

TOYOTA LANDCRUISER 70 SERIES
July 2016 Production Onwards
ALUMINIUM BULL BAR - Installation Instructions

Accessory Part No's covered by these instructions: **PZQ29 60403/408/413/461/451/455**

Installation Time:
Approx. 70min.

Place these instructions in vehicle's glovebox after installation is complete.

NOTICE:



Please read all these instructions carefully before commencing installation. Please pay special attention to all Caution, Important and Advice notices if present. Failure to do so may result in personal injury, damaged parts or difficulty of fitment.

Layout



Tools Required

- Phillips Head Screw Driver
- Socket Set & Ratchet
- Ring / Open End Spanner Set
- Clip Removal Tool
- Side Cutters
- Torque Wrench (0.8Nm-77Nm)
- Uni Joint Socket
- Drill Bit Ø6.5mm
- Power Drill
- Hex Keys

CAUTION

- Do not attach the VFPS to the vehicle using anchorages not intended for this purpose (e.g. engine mounting bolts).
- Do not use this product for any vehicle make or model, other than those specified by the Vehicle Frontal Protection System manufacturer.
- Do not remove the compliance plaque from the Vehicle Frontal Protection System.
- Do not modify the structure of the Vehicle Frontal Protection System in any way.

Care Instructions

- Clean only with a moist cloth.
- Do not use chemical cleaners.

**Parts List**

Important: Check contents of kit before commencing fitment and report any discrepancies.

Alloy Bullbar Std/Flared

Component Name	Part Number	Qty.	Nm.
Alloy Bull Bar	PZQ2960403/408/413	1	
Housing Indicator inc.fixings (NON FOG LAMP ONLY)	PZQ2960291IH	2	
Housing Fog/Ind. RH inc. fixings (HIGH GRADE ONLY)	PZQ2960301FR	1	
Housing Fog/Ind. LH inc. fixings (HIGH GRADE ONLY)	PZQ2960301FL	1	
Bracket Number Plate inc. fixings	PZQ2960291WN	1	
Cap End inc. fixings (FLARED VEHICLES ONLY)	PZQ2960301EC	1	
Override RH	PZQ2960401OR	1	
Override LH	PZQ2960401OL	1	
Cover Fairlead inc. fixings	PZQ2960401FC	1	
Lamp Combination RH inc. fixings	PZQ29603CE	1	
Lamp Combination LH inc. fixings	PZQ29603CA	1	
Fitting Kit	PZQ29604HA	1	
Panel Under inc. fixings	PZQ2960466	1	
Harness Wiring Kit*	PZQ856007A	1	

Housing Indicator inc. fixings

Component Name	Part Number	Qty.	Nm.
Housing Indicator	PZQ2960291IH	2	
Screw Button Head M4 x 0.7P x 16		4	2.7
Nut Nyloc M4 x 0.7P		4	
Washer Flat M4 x 9 x 0.8		4	

Housing Fog Lamp / Indicator inc. fixings RH

Component Name	Part Number	Qty.	Nm.
Housing Fog Lamp / Indicator RH	PZQ2960301FR	1	
Screw Button Head M4 x 0.7P x 16		6	2.7
Nut Nyloc M4 x 0.7P		6	
Washer Flat M4 x 9 x 0.8		6	

Housing Fog Lamp / Indicator inc. fixings LH

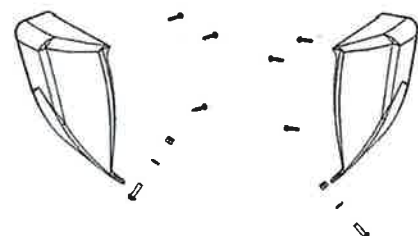
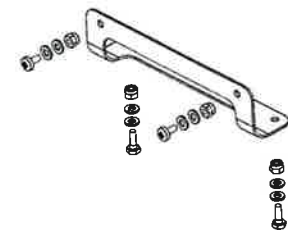
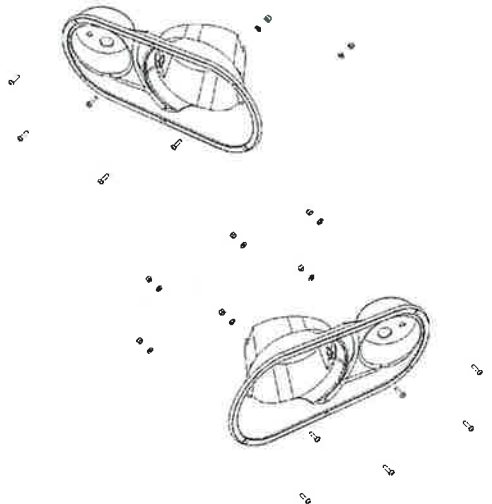
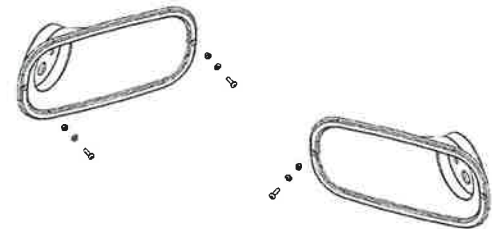
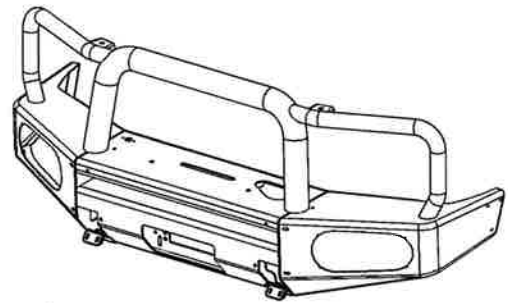
Component Name	Part Number	Qty.	Nm.
Housing Fog Lamp / Indicator LH	PZQ2960301FL	1	
Screw Button Head M4 x 0.7P x 16		6	2.7
Nut Nyloc M4 x 0.7P		6	
Washer Flat M4 x 9 x 0.8		6	

Bracket Registration Plate inc. fixings

Component Name	Part Number	Qty.	Nm.
Bracket Registration Plate	PZQ2960291WN	1	
Screw Hex M6 x 1.0P x 16		2	9
Washer Flat M6 x 12.2 x 1.3		4	
Washer Spring M6 x 11.4 x 1.6		4	
Nut Nyloc M6 x 1.0P		4	
Screw Pan Head M6 x 1.0P x 12		2	9

Cap End inc. fixings

Component Name	Part Number	Qty.	Nm.
Cap End RH	PZQ2960301EC	1	
Cap End LH		1	
Screw Self Tapping		6	0.8
Nut Nyloc M4 x 0.7P		2	
Screw Button Head M4 x 0.7P x 16		2	2.7
Washer Flat M4 x 9 x 0.8		2	



**Override RH inc. fixings**

Component Name	Part Number	Qty.	Nm.
Override RH	PZQ2960401OR	1	
Override Back Shell		1	
Nut Nyloc M6 x 1.0P		6	9
Washer Flat M6 x 12.2 x 1.3		6	
Screw Pan Head M5 x 0.8P x 20		2	5
Washer Flat M5 x 10 x 1.1		4	
Nut Nyloc M5 x 0.8P		2	

Override LH inc. fixings

Component Name	Part Number	Qty.	Nm.
Override LH	PZQ2960401OL	1	
Override Back Shell		1	
Nut Nyloc M6 x 1.0P		6	9
Washer Flat M6 x 12.2 x 1.3		6	
Screw Pan Head M5 x 0.8P x 20		2	5
Washer Flat M5 x 10 x 1.1		4	
Nut Nyloc M5 x 0.8P		2	

Cover Fairlead inc. fixings

Component Name	Part Number	Qty.	Nm.
Cover Fairlead	PZQ2960401FC	1	
Screw Hex M6 x 1.0P x 20		2	9
Washer Flat M6 x 12.2 x 1.3		2	
Washer Spring M6 x 11.4 x 1.6		2	

Lamp Combination RH inc. fixings

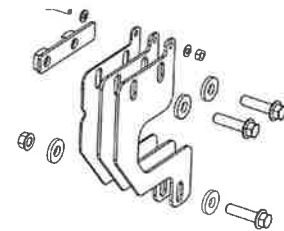
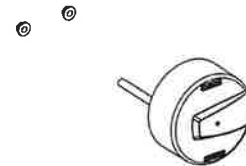
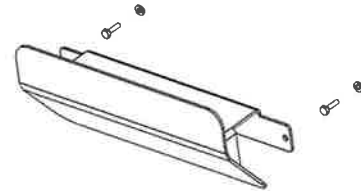
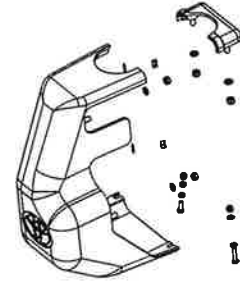
Component Name	Part Number	Qty.	Nm.
Lamp Combination RH	PZQ269603CE	1	
Nut Whizlok M5 x 0.8P		2	2.1

Lamp Combination LH inc. fixings

Component Name	Part Number	Qty.	Nm.
Lamp Combination LH	PZQ29603CA	1	
Nut Whizlok M5 x 0.8P		2	2.1

Fitting Kit

Component Name	Part Number	Qty.	Nm.
Shim 3mm	PZQ29603HA	4	
Shim 2mm		2	
Nut Plate Mounting		2	
Screw Flange M10 x 1.25P x 40		6	54
Washer Flat M10 x 25 x 4		8	
Nut Flange M10 x 1.25P		2	54
Screw Hex M6 x 1.0P x 25		6	9
Nut Hex M6 x 1.0P		2	9
Plate Support Impact Absorber		2	
Washer Flat M6 x 12.2 x 1.3		12	
Nut Nyloc M6 x 1.0P		4	9



Panel Under inc. fixings

Component Name	Part Number	Qty.	Nm.
Panel Under	PZQ2960466	1	
Screw Hex M12 x 1.75P x 30		4	77
Flat Washer M12 x 26 x 4		4	

Harness Wiring Kit

Component Name	Part Number	Qty.	Nm.
Harness Wiring	PZQ856007A	1	
Cable Tie 4.8 X 200		30	
Mount Cable Tie		2	
Wipe Alcohol		2	

