

HAYMAN REESE
PART No: **03199RW**
KIA CARNIVAL YP CL4

INSTALLATION INSTRUCTIONS

PLEASE ENSURE THAT INSTRUCTIONS ARE UNDERSTOOD PRIOR TO FITMENT
PLACE THESE INSTRUCTIONS IN THE VEHICLE'S GLOVEBOX AFTER INSTALLATION IS COMPLETED



Installation Time: Approx **90** Mins

Towbar Installation Instructions

Towbar capacity

KIA CARNIVAL YP CL4

Part Number **03199RW**

Max Towing Braked **2000** kg

Max Towing Unbraked **750** kg

Max Static Ball Load **200** kg

Tail Harness Length Required: 1800mm

Hayman Reese (Cequent)
PO Box 4050, Dandenong South VIC 3164
Phone 1800 812 017 Email info@haymanreese.com.au

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Warning:

1. Do not, drill, cut, weld or otherwise modify the towbar.
2. If you are using electric welding on a motor vehicle, **always** check that the vehicle is not equipped with electronic engine or instrument management equipment. Failure to do so could **destroy** any on board computers. If in doubt, check with the vehicle's manufacturer.
3. If TBM is used in inverted position tow ball may make contact with rear tailgate when lowered, which could cause damage.

General:

1. Ensure all hardware items have been included refer to assembly diagram.
2. It is recommended that the instructions are read through and completely understood before making any attempt to fit this product.
3. Be wary of any changes to vehicle designs or other accessories that may conflict with the installation of this product.
4. Before drilling ensure that the area is clear of fuel, electrical & other components.
5. All holes drilled into the body panels shall have all burrs & swarf removed then coated with a suitable rust preventative paint.
6. The high tensile fasteners supplied with this product were used to achieve the specified rating. If replacement is required ensure that fasteners of the same rating & quality are used. Contact an authorised **Hayman Reese** dealer if further information is required.
7. Ensure that all hardware is fastened to torque list below check fasteners on regular basis.
8. Towbar load rating sticker provided with this product shall be conspicuously located on inside rear end of the driver's door. **(See diagram below).**
9. Hayman Reese recommends that you check your tow ball to ensure that it complies with the Australian standards **AS 4177.2**.
10. **PLEASE NOTE:** It is advised to remove your LUG or TBM when not actually towing so as to produce a clear view of the vehicles registration plate if obscured, and to also provide maximum available departure angle.

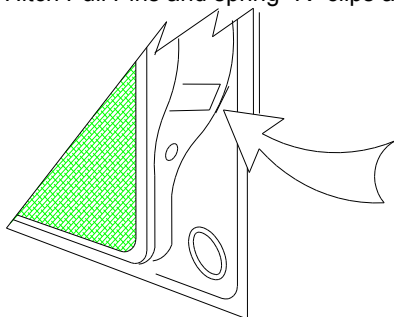
Tow bar Maintenance and Care.

Hayman Reese recommends that bolt torque's, as listed below, are routinely and regularly inspected and checked for correct tension. Replace any worn or defective parts.

We recommended to remove Tow Ball Mounts (TBM's, tongues or lugs) when not being used for any considerable length of time.

So as to avoid injury, when not towing it is suggested that the tongue, Pull Pin and R-clip are removed then stored in a safe, clean and dry place, away from excessive moisture.

Hitch Pull Pins and spring "R" clips are regularly checked for proper installation. Replace any worn or defective parts.



Place load rating sticker
inside driver's door here

RECOMMENDED ASSEMBLY TORQUE LISTING

Diameter Grade 8.8 Bolt

M6	9.5 Nm
M8	21.7 Nm
M10	43.4 Nm
M12	77.3 Nm
M14	146 Nm
M16	189.8 Nm

FOR TOWING PURPOSES ONLY

For towing capacity details please refer to vehicle owner's manual or to the manufacturer. Overloading can void your warranties.

