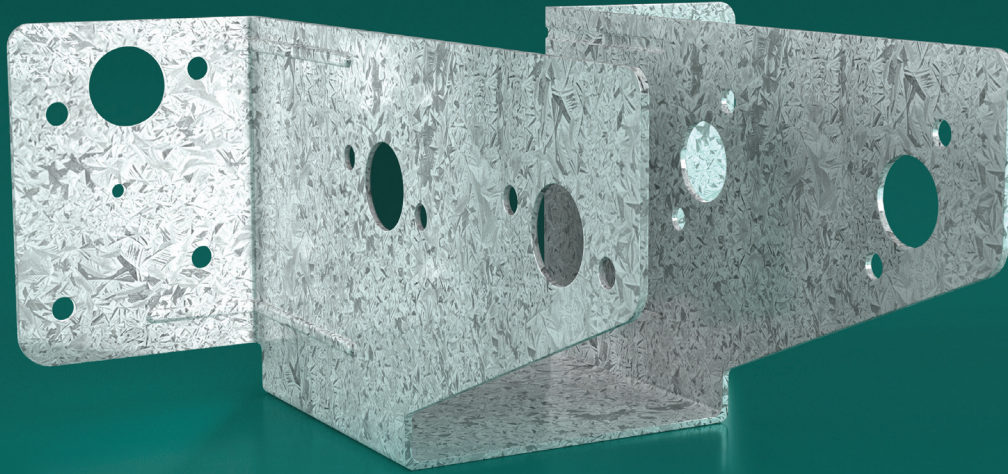


Multinail Multi Girder Bracket



Multi Girder Bracket is designed to connect standard roof truss to a girder truss at its bottom chord.

Benefits of Multi Girder Bracket

Strong versatile connector, punched and formed from prime quality galvanised steel.

- Reliable way to connect standard trusses to girder truss
- Enables scissor truss profile with bottom chord pitch up to 20°
- Provides screw and bolt fixing options to achieve high capacities
- Made in Australia

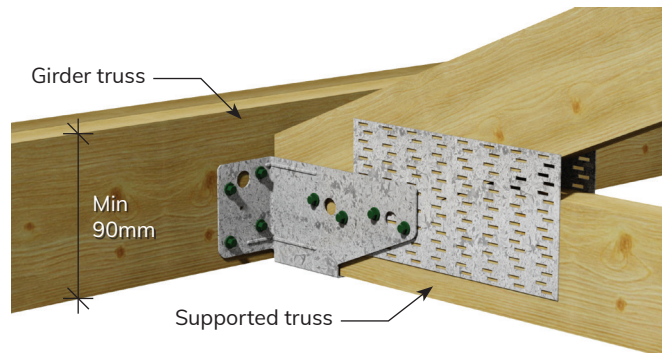
Installation – Screw Option

1. Mark the location of Multi Girder Bracket on the bottom chord of girder truss. Ensure a minimum bottom chord depth of 90mm is achieved for screw fixing option.
2. Position Multi Girder Bracket against bottom chord of girder truss. Apply 8 x Green Tip #12 screws (4 per side).
 - For single girder truss (35mm & 45mm) – use 8 x 35mm Green Tip screws
 - For double girder truss (2/35mm) – use 8 x 65mm Green Tip screws
 - For double girder truss (2/45mm) & triple girder truss (3/35mm) – use 8 x 65mm Green Tip #12 screws + 2/100mm Black Tip #14 screws each side of bracket
3. Install supported truss into bracket and ensure the truss is hard up against girder truss. Apply 8 x Green Tip #12 screws (4 per side).
 - Single supported truss (35mm & 45mm) – use 8 x 35mm Green Tip #12 screws
 - Double supported truss (2/35mm) – use 8 x 65mm Green Tip #12 screws

Note:

1. **Do not** overtighten the screws. **Do not** use power drills which providing excessive torque. It may damage screws or bracket and potentially split the timber chord.
2. Multinail recommends using powered screwdrivers to install screws. Screws must be fixed at 90° angle to Multi Girder Bracket in one action till achieving full thread embedment.
3. Predrill the holes for all screws where hardwood bottom chord is designed for girder truss.
4. All screws must be installed properly and secured tightly before roofing material is loaded on roof trusses to avoid rotation.
5. Multinail only certifies Multi Girder Bracket with Multinail Green Tip #12 screws and Black Tip #14 screws being applied.

