



# TOWBAR INSTALLATION INSTRUCTIONS

PART NUMBER 03335XW

MAZDA BT-50 UR X-BAR



## PRODUCT DETAILS:

Part Number:	03335XW	Maximum Towing Braked:	3500	kg
ECU Number:	04835	Maximum Towing Unbraked:	750	kg
Tail Harness Length Required:	1800mm	Maximum Static Ball Load:	350	kg
TBM/Lug Part Number:	21366			
Wiring Part Number:	101426-WL			

## FITTING DETAILS:

Towbar Installation Time:	70 mins.	Vehicle Coding Required:	NO
Wiring Installation Time:	30 mins.	RPA Disable/Other:	YES
Total Installation Time:	100 mins	Note:	
Bumper Cut Required:	No		<ul style="list-style-type: none"><li>• RPA disable switch on vehicle dashboard</li><li>• Some drilling may be required</li></ul>



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**ENSURE THAT INSTRUCTIONS ARE UNDERSTOOD PRIOR TO FITMENT.**

## **i** BEFORE YOU START:

Hayman Reese recommends that instructions are read completely prior to fitment. Check all hardware items have been included refer to assembly diagram. Please ensure this towbar is only fitted to vehicle models as per Hayman Reese application guide ([www.haymanreese.com.au](http://www.haymanreese.com.au)).

### Bumper Cuts



Vehicle and bumper variations can and do occur during vehicle manufacture after initial towbar design. Fitment of towbar to vehicle and accuracy of bumper cut must be assessed prior to any bumper modifications made. Incorrect bumper cuts are not covered under Hayman Reese warranty.

**NOTE: Bumper cuts need to be approached with care, refer to notes below.**

- Bumper centreline – where the centreline of the bumper needs to be determined, the installer must assess centre point by measurement of bumper width or determining two symmetrical reference points to give centreline.
- Bumper edge – To assist with accurate bumper cut measurement, reference to the start of the bumper edge is now being commonly used.
  - Measure from bottom edge along bumper and around corner to the 70 mm point (Figure 1).
  - Do not measure from visible bumper front of corner, upwards (Figure 2).

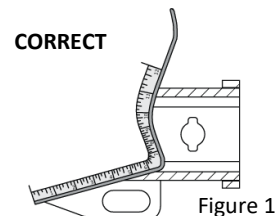


Figure 1

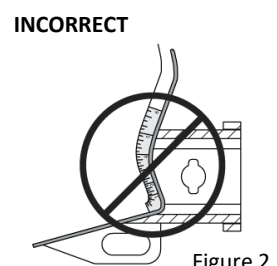


Figure 2

### Drilling

- For any required drilling during installation, ensure that the area is clear of fuel, electrical & other components that may be damaged.
- All holes drilled into the body panels shall have all burrs & swarf removed then coated with a suitable rust preventative paint.

### Bolts/Fasteners

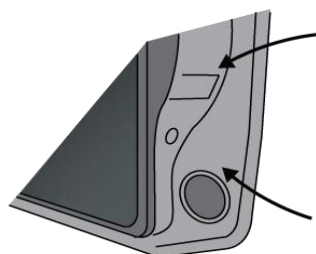
- Ensure that all hardware is fastened to correct torque as specified in this fitting instruction.
- All fasteners supplied with this product are used to achieve a specified clamp loading. If replacement is required ensure that fasteners of the same grade and class are used.



**NOTE: Achieving correct torque is critical to proper installation and responsibility of the installer. Towbar failures attributed to tension issues from over tightening or under tightening are not covered by Hayman Reese warranty.**

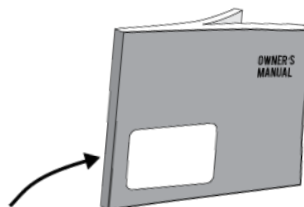
### Product Labels

- a. Towbar load rating sticker provided with this product shall be conspicuously located on inside rear end of the driver's door.
- b. Powertrain Control Module (PCM)/Body Control Module (BCM) upgrade warning label will be provided in towbar kit for vehicles as required. Affix warning label in door and owner's handbook.



Place **Load Rating sticker** inside driver's door here

Place **Vehicle PCM/ BCM upgrade warning label** in door AND on front cover of owner's service handbook



## **WARNING:**

**Do not, drill, cut, weld or otherwise modify the towbar.**

**FOR TOWING PURPOSES ONLY - This towbar is designed and tested by Hayman Reese to adhere to ADR 62/02 which provides only for the expected load demands of towing.**

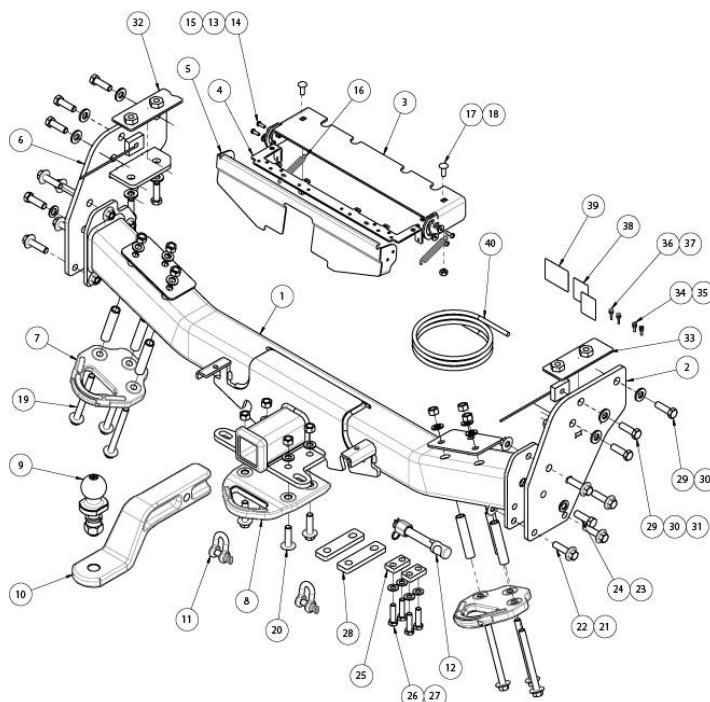


# TOWBAR INSTALLATION INSTRUCTIONS

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## **i** TOWBAR ASSEMBLY DIAGRAM



