TOWBAR INSTALLATION INSTRUCTIONS

PART NUMBER: QTLD0011L

LDV DELIVER 9 BUS TOWBAR

PRODUCT DETAILS:

Part Number:	QTLD0011LI	**Maximum Towing Braked:**	2800	kg
ECU Number:	04826	**Maximum Towing Unbraked:**	750	kg
Tail Harness Length Required:	1800 mm	**Maximum Static Ball Load:**	280	kg
TBM/Lug Part Number:	21422			

FITTING DETAILS:

Towbar Installation Time:	50 Mins.	**RPA Disable/Other:**	YES
Total Installation Time:	110 Mins.		
Bumper Cut Required:	No		

Note:

- Electric Brake = Brake Prep Connector.
- Use 04937 tail for RPA disable.

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TRAILBOSS RECOMMENDS THAT INSTRUCTIONS ARE READ AND UNDERSTOOD COMPLETELY PRIOR TO FITMENT.

BEFORE YOU START:

Check all hardware items have been included refer to assembly diagram.
Please ensure this towbar is only fitted to vehicle models as per Trailboss application guide.

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 Trailboss warranty.

CORRECT

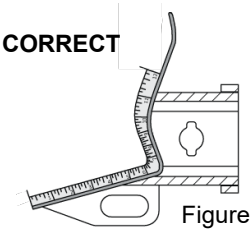

Figure 1

INCORRECT

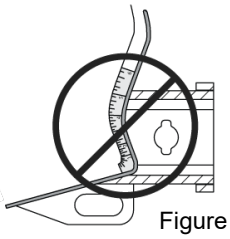

Figure 2

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).

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 metal 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 Trailboss 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.

WARNING:

Do not, drill, cut, weld or otherwise modify the towbar.
FOR TOWING PURPOSES ONLY - This towbar is designed and tested by Trailboss to adhere to ADR 62/02 which provides only for the expected load demands of towing.

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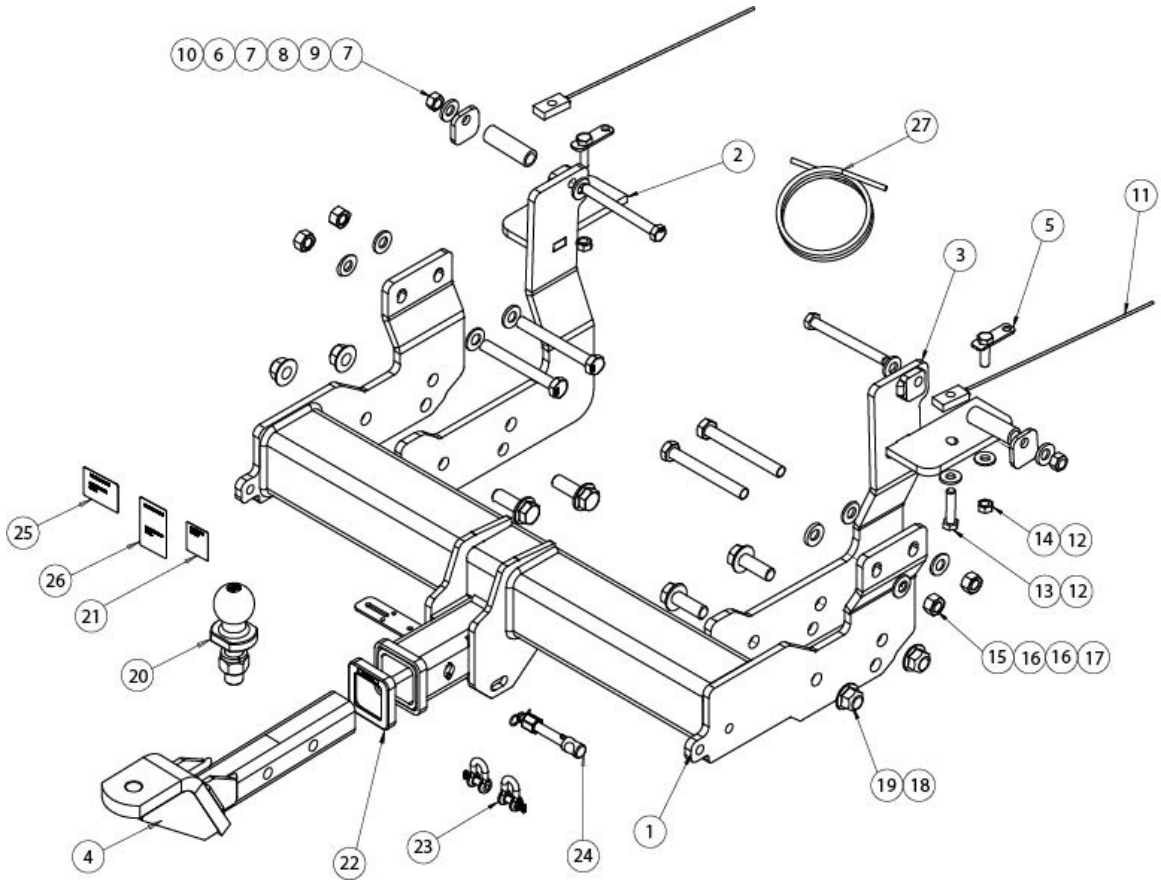
LDV DELIVER 9 BUS TOWBAR

