



TOWBAR INSTALLATION INSTRUCTIONS

PART NUMBER QTKM20L

KIA OPTIMA JF CL4

PRODUCT DETAILS:

Part Number:	QTKM20L	Maximum Towing Braked:	1700	kg
ECU Number:	N/A	Maximum Towing Unbraked:	750	kg
Tail Harness Length Required:	1800 mm	Maximum Static Ball Load:	80	kg
TBM/Lug Part Number:	21126			

FITTING DETAILS:

Towbar Installation Time:	80 Mins.	RPA Disable/Other:	YES
Total Installation Time:	110 Mins.	Note: RPA Disable on Dash	
Bumper Cut Required:	Yes		

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

BEFORE YOU START:

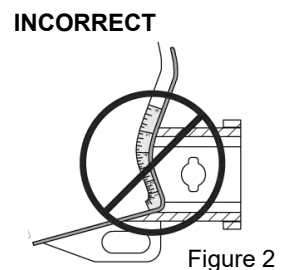
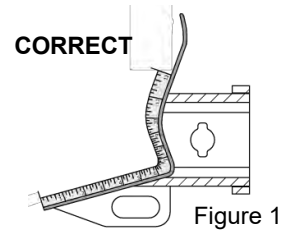
Check all hardware items have been included refer to assembly diagram.
Please ensure this towbar is only fitted to vehicle models as per Trailboss application guide.

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.

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.
 - o Measure from bottom edge along bumper and around corner to the 70 mm point (Figure 1).
 - o 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

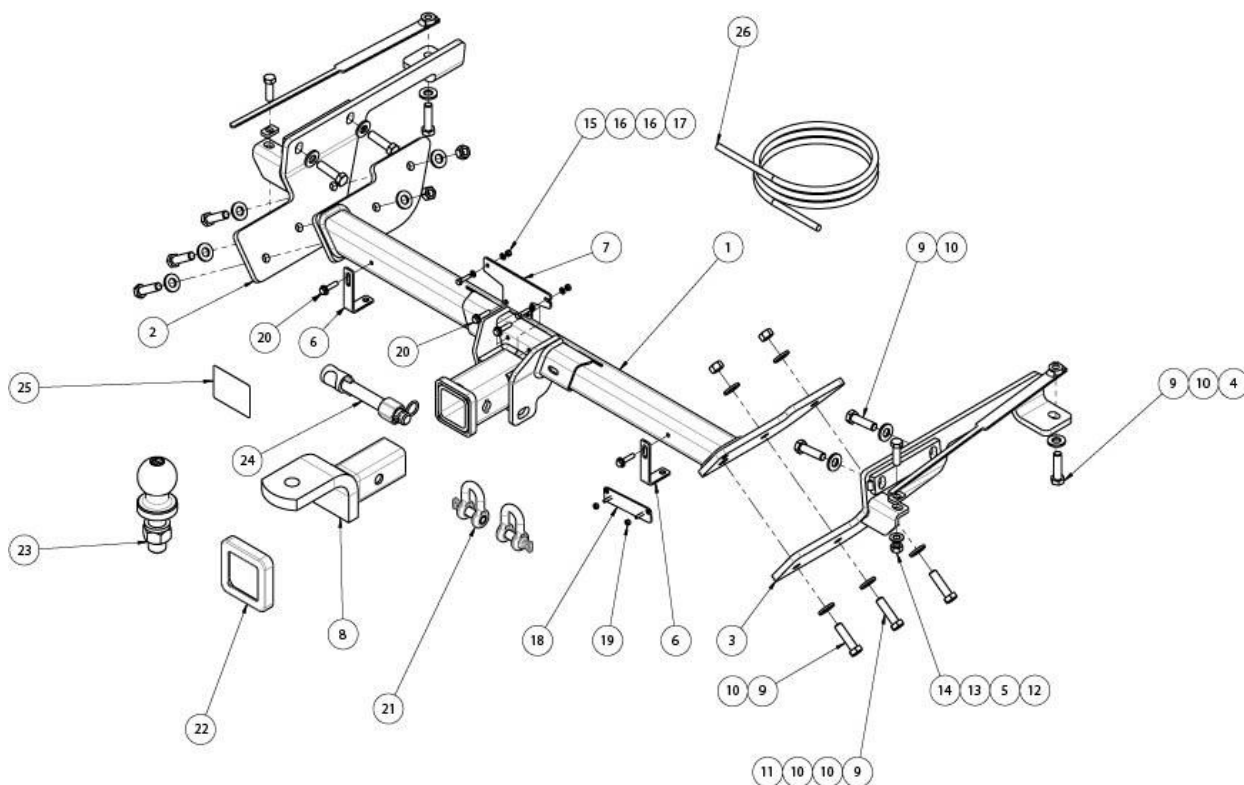
- a. Towbar load rating sticker provided with this product shall be conspicuously located on inside rear end of the driver's door.

