



TOWBAR INSTALLATION INSTRUCTIONS

PART NUMBER 03290RW

MITSUBISHI FUSO ROSA BUS



PRODUCT DETAILS:

Part Number:	03290RW	Maximum Towing Braked:	2000	kg
ECU Number:	N/A	Maximum Towing Unbraked:	715	kg
Tail Harness Length Required:	1200 mm.	Maximum Static Ball Load:	200	kg
TBM/Lug Part Number:	21247			

FITTING DETAILS:

Towbar Installation Time:	45 mins.	Vehicle Coding Required:	NO
Wiring Installation Time:	30 mins.	RPA Disable/Other:	NO
Total Installation Time:	75 mins.		
Bumper Cut Required:	No		

Note:

- Electric Brake input location: Near Patch Connectors
- The vehicle electric system is 24V
- 400mm tail harness required for SWB variant
- Use 042412V4 24 to 12V reducer when 12V power required when towing.



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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).

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).

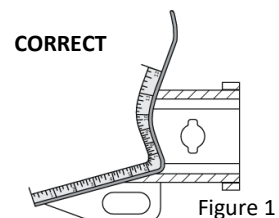


Figure 1

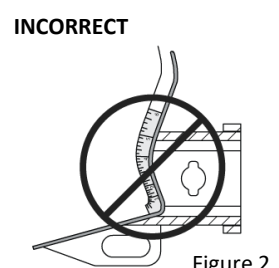


Figure 2

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

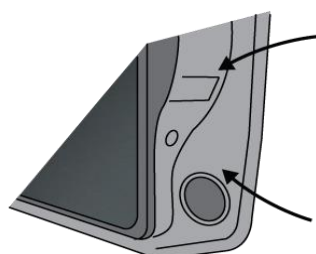
- Ensure that all hardware is fastened to correct torque as specified in this fitting instruction.
- All fasteners supplied with this product are used to achieve a specified clamp loading. If replacement is required ensure that fasteners of the same grade and class are used.



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.

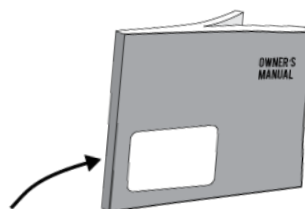
Product Labels

- 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.