Bracket Mount kit (RH / LH) - Order separately.**

Component Name	Part Number	Qty	Nm
Bracket Mount RH	PZQ2960451	1	
Bracket Mount LH		1	
Screw Flange M10 x 1.25P x 30		7	44/54
Screw Flange M10 x 1.25P x 45		3	54
Washer Flat M10 x 25 x 4		14	
Bolt Hex M12 x 1.75P x 140		2	77
Washer Flat M12 x 26 x 4		4	
Nut Hex M12 x 1.75P		2	
Packer 2mm Side Mnt		3	
Packer 1mm Side Mnt		3	
Packer 2mm Top Mnt		3	
Packer 1mm Top Mnt		3	
Packer 5mm		1	

**WAGON, TROOP CARRIER, DOUBLE CAB UTILITY AND PRE-AUG 2016 SINGLE CAB ONLY

Bracket kit (RH / LH)* - Order separately.**

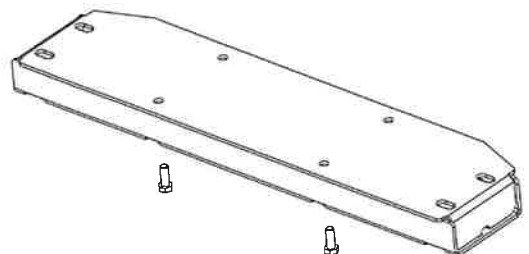
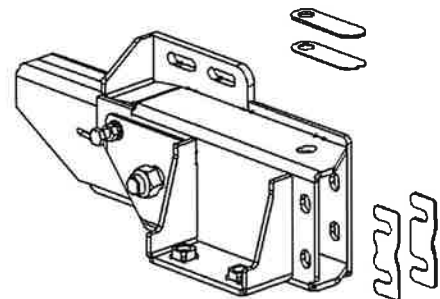
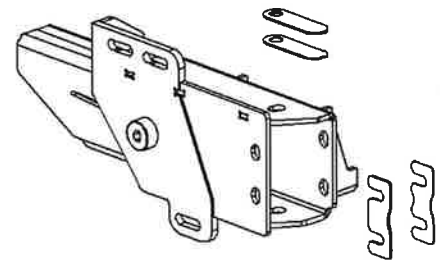
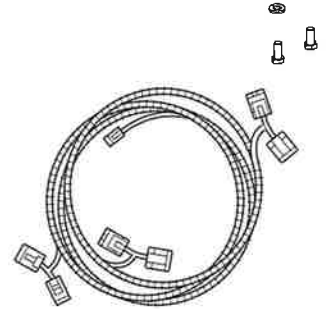
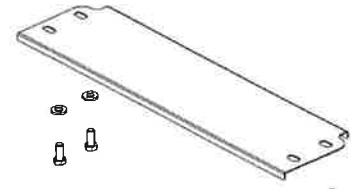
Component Name	Part Number	Qty	Nm
Bracket Mount RH	PZQ2960455	1	
Bracket Mount LH		1	
Screw Flange M10 x 1.25P x 30		7	44/54
Screw Flange M10 x 1.25P x 45		3	54
Washer Flat M10 x 25 x 4		10	
Bolt Hex M12 x 1.75P x 170		2	77
Washer Flat M12 x 26 x 4		4	
Nut Hex M12 x 1.75P		2	
Packer 2mm Side Mnt		3	
Packer 1mm Side Mnt		3	
Packer 2mm Top Mnt		3	
Packer 1mm Top Mnt		3	
Packer 5mm		1	

***AUG 2016 ON SINGLE CAB ONLY

Winch Fitting kit - Optional part (order separately).

Component Name	Part Number	Qty.	Nm.
Winch Cradle	PZQ2960461	1	
Bolt Hex 3/8" x 1"		2	44

*ITEM NOT SHOWN



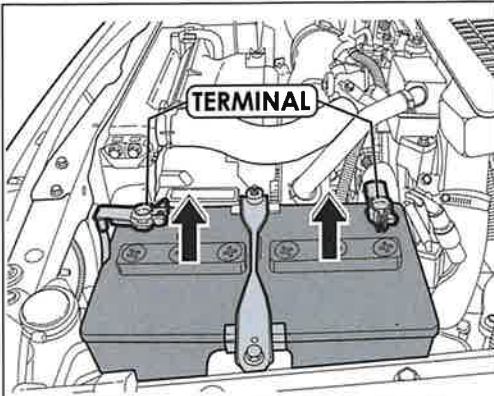


Figure 1: Removal of battery terminals



NOTE:

For steps 1 to 14 refer to the vehicle repair manual for the correct removal procedure.

Step 1:

- Note down all clock and radio settings.
- Disconnect -ve and +ve terminals from the battery



NOTE:

For safety, wrap battery terminals with insulating PVC tape.

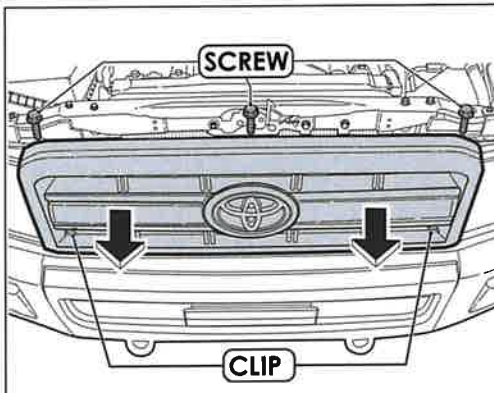


Figure 2: Removal of grille

Step 2:

- Remove and retain grille from vehicle, by removing three hex screws and releasing the two lower clips.

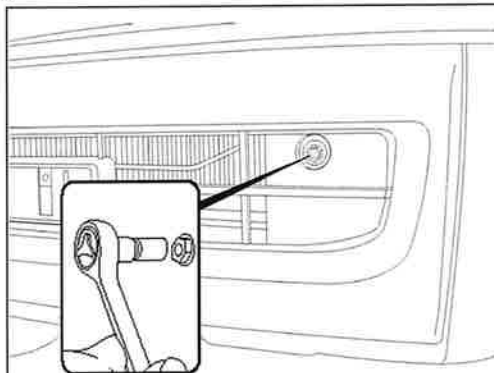


Figure 3: Removal of bumper cover retaining bolts.

Step 3:

- Remove the two forward facing bumper cover retaining bolts on the RH and LH and discard.

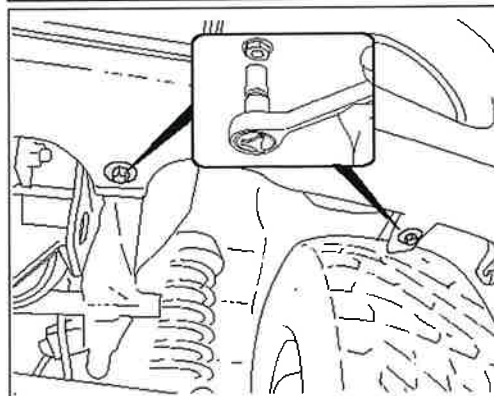


Figure 4: Removal of bumper cover retaining bolts.

Step 4:

- Remove the four bumper cover retaining bolts from the underside of bumper cover and discard.

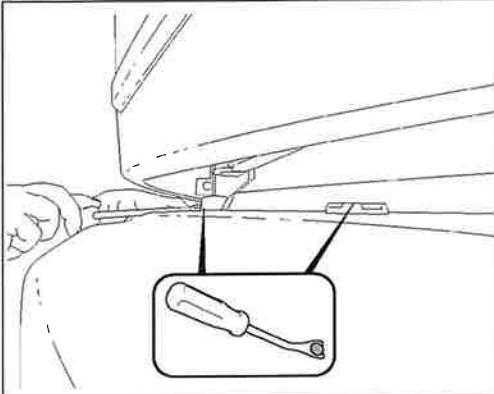


Figure 5: Removal of bumper cover clips.

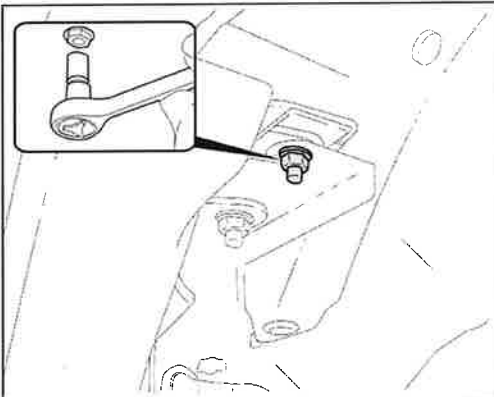


Figure 6: Removal of bumper cover nuts.

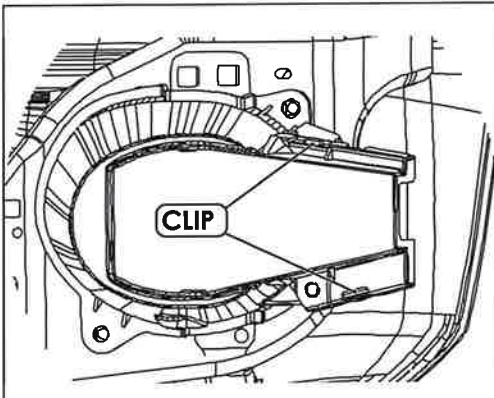


Figure 7: Removal of fog lamp shroud / harness

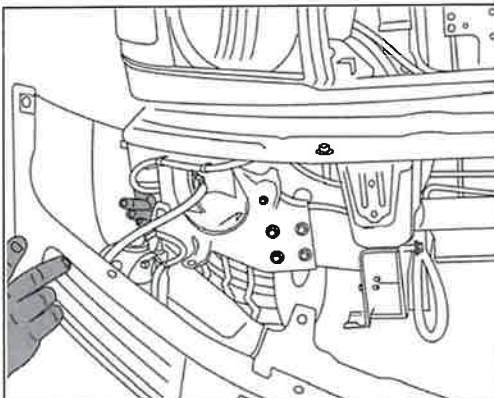


Figure 8: Removal of bumper cover

Step 5:

- Using a clip removal tool, remove the five clips from the top face of the bumper cover and discard.

Step 6:

- Remove the two nuts from the corner of the bumper cover wings, two per chassis rail and discard.