TOWBAR ASSEMBLY DIAGRAM



ITEM	DESCRIPTION	QTY
1	LDV DELIVER 9 WELDED ASSEMBLY	1
2	LH SIDE ARM ASSY	1
3	RH SIDE ARM ASSY	1
4	TRAILER BALL MOUNT	1
5	T BOLT ASSEMBLY	2
6	NUT HEX HD M12x1.25P G10	2
7	WASHER PLAIN M12x27x3.0mm	4
8	6MM SPACER	2
9	CRUSH TUBE	2
10	BOLT HEX HD M12x120x1.25P G10.9	2
11	T PLATE M10x1.5P & WIRE W300	2
12	WASHER PLAIN M10x25x3.0mm	4
13	BOLT HEX HD M10x45x1.5P G10.9	2

ITEM	DESCRIPTION	QTY
14	NUT HEX HD M10x1.5P	2
15	NUT HEX HD M14x2.0P G10	4
16	WASHER PLAIN M14x28x3.0mm	8
17	BOLT HEX HD M14x120x2.0P G10.9	4
18	BOLT HEX FLANGE M16x45x2.0P G10.9	4
19	NUT HEX FLANGE M16x2.0P G10	4
20	TOWBALL 50mm	1
21	HITCH BOX COLLAR COVER	1
22	10mm "D" SHACKLE	2
23	SMART PIN SILVER	1
24	COMPLIANCE LABEL	1
25	LOAD RATING LABEL	1
26	WIRING LOOM	1

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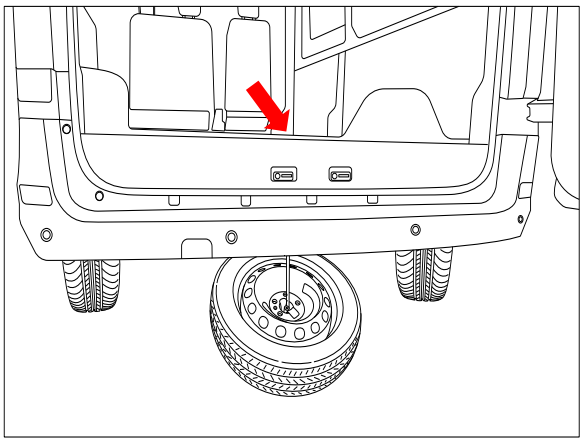
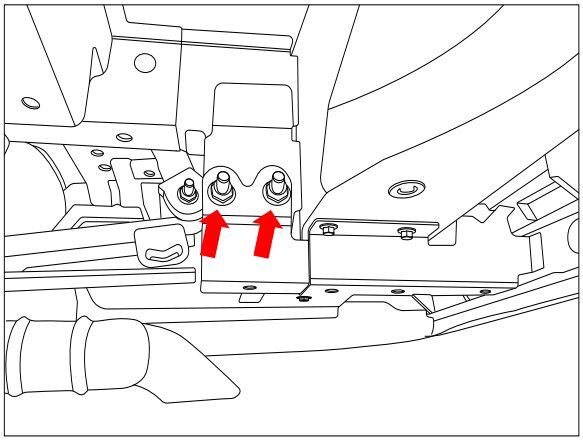
1. Open rear door to expose the spare wheel mechanism.
   Use the appropriate tools and lower the spare wheel.



2. From under vehicle, remove and discard the 2 x bolts with washers and nuts from the step bracket.

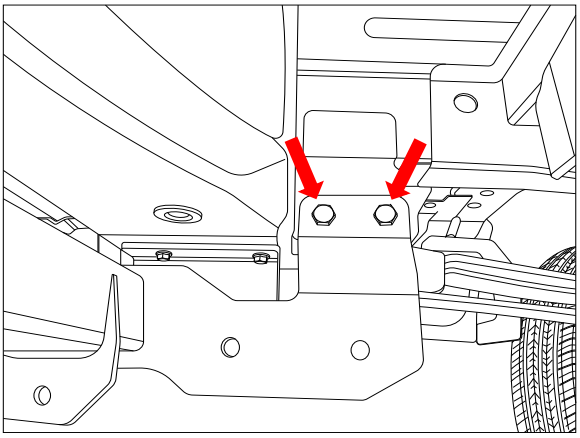
   Repeat for other side.



