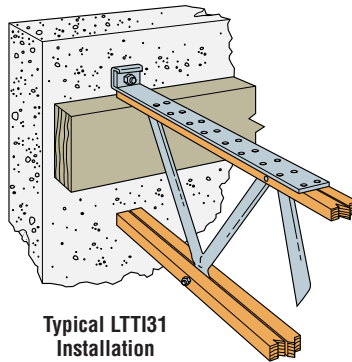
Anchors



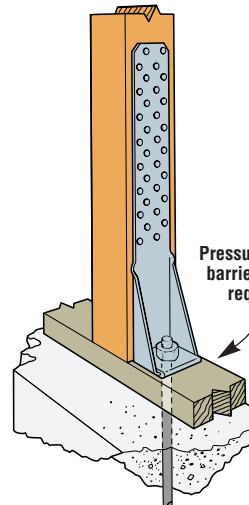
Do not modify the MTT28B.

Do not rotate the MTT28B's strap around the rivet. The strap must be in line vertically with the body of the holddown to achieve table loads.

See Girder Tiedown Connectors on page 126 for installation solutions.

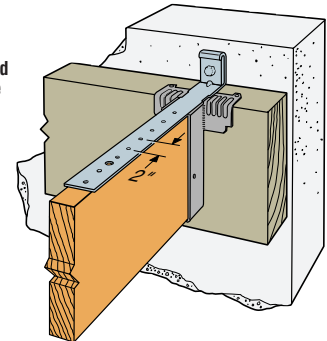


Typical LTTI31 Installation



Typical HTT22 Installation as a Holddown

Pressure-treated barrier may be required.



Typical LTT19 Installation (LTT20B similar)

Model No.	Material (Ga)		Dimensions			Seat Thickness	Fasteners			Avg Ult Tension	Allowable Tension Loads DF/SP				Allowable Tension Loads - SPF/HF		Deflection at Highest Allowable Design Load	Code Ref.	
	Strap	Plate	W	L	C		Anchor Bolts	Nails	Bolts Qty		Dia	(133)		(160)		(133)			(160)
												Nails	Bolts	Nails	Bolts	Nails			Nails
LTT19	16	3	1 1/4	19 1/8	1 1/8	5/16	3/4	8-16d Sinkers	—	—	4250	1205	—	1350	—	1085	1305	0.107	2, 40, 82
LTT20B ⁶	12	3	2	19 3/4	1 1/8	5/16	1/2, 3/8 or 3/4	10-16d	2	1/2	8733	1750	1220	1750	1460	1675	1750	0.164	
LTTI31	18	3	3 3/4	31	1 1/8	1/4	5/8	18-10dx1 1/2	—	—	7770	2185	—	2310	—	1985	2310	0.125	6, 40, 82
HTT16	11	—	2 1/2	16	1 1/8	7/16	5/8	18-16d	—	—	13150	3480	—	4175	—	3080	3695	0.037	30, 99
HTT22	11	—	2 1/2	22	1 1/8	7/16	5/8	32-16d Sinkers	—	—	13150	5250	—	5260	—	4670	5250	0.087	40, 99
MTT28B	12	7	2 3/8	27	1 1/2	3/8	5/8 or 3/4	24-16d	4	1/2	—	4455	2150	4455	2725	4140	4455	0.125	40

1. Allowable loads for HTT are based on the lower of the 2001 NDS fastener values or the ultimate load on a steel test jig divided by 2.5.
2. 16d sinkers (9 ga x 3 1/4") or 10d commons may be substituted for the specified 16d commons at 0.85 of the table loads.
3. The designer must specify anchor bolt type, length and embedment.
4. Allowable loads have been increased 33% and 60% for earthquake or wind loading with no further increase allowed; reduce where other loads govern.
5. Bolt values are based on a minimum lumber thickness of 1 1/2".
6. If a 1/2" or 3/8" anchor bolt is used for the LTT20B, add a standard cut washer to the seat. No additional washer is required for a 3/4" anchor bolt. See table for appropriate anchor bolt sizes.
7. HTT22 holddown installed raised off the plate has a reduced load of 5190 lbs. HTT16 installed raised off the plate will achieve the table loads.