Step 7:

- Using two people partially remove the bumper cover.
- On fog lamp vehicles, remove the RH fog lamp shroud
- Disconnect the fog lamp harness from the vehicle by disconnecting the connector.



HINT: Remove registration plate holder panel (2 x self tapping screws) before removing speed nuts.

Step 8:

- Fully remove bumper cover from the vehicle.

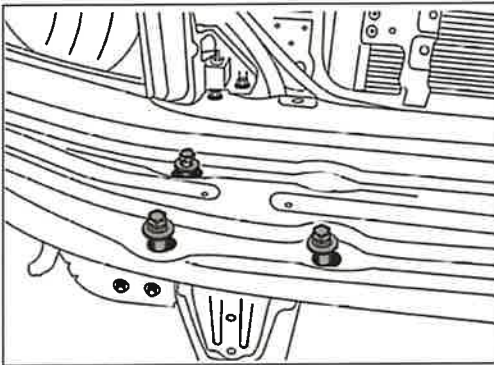


Figure 9: Removal of bumper reinforcement brace.

Step 9:

- Unbolt the 4-6 hex bolts from the upper bumper reinforcement brace, 2-3 per side and discard.

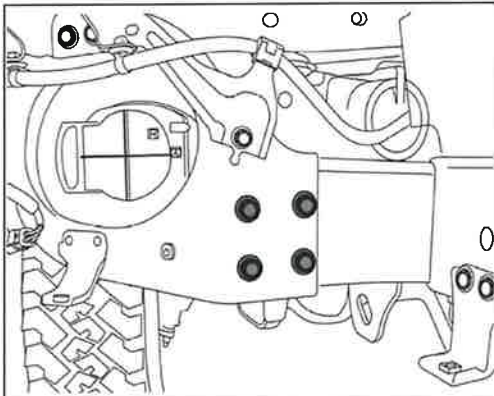


Figure 10: Remove front facing bolts.

Step 10:

- Remove the eight front facing M10 hex bolts, four per chassis rail. Next remove the upper bumper reinforcement brace and discard.

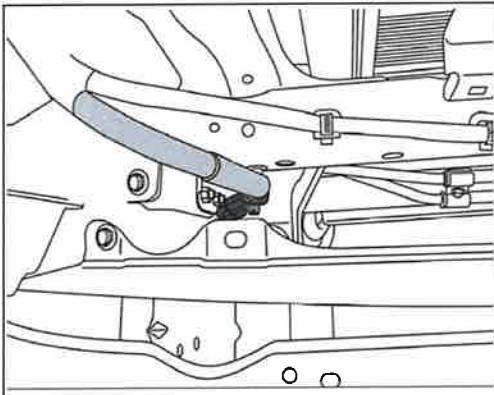


Figure 11: Removal of fog light sub harness.

Step 11:

- On fog lamp vehicles, unclip then disconnect the fog lamp sub harness by opening the connector located at the RH edge of the radiator.
- Discard the metal structure including fog light sub harness.

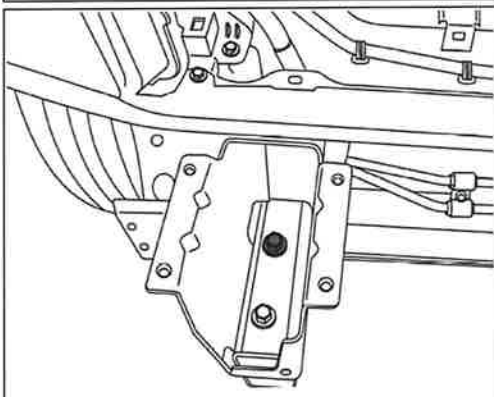


Figure 12: Removal of bumper cover / fog harness.

Step 12:

- Remove the two upper rear M12 chassis bolts, one per chassis rail. Remove the RH and LH chassis crush cans and discard.

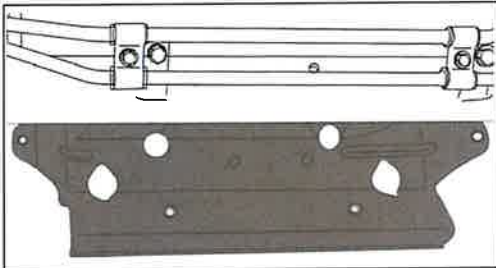


Figure 13: Remove plastic stone guard.

Step 13:

- Remove the four hex bolts holding the plastic stone guard. Retain the plastic stone guard and fasteners.

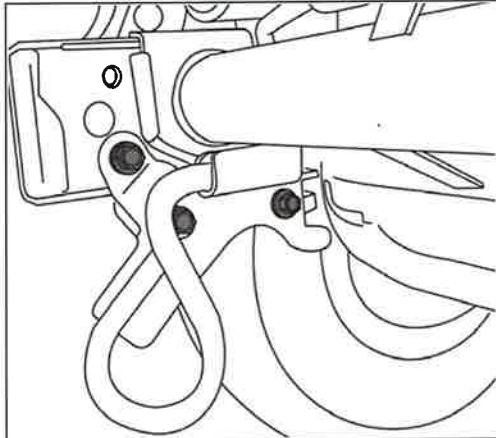


Figure 14: Remove tow hook.

Step 14:

- Remove the three inboard M10 hex bolts followed by the tow hook. Retain 1 bolt for step 15 and the tow hook. Discard the remaining fasteners.

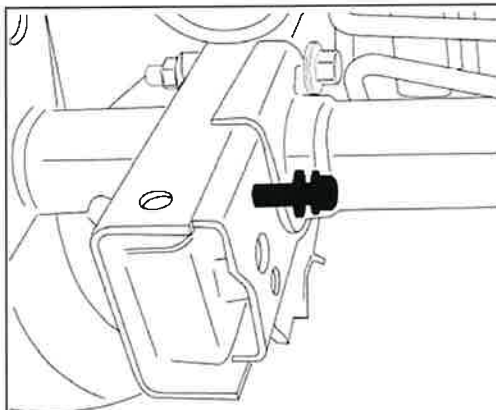


Figure 15: Clean Weld Nut Thread.

Step 15:

- Use one of the M10 hex bolts removed at step 14 to remove paint from the upper chassis rail weld nut. This is done by tightening the hex bolt into the weld nut, with a ratchet spanner, then undoing the bolt.
- Repeat this procedure for the passenger side chassis rail, clean the paint from the upper and lower weld nuts, as there was no tow hook in place on this side.



NOTE: Always refer to the vehicle's repair manual when removing vehicle components



NOTE: Note down the clock and radio settings

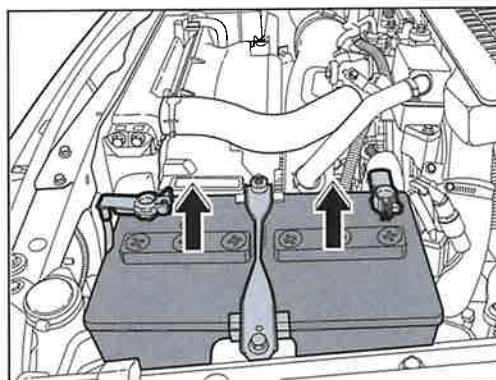


Figure 16: Remove the battery.

Step 16:

- Remove and retain the battery from the vehicle by removing 2 x M6 nut, bolt and battery clamp.

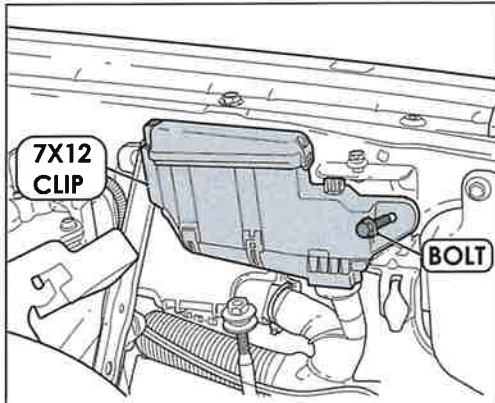


Figure 17: Remove Fuse box

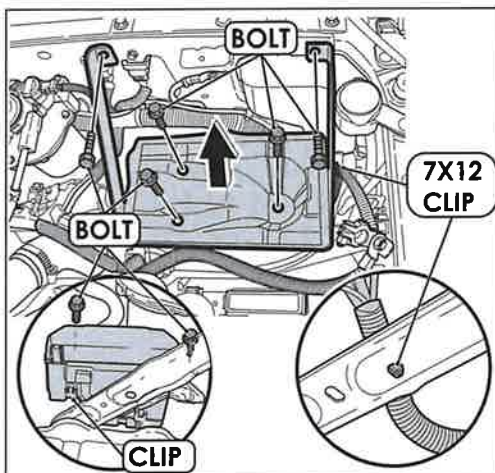


Figure 18: Remove battery tray

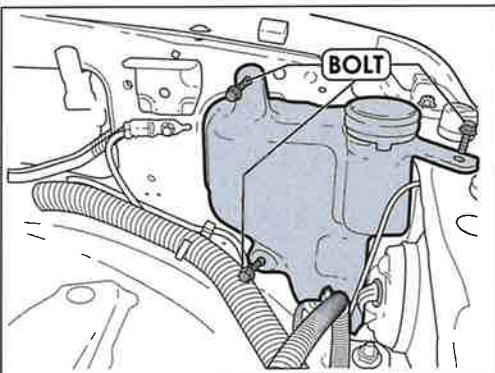


Figure 19: Remove washer bottle

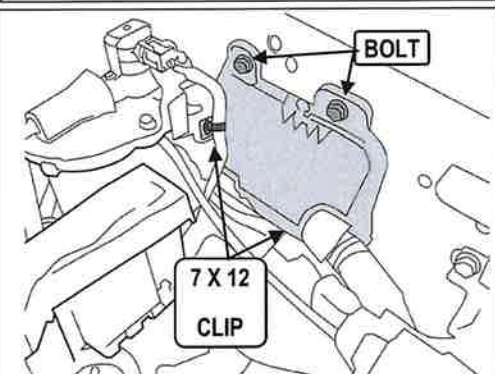



Figure 20: Remove relay module

Step 17:

- Remove one bolt and release the 7x12 clip from the fuse box at the fender side of the battery bracket.
- Shift the fuse box out of the way to gain access to the battery tray mount bolts.