3. Using two people lift the towbar and align it with the two mounting points on the chassis rails.

4. Use 2x M14x120 bolts, 4x M14 washers and 2x M14 nuts to loosely mount the towbar to the LH side chassis rail.

   Repeat for other side.



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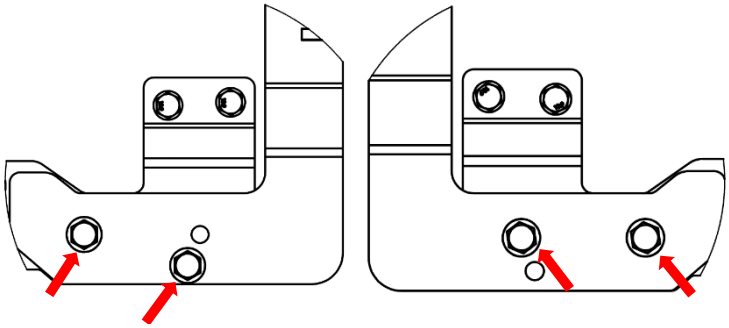
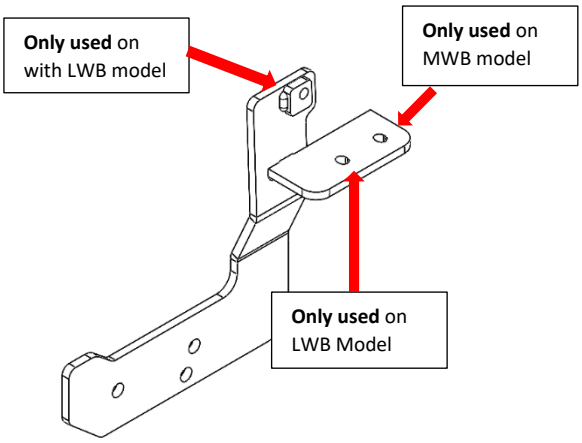
5. Loosely secure the LH sidearm mount to the main towbar assembly using 2x M16 bolts, 2x M16 nuts.

   Repeat for other side.

   Note: The mounting pattern is different on each side for clearance purpose.



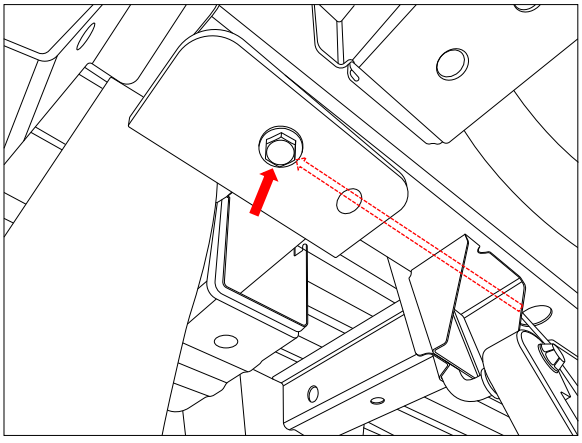
6. **Note:** The different mounting holes to be used on the side arm assembly are dependent on the vehicle model. All other mounting positions are common.



7. **For the LWB model.**
   From under the vehicle, feed the tapped plate on wire through the front hole into the chassis rail and align the threads with the rear mounting hole.

   0n the side arm that presses against the chassis rail bottom. Hold the wired plate in place and use 1x M10 bolt and 1x M10 washer to secure the RH side arm mount to the bottom of the chassis rail.

   Repeat for other side.



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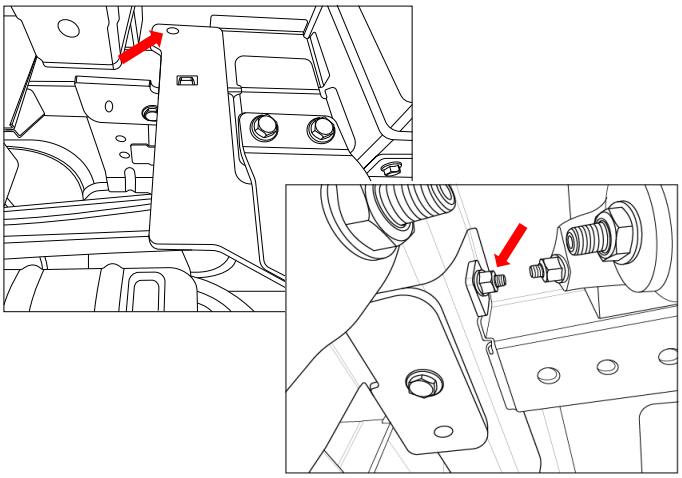
8. Insert the crush tube into the chassis rail and push it through to the outside face. Sit it on the leaf spring nut to ensure it does not fall into the chassis rail.