ITEM	DESCRIPTION	QTY
1	RANGER/BT-50 X-BAR WELDED ASSY	1
2	RH SIDE ARM	1
3	WIRING HOUSING	1
4	PLUG PLATE	1
5	X-BAR REAR COVER	1
6	LH SIDE ARM	1
7	FORGED SIDE RECOVERY HOOK	2
8	FORGED CENTRE RECOVERY HOOK	1
9	HR TOWBALL	1
10	3.5T FORGED TBM 65MM DROP	1
11	"D" SHACKLE 10mm	2
12	ANTI-RATTLE PULL PIN ASSY GOLD	1
13	BUSH 15ODx8Lx5ID	4
14	SCREW PAN HD M5x16x0.8P	4
15	NUT NYLON INS LOCK HEX M5x0.8P	4
16	XBAR COVER SPRING 60L x 10OD x 1P	2
17	BOLT COACH M8x20x1.25P	2
18	NUT NYLOC M8x1.25P	2
19	SIDE RECOVERY HOOK BOLT KIT	2
20	CENTRE RECOVERY HOOK BOLT KIT	1

ITEM	DESCRIPTION	QTY
21	NUT FLANGED HEX M12x1.25P	8
22	SET SCREW FLANGE HEX M12x45x1.25P	8
23	WASHER FLAT M12x28x3	2
24	SET SCREW HEX HD M12x40x1.75P	2
25	STEP BRACKET SPACER	2
26	BOLT HEX HD M10x40x1.5P	4
27	WASHER PLAIN M10x21x1.6	4
28	STEP MOUNT SPACER	2
29	SET SCREW HEX HD M12x40x1.75P	10
30	WASHER PLAIN 1/2x1-1/8x16	10
31	TAPPED PLATE & WIRE	2
32	NUT PLATE LH T6	1
33	NUT PLATE RH T6	1
34	SCREW PAN HD M4x16x0.7P	2
35	NUT NYLON LOCK HEX M4x0.7P	2
36	SCREW PAN HD M3x20x0.7P	2
37	NUT NYLON LOCK HEX M3x0.7P	2
38	X-BAR LOGO STICKER	2
39	ACRYLIC COMPLIANCE LABEL	1
40	WIRING LOOM	1



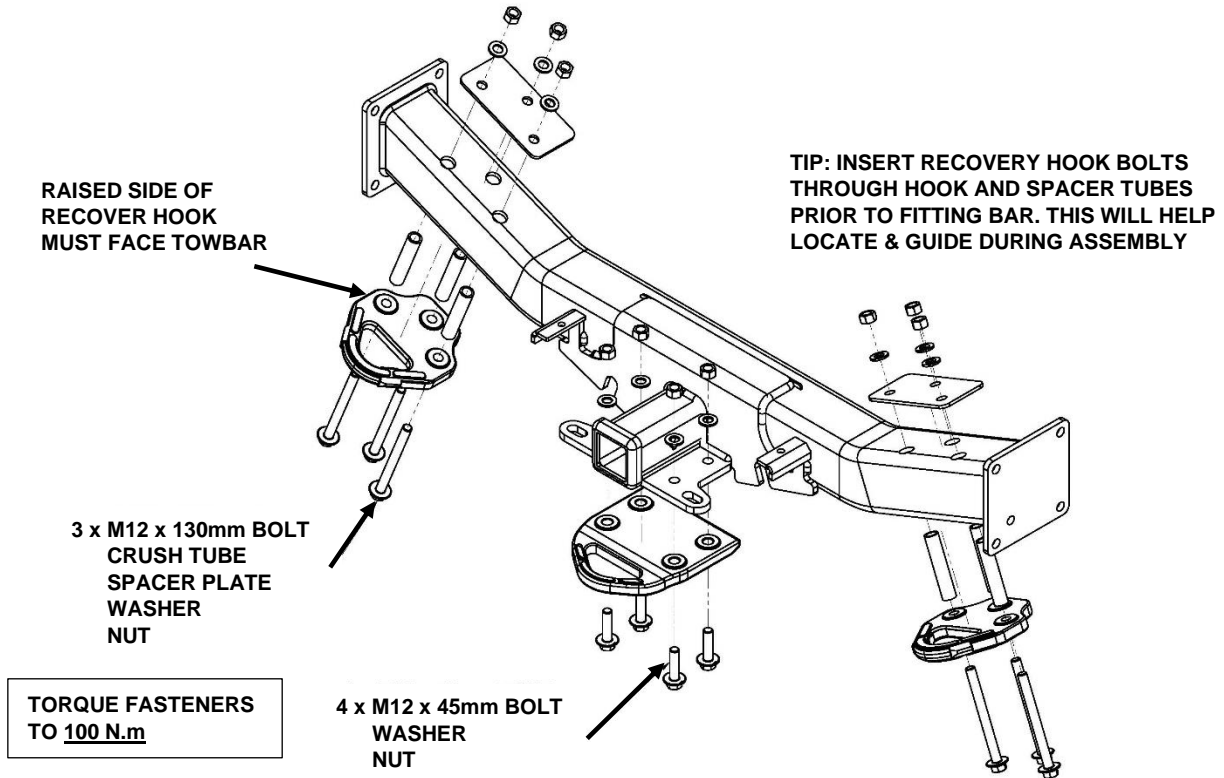
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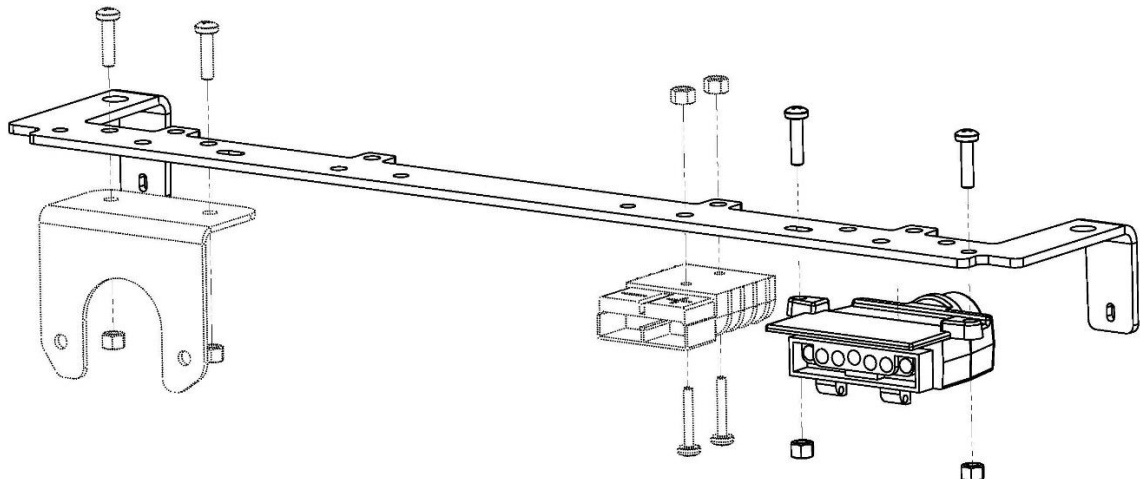
**NOTE:** Pre-assembly of X-Bar centre section can assist for vehicles with difficult access.

