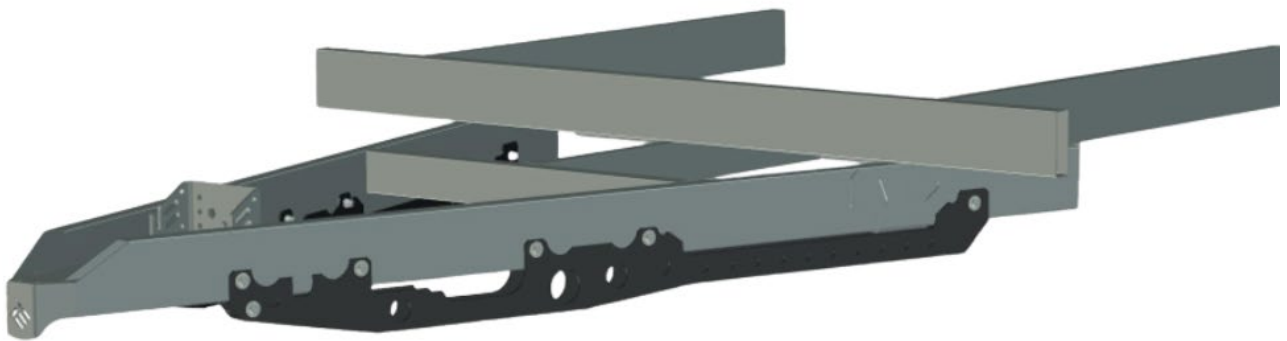


ATM Upgrade Bolt-On Installation Guide

Document Type: Customer Installation Guide

Applies To: Intelligent Engineering manufactured drawbars with a current ATM of up to 4000 kg.



1. Purpose

This document provides instructions for correctly installing the ATM upgrade Bolt-On kit.

2. ⚠ Safety Information

- Always ensure the caravan/trailer is parked on a level surface and secured against rolling before performing any work. DO NOT rely on the handbrake, as the handbrake cable needs to be removed for this installation.
- Use a calibrated torque wrench when tightening fasteners.
- Never use rattle guns for tightening fasteners.
- Modifying the Bolt-On components is NOT permitted.
- Ensure no other components interfere with the Bolt-On kit.
- Remove all electrical wiring from the drawbar prior to drilling into the drawbar.
- Ensure your chassis is compatible with the upgrade. The chassis ATM prior to the upgrade must not exceed 4000 kg.
- Ensure no drawbar accessories interfere with the installation position of the ATM Upgrade Support beams.
- Mark and measure twice before drilling as additional holes will jeopardise the integrity of the drawbar.



