



# TOYOTA GENUINE

### PARTS, SERVICE & ACCESSORIES

Land Cruiser 200 Series  
(VDJ200R-G\*T\*ZQ & URJ202R-GNT\*KQ)  
August 2015 Production Onwards  
Alloy Bull Bar Installation Instructions

Accessory Part No.: PZQ29-60642  
PZQ29-60647 & PZQ29-60721  
Installation Time: 2 hrs 30 mins for 642  
2 hrs 45 mins for 647 & 721  
Approx. Bull Bar Weight: 51kg

**Place these instructions in vehicle's glove box after installation is complete.**



**IMPORTANT**

**If installing antenna (PZQ2900020), refer to relevant fitting instructions.**

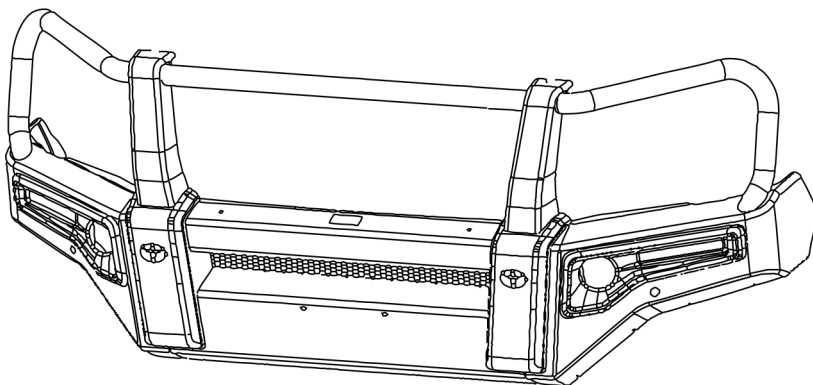


**IMPORTANT**

Please read these instructions carefully before installation, paying special attention to all Notice & Caution notes. Failure to do so may result in damaged parts or injury to the installer or customer.

### Layout

**See page 4 for greater detail**



PZQ2960647 shown

### Tools Required

- Ring / Open End Spanners
- 18mm Deep Socket
- 1/2" Socket Set (8,10,12,14,17mm)
- Extension Bar
- Torque Wrench 4Nm—102Nm
- Allen Key Bits
- Torx Key / Bit Set (T30, T40)
- Gap Gauge
- Philips Screwdriver Set
- Flat Blade Screwdriver (small)
- Scissors
- Centre Punch
- Scribe/Marker Pen
- Side Cutters
- Multi Tool Cutter
- Deburring Tool
- File
- Masking Tape
- Brake Line Clamps
- Plastic Trim Removal Kit
- Bumper Stand
- Hydraulic Platform Lift
- Power Drill and Drill Bit Set
- 22mm Hole saw
- Super Glue
- Tape measure/Ruler
- Electrical Tape/Paint Pen



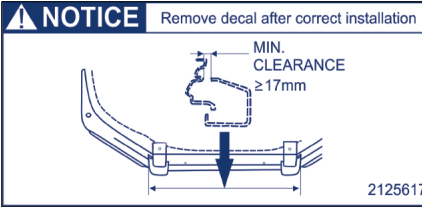
### Important

- Read instructions carefully before installation - install bull bar as described.
- A hydraulic platform lift is recommended when installing the bull bar.
- It is advisable to seek assistance of another person when installing this product.
- 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

- To maintain your bar, wash regularly using a neutral pH car wash detergent, hose off and chamois dry. Stubborn grime can be removed with kerosene. Do not use acidic or alkaline cleaners.
- Polished surfaces can be maintained with Autosol® metal polish or similar.
- Plastic components can be maintained with Nulon Ezi-Glide® silicon spray or similar.
- A Torque Wrench must be used where specified and the correct sequence must be followed.