Figure 1: Multi Girder Bracket - Screw Option



Limit State Design Capacity – Screw Option

Table 1

| Timber Joint Group | Green Tip #12 Screws (kN) | | |
|--------------------|---------------------------|-----------------------|-----------------------|
| | Dead Load | Dead Load + Live Load | Dead Load + Wind Load |
| JD3 | 10.0 | 13.5 | 24.0 |
| JD4 | 8.6 | 11.8 | 17.3 |
| JD5 | 6.2 | 8.3 | 12.3 |

Note:

Limit state design capacities are obtained from laboratory testing and derived from AS1720.1 for houses where failure is unlikely to affect an area greater than 25m². For primary elements in structures other than houses or elements in a house for which failure would be greater than 25m² these capacities must be multiplied by 0.94. For primary joints in essential services or post disaster buildings multiply by 0.88.

Installation – Bolt Option

1. Mark the location of Multi Girder Bracket on the bottom chord of girder truss. Ensure a minimum bottom chord depth of 120mm is achieved for bolt fixing option.
2. Temporarily fix Multi Girder Bracket at required location with 2 x 2.8Ø nails through pre-punched nail holes (1 per side).
3. Drill two holes through bottom chord of girder truss to suit the recommended bolt size. These holes must align with the existing bolt hole profiles of Multi Girder Bracket.
4. Install the correct size bolts with corresponding washer to the other side of girder truss bottom chord.
 - For M12 Bolts – use 56Ø x 3mm round washer with 13mm hole
 - For M16 Bolts – use 65Ø x 4mm round washer with 17mm hole
5. Install supported truss into bracket and ensure the truss is hard up against girder truss. Drill two holes through bottom chord of supported truss to suit the recommended bolt size. These holes must align with the existing bolt hole profiles of Multi Girder Bracket.
6. Install the correct size bolts at supported truss.

Note:

1. All bolts must be secured tightly before roof trusses being loaded with roof material to avoid rotation.
2. Multinail only certifies Multi Girder Bracket with correct size bolts being applied with corresponding washers at timber face. Cup head bolts shall not be used.

Figure 2: Multi Girder Bracket - Bolt Option

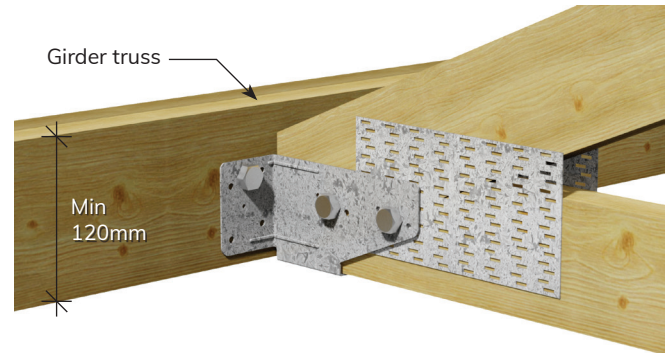
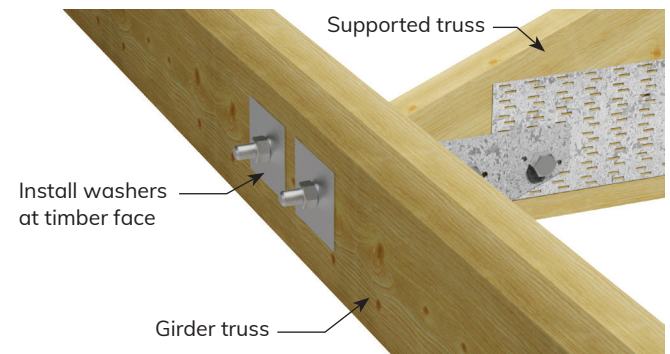