## A. BOLT RECOVERY HOOKS TO TOWBAR



## B. MOUNT PLUGS TO BRACKET

AFTER CHOOSING YOUR DESIRED PLUG CONFIGURATION, INSTALL PLUGS AND WIRING TO BRACKET USING FASTENERS PROVIDED





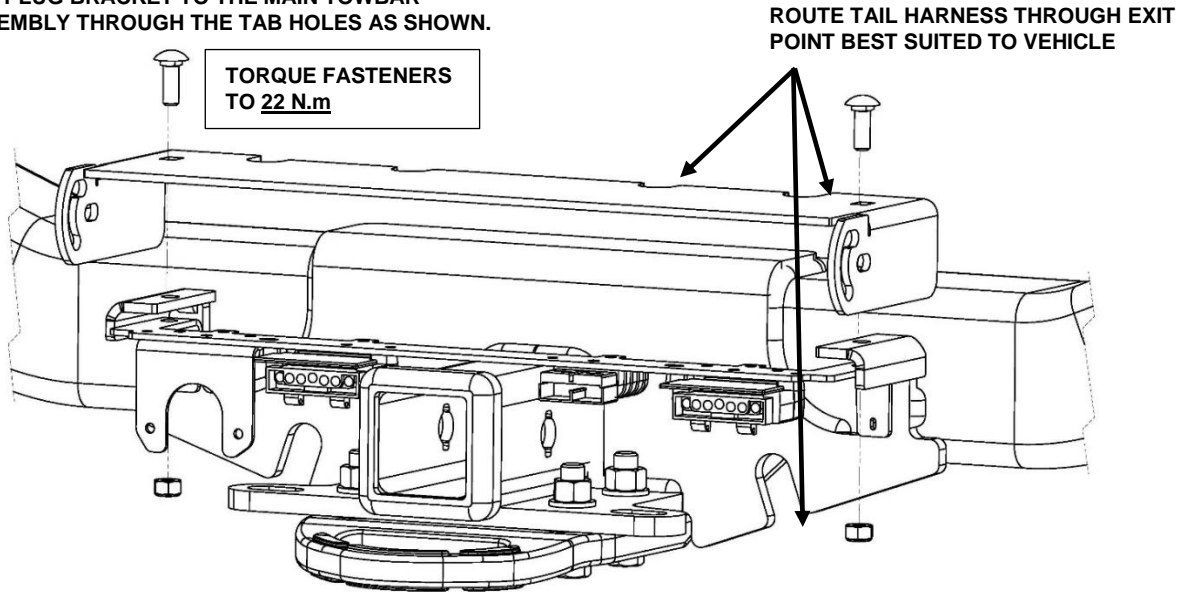
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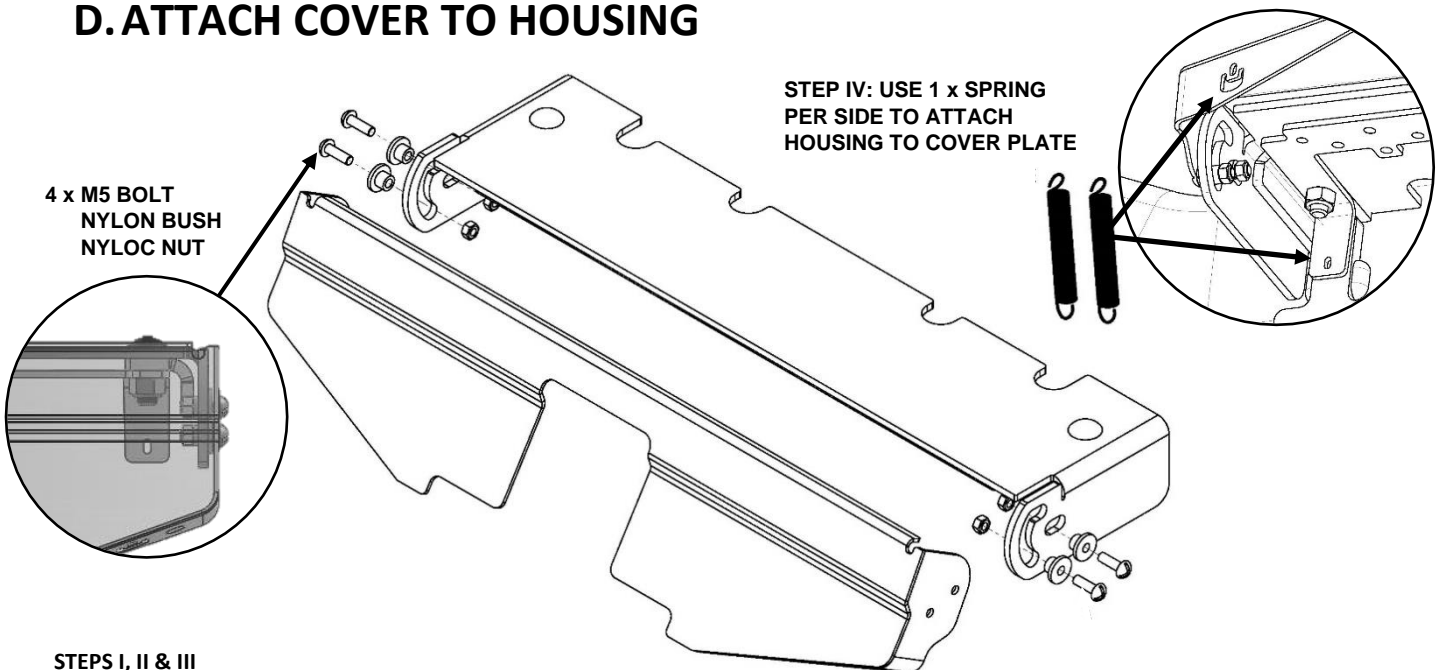
MAZDA BT-50 UR X-BAR

## C. INSTALL WIRING HOUSING

USING 2 x M8 COACH BOLTS COMPLETE WITH 1 x NYLOC NUT PER BOLT, SECURE THE WIRING HOUSING AND PLUG BRACKET TO THE MAIN TOWBAR ASSEMBLY THROUGH THE TAB HOLES AS SHOWN.