9. Loosely secure the side to the top mounting position with 1 x M14x 120 bolt complete with 2 x washers, 1 x spacer plate and 1 x nut per bolt (ensure the crush tube is in position).

   Repeat for other side.

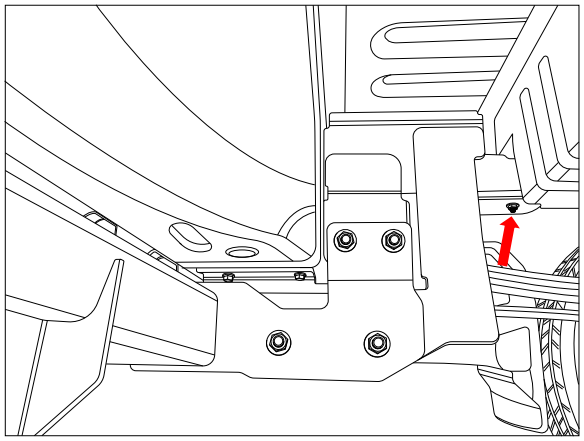


For the MWB model.

10. From under the vehicle insert the T-Bolt assembly into the mounting hole.

    Loosely secure the LH side arm mount to the main towbar assembly ensuring the T-bolt is fed through the forwardmost hole of the horizontal plate. Use 1x M10 Nut and 1x M10 washer, (2)

    Repeat for other side.



For LWB and MWB models

11. Tighten all fasteners to the following torques:

Fastener Size	Torque (Nm)
M16 x 2.0p G10.9	**276**
M14 x 2.0p G10.9	**175**
M12 x 1.25p G10.9	**109**
M10 x 1.5p G10.9	**62**

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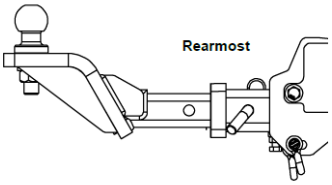
IMPORTANT

Trailer Ball Mount Pin Hole Function
This Towbar is equipped with two pin holes on the Trailer Ball Mount. This page describes the correct use and functionality of each pin hole.
Note: For extra-long wheelbase variant, the trailer ball mount must be positioned in the rearmost position during both towing and stowing operations.

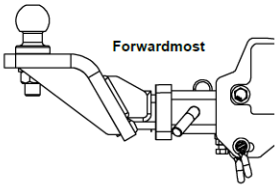
Rearmost Position:

- Use when towing



Forwardmost Position:

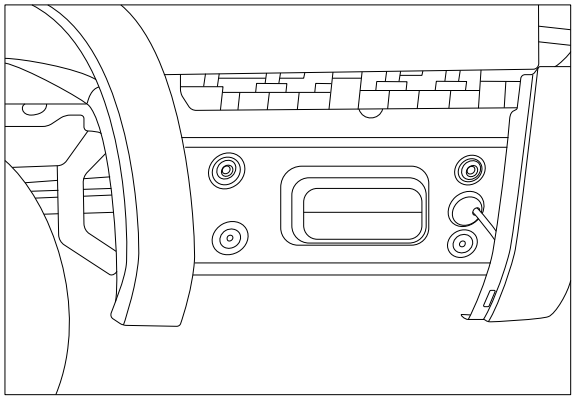
- For stowing the trailer ball mount



12. At the LHS wheel arch, remove the fasteners, that secure the mudflap. Dislodge the small section of the wheel arch to gain access to the 2x Phillips's head screw securing the side bumper trim.

13. Dislodge and remove the side bumper trim.

    Note: This step is to assist with wiring steps.