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.

TOWBAR ASSEMBLY DIAGRAM

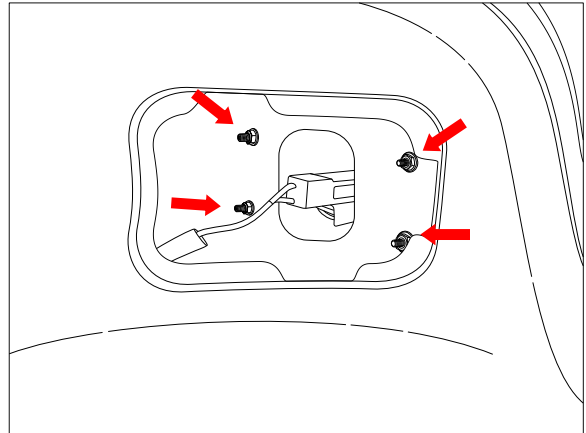


ITEM	DESCRIPTION	QTY
1	KIA OPTIMA WELDED ASSY	1
2	SIDE ARM ASSY LH	1
3	SIDE ARM ASSY RH	1
4	NUT PLATE 420MM	2
5	SPACER PLATE	2
6	BUMPER TAB	2
7	SENSOR BRACKET	1
8	TRAILER BALL MOUNT	1
9	SET SCREW HEX HD M12x45x1.25P	12
10	WASHER PLAIN 1/2	16
11	NUT HEX HD M12x1.25P	4
12	SET SCREW HXHD M10x35x1.5P	2
13	WASHER PLAIN M10	2

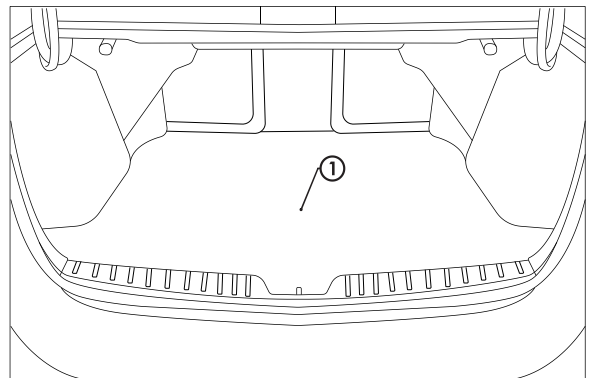
ITEM	DESCRIPTION	QTY
14	HEX NUT M10x1.5P	2
15	NUT NYLON INS LOCK HEX M5x0.8P	2
16	WASHER PLAIN M5	4
17	SET SCREW HEX HD M5x20x0.8P	2
18	PLUG BRACKET	1
19	NUT NYLON LOCK HEX M4x0.7P	2
20	TEK SCREW 14-10 HEX HD 25mm	4
21	"D" SHACKLE 10mm	2
22	HITCH BOX COLLAR COVER	1
23	TOWBALL 50mm	1
24	SILENT HITCH PIN - SILVER	1
25	ACRYLIC COMPLIANCE LABEL	1
26	WIRING LOOM	1

1. Open boot and remove side cover.
2. Unclip and disconnect the wiring harness from the exposed taillight.
3. Remove 4 x Nuts from taillight.
4. Remove the taillight from the vehicle by gently pulling rearwards.

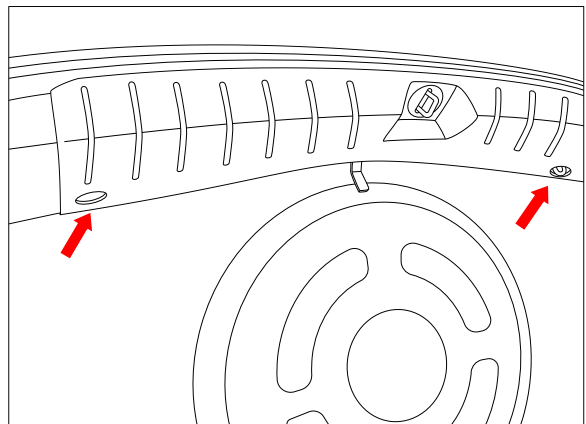
Repeat for other side.