Step 18:

- Remove 5 x bolts as shown then unclip the harness from the battery tray support .
- Remove 2 x bolts and the clip connecting the fuse box to the battery tray and slide the fuse box free.
- Remove the battery tray from the vehicle.

 TIP: Rotate the battery tray for easier removal

Step 19:

- Remove 3 x bolts securing the washer bottle to the vehicle
- Move the water container clear of the headlamp connectors

 CAUTION: Beware of spillage if water container is full.

Step 20:

- Remove the relay module on the inside of the guard by removing the two upper bolts and one lower 7 x 12 clip as shown.
- Release the 7x12 clip for the fuel sedimentor harness branch as shown to allow access to the relay module and temporarily disconnect the connector.

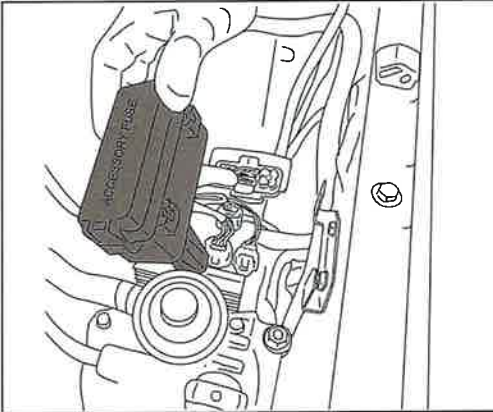


Figure 21: Unclip Accessory fuse box

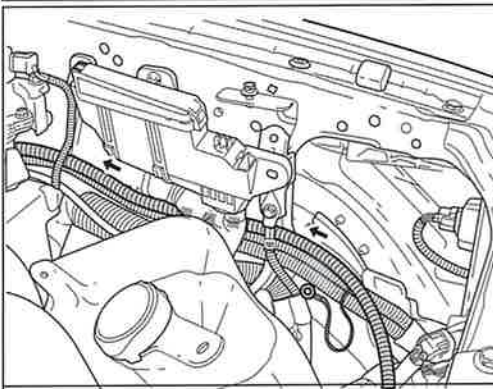


Figure 22: Route bull bar harness.

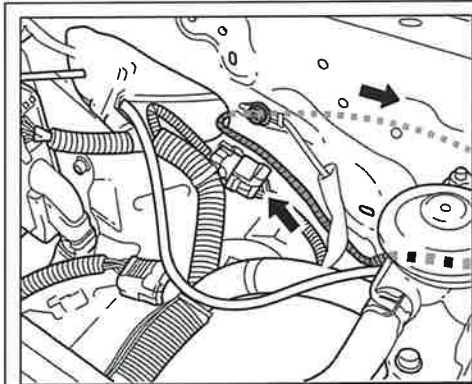


Figure 23: Route bull bar harness.

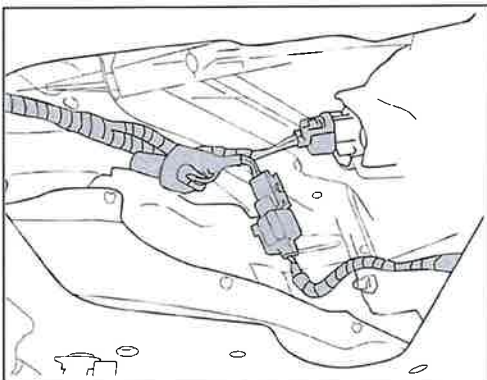


Figure 24: Patch indicator lamp

Step 21:

- Unclip and move the accessory fuse box away from the vehicle inner guard.

Step 22:

- Route the LH bull bar harness indicator connectors along the LH of the vehicle to the rear of the engine bay as shown.

Step 23:

- Route the LH bull bar harness indicator connectors along the LH of the vehicle to the rear of the engine bay as shown.

Step 24:

- Disconnect the LH indicator.
- Patch the bull bar harness between the vehicle connector and the LH indicator.

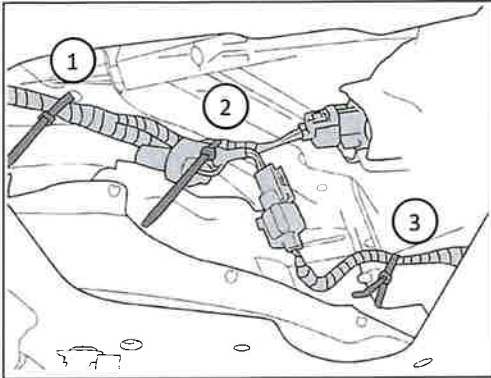


Figure 25: Cable tie harness

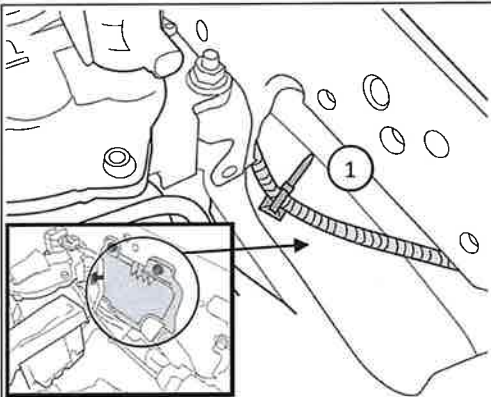


Figure 26: Secure bull bar harness

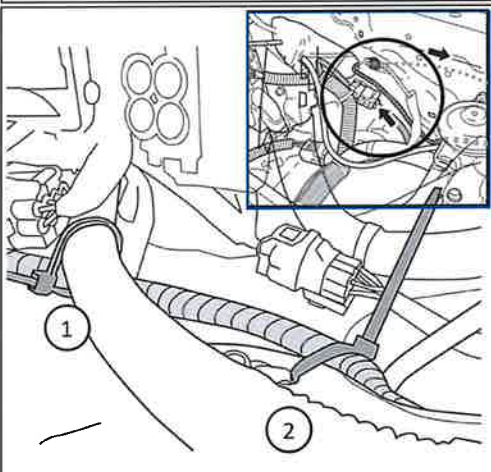


Figure 27: Secure bull bar harness

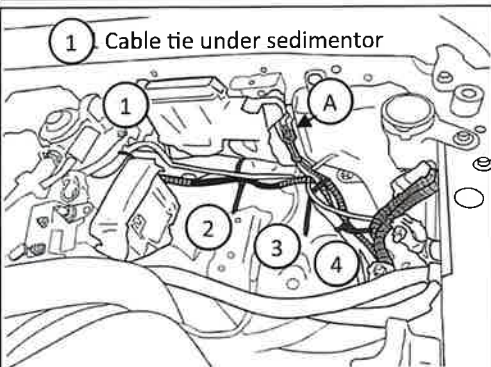


Figure 28: Attach earth terminal.

Step 25:

- Secure the harness at 3X points as shown with supplied cable ties.

Step 26:

- On the inside of the LH fender apron behind the relay module, wipe the bottom surface with the provided alcohol wipe. Once the surface is dry apply the cable tie mount.
- Cable tie the harness to the adhered cable tie mount.



TIP:

Pre-install the cable tie and harness to the adhesive cable tie mount to aid fitment

Step 27:

- Cable tie harness to the rear of the LH apron at 2 X locations shown.
 - To the OE wire harness
 - To the anti rotation tab hole for the body earth



NOTE:

Ensure the bull bar harness runs under the OE harness to ensure clearance to the battery tray.

Step 28:

- Attach the bull bar harness earth ring terminal to the vehicle earthing point with the existing fastener (A)
- Route ensuring the bull bar harness PVC section aligns with the OE harness PVC section and secure harness at 4 locations



IMPORTANT:

Ensure that the cable ties are not fastened around the washer hose



IMPORTANT:

Earth bolts are to be tightened to 6.9Nm

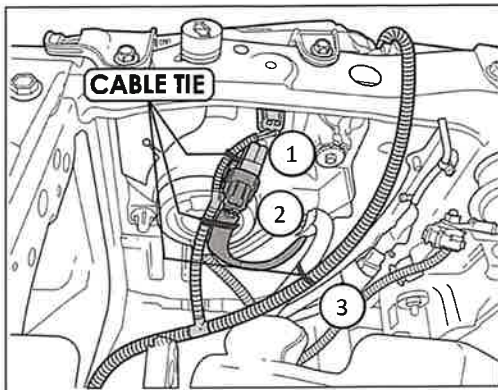


Figure 29: Patch park lamp.

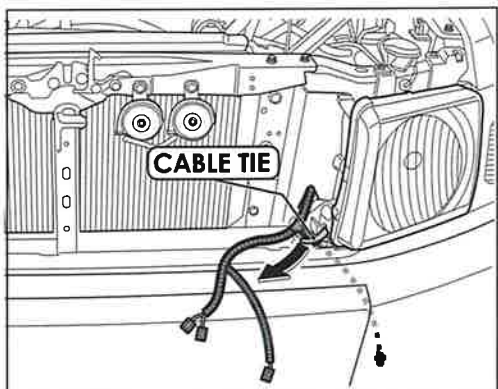


Figure 30: Route bull bar harness

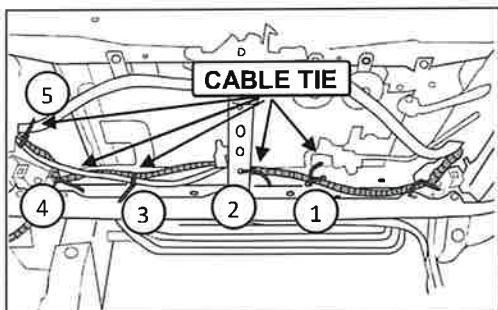


Figure 31: Route bull bar harness

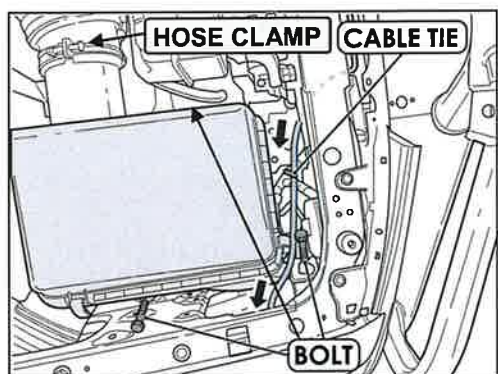


Figure 32: Remove vehicle air box

Step 29:

- Disconnect the park lamp connector on the LH of the vehicle
- Patch the bull bar harness between the vehicle connector and the park lamp
- Cable tie the loom at 3 locations shown

Step 30:

- Route the bull bar harness between the headlamp and the radiator support panel as shown and cable tie to the headlamp mount as shown

Step 31:

- Route the RH length of the bull bar harness along the front of the vehicle as shown
- Cable tie harness at 5 locations as shown

Step 32:

- Remove the vehicle air box by removing the three bolts and intake hose clamp as shown
- Route the bull bar harness along the vehicle harness, to the RH of the engine bay
- Secure harness with a cable tie as shown
- Loosen hose clamp on intake duct

TIP:



- Cover the intake opening with tape to ensure no debris enters the intake.

