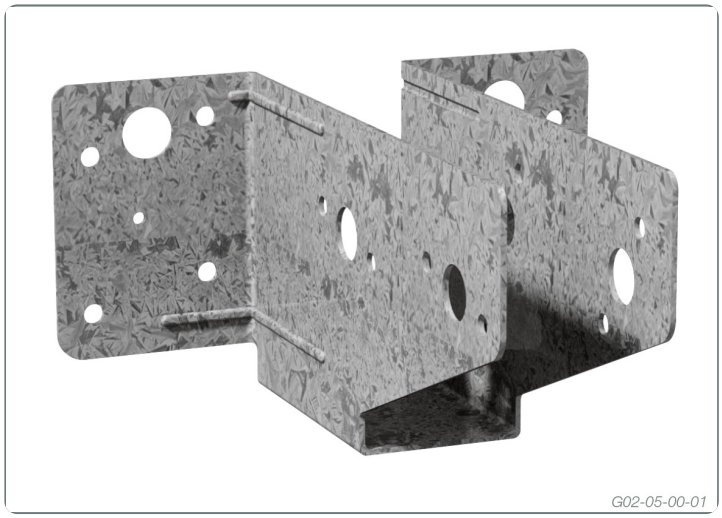
Multinail Hub - Multi Girder Bracket

26 November 2019

Multinail Australia

Multi Girder Bracket



Steel girder brackets for easy fixing of timber roof trusses or rafters to timber girder truss chords or timber beams - can be screwed or bolted

These pre-punched and formed galvanised steel girder brackets are:
Ideal for supporting scissor trusses or rafters with a ceiling pitch up to 22.5°.

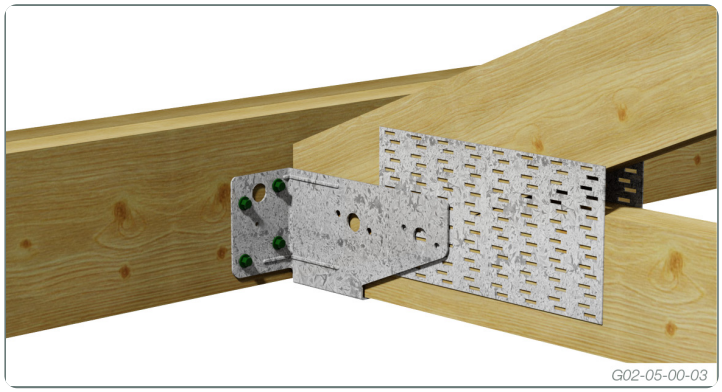
SCREW APPLICATION

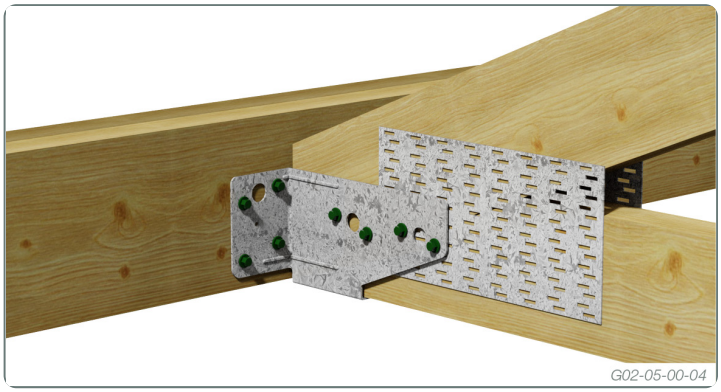
Mark on girder bottom chord (minimum 90mm for screw fix and minimum 120mm for bolt fix) location of all Girder Brackets and Hangers.
Position Multi Girder Bracket against bottom of girder bottom chord and apply Green Tip #12 screws.
Green Tip #12 screws must be applied until the underside of the head is against the Girder Bracket.
Do Not overtighten the screws or use power drills that are too powerful for the job as damage may occur to timber, screw or bracket.

- Multinail recommends the use of roofing screw drivers to fix screws.
- Green Tip #12 screws self-drill through 1mm plates.
- It is recommended that the Green Tip Screws are applied in one action.

NOTES:

- The Multi Girder Bracket is only provided with structural adequacy certificate when used with Green Tip Screws.
- Roof provides diagrams and details of the Girder Bracket type and positioning.
- For Hardwood bottom chords, pre-drilling holes is required.
- For bolt application see anti-twist boot brochure for details.
- Supported truss to be hard into girder truss.
- All screws or bolts to be inserted prior to roof truss being loaded to avoid rotation.