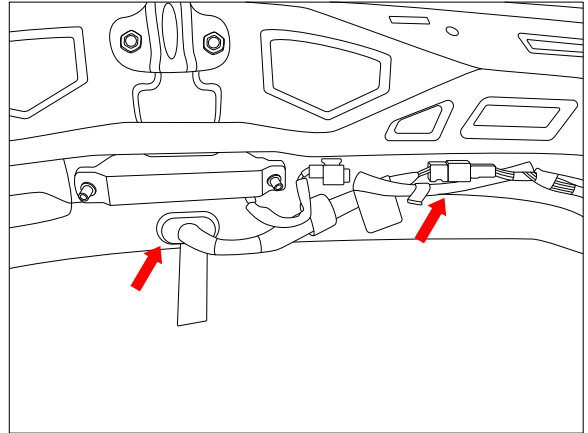
5. In the luggage compartment, remove the floor cover carpet (1).



6. In the boot, remove 2 x plastic screw covers from the rear garnish.
7. Remove rear garnish by pulling upwards.

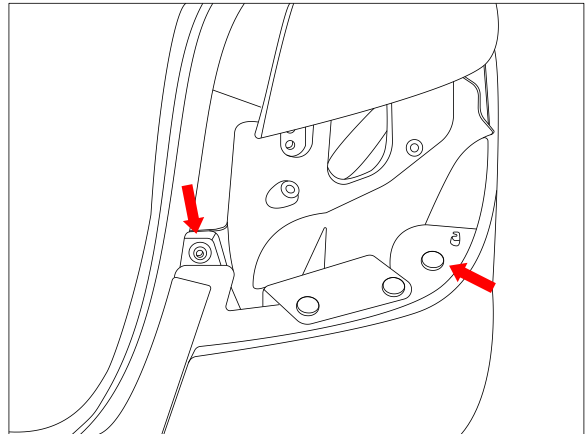


8. In the boot, disconnect the main wiring loom connector (white plug) and push it through the rear panel along with the sealing grommet.



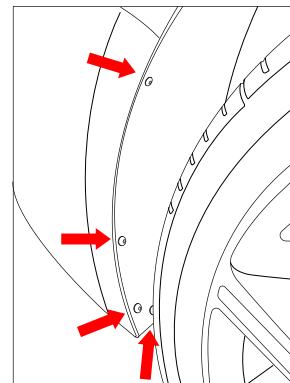
9. In the taillight cavity remove 1 x scrivet and 1 x Hex screw.

Repeat for opposite side.



10. In the wheel arch, remove 3 x screws and remove 1 x scrivet located on the underside of the bumper.

Repeat for other side.



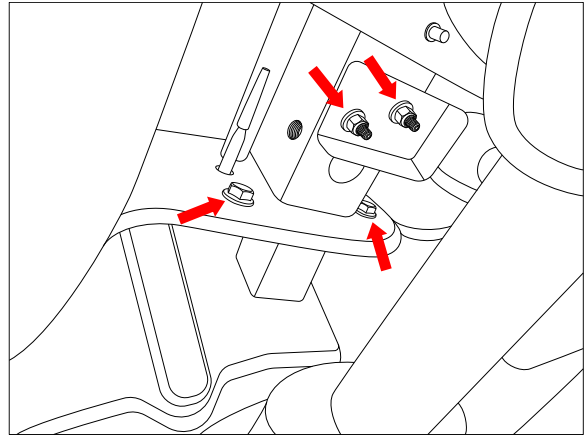
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11. Under vehicle remove 2 x Flange nuts from the exhaust hanger bracket (exhaust will drop slightly).

Remove and discard 2 x bolts from the impact beam.

Repeat for opposite side.