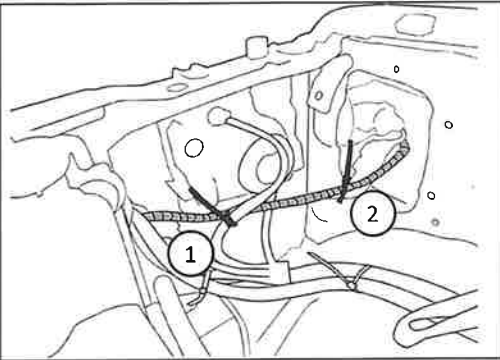


Figure 33: Patch RH indicator lamp

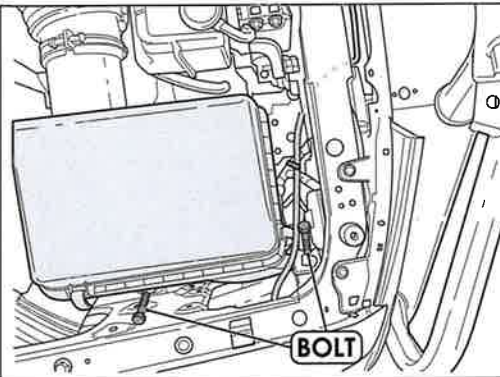


Figure 34: Reinstall vehicle components

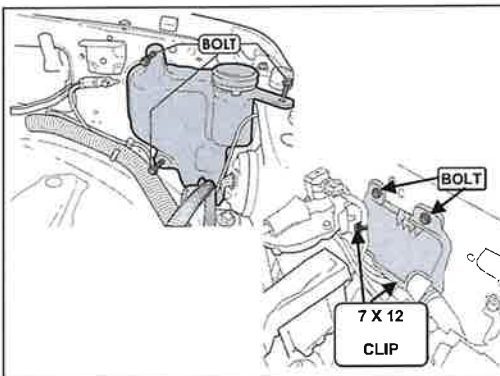


Figure 35: Reinstall vehicle components.

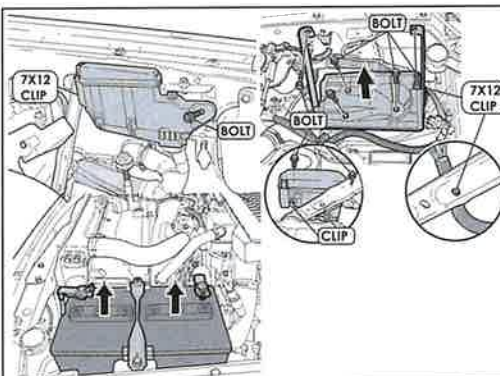


Figure 36: Reinstall vehicle components

Step 33:

- Disconnect the RH indicator connector
- Patch the bull bar harness between the vehicle connector and the RH indicator
- Secure harness with a cable tie as shown, ensuring the connector for the RH indicator patch is supported



IMPORTANT: • Ensure that the wires out of the connector are not pulling on the connector seals.

Step 34:

- Reinstall airbox by reversing removal step.
 - torque M8 : 18Nm



NOTE: If fitting a winch proceed with the installation of the winch harness by referring to the winch fitting instructions supplied with (PZQ93-60020/030)



NOTE: If fitting driving lamps do so now.

Step 35:

- Reinstall washer bottle and relay module by reversing removal steps.
 - Washer bottle : 6.8Nm
 - Relay module : 6.1Nm

Step 36:

- Reinstall fuse box, battery tray and battery by reversing the removal steps.
 - Battery tray Upper M8 : 12.5Nm
 - Battery tray Lower M8 : 8Nm
 - Fuse box : 8.4Nm
 - Battery bolt : 8Nm
 - Battery strap nut : 5Nm



IMPORTANT: Do not refit the battery terminals at this stage



NOTE: At this point continue with the installation of the winch high current cables by referring to the winch fitting instructions supplied with (PZQ93-60020/030)

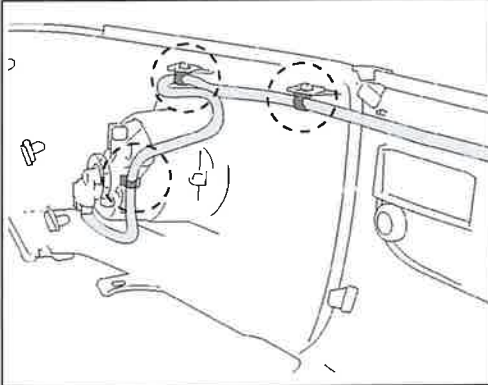


Figure 37: Disconnect fog light harness .



HINT: Steps 37 to 38 are applicable to Fog Lamp vehicles only.

Step 37:

- Disconnect the fog light harness from both fog lights.
- Cut off all cable tie clips retaining the fog light harness ensuring no sharp edges are left. Retain the fog light harness.

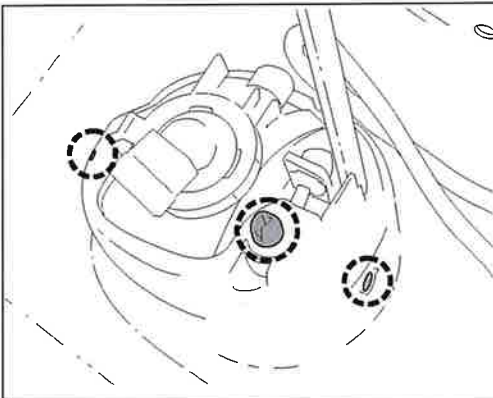


Figure 38: Release fog light.

Step 38:

- Release the fog light in the three locations shown and remove from bumper cover.
- Discard bumper cover.

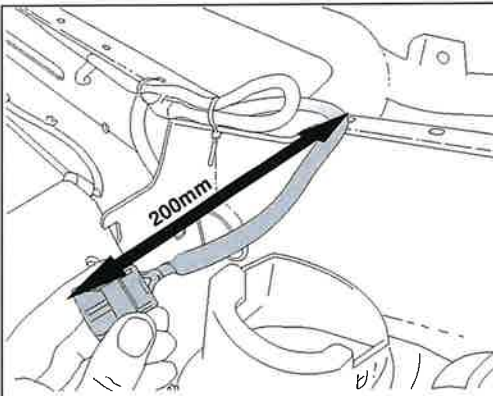


Figure 39: Secure OE fog light harness.

Step 39:

- Starting 200mm from the RHS fog light connector, secure the OE fog light harness to the bull bar using cable ties. Begin at the third oval hole from the RHS, then secure the harness at intervals of 200mm.

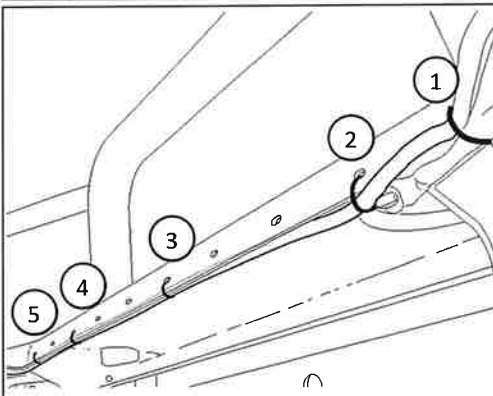


Figure 40: Route & secure OE fog light harness.

Step 40:

- Route the harness behind the fold of the centre pan in the area behind the main hoop as shown.
- In the wing areas, route the harness along the backwards facing surfaces, as shown above.

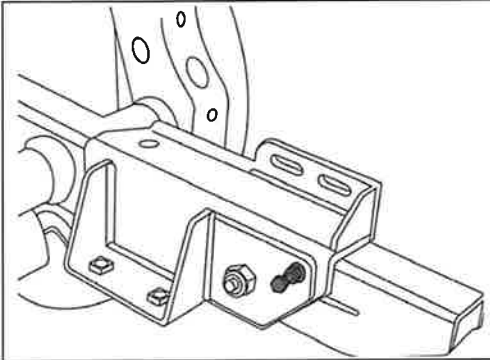


Figure 41: Locate chassis mounts on chassis.

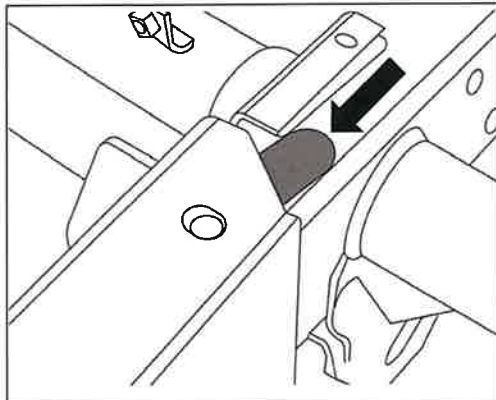


Figure 42: Locate upper chassis rail shims.

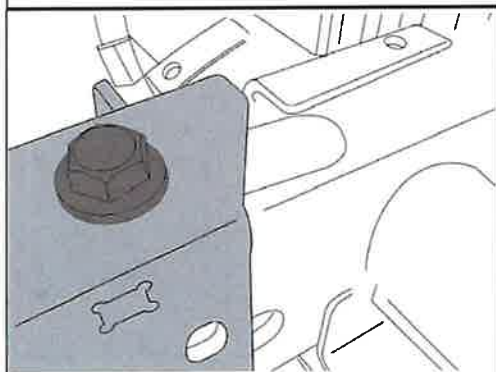


Figure 43: Fit M12 x 140/170 bolts.