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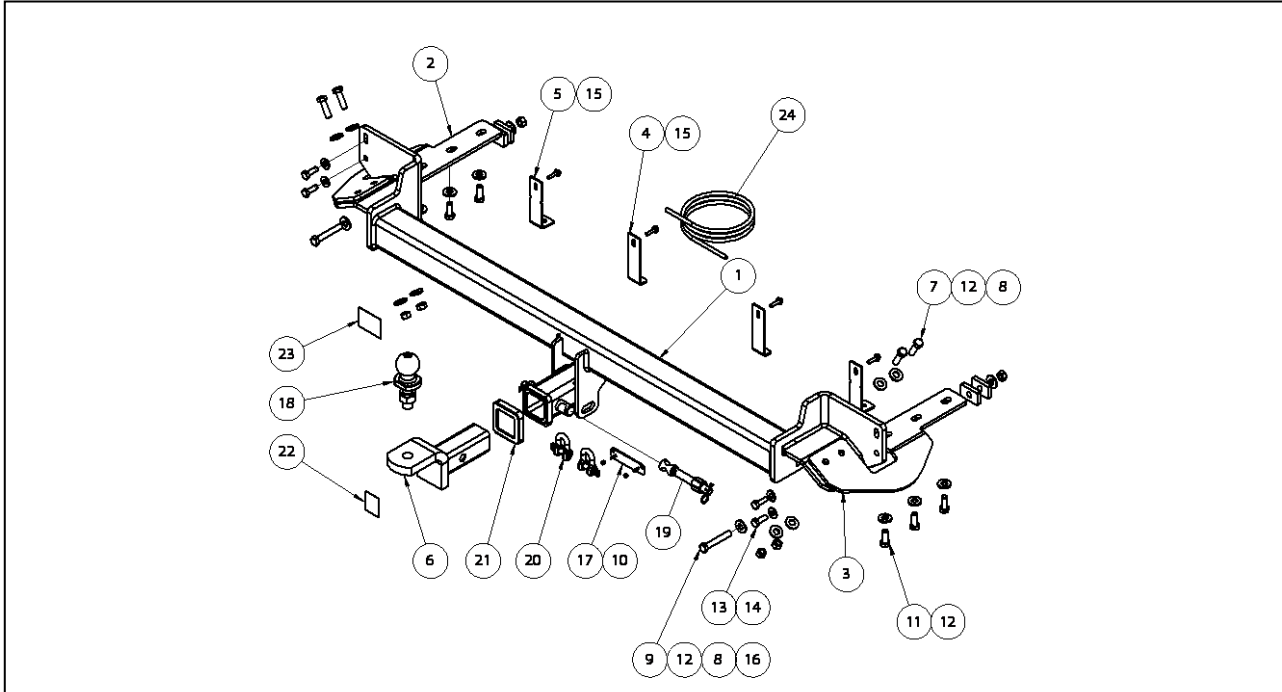
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ITEM	DESCRIPTION	QTY
1	KIA CARNIVAL YP WELDED ASSY	1
2	SIDE ARM – LHS	1
3	SIDE ARM – RHS	1
4	INNER BUMPER TAB	2
5	OUTER BUMPER TAB	2
6	TRAILER BALL MOUNT	1
7	BOLT M12-1.25x40MM GR 8.8 Z/P	4
8	NUT HEX HD M12x1.25P	6
9	BOLT M12-1.25x75	2
10	NUT NYLOC M4-0.07 Z/P	2
11	SETSCREW M12x30x1.25P	6
12	WASHER FLAT M12	18

ITEM	DESCRIPTION	QTY
13	SETSCREW M10-1.25x30 Z/P	4
14	WASHER FLAT M10x23x2 Z/P	4
15	TEK SCREW 14-20 HEX HD 22MM	4
16	LOOSE PLATE 50x32x10	4
17	PLUG BRACKET	1
18	HR TOWBALL	1
19	SMART PIN ASSY CLASS 4-GOLD	1
20	"D" SHACKLE 10MM	2
21	HITCH BOX COLLAR COVER	1
22	H.R STICKER	1
23	ACRYLIC CP LABEL	1
24	WIRING LOOM	1

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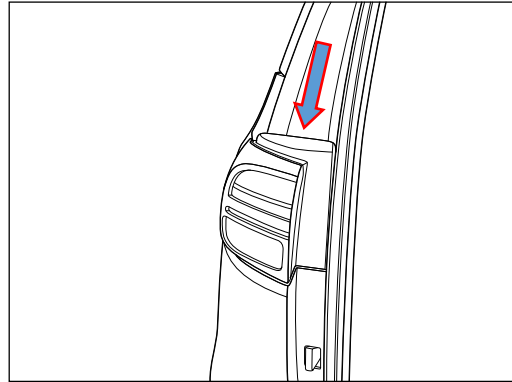


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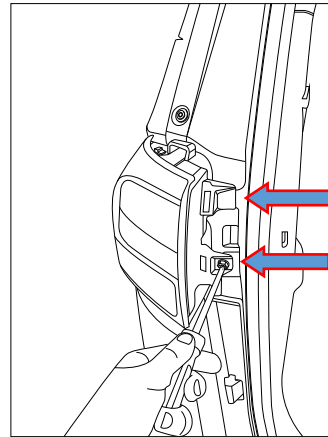
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1. Carefully remove cover surrounding tail light.
Repeat for opposite side of vehicle.



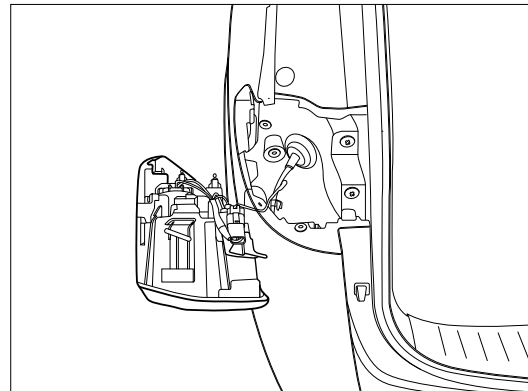
2. Remove 2 x screws that were concealed under tail-light covers.