Step 1

Fix 8 x 35mm Green Tip #12 screws (4 per wing) to girder truss.
Double Truss - use 65mm Green Tip #12 screws to girders.
Triple Truss - Use 65mm screws as above and 2/100mm Black Tip #14 screws each side of bracket.

Step 2

Fix 8 x 35mm Green Tip Screws (4 per side) to supported truss to ensure that the uplift and anti-rotation features of the Girder Bracket is maintained.

LIMIT STATE DESIGN CAPACITIES

For Screws	Dead Load	Dead Load + Live Load	Dead Load + Wind Load
J2/JD3	10.0kN	13.5kN	24.0kN
J3/JD4	8.6kN	11.8kN	17.3kN
J4/JD5	6.2kN	8.3kN	12.3kN

NOTES: The uplift in capacities are derived from AS1720-2010 and are for houses where failure is unlikely to affect an area greater than 25m^2. For primary elements in structures other than houses or elements in a house for which failure would be greater than 25m^2 these capacities must be multiplied by 0.94. For primary joints in essential services or post disaster buildings multiply by 0.88.

BOLT APPLICATION

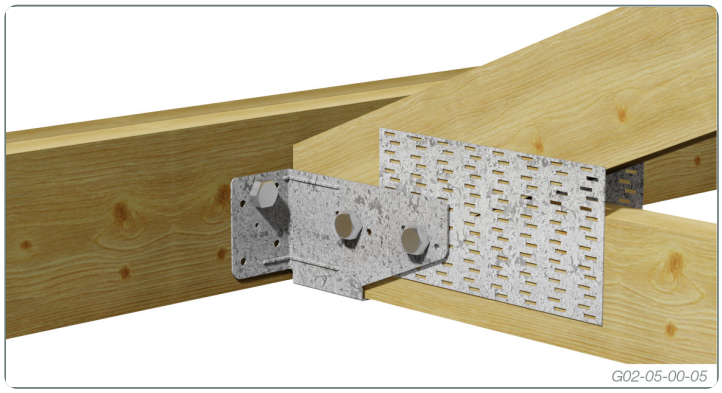
Fixing Instructions

1. Start by nailing the Truss Boot in the correct position. Using the two 3mm diameter holes provided.
2. Drill two holes through the girder truss to suit the recommended bolt size. These holes must align with the existing bolt holes in the truss boot.
3. Install the correct size bolts for the truss boot, with the correct size washers.
4. Fit supported truss into bracket, ensure the truss is hard up against girder truss.
5. Fix two 2/30mm x 2.8Ø Multinail nails through truss boot into supported truss.
6. Drill the holes into the supported truss to suit the recommended bolt size. These holes must align with the bolt holes provided in the truss boot.
7. Install the correct size bolts.
8. Tighten all bolts before loading the trusses.

- Use washers on the back of girders with all bolts
- 2/M12 Multinail Hex Head bolts required in both the girders and carried truss
- Capacities below are for a single 35mm truss on a single 35mm girder.
- For other values refer to Anti-twist boot table. .

NOTES:

- Roof provides diagrams and details of the Girder Bracket type and positioning.
- Girder bottom chord is required to be a minimum of 120mm in depth for M12 bolts Supported truss to be hard into girder truss.
- All bolts to be inserted and tightened prior to roof truss being loaded to avoid rotation.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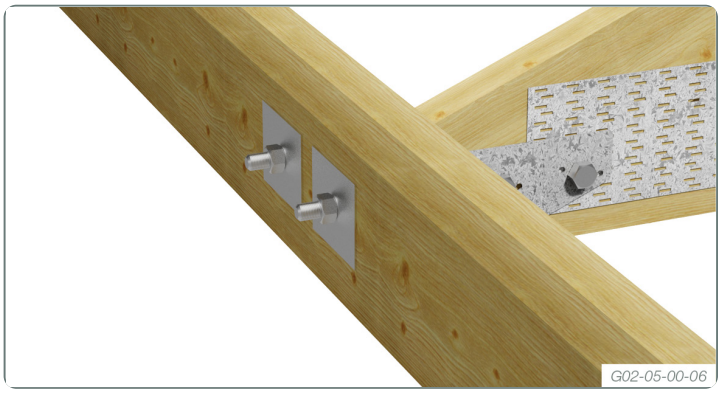
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LIMIT STATE DESIGN CAPACITIES

Two separate checks need to be made:

- The joint group and thickness of the girder bottom chord must be checked against all load combinations.
- The joint group and thickness of the supported truss must be checked against DL+WL. The joint group of the supported truss can usually be taken to be the lower joint group of the top or bottom chord.