## D. ATTACH COVER TO HOUSING



### STEPS I, II & III

- I. INSERT BUSHES INTO SLOTS
- II. THEN PLACE COVER OVER HOUSING, LINING UP BUSHES WITH SCREW HOLES
- III. FINALLY FASTEN COVER TO HOUSING BY PUSHING SCREWS THROUGH BUSHES AND SECURING WITH NUTS

**NOTE: DO NOT OVERTIGHTEN FASTENERS TO ENSURE COVER ASSEMBLY CAN ROTATE FREELY & TO PREVENT DAMAGE TO BUSHES**



# TOWBAR INSTALLATION INSTRUCTIONS

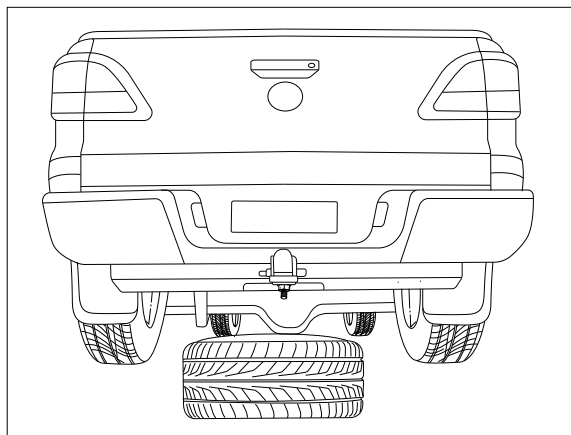
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1. Disconnect the reverse sensor and light connections.

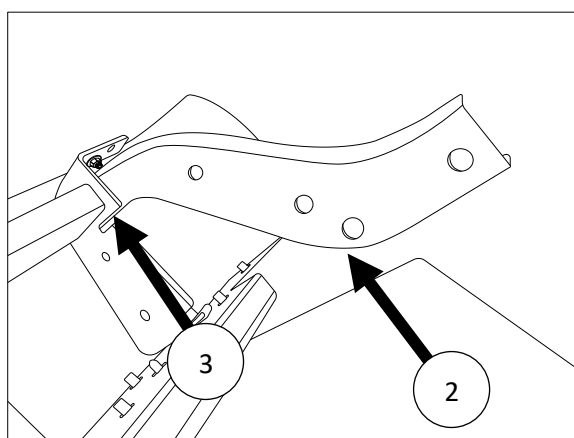
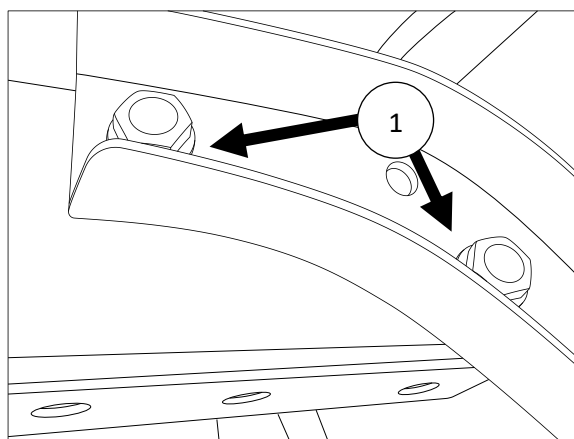
Lower the spare wheel.

CAUTION: Be aware of wheel dislodgement when lowering.



## 2.a FOR VEHICLES WITHOUT FACTORY TOWBAR

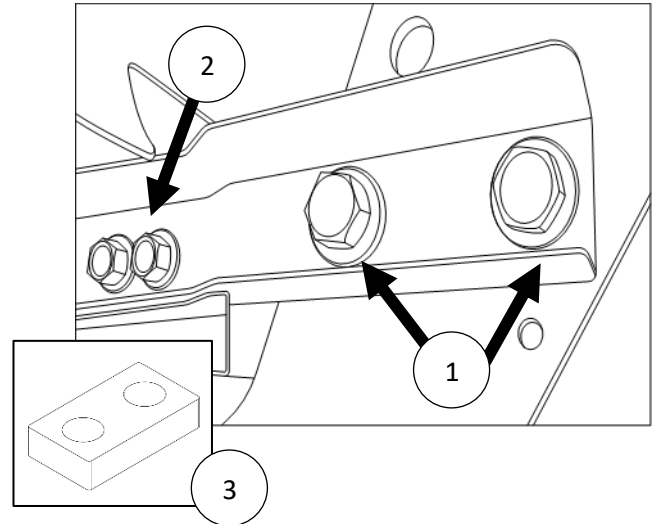
- i. Remove the 2 x M12 bolts (1) from either side of the bumper step assembly and remove the steel bumper from vehicle.
- ii. Remove two bolts from each side of step connecting the step mount brackets to rear bumper step assembly and discard the bolts.
- iii. Use towbar sidearm as a guide, align the three existing holes with the holes on the step bracket and mark the fourth hole on step bracket.
- iv. Using the centre marked, drill a 16mm hole on the step mount bracket (2).
- v. Apply anti-rust paint to hole.
- vi. Repeat the step 'iii' to 'vi' for RHS.
- vii. Place 10mm spacers in between step mount brackets and bumper step, then reattach with 2 x M10 bolts per side, complete with 2 x washers and 1 x nut per bolt (3).





