

Solid Sawn and Glulam Beam Joist Hangers

CJT Concealed Joist Tie

The CJT concealed joist tie offers tested performance in a joist connector with a clean, concealed look. Designed for versatility as well as hidden beauty, the CJT allows the joist to be angled up to 45° up or down with no reduction in load.

- Can be installed three ways: with no routing of the header/post or beam (for a quicker installation) or with the header/post or beam routed for a flush look.
- All pins and fasteners needed for installation are included.

Material: 2.7mm thick.

Finish: Galvanised. See Corrosion Information.

Installation

- Use all specified fasteners. See General Notes.
- The CJT Pack is supplied with all dowels and screws required. Screws require a hex-head driver.
- Router end of beam for screw heads for flush installation.
- The carried member may be sloped up or down to 45° with full table loads.
- To provide maximum beam width for use with short dowels, centre in beam.

Note

- Dowels aligned across the grain may cause splitting if the timber shrinks excessively. Install only in glulam, composite timber (PSL, LSL and LVL) or well dried timber.

Warning

This connector requires special attention to ensure correct installation. The beam must be installed perpendicular to the support member. The connection's components may be damaged if the beam is rotated from its opposite end during or after installation. Damaged components may not be noticeable and may reduce the connector's load-carrying capacity.

Typical Installation

NO ROUTING – 9.5mm gap between header/post and beam

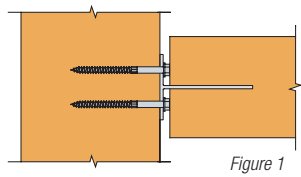


Figure 1

ROUTED HEADER/POST – No gap between header/post and beam

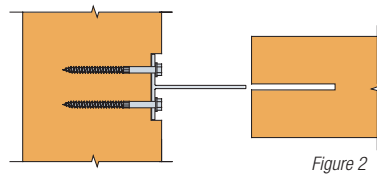


Figure 2

ROUTED BEAM – No gap between header/post and beam.

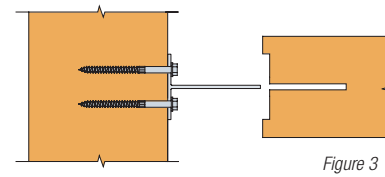


Figure 3

STEP 1: Drill dowel holes in beam

Position connector on the side of the beam to locate and mark dowel holes. If routing into the header/post or beam, allow for 9.5mm routing depths. If not routing, add 6.4mm for screw heads (Figure 1). Drill clean ½" (12.7mm) holes exactly perpendicular to the beam.

STEP 2: Optional routing

If routing header/post or beam for no gap, use connector as a template. Routing must be 9.5mm deep (Figure 2 and 3).

STEP 3: Attach connector to header/post

Position the connector at the predetermined height (minimum 22mm from top of carrying member to top of connector) and attach it using the Strong-Drive® SDS 6.4 x 76mm Heavy-Duty Connector screws provided in all holes. Pre-drilling may be helpful in hardwoods (Figure 4a).

STEP 4: Cut slot in beam

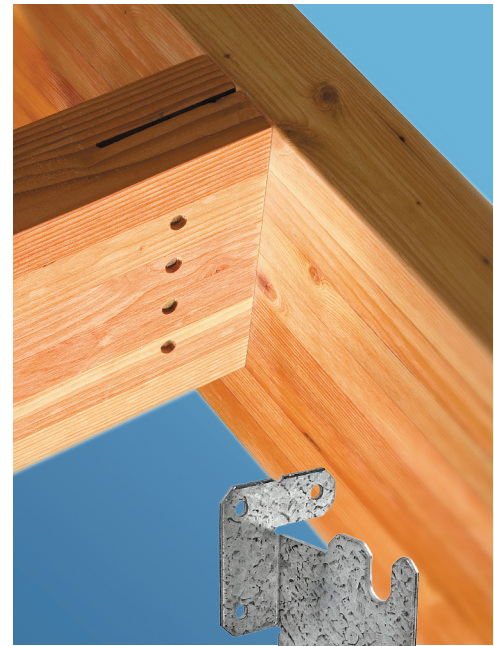
Using a 254mm circular blade, cut a 3mm slot in the centre of the beam to the full depth (95mm) of the blade (Figure 4b).

STEP 5: Position beam

Install a dowel in the uppermost hole, centre dowel within the beam (Figure 4c). Then lower the beam to the connector (Figure 4d) and insert the remaining dowels centered within the beam (Figure 4e).

STEP 6: Optional finishing

Fill ends of dowel holes and slot with plugs or putty.