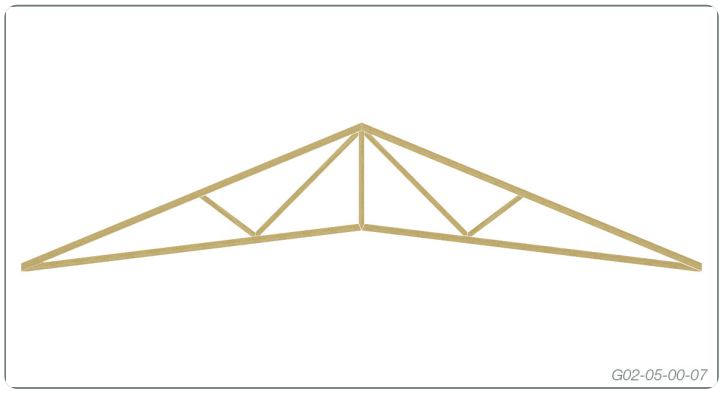
Timber Joint Group	Girder Thickness	M12 Bolts Load (kN)			M16 Bolts Load (kN)		
		Dead Load	Dead Load + Live Load	Dead Load + Wind Load	Dead Load	Dead Load + Live Load	Dead Load + Wind Load
JD3	35	6.9	9.3	13.8	9.2	10.0*	14.8
	45	8.8	10.0*	14.8	10.0*	10.0*	14.8
	2/35	10.0*	10.0*	14.8	10.0*	10.0*	14.8
JD4	35	5.0	6.8	10.1	6.8	9.1	13.5
	45	6.5	8.8	13.0	8.7	10.0*	14.8
	2/35	8.5	10.0*	14.8	10.0*	10.0*	14.8
JD5	35	3.6	4.9	7.3	4.9	6.6	9.7
	45	4.7	6.3	9.4	6.2	8.5	12.5
	2/35	6.2	8.4	12.5	8.3	10.0*	14.8

** Capacities are governed by steel strength of the bracket*

NOTES: The uplift in capacities are derived from AS1720-2010 and are for houses where failure is unlikely to affect an area greater than 25m^2. For primary elements in structures other than houses or elements in a house for which failure would be greater than 25m^2 these capacities must be multiplied by 0.94. For primary joints in essential services or post disaster buildings multiply by 0.88.

SCISSOR TRUSSES

Specially designed to work with scissor trusses with a bottom chord pitch up to 20°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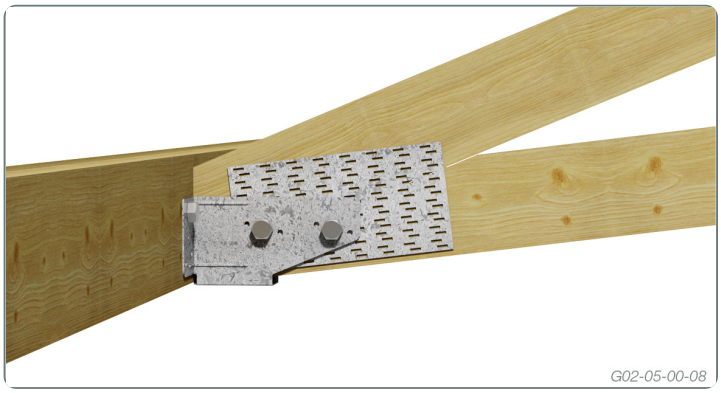
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DESCRIPTION AND PACKAGING

Manufactured from 1.5mm Galvanised G300 Z275 Steel

Description	Product Code	Reference Code	Carton quantity	Carton kg.
40mm Width with M12 Bolt Holes	MGB4012	MGB4012	24	9.4
40mm Width with M16 Bolt Holes	MGB4016	MGB4016	24	9.4
70mm Width with M12 Bolt Holes	MGB7016	MGB7016	16	6.9
70mm Width with M16 Bolt Holes	MGB7012	MGB7012	16	6.9
35mm Green Tip #12 Screw (TA221), 65mm Green Tip #12 Screw (TA222)				
M12 65mm (TA091), M12 100mm (TA092), M12 100mm (Full thread) (TA092FT)				
Washer 56 Dia x 3mm 13mm hole (TA281), 56 Dia x 4mm 17mm hole (TA280)				
Note: Must order appropriate quantity of Green Tip Screws