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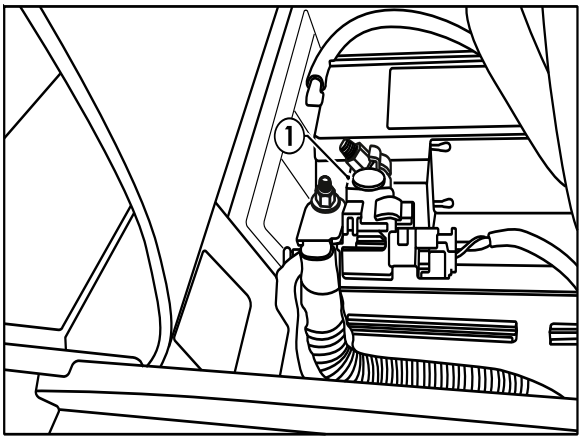
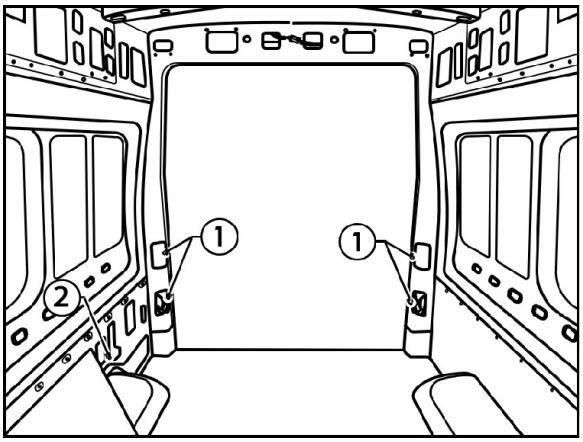
IMPORTANT

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.

14. Disconnect the vehicle battery negative terminal under the driver's seat (1).



15. Inside the van, remove the air vents (1) covering the taillight bolts.
16. Remove the LHS panel (2) by removing all trim clips.



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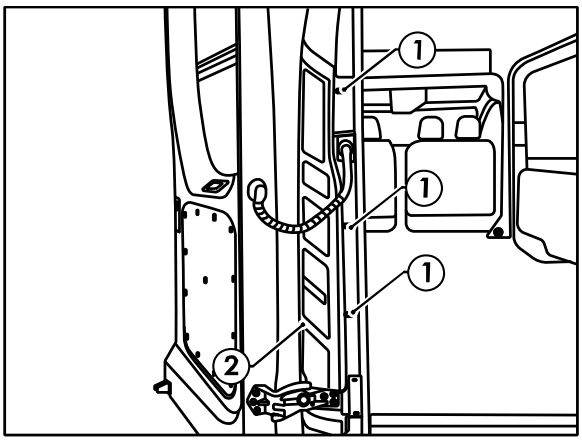
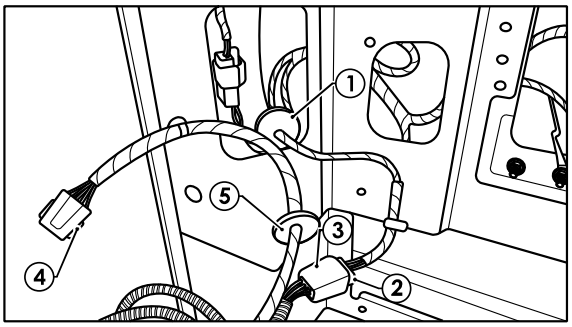
17. Remove the two bolts at the back of the LHS tail lamp.
18. Lift the 3 screw covers on the LHS lamp fascia and remove 3 screws (1).
19. Dislodge and remove the tail lamp (2) by first disconnecting the wiring harness.

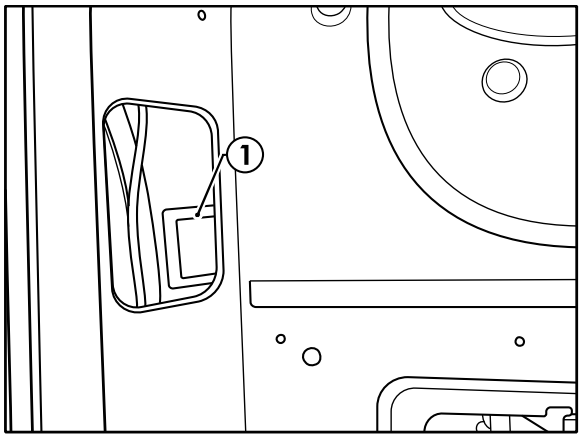


20. At the LHS tail lamp, unseat the grommet on the vehicle harness (1) and push the taillight connector (2) into the vehicle.
21. From inside the vehicle retrieve the taillight connector and plug connector into patch harness (102595-WL) mating connector (3).
22. Feed the new taillight connector (4) on the patch harness out through the hole and seat the new angled grommet (5) in the hole.
23. Bundle and tie up excess harness inside the vehicle using the supplied cable ties.