Repeat for opposite side of vehicle.



3. Carefully remove and disconnect tail light from vehicle.

Repeat for opposite side.



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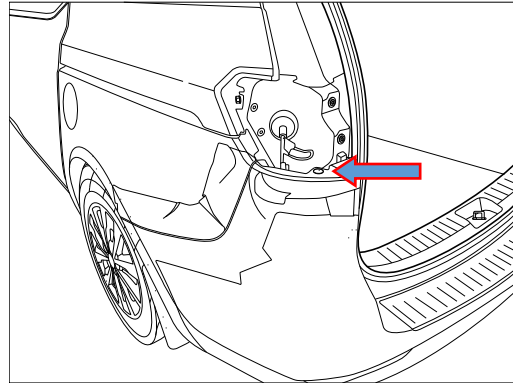
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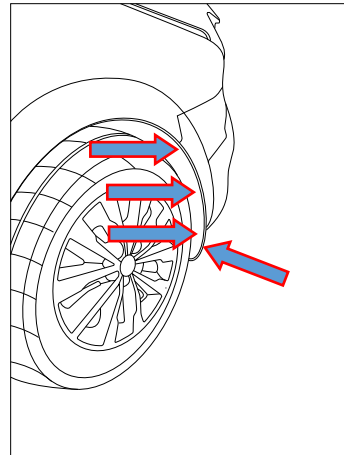
4. Remove 1 x scrivet on top of the bumper near light.

Repeat for opposite side of vehicle.



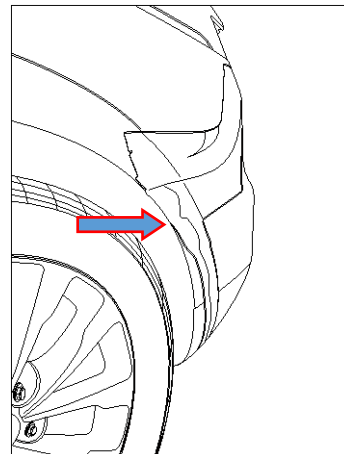
5. Remove 3 x screws from around wheel arch and 1 x scrivet from underneath mud flap. Remove mud flap.

Repeat for opposite side.



6. Remove 1 x screw at the top of the wheel base.

Repeat for opposite side.



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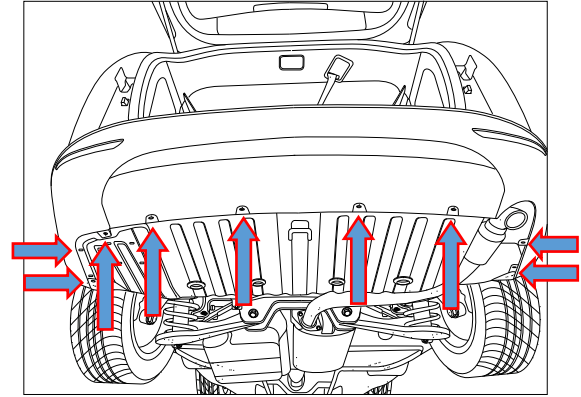


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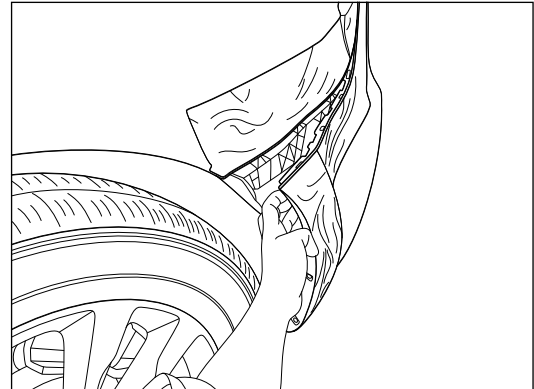
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7. Remove 9 x scrivets located on the underside of the bumper.

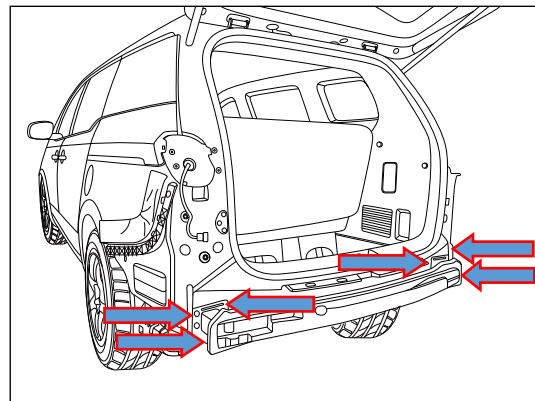


8. Carefully unclip and remove rear bumper, peeling bumper from edge of wheel.

Disconnect parking sensor loom where applicable.



9. Remove 6 x hex head bolts (3 per side) securing the rear impact beam to the rear panel of the vehicle; carefully remove and discard rear impact beam and bolts.