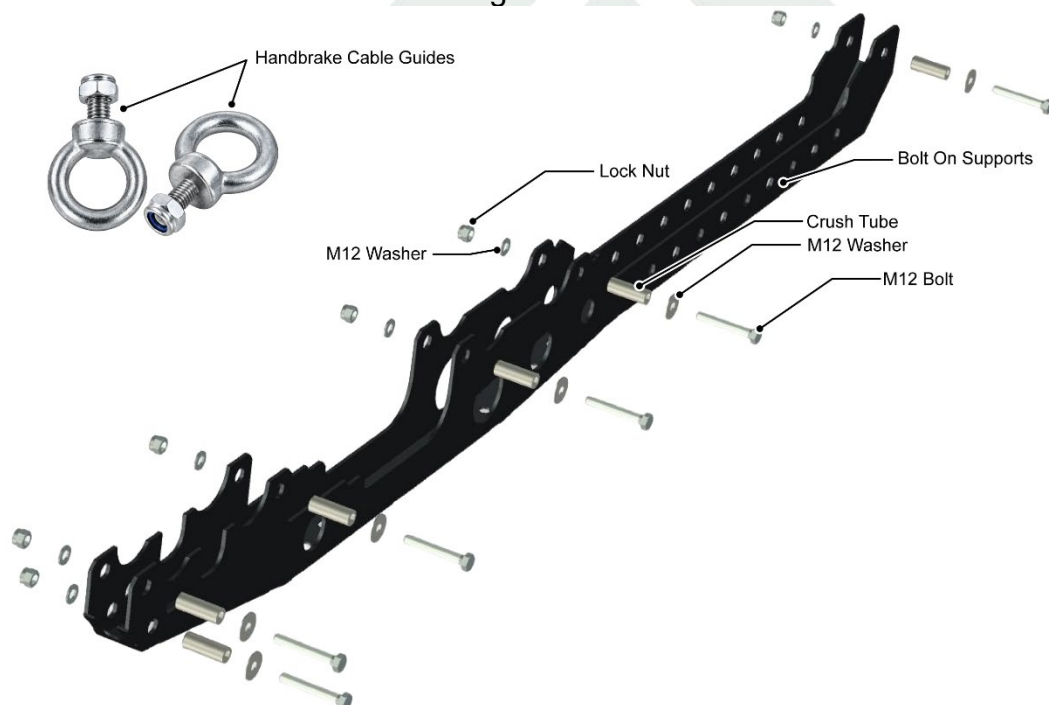
Important Information

- This Bolt-On kit allows for an additional 500 kg upgrade ONLY.
- This upgrade kit is ONLY approved for drawbars built by Intelligent Engineering Pty Ltd.
- A 4000 kg ATM is the maximum current ATM which qualifies for this upgrade.
- The maximum ATM after the upgrade must not exceed 4499 kg ATM.
- Basic hand tool skills are required to complete this installation.

NOTE: Throughout the installation, photo evidence will be required for Intelligent Engineering PTY LTD to provide a "Chassis ATM modification plate".

3. What is included in the ATM Upgrade Bolt-On Kit:

2 X	Galvanised Bolt-On Supports
12 X	M12 X 90 Zinc plated bolts
12 X	M12 Nylon insert lock nuts
24 X	M12 X 27 X 3 Zinc plated washers
12 X	56 mm X 4 mm wall thickness Crush Tubes
2 X	Handbrake cable guides and nuts



4. Tools required for installation:

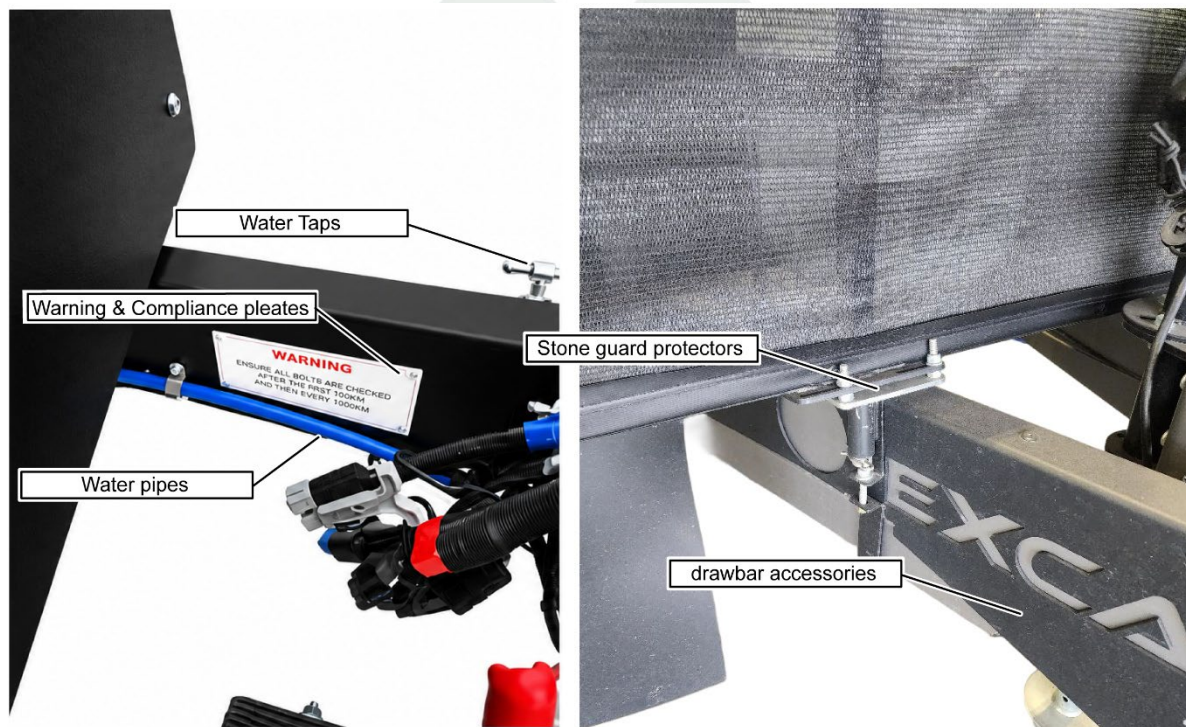
Clamp (min.280mm opening)
 Fine point marker/Texta
 Centre punch
 Drill
 Sharp 6 mm HSS drill bit
 Sharp 12 mm HSS drill bit