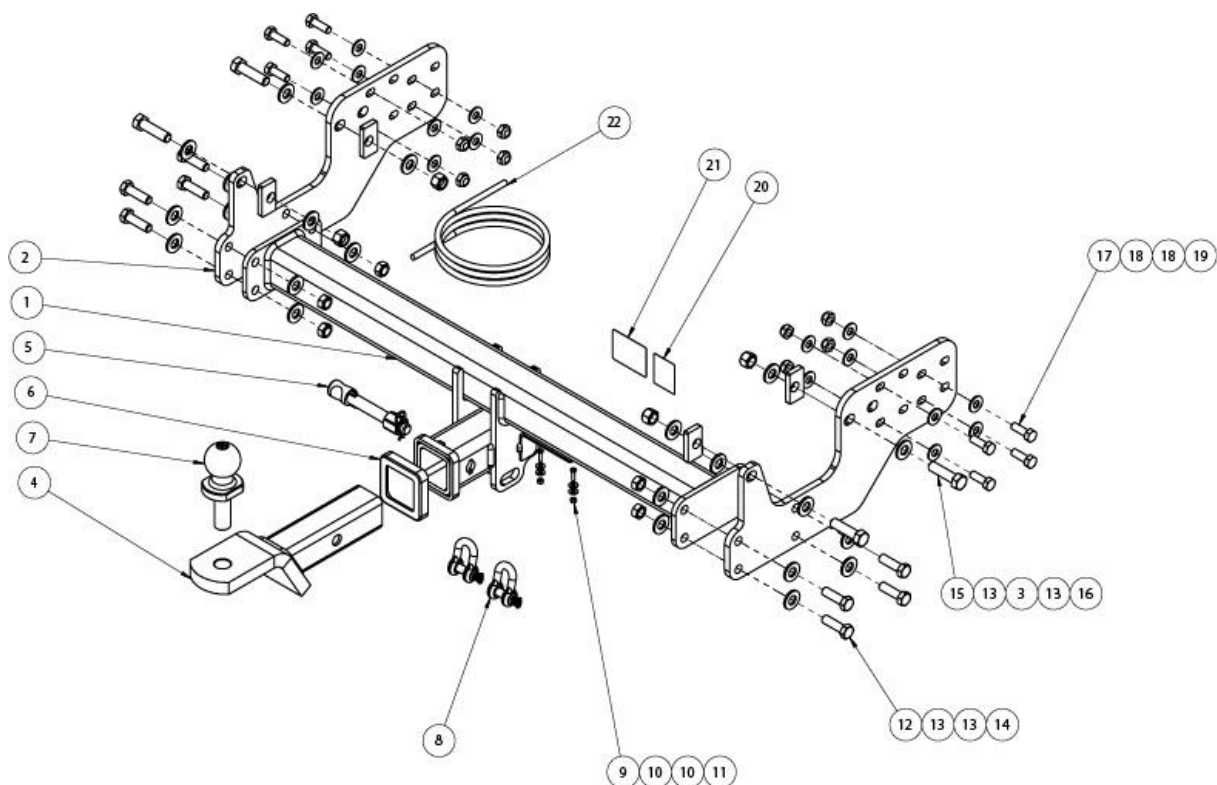


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i TOWBAR ASSEMBLY DIAGRAM



ITEM	DESCRIPTION	QTY
1	MITSUBISHI ROSA WELDED ASSEMBLY	1
2	SIDE ARM	2
3	SPACER PLATE	4
4	TRAILER BALL MOUNT	1
5	SMART PIN	1
6	HITCH BOX COLLAR COVER	1
7	TOWBALL 50mm	1
8	"D" SHACKLE 10mm	2
9	NUT NYLOC HEX M4x0.7P	2
10	WASHER PLAIN 3/16x1/2x20	4
11	SCREW PAN HEX HD M4x16x0.7P	2

ITEM	DESCRIPTION	QTY
12	BOLT HEX HD M12x40x1.25P	8
13	WASHER PLAIN M14x28x3	24
14	NUT NYLOC M12x1.25P	8
15	BOLT HEX HD M14x50x1.5P	4
16	NUT NYLOC M14x1.5P	4
17	SET SCREW HEX HD M10x30x1.5P	8
18	WASHER PLAIN M10x23x2	16
19	NUT NYLOC HEX M10x1.5P	8
20	H.R STICKER	1
21	ACRYLIC COMPLIANCE LABEL	1
22	WIRING LOOM	1



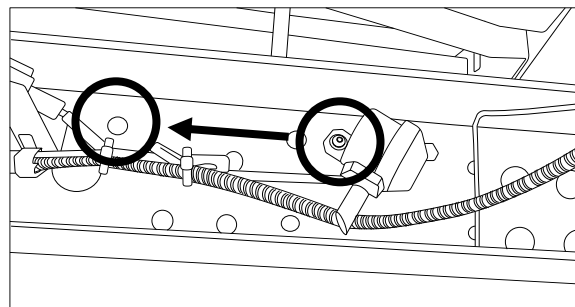
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1. Remove reverse buzzer attached to RHS chassis with 1 x M8 bolt.

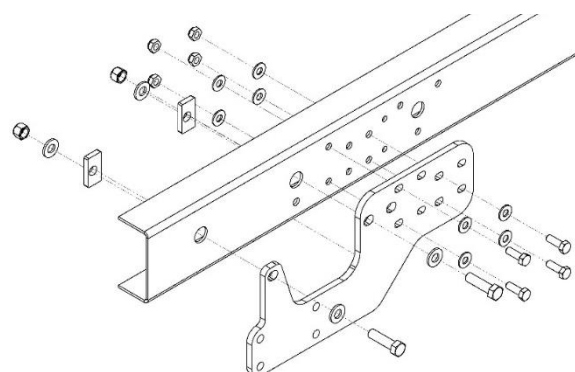
Relocate on chassis towards front of vehicle.



2. Loosely secure sidearm to chassis using 4 x M10 bolts complete with 2 x washers and 1 x nut per bolt, and 2 x M14 bolts complete with 2 x washers, 1 x spacer and 1 x nut per bolt.

Repeat for opposite side.

Note: SWB & LWB variants use different sidearm bolt patterns.



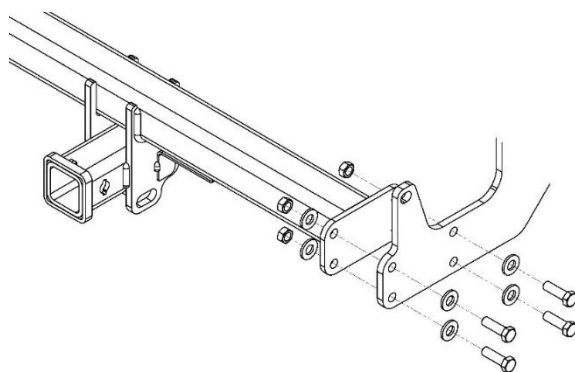
3. Using two people, raise towbar centre assembly up to sidearms and secure using 4 x M12 bolts per side, complete with 2 x washers and 1 x nut per bolt.