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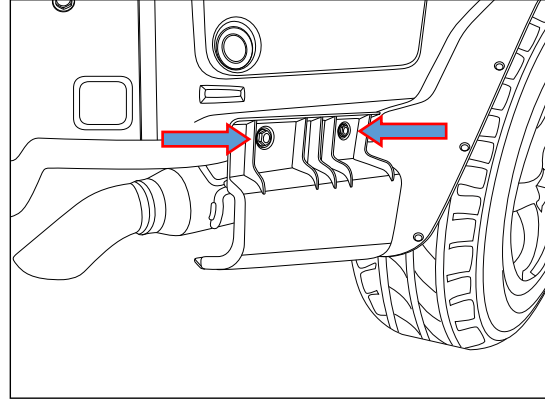
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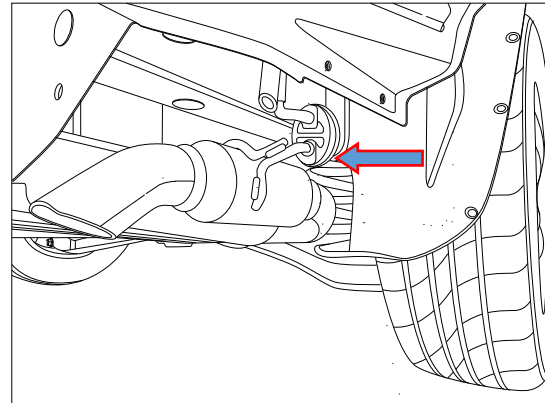
10. Remove guard on side of vehicle by unscrewing 2 x M10 screws.

Repeat for opposite side of vehicle.



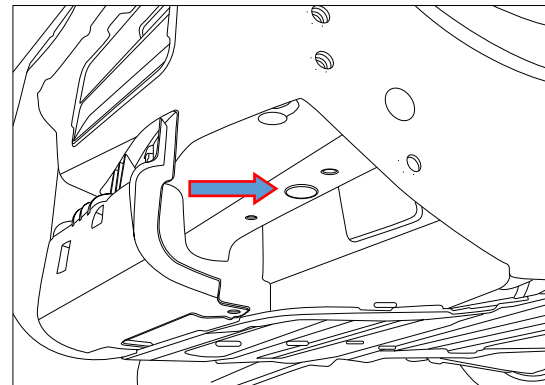
11. Supporting the rear end of exhaust, disconnect exhaust mount bracket from rubber exhaust mounts on RHS of vehicle.

This enables access to the chassis rail.



12. Remove cover from forward hole in chassis rail under vehicle and discard.

Repeat for opposite side of vehicle.



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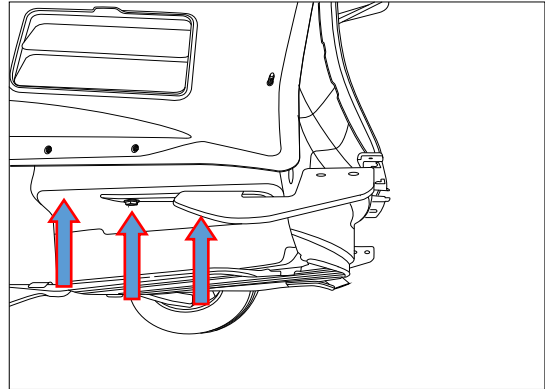


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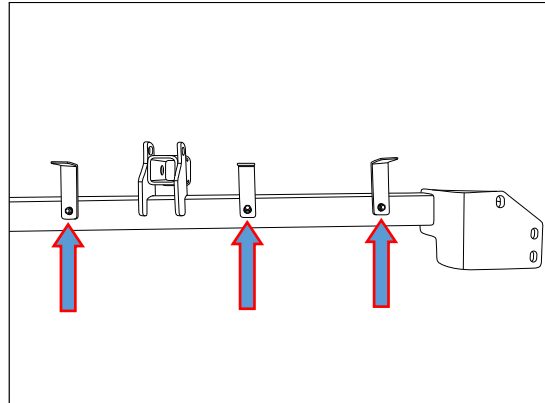
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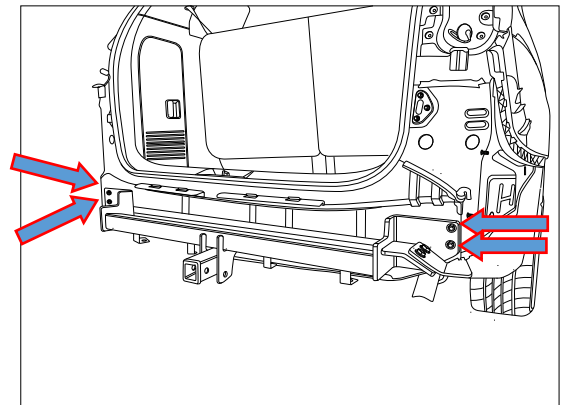
13. Loosely secure one side arm of towbar to the underside of the chassis rail using 3 x M12 x 30 bolts complete with 1 x M12 flat washer per bolt.