Sharp 20 mm HSS drill bit or step drill
 General hand tool kit
 Deburring tool
 Primer or Cold Gal protective coating
 Calibrated Torque wrench
 Camera

5. Installation:

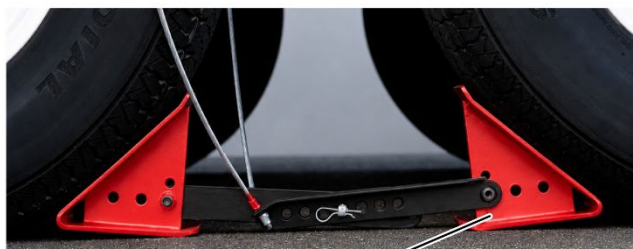
Step 1:

- Remove all taps, compliance plates or any other components which will interfere with the Bolt-On upgrade supports.
- Remove all wiring from inside the drawbar. This will prevent damaging the wiring during the drilling procedure.
- When in doubt, consult a professional.





- ***Ensure the wheels are securely prevented from rolling before proceeding.***
- Remove the handbrake cable clamp from one wheel and pull the cable through the guides



Lock the wheels

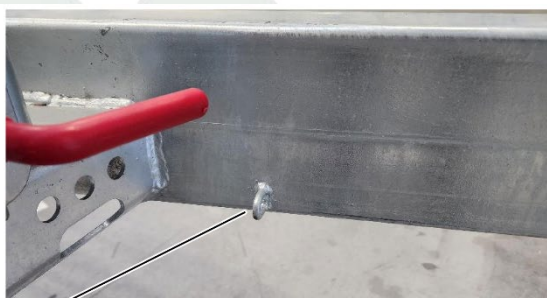


Remove handbrake cable

Step 2:

- Cut off the front handbrake cable guides
Note: Only the front handbrake cable guides need to be cut off as the rear handbrake guides will be reused.

1.



2.



Cut off front handbrake chain guides flush to the drawbar.

DO NOT cut into the drawbar structure.

3.

Coat the exposed steel to prevent corrosion.

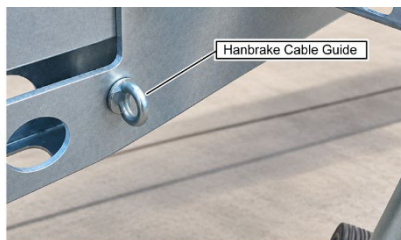




Step 3:

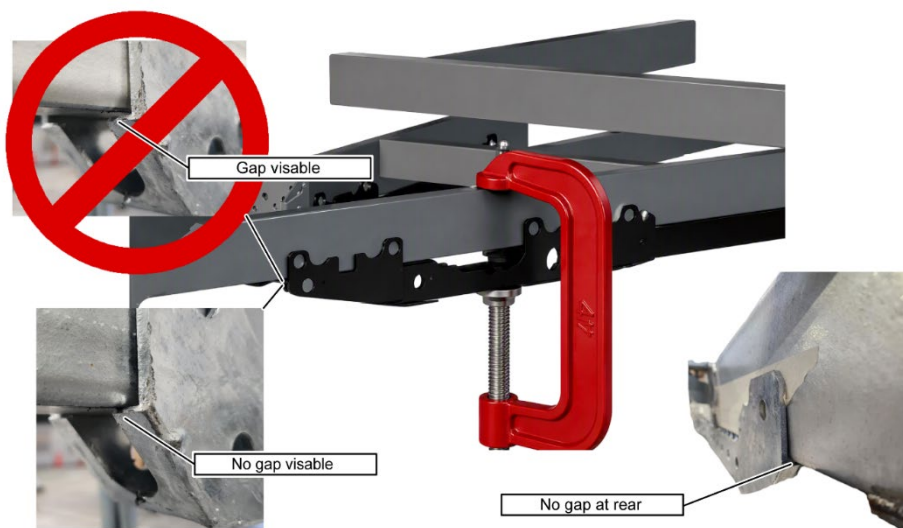
- Install the handbrake cable guides on the Left INNER and the Right INNER upgrade mount and torque the nut to 10 Nm.