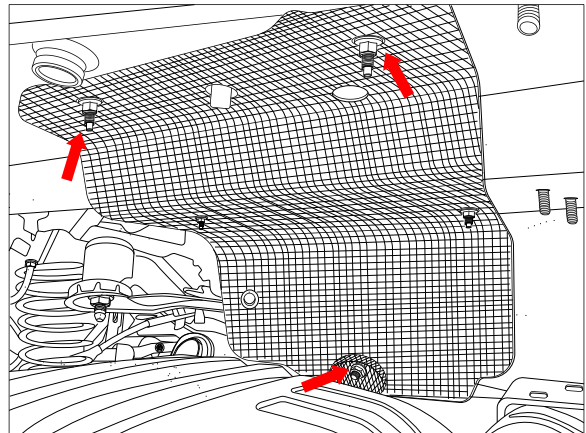
12. Peel bumper away from the sides and remove from vehicle.

Note: Impact beam will come away with bumper bar.



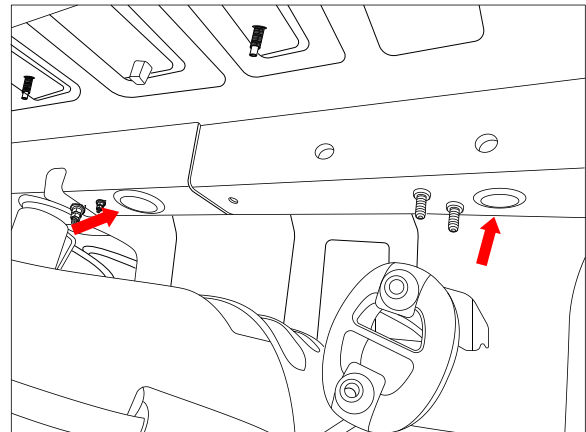
13. Remove heat shield secured with 3 x nuts.

Repeat for other side.



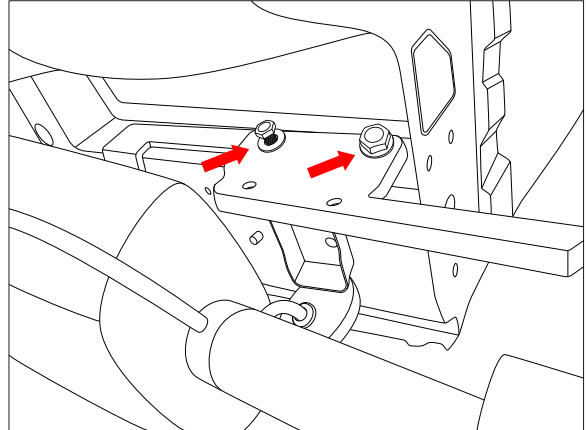
14. Remove 2 x exposed covers from the underside of chassis rail.

Repeat for other side.



15. Loosely secure the side arm to the inner face of the chassis rail with 2 x M12 bolts complete with 1 x washer per bolt.

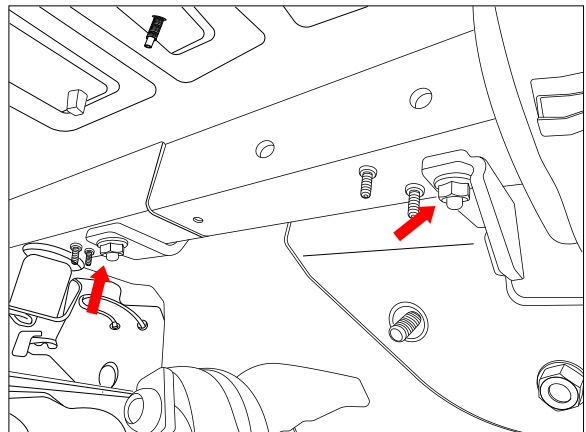
Repeat for other side.



16. Insert the M12 nut plate into the chassis rail and loosely secure the side arm front mount with 1 x M12 Bolt complete with 1 x washer.

17. Insert 1 x Spacer along with 1 x M10 bolt into the chassis rail and loosely secure the rearmost mount with 1 x M10 Nut complete with 1 x washer.