14. Loosely secure bumper tabs onto towbar welded assembly using 4 x tek screws provided.



15. Loosely secure welded towbar assembly to rear panel of vehicle using 4 x M10 x 30 hex head bolts (2 per side) complete with 1 x M10 flat washer per bolt.



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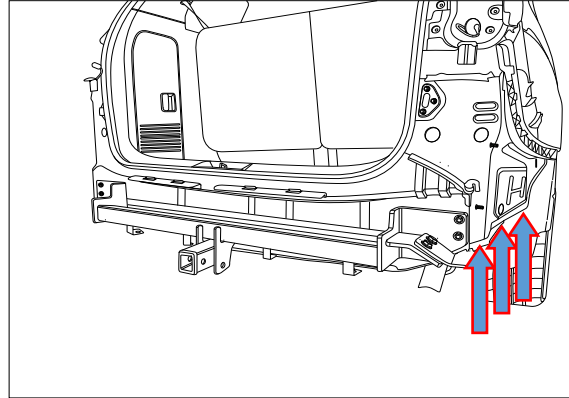


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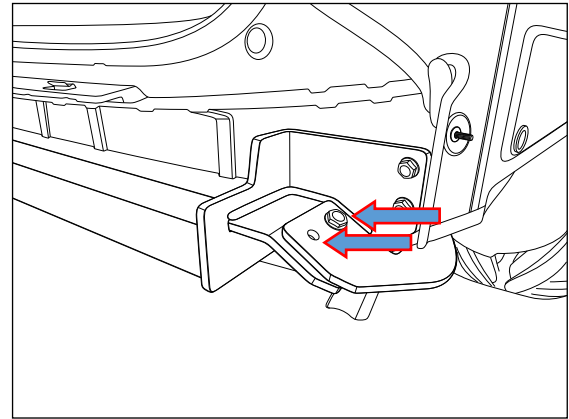
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16. Loosely secure other side arm of towbar to the underside of the chassis rail using 3 x M12 x 30 bolts complete with 1 x M12 flat washer per bolt.

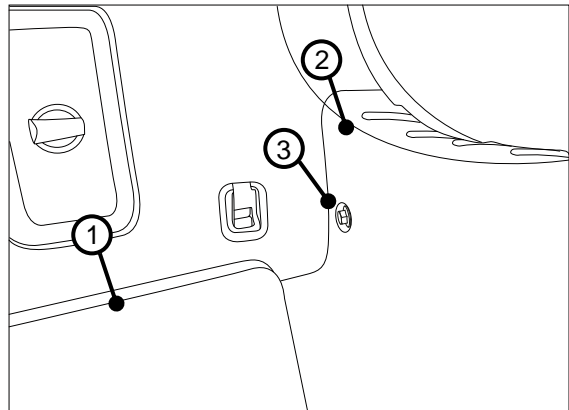


17. Loosely secure both side arms to towbar welded assembly using 4 x M12 x 40 bolts (2 per side arm), complete with 2 x M12 flat washers and 1 x M12 nut per bolt.



18. Disconnect the negative battery terminal and wait for 90 seconds before commencing.

19. Inside the luggage compartment, remove the floor carpet (1) and then remove the rear trim (2) by removing two fasteners (3) (one fastener shown).



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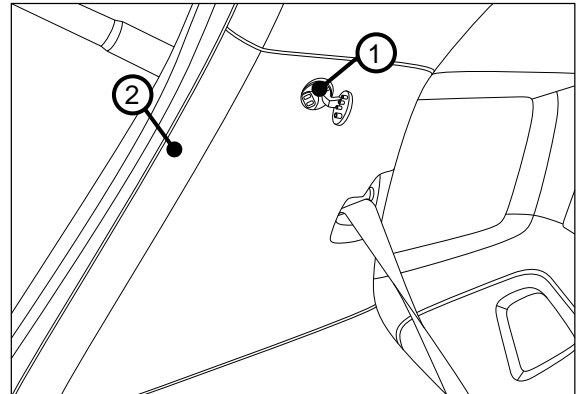
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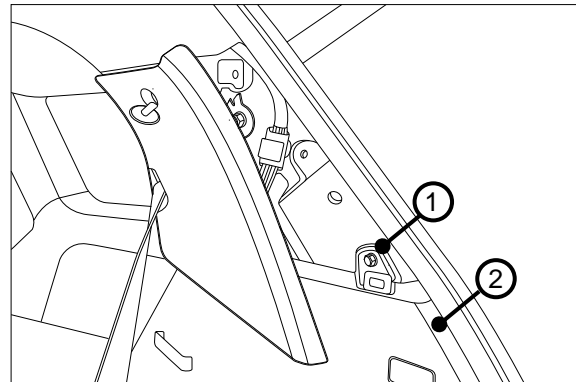
20. Remove the LHS upper 'D' pillar trim bolt (1) and then dislodge the trim (2).