## 2.b FOR VEHICLES WITH FACTORY TOWBAR

- i. Remove the 2 x M12 factory step bolts (1) from either side of the bumper step assembly as shown and remove assembly from vehicle.
- ii. Remove towbar.
- iii. Remove two bolts (2) from each side of step connecting the step mount brackets to rear bumper step assembly and discard the bolts.
- iv. Place 10mm spacers (3) in between step mount brackets and bumper step, then reattach with 2 x M10 bolts per side, complete with 2 x washers and 1 x nut per bolt.

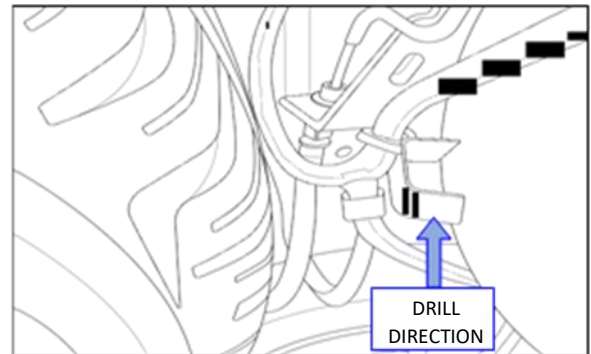


## 3. Move Wire Loom located on Diff Housing

Remove wiring loom mounted on the diff housing.

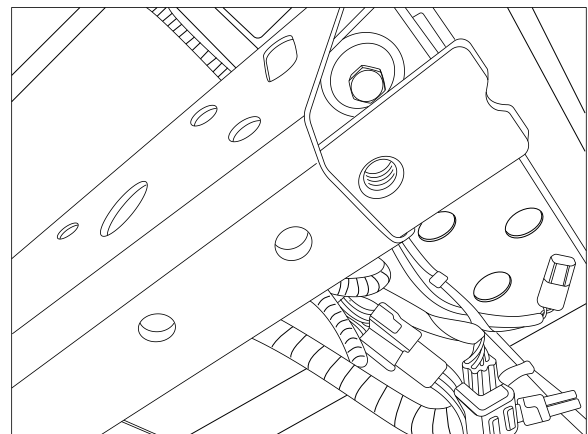
Drill an 8mm hole through the connector bracket from bottom to top surface which is welded on the diff housing as shown. Apply anti-rust or paint to newly drilled hole to prevent corrosion.

Mount the wiring loom on the newly drilled top hole of the connector bracket.



4. Insert nut plate into chassis rail and align with holes in chassis.

Repeat for opposite side.





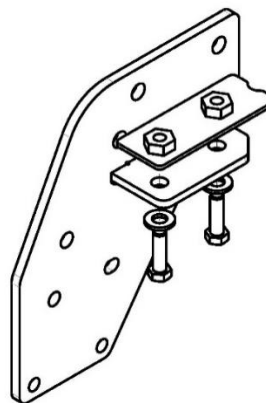
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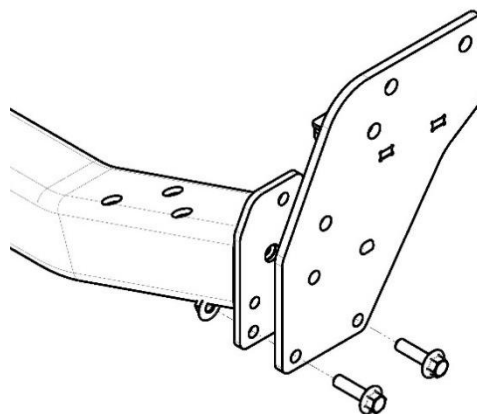
- Loosely secure sidearm to underside of chassis rail via nut plates, with 2 x M12 bolts complete with 1 x washer per bolt, as shown

Repeat for opposite side.



- Lift centre welded assembly up to side arms and loosely secure with 2 x M12 flanged bolts per side, complete with 1 x flanged nut per bolt, via bottom 2 holes as shown.

- If not already done, complete pre-assembly steps A, B, C, & D now.



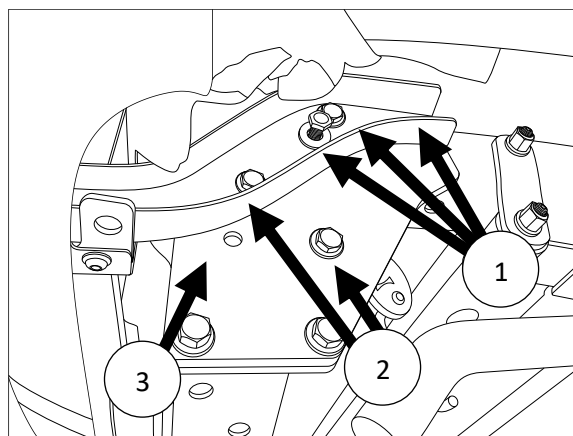
## 8.a FOR VEHICLES WITHOUT FACTORY TOWBAR

- Loosely secure the step mount bracket of the rear bumper step assembly to the chassis rail via towbar sidearm using 3 x M12 bolts complete with 1 x washer per bolt (1).

**NOTE: Use 1 x M12 tapped plate per side for the hole that doesn't have a captive nut.**

- Use remaining 2 x M12 flanged bolts per side complete with 1 x flanged nut to secure sidearm and step to centre section (2).

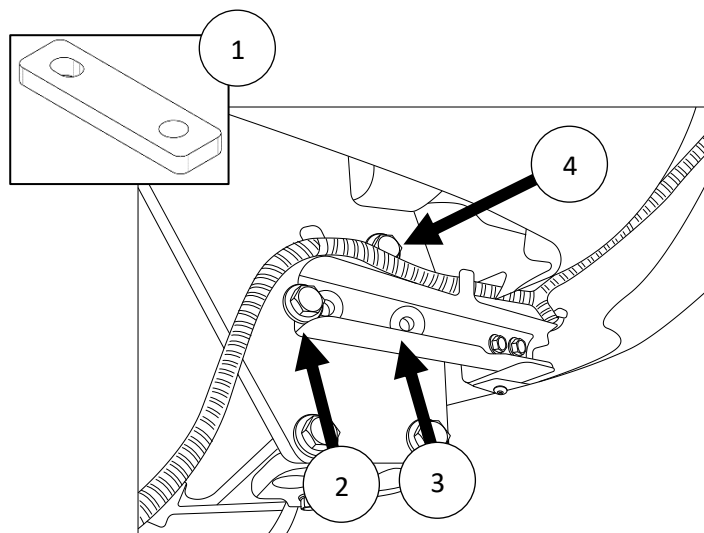
**NOTE: captive nut hole only used for factory towbar step variant (3).**