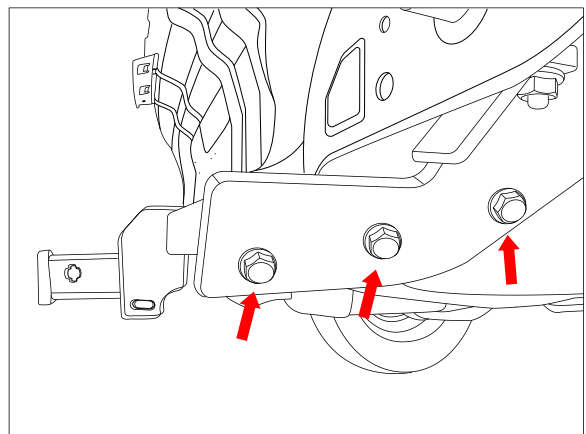
Repeat for other side.



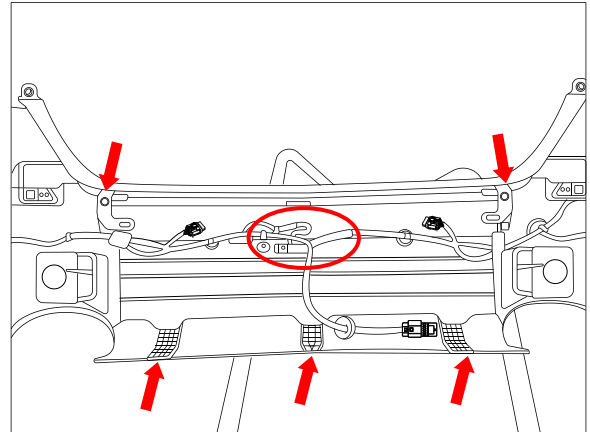
18. Lift crosstube to side arms and loosely secure each side with 1 x M12 bolt complete with 1 x washer (into crosstube) and 2 x M12 bolts complete with 2 x washers and 1 x Nut per bolt for the remaining two holes.

Position the towbar and torque all fasteners accordingly:

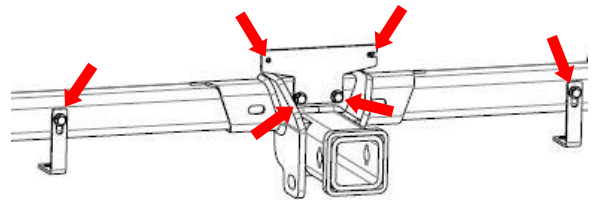
M10 Gr 8.8 : 48Nm
M12 Gr 10.9 : 125Nm



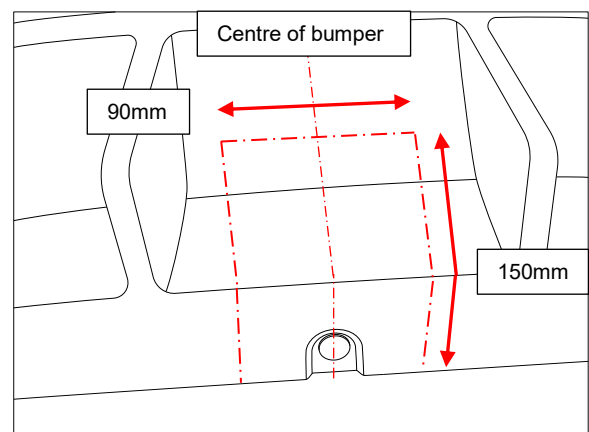
19. Remove the remote sensor secured with 2 x screws along with the wiring loom from the impact beam.
20. Remove impact beam from bumper secured with 5 x scrivets.



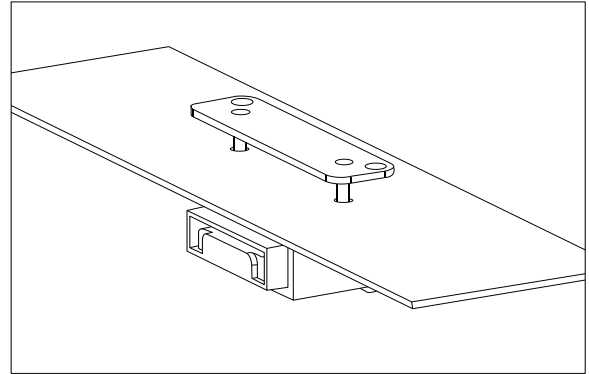
21. Loosely attach 2 x bumper tabs to the crosstube with 1 x Tek screws per bracket.
22. Attach the sensor bracket to the crosstube with 2 x Tek screws
23. Fit the remote sensor to the sensor bracket with 2 x M5 bolts complete with 2 x washers and 1 x nyloc nut per bolt.