CJT3S

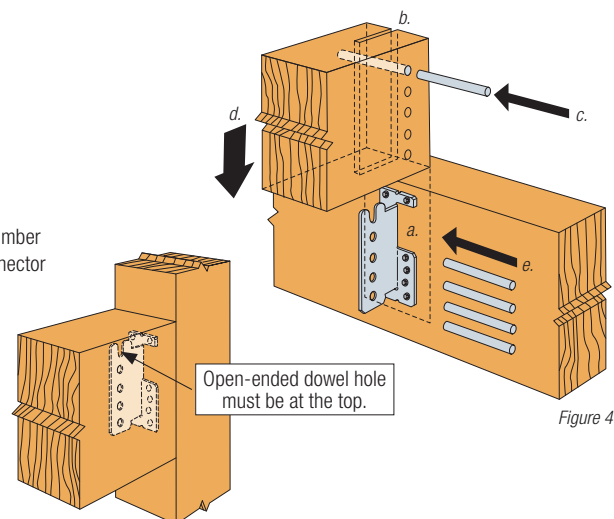
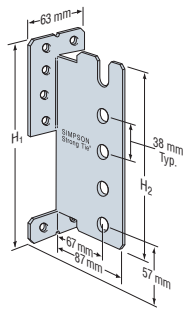
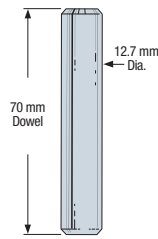


Figure 4

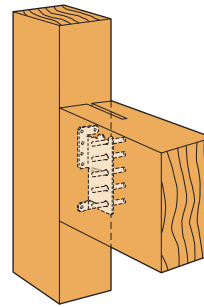
CJT5 installed on a post



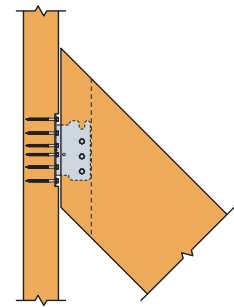
CJT5
(Others similar)



Chamfered steel dowel
(Galvanised)



Typical CJT installation
(Note that dowels should be centered within beam)



CJT sloped view

CJT Technical Data

Each CJT Kit comes complete with 70mm dowels and Simpson Strong-Tie® Strong-Drive® 6.4 x 76mm Heavy-Duty Connector screws.

Spare dowels and screws may be ordered:

- **CJT5** sold in full cartons of ten 12 x 70mm dowels.
- Strong-Drive® 6.4 x 76mm Heavy-Duty Connector screw (**SDS25300**) sold in full cartons of 25 self-drilling hex head screws.

Model No.	Min. Joist Size	Fasteners			Country	Design Capacity (kN)						
		Dimensions (mm)	Post (No. – Length x Dia., mm)	Joist Pins ⁵ (No. – 12 x 70 or 120 mm)		Uplift	Download					
							Floor	Roof				
CJT3S	90 x 140	141	6 – SDS6.4 x 76	3	AU	$k_1 = 1.14$ 2.90	$k_1 = 0.69$ 6.86	$k_1 = 0.77$ 6.86				
					NZ	$k_1 = 1.0$ 2.38	$k_1 = 0.80$ 5.65	$k_1 = 0.80$ 5.65				
	90 x 184				AU	$k_1 = 1.14$ 4.74	$k_1 = 0.69$ 8.43	$k_1 = 0.77$ 8.43				
					NZ	$k_1 = 1.0$ 3.91	$k_1 = 0.80$ 8.43	$k_1 = 0.80$ 8.43				
CJT4S	90 x 235	178	8 – SDS6.4 x 76	4	AU	$k_1 = 1.14$ 7.24	$k_1 = 0.69$ 13.22	$k_1 = 0.77$ 13.22				
					NZ	$k_1 = 1.0$ 5.96	$k_1 = 0.80$ 13.22	$k_1 = 0.80$ 13.22				
CJT5S	90 x 286				217	10 – SDS6.4 x 76	5	AU	$k_1 = 1.14$ 9.47	$k_1 = 0.69$ 19.12	$k_1 = 0.77$ 19.12	
								NZ	$k_1 = 1.0$ 7.80	$k_1 = 0.80$ 15.74	$k_1 = 0.80$ 15.74	
	CJT6S	90 x 286	254	12 – SDS6.4 x 76				6	AU	$k_1 = 1.14$ 12.08	$k_1 = 0.69$ 22.00	$k_1 = 0.77$ 22.00
									NZ	$k_1 = 1.0$ 9.94	$k_1 = 0.80$ 18.11	$k_1 = 0.80$ 18.11

1. Design Capacity is the lesser of (1) the Characteristic Capacity multiplied by the Australian Capacity Factor, or the NZ Strength Reduction Factor (ϕ), and applicable the k modification factors following AS 1720.1 and NZS 3603 and (2) the Serviceability Capacity which is the load at 3.2mm joint slip. Design Capacity is the minimum of test data and structural joint calculation.
2. For Australia, the Capacity Factor (ϕ) is 0.85 for nails and screws for structural joints in a Category 1 application. Reduce tabulated values where other Category applications govern. For NZ, the Strength Reduction Factor (ϕ) is 0.80 for nails in lateral load and 0.70 for other fasteners.
3. Duration of Load Factor (k_2) is as shown. Reduce Duration of Load Factor where applicable. Capacities may not be increased.
4. Timber species for joint design is seasoned Radiata Pine, which is Australia Joint Group JD4 per AS 1720.1 Table H2.4 and New Zealand Joint Group J5 per NZS 3603 Table 4.1.
5. Centre dowel in beam. Short dowel (70 x 12mm) for use with a timber member with a breadth of 90mm, otherwise use the long dowel (120 x 12mm)