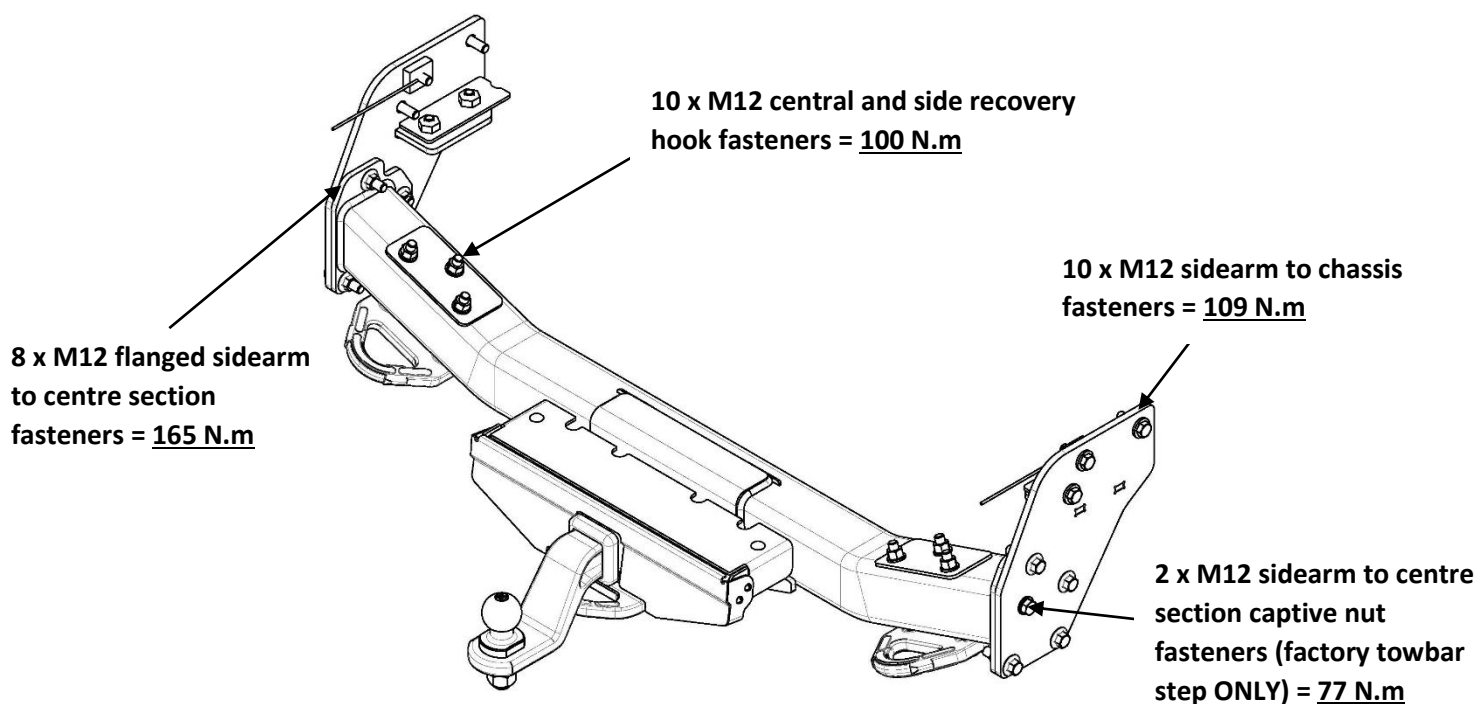


### 8.b FOR VEHICLES WITH FACTORY TOWBAR

- i. Loosely secure the sidearm to chassis rail using 3 x M12 Bolts complete with 1 x washer per bolt.  
**NOTE: Use 1 x M12 tapped plate per side for the hole that doesn't have a captive nut.**
- ii. Placing the 10mm spacer plate in between (1), loosely secure the step mount bracket of the rear bumper step assembly to the towbar sidearm using 1 x M12 flanged bolt (2) complete with 1 x flanged nut and 1 x M12 bolt (3) complete with 1 x washer (to be secured into captive nut).
- iii. Secure sidearm to central assembly with remaining 1 x M12 flanged bolt per side, complete with 1 x flanged nut per bolt (4).



### 9. Torque all bolts as follows:



**IMPORTANT:** Ensure all bolts are tightened to correct torques using a calibrated torque wrench. Tighten side arms to chassis rail first in an even pattern/sequence. Repeat for centre section to side arms and finally torque all other fasteners.



# TOWBAR INSTALLATION INSTRUCTIONS

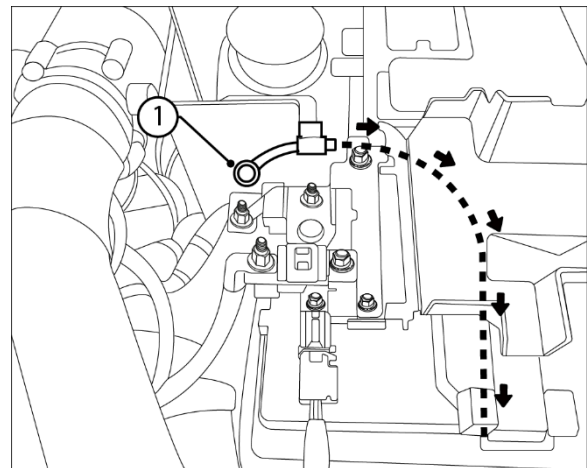
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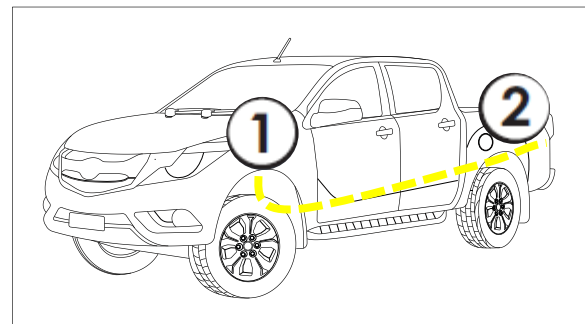
## IMPORTANT

Due to possible vehicle variations, always confirm any noted vehicle colour wires with a multi-meter to ensure the correct function is identified before soldering or scotch locking. For vehicle wires denoted with two colours (example; RED/GREEN) the first colour will always be the main wire colour while the second colour is the thinner trace colour on the wire.