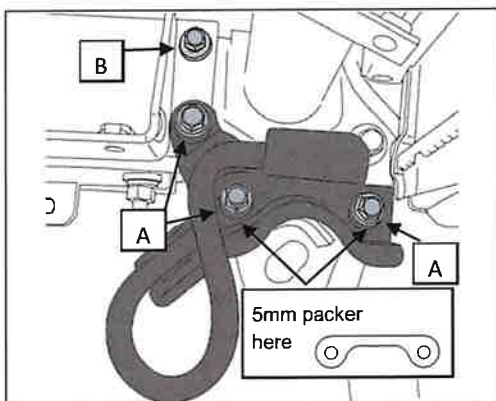


Figure 44 Refit tow hook to RHS.

Step 41:

- Loosely fit the bull-bar mount assemblies to each chassis rail. Ensure the M8 location bolts are tight
M8 : 4Nm
- Then tighten the two M8 lock nuts against the impact absorber.
M8 : 10Nm

NOTE:



- Part shape varies between single cab utility (Aug 2016 on) and other vehicles in the range

Step 42:

- Fit shims between the upper surface of the chassis rails and the bull-bar mounts. Use as many shims as required to obtain a neat fit between the chassis rails and the bull bar mounts.



Step 43:

- When fitting mounts to all wagon, troop carrier double cab and pre August 2016 single cab vehicles (PZQ2960451) Loosely fit the two M12 x 140 bolts, together with four flat washers and two nuts through the top of the bull bar mount. (i.e. one M12 x 140 bolt per chassis rail)
- When fitting mounts to single cab August 2016 on (PZQ2960455) Loosely fit the two M12 x 170 bolts, together with four flat washers and two nuts through the top of the bull bar mount. (i.e. one M12 x 170 bolt per chassis rail)

Step 44:

- Place 5mm M10 packer between the driver's side original vehicle tow hook and the chassis mounting bracket. Line up the packer with the lower two mounting bolts and loosely refit the tow hook using the supplied 3 x M10 x 45 flange screws and 3 x M10 x 4 x 25 flat washers, shown by A.
- Loosely fit the upper M10 x 30 bull-bar mount screw and M10 x 4 x 25 flat washer, using fasteners from the fitting kit, shown by B.

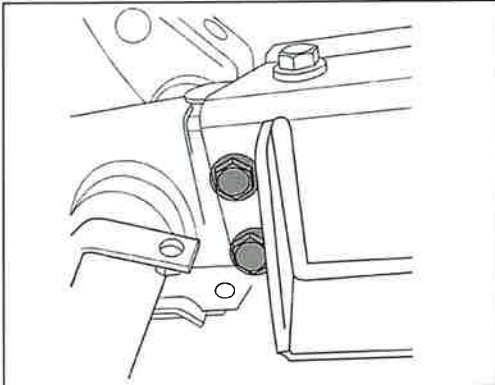
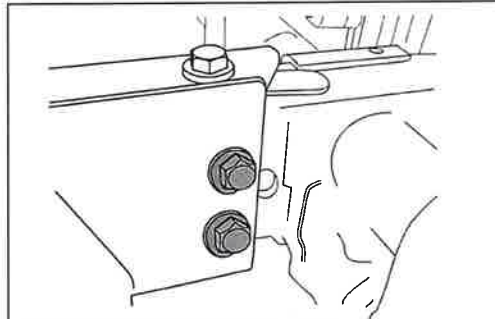


Figure 45: Insert inner chassis mount bolts, LHS.



For Mounts PZQ2960451 fit 2 x M10 washers per M10 screw

Figure 46: Insert outer chassis mount bolts.

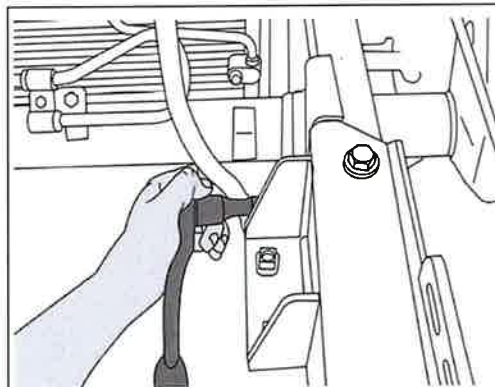


Figure 47: Tighten inner chassis bolts.

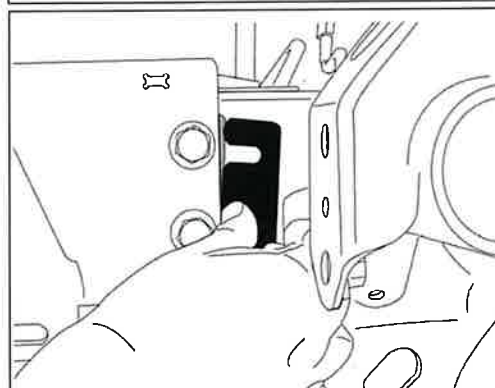


Figure 48: Locate outer chassis rail shims.

Step 45:

- Loosely fit the two M10 x 30 flange screws together with M10 x 4 x 25 flat washers. on the inside of the chassis rail on the LHS.

Step 46:

- For single cab August 2016 on (PZQ2960455) Loosely fit the four M10 x 30 flange screws together with M10 x 4 x 25 flat washers on the outside of the chassis rails (i.e. two M10 flange screws and two M10 washers per chassis rail).
- For all wagon, troop carrier double cab and pre August 2016 single cab vehicles (PZQ2960451) Loosely fit the four M10 x 30 flange screws together with 8 x M10 x 4 x 25 flat washers on the outside of the chassis rails (i.e. two M10 flange screws and four M10 washers per chassis rail).

NOTE: Ensure mounts are parallel to chassis

Step 47:

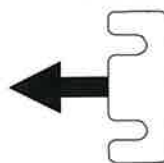
- Tighten the LHS chassis mount bolts on the inside of the chassis rail, 2 off loosely fitted during steps 44
- Tighten the 4 bolts retaining the tow hook and upper mount bolt on the RHS, loosely fitted during step 43.

M10 : 54Nm

Leave all other bolts loose.

Step 48:

- Fit shims between the outer surface of the chassis rails (RH & LH) and the bull-bar mounts. Use as many as required to obtain a neat fit between the chassis rails and the bull-bar mounts.



Do not tighten these chassis bolts.

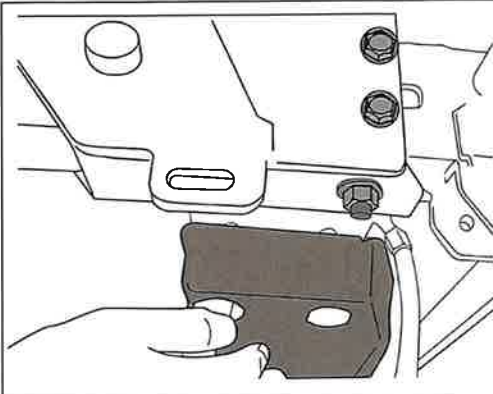


Figure 49: Locate Winch Cradle.

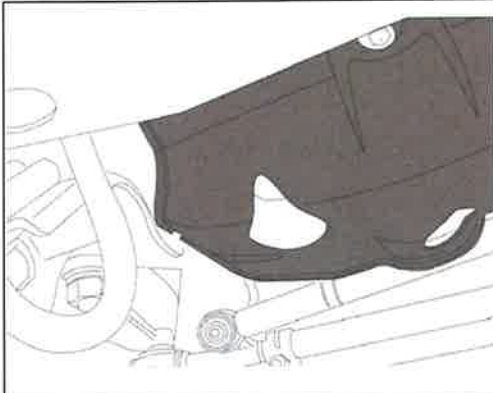


Figure 50: Refit Plastic Stone Guard.

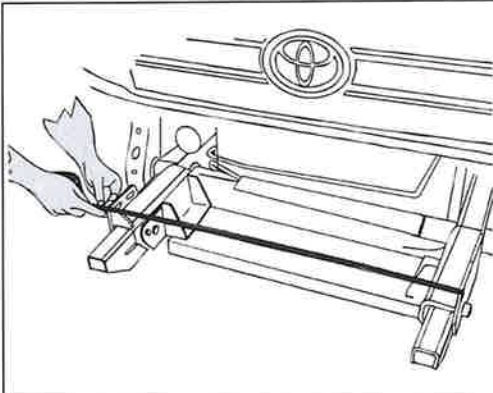


Figure 51: Measure bull bar mount spacing.

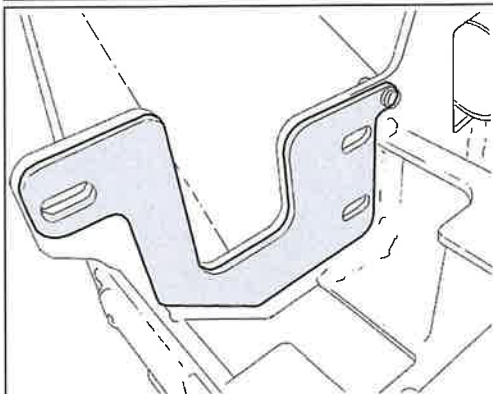


Figure 52: Installation of upright shims.

NOTE: Step 49 for winch fitment only.

Step 49: Winch fitment

- Loosely fit the winch cradle using the four M12 x 30 screws and M12 x 4 x 26 flat washers. Ensure the chamfers on winch cradle face rearward so that the winch cradle clears the tow hook refitted at step 44.
- Continue fitting winch to cradle and routing the high current cables as per the winch fitting instructions.

Do not tighten these bolts.

Step 50:

- Refit the vehicle's plastic stone guard, removed in step 11, with the original four hex bolts.
 - M8 : 18Nm

Step 51:

- Use a tape measure to check the spacing of the outer faces of the bull-bar mounts.
- Check at the upper and lower mounting slots and the front and back of the mount face.