24. From inside the vehicle route the long Green/Black wire over the archway towards the RHS tail lamp.
25. Route the ECU connector up towards the vent hole.
26. Using an alcohol wipe, clean the LHS inner sheet metal area and the underside of the ECU (04826) (1).
27. Connect the trailer patch 12-way connector to the ECU.
28. Apply double sided tape to the ECU and secure it to the vehicle sheet metal.

Note: Mount the ECU, ensuring the connector is orientated downwards.



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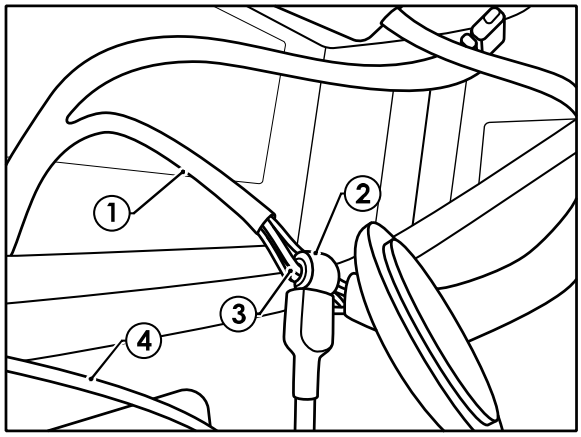
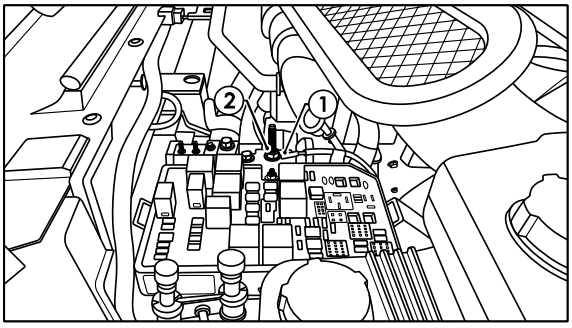
29. At the RHS tail lamp harness, peel back some of the tape (1) covering the harness inside the vehicle.
30. Using a multi-meter, following the table below, connect the ezy-taps (2) to the mating taillight harness wire (3). Then connect the trailer patch wire (4) to the ezy-tap (2).



Function	Trailer Patch	Vehicle Harness
R. Indicator	Green / Black	Red / Black

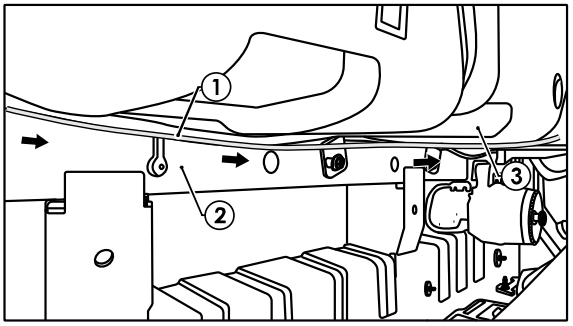
Note: The first wire specified is the main colour and the second wire is the trace colour.

31. At the Fuse Box in the Engine Bay, connect the power wire ring terminal (1) to the fuse box distribution stud (2).



32. Following the existing vehicle wiring, route the orange power wire (1) down firewall and along the outside of the LHS chassis rail (2), above the fuel tank (3), towards the rear of the vehicle.

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



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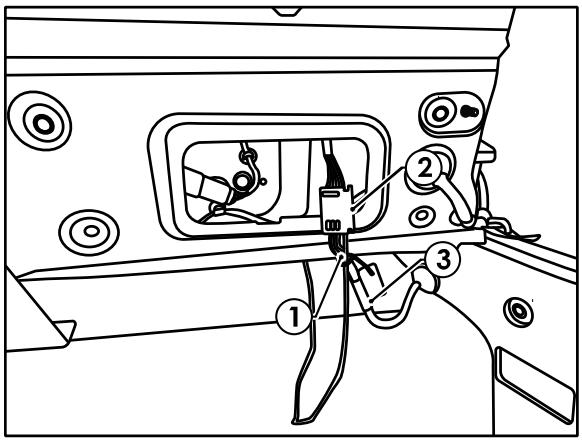
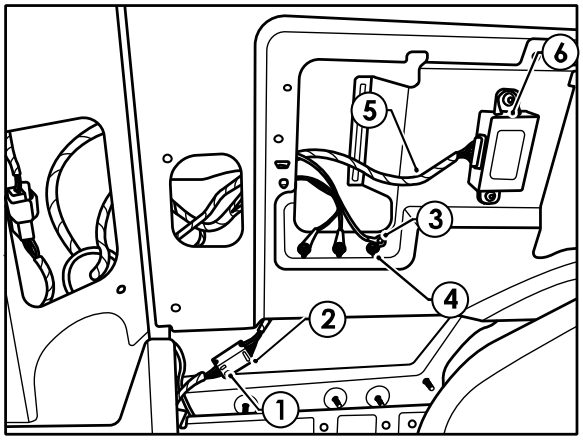
33. At the rear of the vehicle, remove the air vent on the LHS to enable the tail harness to be routed from the towbar to the ECU.
34. Secure tail harness to towbar and route tail harness towards LHS rear air vent.
35. House the male terminal on the orange power wire (1) into the spare cavity on the blue connector (2) on the tail harness (3) (04937).