24. Locate the centre of the bumper and mark off 90mm wide by 150mm long measured from the bottom edge of the bumper. Cut out marked off bumper marked off area and deburr edges.

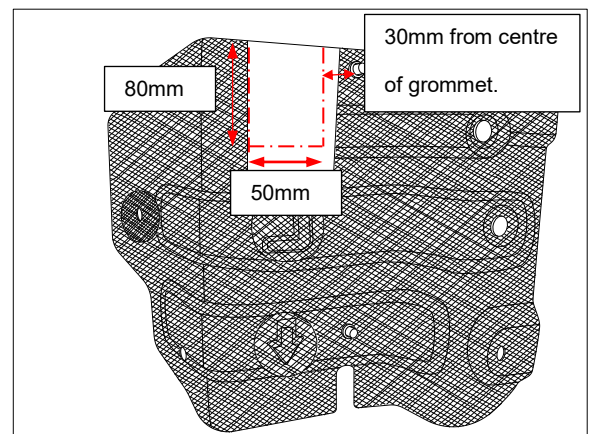


25. Determine an appropriate position for the plug bracket. Mark out and drill 2x $\varnothing 5\text{mm}$ holes 69mm apart on bumper skin to support plug bracket.



26. On the Left side heat shield mark off and cut out a slot 50mm x 80mm as depicted.

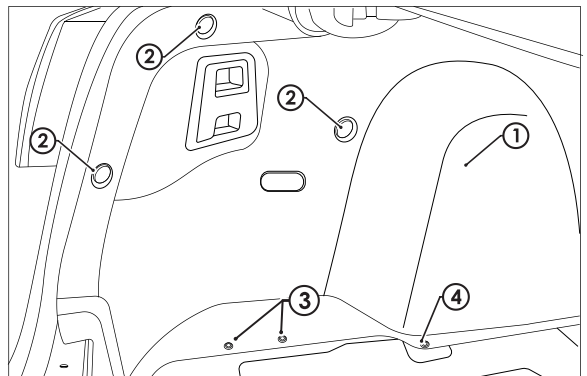
Repeat for opposite side.



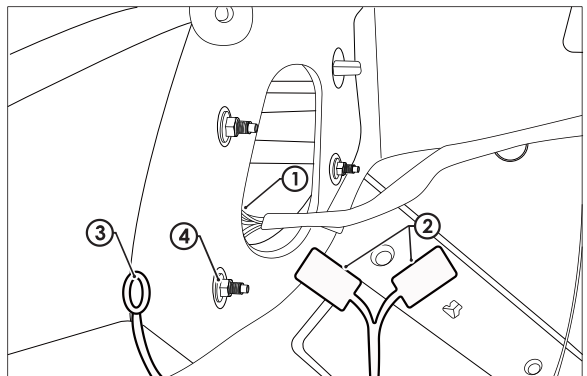
! IMPORTANT

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.

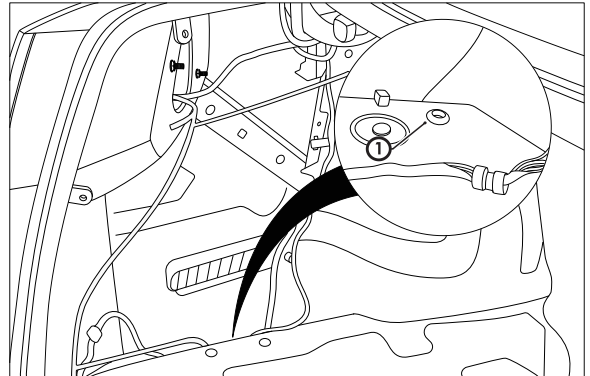
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27. On the LHS side trim (1), remove the three clips (2).
 28. Remove the two floor screws (3).
 29. Remove the floor bolt (4) and remove the LHS side trim (1).
 30. Repeat steps for the RHS.



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31. Locate the LHS tail light connector (1).
 32. Patch in the Trailer Harness (P/No: 100548-WL) mating connectors (2).
 33. Connect the Trailer Harness ground ring terminal (3) to the LHS tail light stud (4).