Figure 3: Multi Girder Bracket - Bolt Option, Back View



Limit State Design Capacity – Bolt Option

Table 2

| 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 |

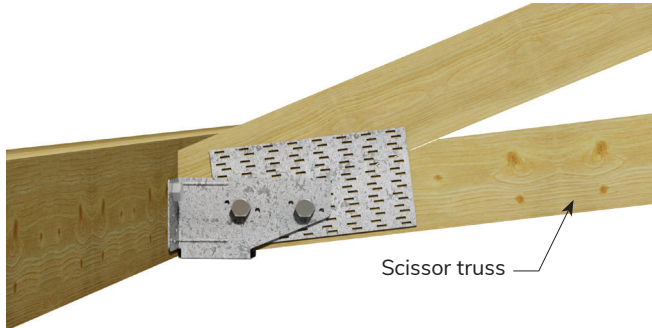
Note:

Limit state design capacities are obtained from laboratory testing and derived from AS1720.1 for houses where failure is unlikely to affect an area greater than 25m². For primary elements in structures other than houses or elements in a house for which failure would be greater than 25m² these capacities must be multiplied by 0.94. For primary joints in essential services or post disaster buildings multiply by 0.88.

Feature for Scissor Truss

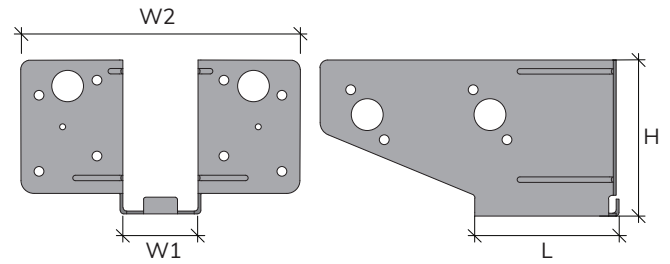
Multi Girder Bracket is specially designed to adapt scissor truss profile with a bottom chord pitch up to 20°. Pitched profile feature allows ceiling material to be installed without clashing with the metal bracket itself.

Figure 4: Multi Girder Bracket supporting scissor truss



Technical Specifications

Steel Z275, 1.5mm Thickness



| Product Code | W1 mm | W2 mm | L mm | H mm |
|--------------|-------|-------|------|------|
| MGB4012 | 40 | 158 | 75 | 82 |
| MGB4016 | 40 | 158 | 75 | 82 |
| MGB5012 | 50 | 168 | 75 | 82 |
| MGB5016 | 50 | 168 | 75 | 82 |
| MGB7012 | 70 | 188 | 75 | 82 |
| MGB7016 | 70 | 188 | 75 | 82 |

Description and Packing

| Product Code | Description | Carton Qty | Pallet Qty | Carton kg. |
|--------------|-----------------------|------------|------------|------------|
| MGB4012 | 40mm - M12 Bolt Holes | 24 | 48 | 9.4 |
| MGB4016 | 40mm - M16 Bolt Holes | 24 | 48 | 9.4 |
| MGB5012 | 50mm - M12 Bolt Holes | 24 | 48 | 9.9 |
| MGB5016 | 50mm - M16 Bolt Holes | 24 | 48 | 9.9 |
| MGB7012 | 70mm - M12 Bolt Holes | 16 | 48 | 6.9 |
| MGB7016 | 70mm - M16 Bolt Holes | 16 | 48 | 6.9 |

| Fixings | |
|---------|-------------------------|
| TA221 | 35mm Green Tip Screw |
| TA222 | 65mm Green Tip Screw |
| TA091 | M12 65mm |
| TA092 | M12 100mm |
| TA092FT | M12 100mm - Full thread |
| TA114 | M16 65mm |