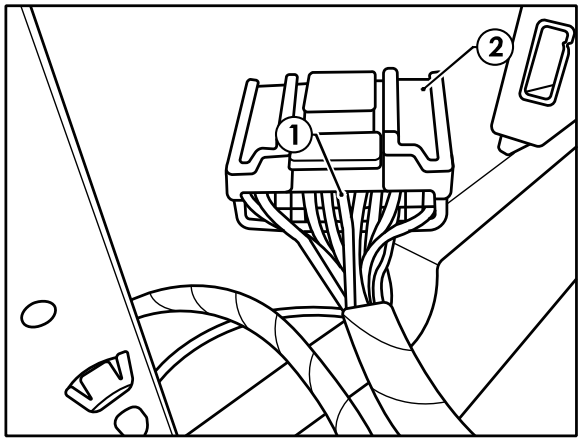
    Note: Keep harness routing clear of all sharp edges, moving parts and places of extreme heat.



36. Feed the tail harness 8-way connector (1) up the air vent to the vehicle cabin and connect to the trailer patch mating 8-way connector (2).
37. Connect the ring terminal (3) to one of the vehicle earth points (4).
    Vehicle with Rear Parking Aid Module in the rear only.
38. Locate the peel back some tape on the vehicle harness (5) leading to the RPA Module (6).



39. Cut the RPA ground wire (1) 100mm back from the vehicle RPA Module.
40. The ground wire is the Blue/Green wire leading into Pin 6 on the ECU connector (2).
41. Strip and crimp the tail harness GREY wire to one side of the Blue/Green wire (1).
42. Strip and crimp the tail harness GREY/BLACK wire to the other side of the Blue/Green wire (1).
43. Insulate using heat shrink or electrical tape.



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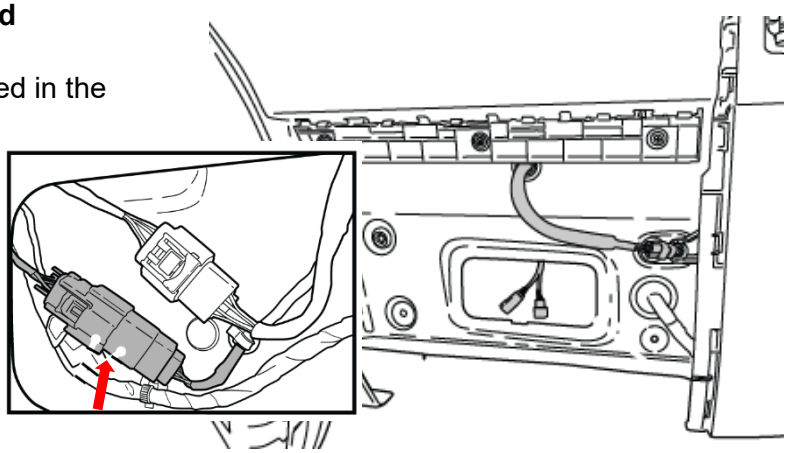
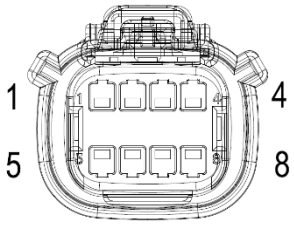
For vehicle without Rear Parking Aid Module

44. Locate the 8-way RPA connector located in the LHS air vent.

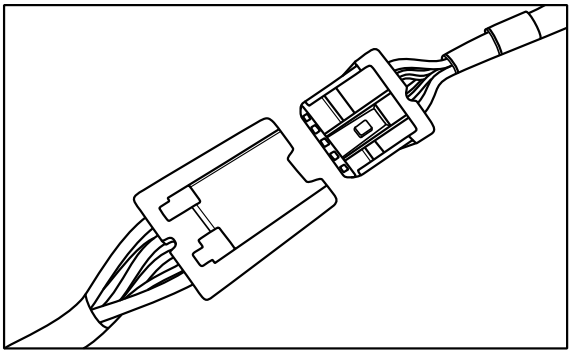


45. Peel back tape of the vehicle harness female connector.
46. Cut RPA ground wire pin 4 (Purple/White).
47. Strip and crimp the tail harness GREY wire to one side of the Purple/White wire.
48. Strip and crimp the tail harness GREY/BLACK wire to the other side of the Purple/White wire.
49. Insulate using heat shrink or PVC tape.