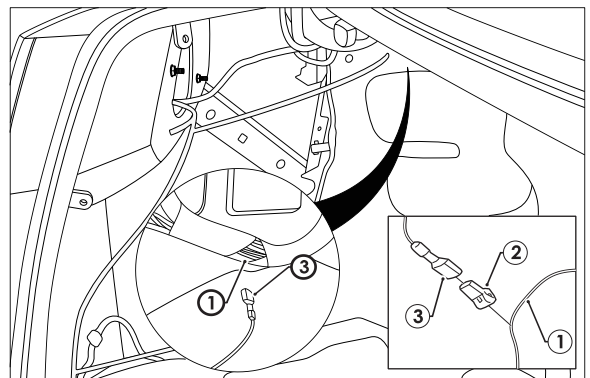


34. Remove the LHS luggage compartment grommet (1).
35. Drill out the grommet hole to Ø30mm.
36. File any rough or sharp edges and spray on rust inhibitor.

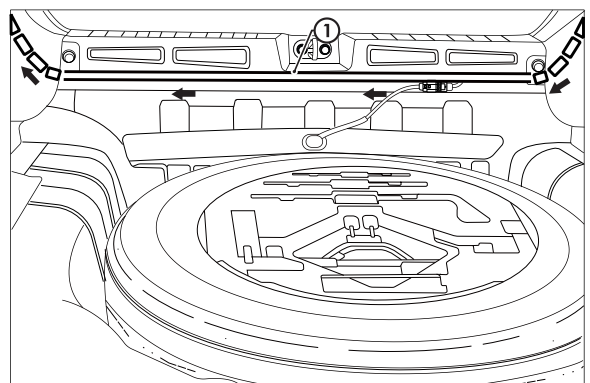


37. Locate the vehicle 'BLUE' reverse signal wire (1).
38. Following the table below, connect the ezy tap (2) to the vehicle 'BLUE' reverse signal wire (1).
39. Connect the Trailer Harness reverse terminal (3) to the ezy tap.

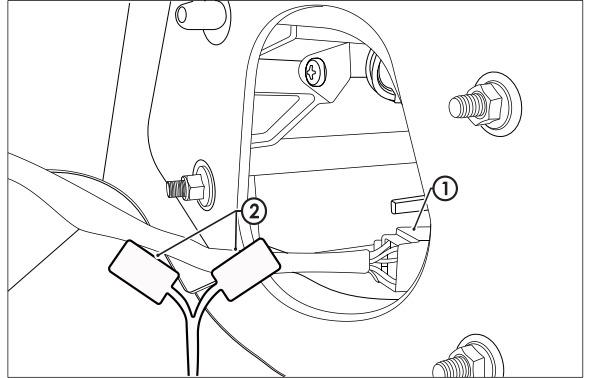
Function	Trailer Patch	Vehicle Connector
REVERSE	BLACK	BLUE



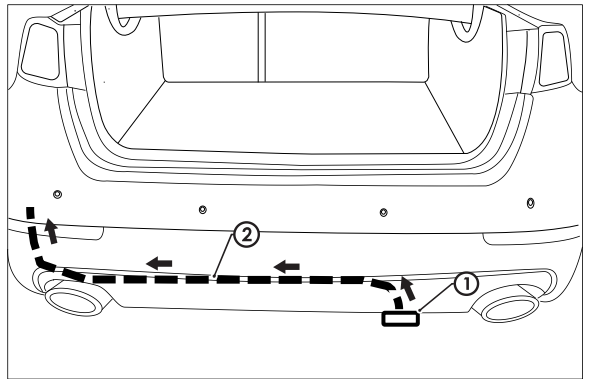
40. Route the Trailer Harness (1) across the rear of the luggage compartment and towards the RHS tail light connectors.



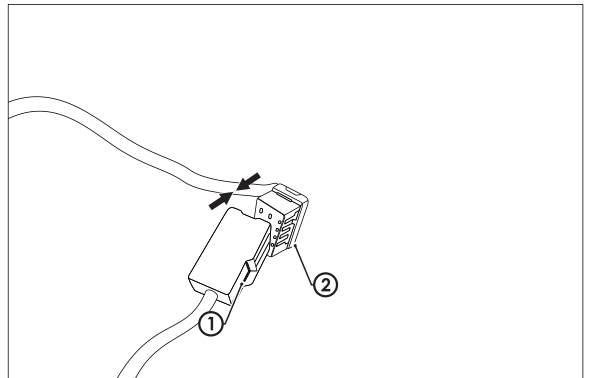
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41. Locate the RHS tail light connectors (1).
 42. Patch in the Trailer Harness mating connectors (2).