Repeat for the RHS.

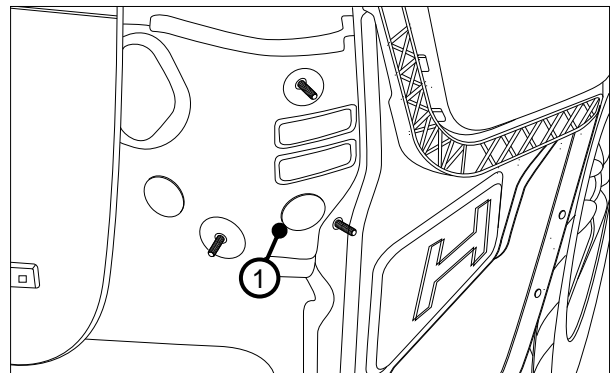


21. Underneath the 'D' pillar trim area, remove the exposed fastener (1) from the RHS luggage compartment trim (2) and then dislodge enough of the trim to gain access to the vehicle wiring.

Repeat for the LHS.



22. At the exterior RHS rear quarter of the vehicle, remove the vehicle grommet (1) and confirm grommet hole diameter is $\text{\O}30\text{mm}$. If not, drill out grommet hole to $\text{\O}30\text{mm}$. **Ensure the interior area behind the drilling location is clear of any obstructions before drilling.**



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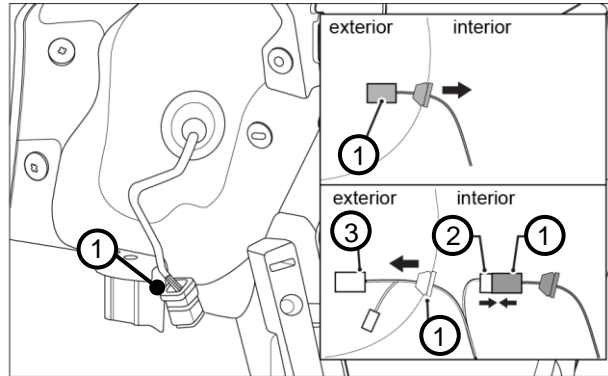


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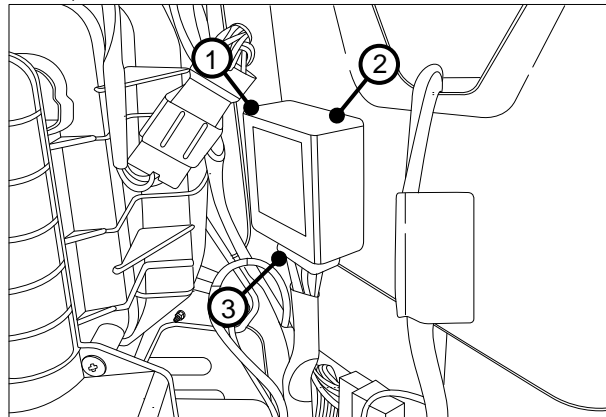
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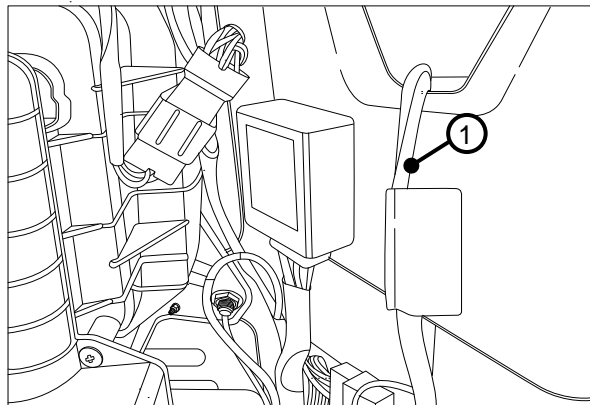
23. From the vehicle interior, retrieve the vehicle RHS tail light connector (1).
24. Route the trailer patch (P/No: 101357-WL) connectors to the retrieved RHS tail light connector (1) and connect to the mating trailer patch connector (2).
25. Route the remaining trailer patch connector (3) through the vehicle grommet hole until the trailer patch grommet (4) is seated correctly.



26. In the RHS interior rear quarter, locate an area on the vehicle sheet metal suitable to mount the ECU (1) (P/No: 04826). Using an alcohol wipe (not supplied), clean the sheet metal area where the ECU will be mounted (2).
27. Connect the trailer patch ECU connector (3) to the ECU (1).
28. Adhere the supplied double sided tape to the ECU (1) and mount to the cleaned area on the vehicle sheet metal.