FRONT VIEW

50. Secure all harness using supplied Cable Ties.
51. Test the trailer patch function using a light board or multi-meter.
52. Re-fit all removed parts form steps 1 – 4 in reverse and secure all fasteners, ensuring there are no squeaks or rattles.
53. 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 TRAILBOSS. WITH CORRECT MAINTENANCE AND CARE THIS PRODUCT WILL PROVIDE A LIFETIME OF TROUBLE-FREE OPERATION.

TOWBAR MAINTENANCE AND CARE:

1. Trailboss recommend that the towbar LUG or TBM (Trailer Ball Mount) Pull Pin and R-clip are removed and stored when not in use. Removal of LUG or TBM (Trailer 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. Trailboss 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.

WARRANTY INFORMATION:

Trailboss 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 contact customer service on 1800 812 017.

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PRO SERIES SILENT ANTI-RATTLE HITCH PIN

Your Trailboss towbar is equipped with a Pro Series Silent Anti-Rattle Hitch 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.

Regularly inspect for wear and check the tightness of the Silent Anti-Rattle Hitch Pin. 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 hitch pin nut is installed and tensioned. Replacement parts are available from your Pro Series 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 Silent Anti-Rattle Hitch 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 Silent Anti-Rattle Hitch Pin (f) onto Smart Pin (g); tighten Smart Pin Nut until finger tight, ensuring TBM is restrained from up and down movement.

STEP 4

Tighten Silent Anti-Rattle Hitch 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 Silent Anti-Rattle Hitch Pin R-Clip through the hole that provides best clearance or easiest access. (Fig. 5)

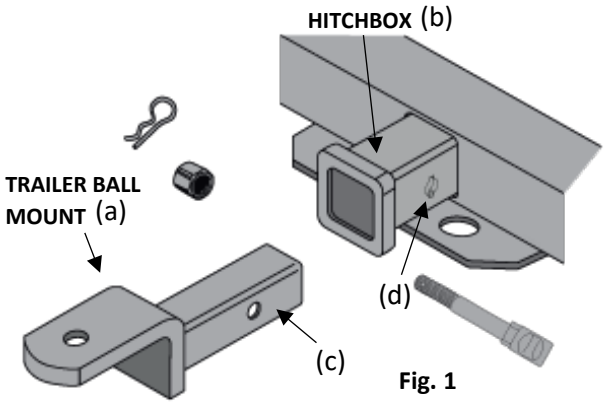

Fig. 1

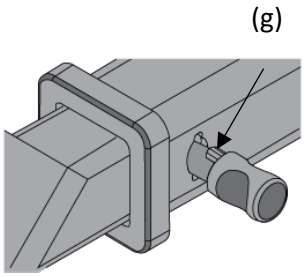

Fig. 2

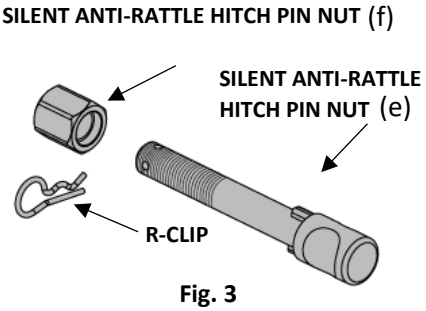

Fig. 3

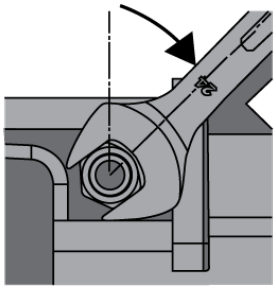
Fig. 4

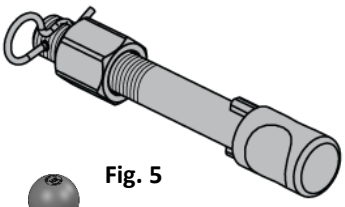
Fig. 5

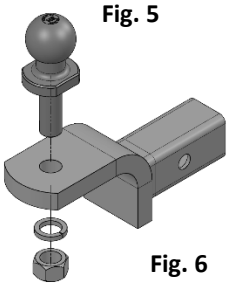
Fig. 6

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