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43. From outside the vehicle, mount the trailer socket (1) to the towbar mounting bracket using M4 fasteners (not supplied).
 44. Route the Tail Harness (tail length 1800mm) (2) across the towbar towards the LHS of the vehicle and up through the previously drilled out hole.
 45. Ensure the Tail Harness grommet is seated correctly and secure in place using a cable tie (not supplied).



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46. Connect the Tail Harness 8-way connector (1) to the Trailer Harness mating 8-way connector (2).



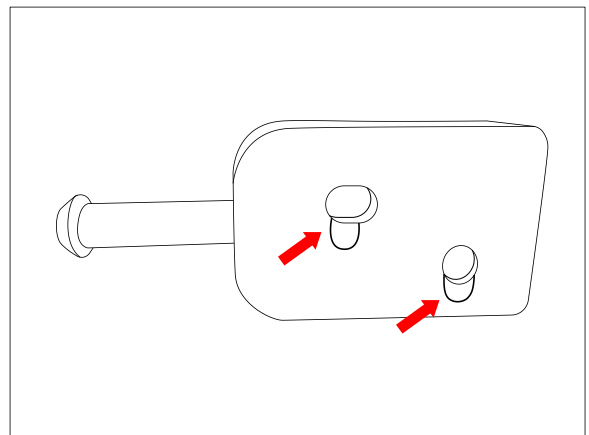
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47. Test the Trailer Harness function using a Light Board or multimeter.
 48. Secure all Harnesses using cables ties (not supplied).
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49. Reattach bumper and removed components by and secure all fasteners, ensuring there are no squeaks or rattles.

NOTE:

Clearance slots may be required to be cut out on the exhaust hanger brackets (as per image) to ensure fitment.

50. Fit the scrivenets to the bumper tabs and tighten the bumper tabs in the appropriate position.
 51. Ensure to reconnect the remote sensor to the wiring loom (removed from impact beam in step 19) and cable tie (not supplied) all loose wiring to the crosstube.
 52. Place the 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 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.

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)

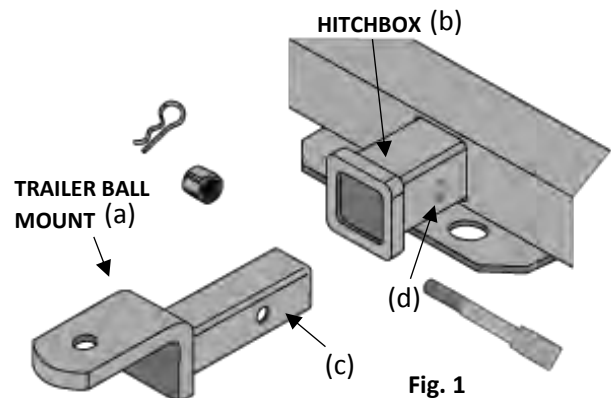


Fig. 1

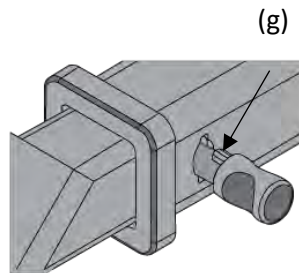


Fig. 2

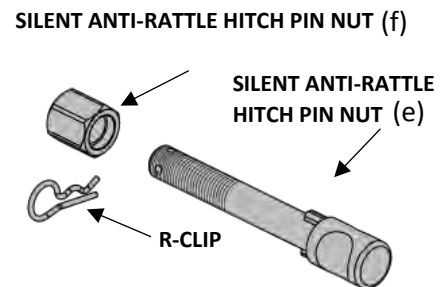


Fig. 3

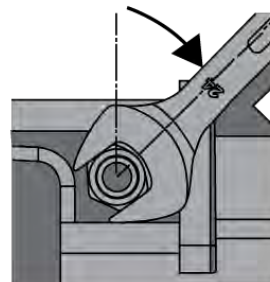


Fig. 4

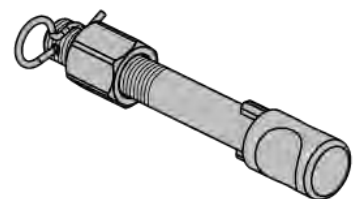


Fig. 5