Torque all fasteners as below:

M10 - 44 Nm

M12 - 89 Nm

M14 - 140 Nm





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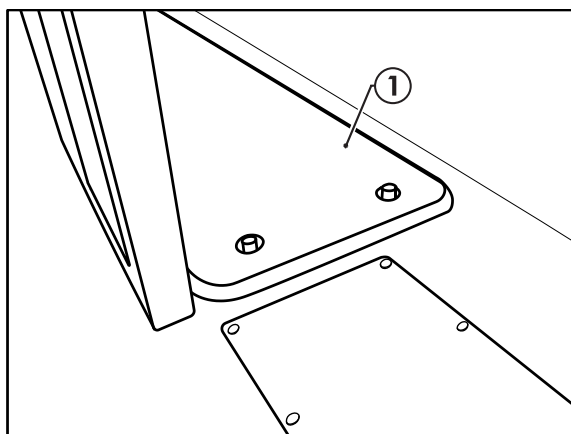
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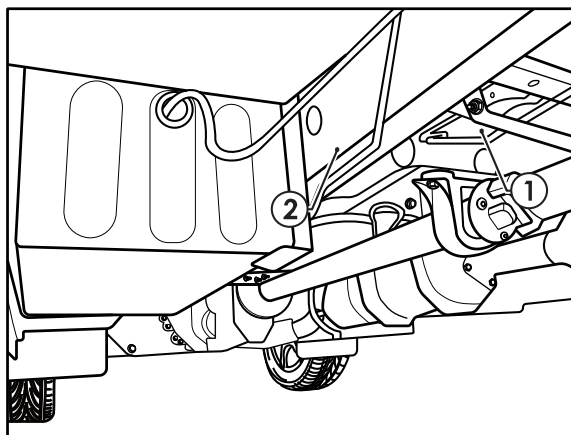
IMPORTANT

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.

4. Under passengers' seat behind automatic door, remove panel (1) covering the battery compartment.
5. Disconnect the vehicle battery negative terminal.



6. Under the vehicle LHS about half way up the vehicle, locate the two 12-way connector (1) pair on the inside of the chassis rail (2).



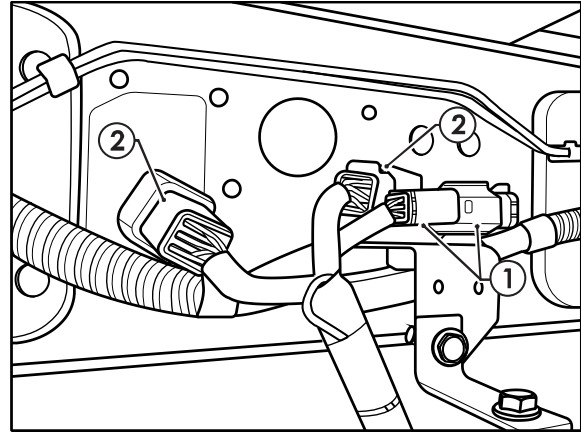


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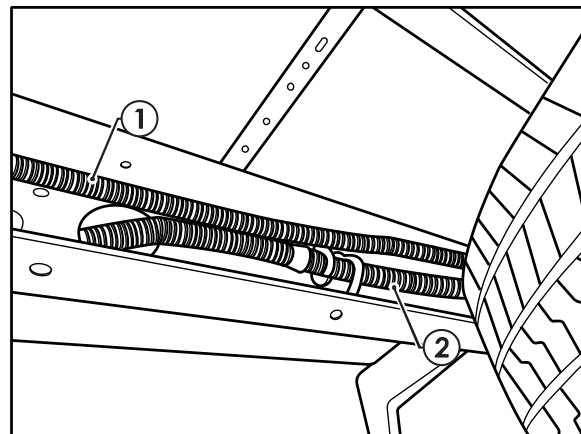
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7. Disconnect the vehicle connectors (1) and patch in the mating connectors (2) on the trailer patch (102209-WL).