10. In the engine bay, route the power harness (1) down towards the LHS of the vehicle under carriage. **Do not connect the power harness ring terminal to the battery until the end of fitment.**
11. **Note: When routing any harnesses underneath the vehicle, ensure to avoid all moving parts, sources of heat and sharp objects.**



12. From underneath the vehicle, route the power harness (1) along the LHS of the chassis rail towards the rear of the vehicle (2). Ensure that the power harness is secured with cable ties (not supplied).



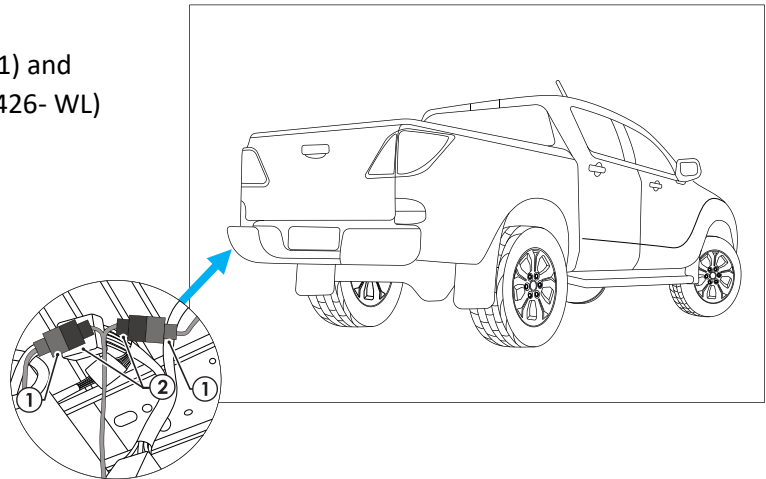


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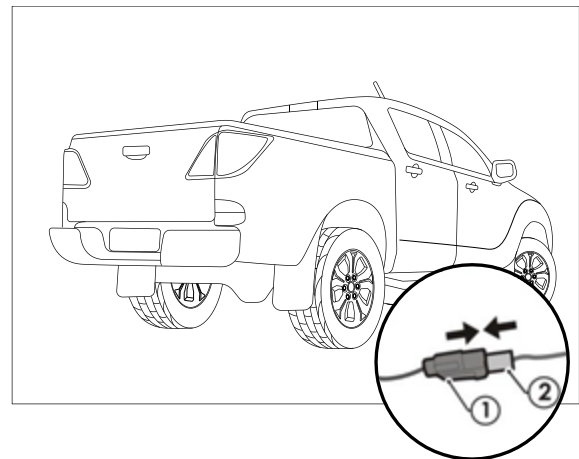
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13. On the LHS rear under carriage, locate and disconnect the 6-way tail light connectors (1) and connect the 6-way trailer patch (P/No: 101426- WL) (2) in between.

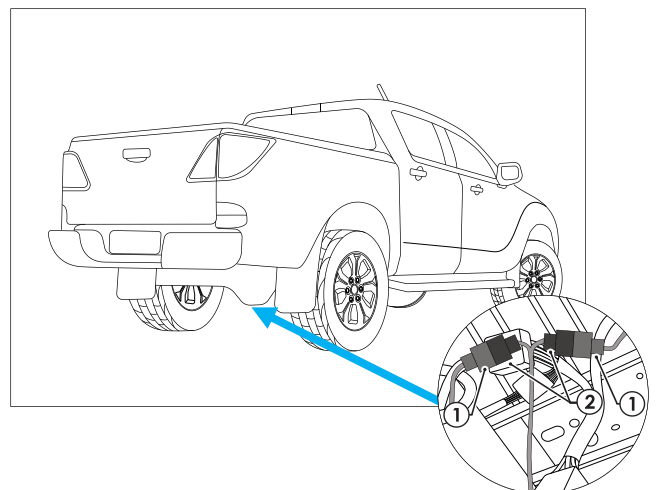


14. Connect the power harness 1-way male connector (1) to the power harness 1-way female connector (2).

15. Route the trailer patch (3) along the rear of the vehicle across to the RHS tail light connectors.



16. On the RHS of the rear under carriage, disconnect the 6-way tail light connectors (1) and connect the 6-way trailer patch connectors (2) in between.



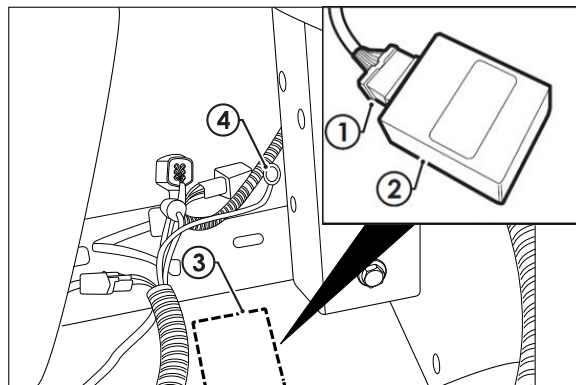


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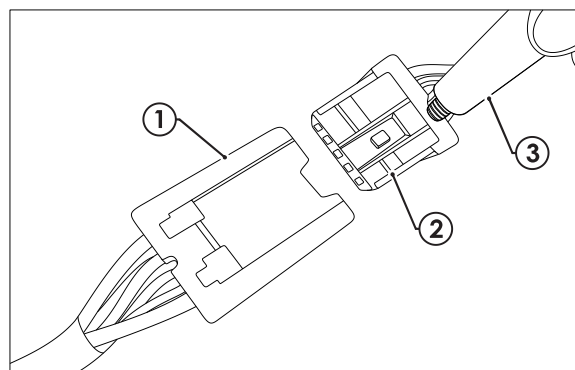
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17. Route the tail harness (tail length 1800mm) along the towbar, towards the trailer patch blue connector.
18. Connect the trailer patch ECU connector (1) to the ECU (2).
19. Using a cleaning wipe (not supplied) clean the area on the vehicle rear interior sheet metal (3). Remove the ECU backing tape and secure the ECU (2) onto the vehicle. **Ensure the ECU is mounted pointing downwards.**
20. Secure the trailer patch ground ring terminal (4) to a suitable location on the vehicle chassis rail using a tek screw (not supplied).