Step 52:

- Using the distance measured above fit shims to the bull-bar uprights as required to give an overall clearance of 2 - 5mm between the bull-bar mounts and the inside face of the bull-bar upright packers.
- Use the same number packers on each side of the bull-bar.
- Fasten the packers as shown using two M6 x 25 hex bolts, four flat washers and two hex nuts.
 - M6 : 9Nm

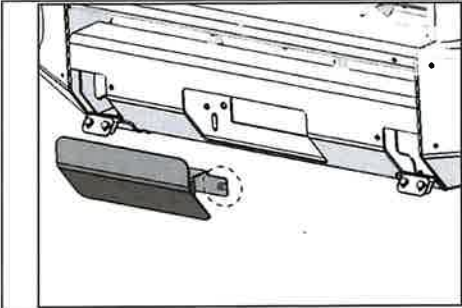


Figure 53: Installation of the fairlead cover.

NOTE: Step 53 for non-winch bars only.

Step 53:

- Remove fairlead cover from packaging and fasten to bull bar using two M6 x 20mm bolts, washers, spring washers and OE speed nuts (as removed in step 7).

M6 : 9Nm

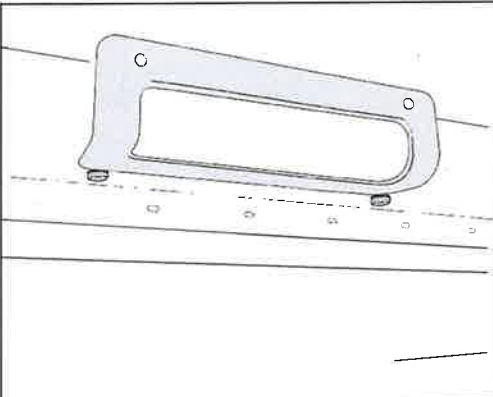


Figure 54: Installation of registration plate bracket.

NOTE: Fit OE speed nuts to each end of the fairlead cover, as shown in Figure 53

NOTE: If fitting winch proceed with fitting the roller fairlead/Hawse fairlead winch controller bracket and plug and connector cover lanyard as per winch fitting instructions

Step 54:

- Attach registration plate bracket to Bull Bar using two M6 x 16mm long bolts, M6 plain washer (2 off), M6 spring washer (2 off) and M6 Nyloc nut (2 off each).

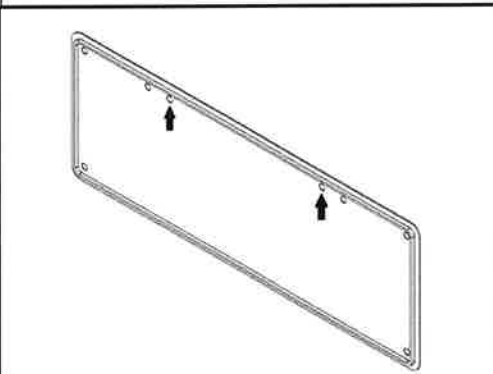


Figure 55: Drilling of registration plate holes.

Step 55:

- Drill out registration plate holes shown with a $\Phi 6.5\text{mm}$ drill bit.
- Attach registration plate to bracket using two M6 x 12mm long screws, M6 plain washer (2 off), M6 spring washer (2 off) and M6 Nyloc nut (2 off each).

Tighten M6 screws to 9Nm.

HINT: Step 56 is applicable to flared grade vehi-

IMPORTANT: If fitting the bar to a GXL troupe carrier do not fit the end caps

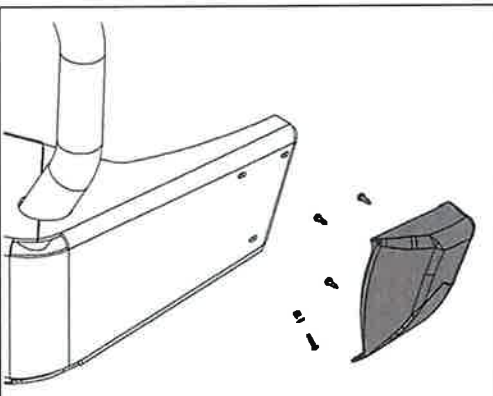


Figure 56: Installation of end caps.

Step 56:

- Install end cap to Bull Bar using three 8G self-tapping screws, M4 button head screw, M4 plain washer, and M4 nyloc nut.

Tighten M4 screw to 2.7Nm.

Tighten Screw self tapping to 0.8Nm.

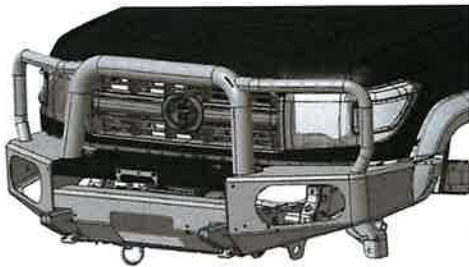


Figure 57: Install and secure bull bar.

Step 57:

- Using two people lift the bull bar onto the chassis mounts. Carefully allow the impact absorbers to pass through the apertures in the bull bar.

NOTE: Take care not to damage vehicle on installation.

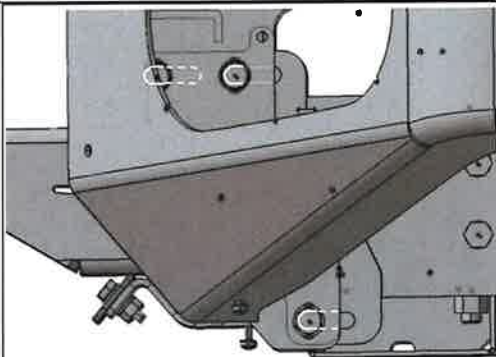


Figure 58: Install bull bar.

Step 58:

- Position the bar so that it sits as far forward in the mounts' slots as possible, as shown in figure 58.

NOTE: This is critical as the slots perform an important task for the vehicle's air bag system.

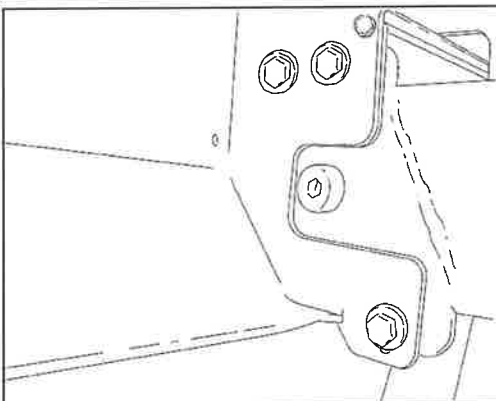


Figure 59: Secure the bull bar..

Step 59:

- Loosely fasten the bull-bar to its mounts using the six M10 x 40 flange screws, eight M10 x 4 x 25 flat washers, two M10 flange nuts and two weld nut plates (i.e. three bolts per mount).

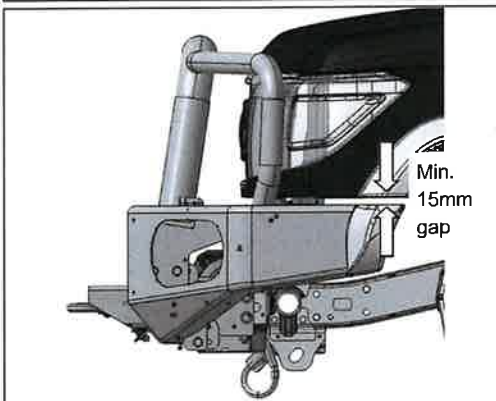
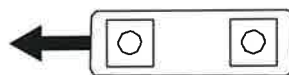


Figure 60: Align bull bar on vehicle.

Step 60:

- Align the bull-bar with the vehicle. Set the vertical gap between the top face of the bull bar and the vehicle trim under the lights at a nominal distance of 17mm, min 15mm.
- Ensure the bull bar is sitting parallel to the vehicle when viewed from the front and from the sides.
- Once happy with the bull-bar position tighten all six M10 x 40 flange screws, fitted at step 59

M10 : 54Nm

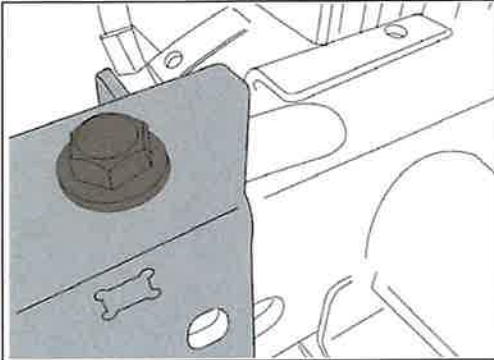


Figure 61: Tighten the M12 x 140 chassis bolts.

Step 61:

- For mounts (PZQ2960451) Tighten the two M12 x 140 bolts (i.e. one M12 x 140 bolt per chassis rail)
- For mounts (PZQ2960455) tighten the two M12 x 170 bolts (i.e. one M12 x 170 bolt per chassis rail)

M12 : 77Nm

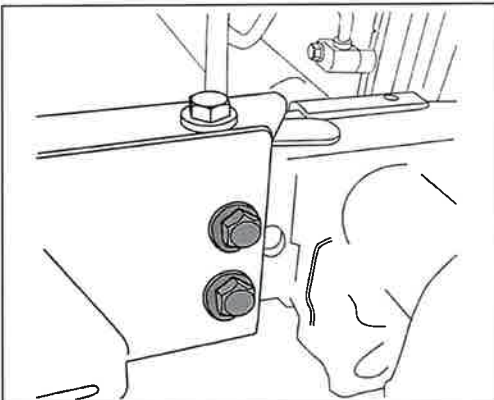


Figure 62: Tighten the outer chassis bolts.