29. Route the trailer patch harness (1) across to the LHS tail light area.



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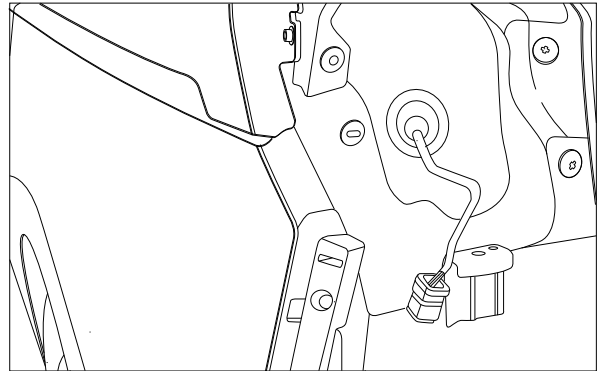


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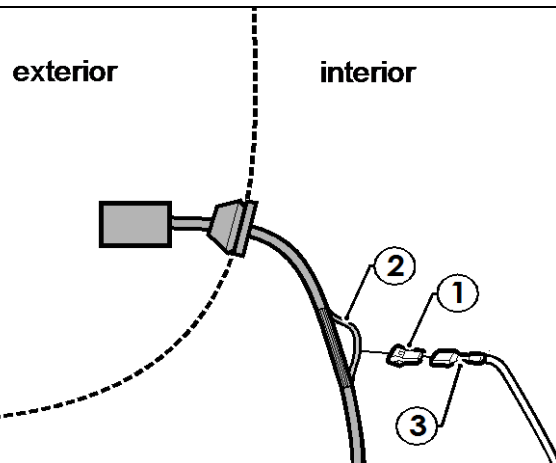
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30. At the LHS exterior, locate the tail light harness GREY wire. Trace this wire back to the interior LHS luggage compartment area.

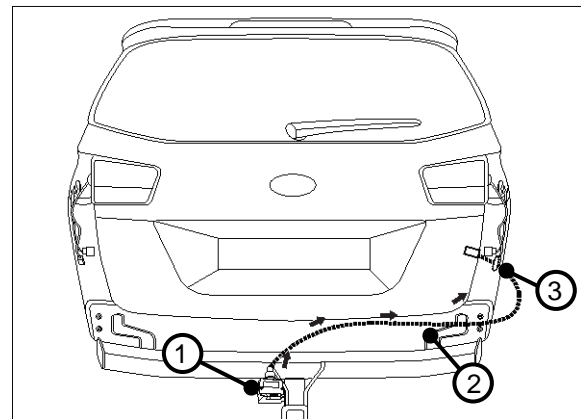


31. Secure the supplied scotch lock (1) onto the vehicle harness GREY L.IND wire (2) and connect the trailer patch BLACK wire terminal (3) to the scotch lock (1).

Vehicle Wire	Trailer Patch	Function
GREY	YELLOW/BLACK	L.IND



32. At the rear exterior of the vehicle, mount the tail harness socket (1) to the towbar mounting bracket using M4 fasteners (not supplied).
33. Route the tail harness (tail length: 1800mm) (2) across the LHS and up into the drilled out (or existing) grommet hole (3). Adjust the trailer patch harness grommet so that it is seated correctly and cable tie (not supplied) in place.



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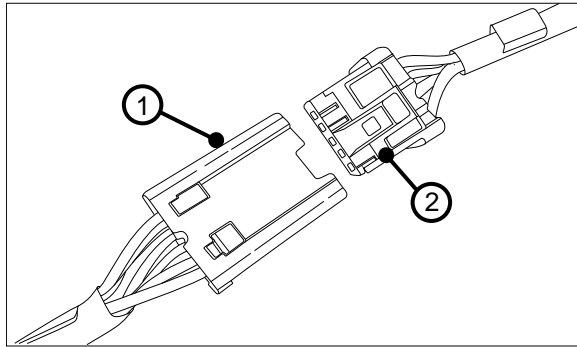


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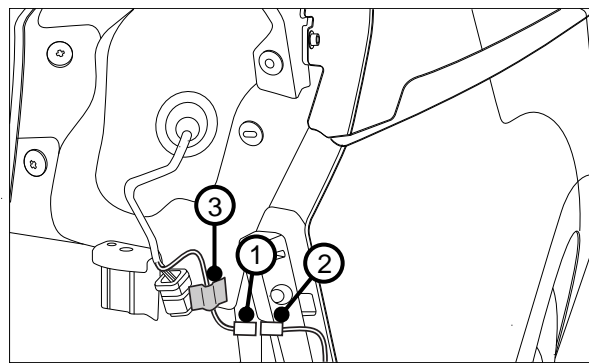
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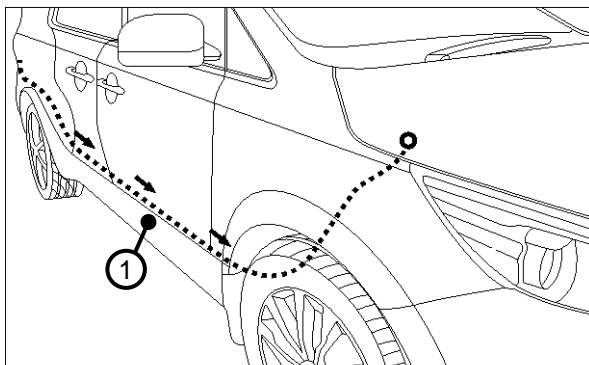
34. In the vehicle RHS rear quarter interior, connect the tail harness 8-way connector (1) to the trailer patch 8-way mating connector (2).