21. Connect the tail harness 8-way connector (1) to the trailer patch 8-way mating connector (2).
22. Waterproof the trailer patch 8-way connector (1) and the tail harness 8-way male connector (2) using silicone or grease (3).



23. In the engine bay, secure the power harness ring terminal to the battery positive terminal.
24. Test the trailer wiring harness function using a light board or multi-meter.
25. Secure all harnesses using cable ties (not supplied).
26. Re-fit all removed parts and secure all fasteners, ensuring there are no squeaks or rattles.
27. Place the fitting instructions in the glove box after fitment.



# CUSTOMER INFORMATION

PLACE THESE INSTRUCTIONS IN THE  
VEHICLE'S GLOVEBOX AFTER INSTALLATION

**THANK YOU FOR PURCHASING HAYMAN REESE.  
WITH CORRECT MAINTENANCE AND CARE THIS PRODUCT WILL PROVIDE A  
LIFETIME OF TROUBLE-FREE OPERATION.**

## **i** TOWBAR MAINTENANCE AND CARE:

1. Hayman Reese recommend that the towbar LUG or TBM (tow ball Mount) Pull Pin and R-clip are removed and stored when not in use. Removal of LUG or TBM (tow ball mount) is advisable when not in use to assist with any of the following.
  - Ensure rear number plate is not obscured.
  - Allow maximum available departure angle and prevent any potential interference.
  - Prevent possible interference with vehicles reverse sensors or camera detecting a tow ball mount as an obstruction during reversing.
  - Removes towball mount as an obstruction for when moving around the rear of the vehicle.
2. Hayman Reese recommends routine inspection of your towbar to ensure trouble free towing.
  - Bolt security and tension should be regularly inspected and checked for correct tension. Replace any worn or defective parts with suitable grade & class fasteners. Inspection should be requested to coincide with vehicle major services.
3. It is the owner's responsibility to ensure towing and down ball weight capacities of the towing vehicle are not exceeded.
  - Towing and down ball weights allowable may differ according to model variations. Please refer to owner's manual or vehicle dealer to confirm exact rating for your vehicle model variant.
  - It is not uncommon for the vehicle tow rating to differ from the towbar rating. When this occurs, the lesser rating must be adhered to.
  - For vehicles fitted with enhanced vehicle functions that may be altered/changed when towing i.e Trailer sway mitigation, blind spot detection, adaptive cruise control etc. Please consult owner's manual to understand changes enabled when towing and after towing.

## **i** WARRANTY INFORMATION:

Hayman Reese Towbars are covered by a Lifetime Warranty.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

For further details please visit [www.haymanreese.com.au/warranty](http://www.haymanreese.com.au/warranty) or contact customer service on 1800 812 017 or [info@haymanreese.com.au](mailto:info@haymanreese.com.au).



# CUSTOMER INFORMATION

PLACE THESE INSTRUCTIONS IN THE VEHICLE'S GLOVEBOX AFTER INSTALLATION

## HAYMAN REESE SMART PIN

Your Hayman Reese towbar is equipped with Smart Pin technology to help reduce towbar tongue rattle in most driving conditions. Please ensure below instructions are understood and routine maintenance is carried out to ensure best towing experience.

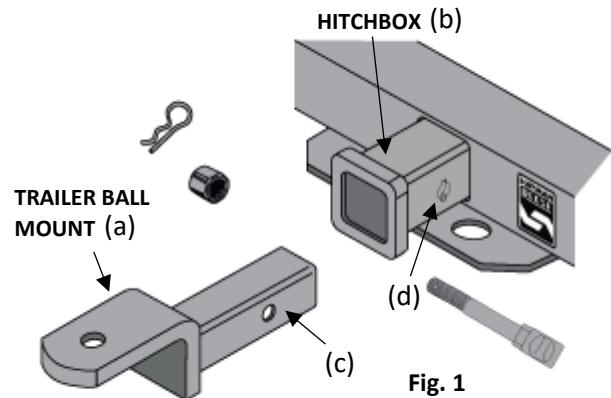
**i** Regularly inspect for wear and check the tightness of the Smart Pin Nut. Follow instructions below to re-tighten the nut as necessary when movement and noise in the tow ball mount is noted.

- Before towing, ensure R-Clip is properly installed and Smart pin nut is installed and tensioned. Replacement parts are available from your Hayman Reese Distributor.

## TOWBALL MOUNT REMOVAL/INSTALLATION

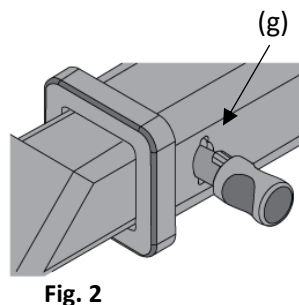
### STEP 1

Insert Trailer Ball Mount (TBM) (a) into towbar hitchbox (b), aligning hole in TBM shank (c) with hole in hitchbox (d) (Fig. 1)



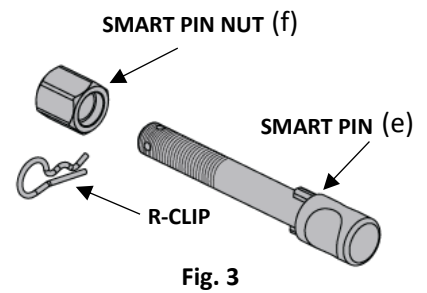
### STEP 2

Insert Smart Pin (e) through hole in hitchbox and hole in TBM shank (g); ensure the locators are inserted into the notches in the hitchbox (Fig. 2)



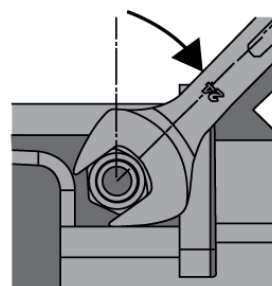
### STEP 3

Screw Smart Pin Nut (f) onto Smart Pin (g); tighten Smart Pin Nut until finger tight, ensuring TBM is restrained from up and down movement.



### STEP 4

Tighten Smart Pin Nut by turning nut a further 1/8th of a turn in the clockwise direction using a 24mm spanner (Fig. 4).



### STEP 5

Install Smart Pin R-Clip through the hole that provides best clearance or easiest access. (Fig. 5)