8. Route the harness (1) along the chassis rail towards the rear of the vehicle.
9. Use the supplied Cable Ties to secure the trailer patch to the existing harnesses (2).



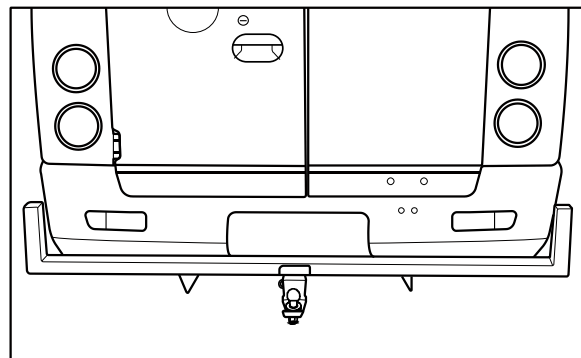
10. Secure tail harness to the plug bracket with supplied fasteners.

Note: Long wheel base = 1200mm

Short wheel base = 400mm

11. Route tail harness towards the blue connector on the inverter.
12. Connect the tail harness 8-way connector to the inverter 8-way connector.

Note: Keep harness routing clear of all sharp edges, moving parts and places of extreme heat.



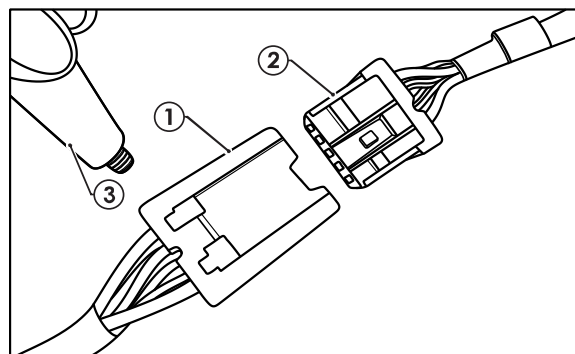


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13. Connect the inverter harness 8-way connector (1) trailer patch mating 8-way connector (2).
 14. Apply silicone grease (not supplied) (3) to waterproof connectors.



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15. Test the trailer patch function using a light board or multi-meter.

Note: The vehicle is 24V if using test board ensure to accommodate 24V.

16. Re-fit all removed parts and secure all fasteners, ensuring there are no squeaks or rattles.
 17. Place the fitting instructions in the glove box after fitment.
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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 or contact customer service on 1800 812 017 or 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.

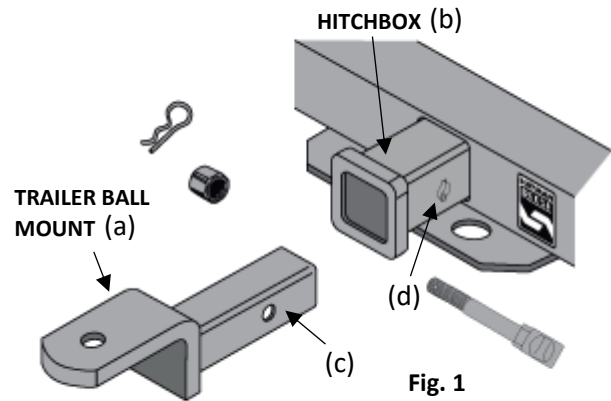
i Regularly inspect for wear and check the tightness of the Smart Pin Nut. Follow instructions below to re-tighten the nut as necessary when movement and noise in the tow ball mount is noted.

- 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

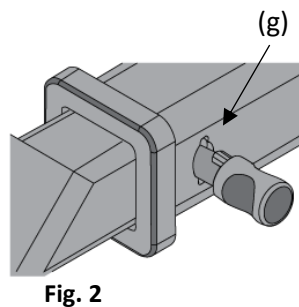
STEP 1

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



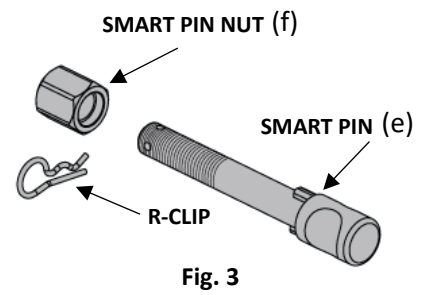
STEP 2

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)



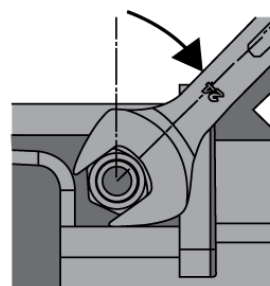
STEP 3

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)