Note: The opening hole must be in a vertical position.



Step 4:

- Position the Bolt-On support beams and clamp them firmly to the drawbar. Where possible, use two clamps.
- Mark all the hole positions on both sides of the drawbar.





- Using a centre punch, mark the centre of each hole to be drilled.

Note: A total of 20 holes must be marked.



Note: Remove the Bolt-On attachment prior to drilling any hole.

Step 5:

- Use a 6 mm drill bit to drill all pilot holes.
- Use a 12 mm drill bit to enlarge all holes. If drilling from the outside only, use the existing pilot holes on the inside to accurately centre the 12 mm drill bit.
- Use a 20 mm HSS drill bit or Step drill for final hole size.
- Deburr all drilled holes.
- Cover all exposed metal with primer to prevent corrosion.

Note: Always use cutting lubricant when drilling, and do not allow the drill bit or steel to overheat.



Use cutting fluid



Drill 6mm pilot hole



Drill 12mm hole



Drill 20mm hole

Note: A HSS or Step drill can be used.



Deburr the hole



Coat the exposed surfaces

Note: After all holes have been drilled, photos must be taken as proof that the crush tubes can fit.



Step 6:

- Locate and place the Bolt-On supports back over the drawbar and insert each bolt, washer, and crush tube together.



Step 7:

- Install all the locknuts and washers on the inside.
- Torque the bolts to 90 Nm.

NOTE: Photo evidence of the 90 Nm torque setting on the torque wrench is required.

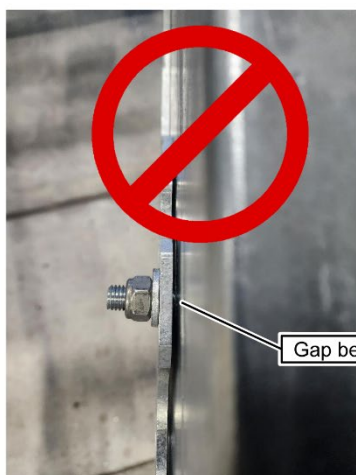


90Nm

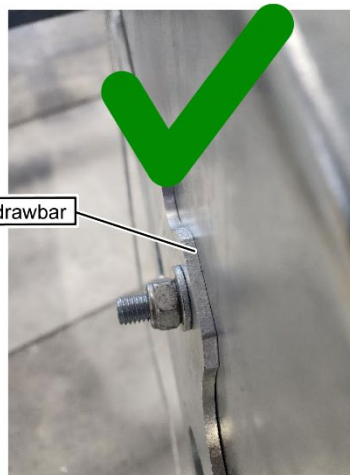


Step 8:

- Ensure the support beam sits flush against the drawbar with no clearance after all bolts have been torqued.



Gap between Support and drawbar



Support flush with drawbar

Step 9:

- Pull the handbrake cable through the new and existing handbrake cable guides.



Step 10:

- Reconnect the handbrake cable and adjust accordingly.

Note: Ensure the handbrake is adjusted correctly to prevent rolling.



Reinstall the handbrake cable



Adjust the handbrake cable

Final step:

Email all the listed photos and information to sales@intelengineering.com.au for review.

Once the review process is complete, a Chassis ATM Modification Plate will be posted for fitment. The new ATM upgrade plate must be fitted next to the existing compliance plate.

Information required for ATM Modification Plate:

- Well-lit and clear photo of all drilled holes
- Well-lit and clear photo of all crush tubes inserted from the inside of the drawbar
- Well-lit and clear photo of the 90 Nm setting on the torque wrench
- Caravan Make and Model
- Chassis number
- VIN number



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