35. At the vehicle RHS exterior tail light connector area, connect the trailer patch ORANGE wire 1-way connector (1) to the power harness (P/No: 04825) 1-way connector (2).
36. Locate a suitable location on the vehicle sheet metal that will not obstruct any re-fitment of parts and secure the trailer patch ORANGE wire to the vehicle using a suitable foam tape (not supplied) (3). Clean the area with alcohol wipe (not supplied) if required prior to adhering tape.



37. Route the power harness (1) underneath the RHS of the vehicle following the chassis rail all the way to the engine bay battery. Secure the harness to the vehicle using cable ties (not supplied) at 200mm intervals. Ensure to keep harness clear of any areas of extreme heat, moving parts or sharp surfaces.



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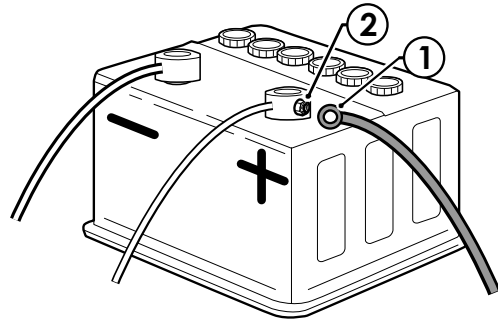


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38. In the engine bay, secure the power harness ring terminal (1) to the battery positive terminal mounting point (2).

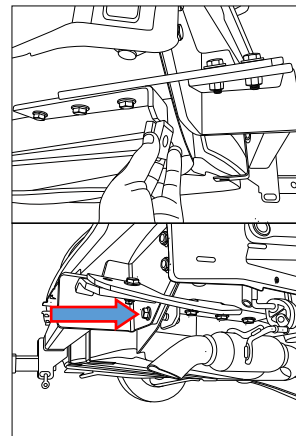


39. Reconnect the battery negative terminal.
40. Reconnect the rear tail lights.
41. Test the trailer harness functions using a light board or multi-meter.
42. Secure all harnesses using cable ties (not supplied).
43. Place the instructions in the glove box after fitment.

44. Loosely secure towbar welded assembly to side arm through rear panel of vehicle with 2 x M12 x 75 bolts (1 per side), complete with 2 x M12 flat washer, 1 x M12 nut and 2 x 10mm spacer plates (placed between rear panel of vehicle and side arm) per bolt.

Tighten all fasteners to the torques listed below:

M12- 89N.m
M10- 48N.m



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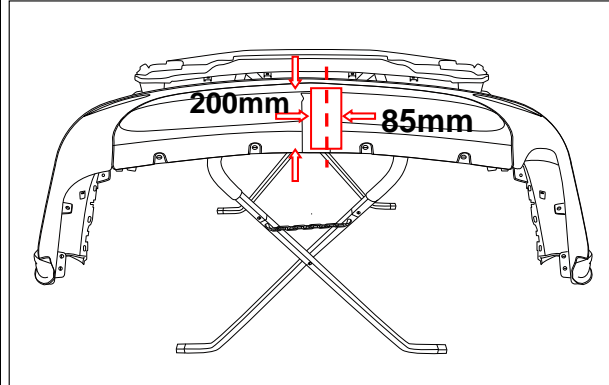


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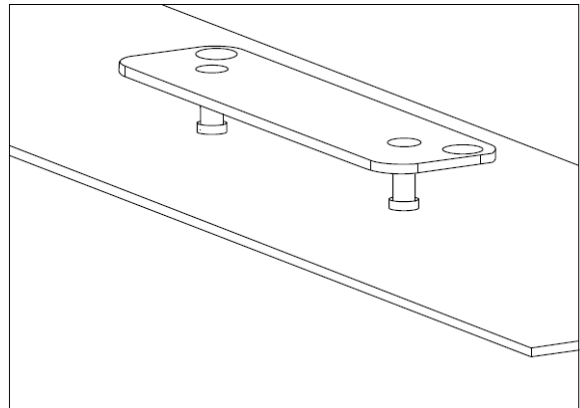
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45. Identify the centre of the bumper and cut out a 200mm tall x 85mm wide rectangle, starting from the bottom edge of the bumper, as measured following the outer edge of the bumper.



46. Mark out and drill 2 x Ø5mm holes 69mm apart on bumper skin to support plug bracket. Feed bracket through drilled holes prior to reinstalling bumper.



47. Reinstall exhaust mount, bumper, mud flap and fasteners following steps 1 to 11 in reverse
48. Align holes below bumper with bumper tabs on towbar. Once aligned tighten tek screws and replace scrivets

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