Step 62:

- Tighten the four outer M10 x 30 chassis screws, fitted during step 46

M10 : 44Nm

Step 63: Winch only

- Tighten the four M12 x 30 screws, fitted during steps 49, used to fasten the winch cradle to the bull-bar mounts

M12 : 77Nm



NOTE: Ensure that the winch cradle is central to the chassis (even gapping both sides)

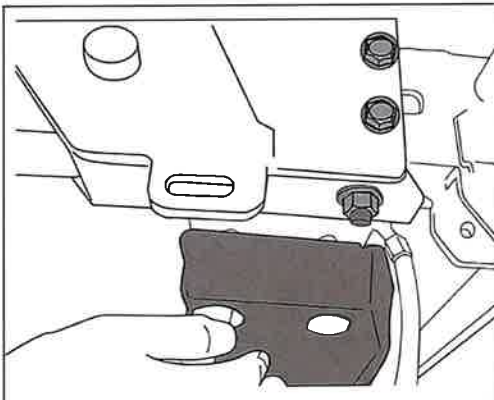


Figure 63: Tighten stone guard / winch cradle bolts.

Step 64:

- Position impact absorber support plates to be in contact with impact absorbers.
- Fasten using the four M6 x 25 bolts, four M6 flat washers and four M6 Nyloc nuts tighten M6 bolts

M6 : 9Nm

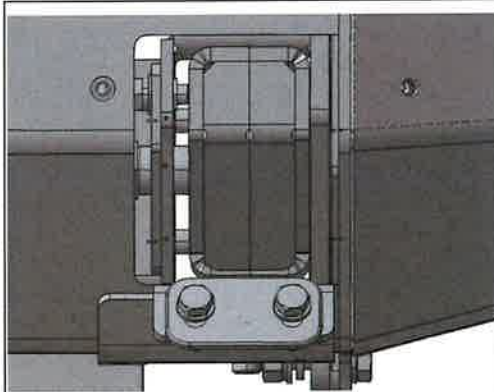


Figure 64: Install impact absorber support bracket.

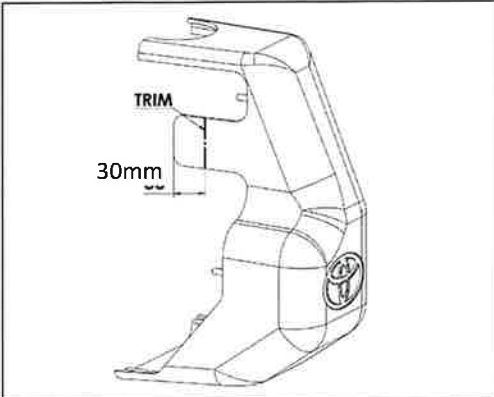


Figure 65: Warn winch over-rider trim.

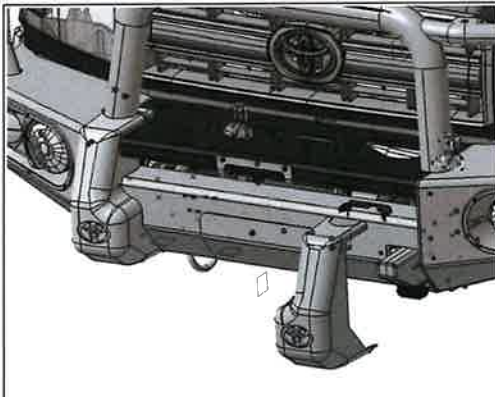


Figure 66: Installation of over riders.

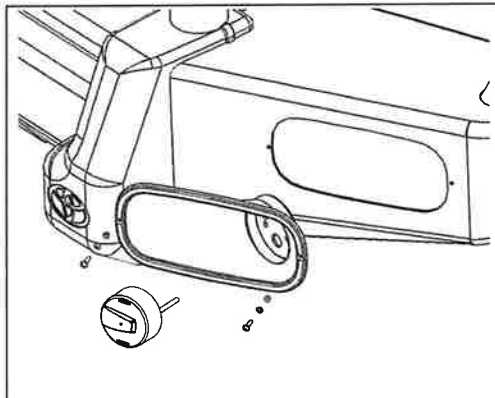


Figure 67: Installation of indicators, standard bar.

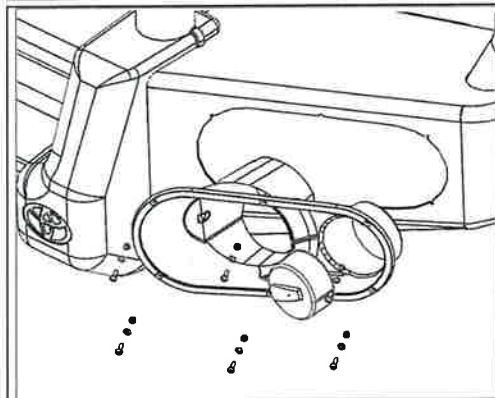


Figure 68: Installation of indicators, GXL bar.

Step 65

- For Warn winch fitment trim the LHS over-rider as shown in image 65. Deburr cut edge

Step 66

- Remove over-riders and back shells from packaging. Position over rider on bull bar ensuring all holes line up.
- Fasten each over rider and back shell to bull bar using six plain washers, six M6 Nyloc nuts, two M5 x 20mm screws, four black coated M5 washers and two M5 Nyloc nuts.

M5 : 5Nm

M6: 9Nm



NOTE: Do not over tighten fasteners.

Step 67

- **Non fog lamp vehicle:** Remove combination lamps and light housings from packaging. Assemble the combination lamp to housing with indicator portion of light outboard (when assembled to Bar) using M5 nuts.
- Assemble light housing and combination lamp assembly to bar, after bar has been fitted to vehicle, using two M4 x 16mm button head screws, plain washers and M4 Nyloc nuts.

M4 : 2.7Nm

M5 : 5Nm

Step 68:

- **Fog lamp vehicle:** Remove combination lamps and light housings from packaging. Assemble the combination lamp to housing with indicator portion of light outboard using M5 nuts.
- Assemble light housing and combination lamp assembly to bar, after bar has been fitted to vehicle, using six M4 x 16mm button head screws, plain washers and M4 Nyloc nuts.

M4 : 2.7Nm

M5 : 5Nm

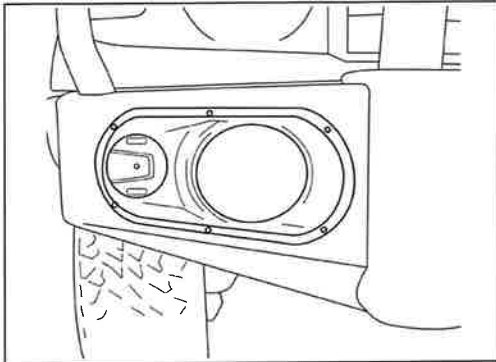


Figure 69: Install fog lights & connect harness.

Step 69:

- Connect fog light harness to vehicle harness at the lower RHS edge of the radiator.
- Install fog lights into bull bar, ensuring that all three retainers fully engage.
- Connect fog light harness to fog lights.
- Cable tie at point shown in next step.

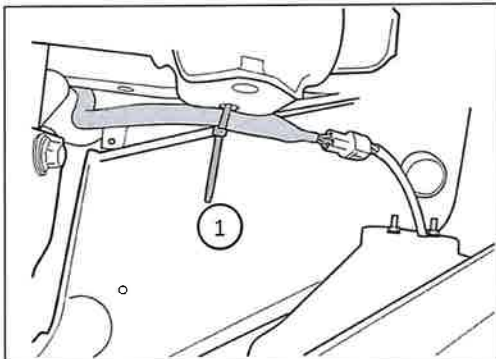


Figure 70: Connect combination lamp harness

Step 70

- Connect the combination lamp harness to the lamps and secure as shown in 1 x location on the RH and 1 x location on the LH.
- Re-connect the battery terminals.



IMPORTANT: Battery terminal posts are to be tightened to 6.9Nm



NOTE: Ensure all lamps are tested for correct operation and reprogram radio and clock settings.

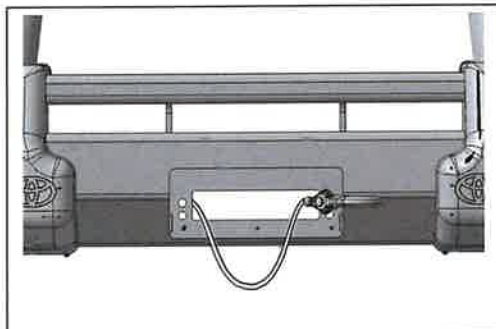


Figure 71: Winch installation



NOTE: At this point Complete the installation of the winch. Refer to instructions included with bull bar winch kit (PZQ93-60020/030) for the correct installation procedure. Following this, proceed to next step.

Step 71: Winch only

- Check winch operation and stow hook as indicated in winch installation instructions.

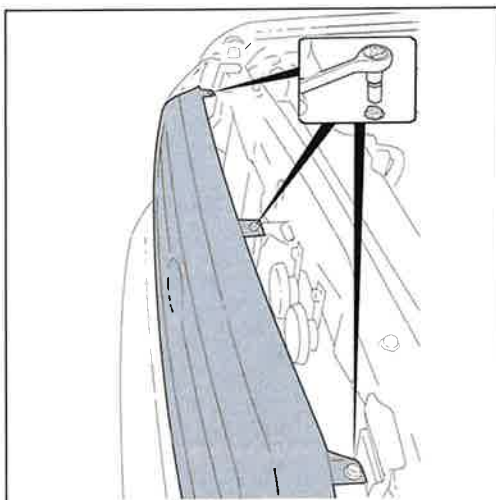
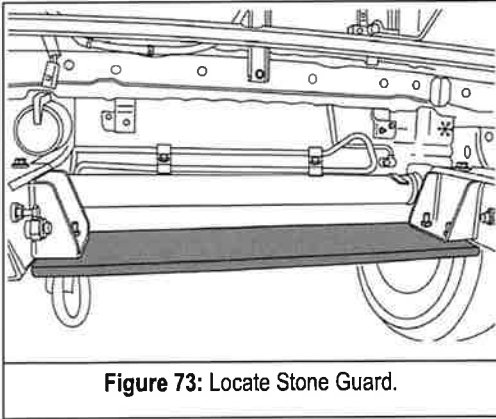


Figure 72: Installation of grille.

Step 72:

- Reinstall grille to vehicle, with three hex screws and engaging the two lower clips.



NOTE: Step 73 for non-winch fitment only.

Step 73: For Non winch

- Fit the stone guard using the four M12 x 30 bolts and M12 x 4 x 26 flat washers.
M12 : 77Nm
- Ensure the folds in the stone guard face down as shown on the adjacent image.

END