### Installed Gap Condition



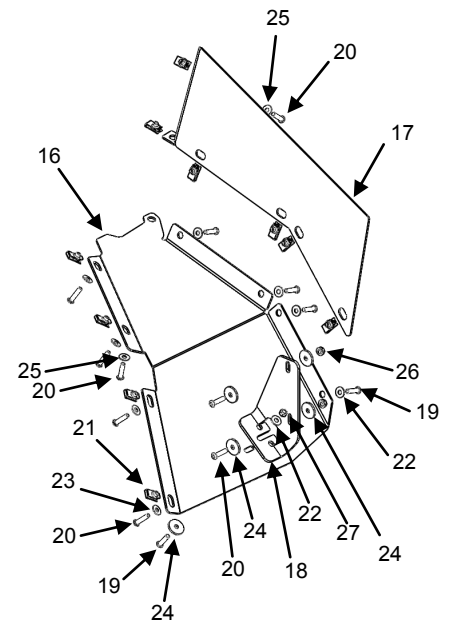
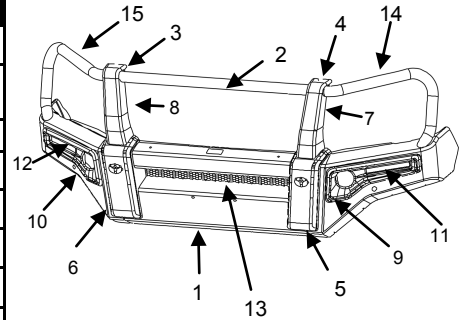
Remove the bull bar to body clearance label from the bull bar. Leave the fitment card attached to the front of the bull bar. Remove the fitment card when the car is delivered to the customer and ensure the customer understands the fitment card instructions.

### Parts List

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

### Alloy Bull Bar

Item	Component Name	Part Number	Qty	Nm
1	Alloy Bull Bar Low / High / Mid Grade	PZQ2960642 / 647 / 721	1	
2	Hoop kit	PZQ29606EA	1	
3	Upright Cast, RHS	PZQ29606EJ	1	
4	Upright Cast, LHS	PZQ29606EE	1	
5	Over Rider, LHS	PZQ29606AA	1	
6	Over Rider, RHS			
7	Cover upright, LHS	PZQ29606AJ	1	
8	Cover upright, RHS			
9	Bezel lamp kit With Fog / Without Fog, LHS	PZQ29606AX / AE	1	
10	Bezel lamp kit With Fog / Without Fog, RHS		1	
11	LH LED combination DRL lamp kit	PZQ29893CB	1	
12	RH LED combination DRL lamp kit	PZQ29893CF	1	
13	Grille Kit	PZQ29606GJ	1	
14	Tape Anti Reflection LHS	PZQ3160330	1	
15	Tape Anti Reflection RHS		1	
44	*Bull bar harness kit	PZQ29606DC	1	
66	*Fog lamp bracket Kit	PZQ29606HE	1	



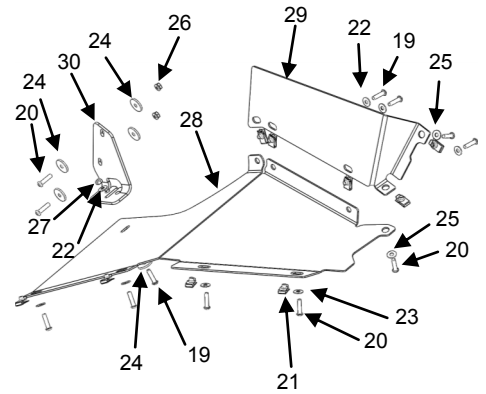
### Splash Shield kit, RHS

Item	Component Name	Part Number	Qty	Nm
16	Splash Panel RHS	PZQ29606FJ	1	
17	Splash Panel Return RHS		1	
18	Splash Panel Support Bracket RHS		1	
19	Screw Btn Hd Torx M6 x 25mm (Black)		5	9
20	Screw Btn Hd Torx M6 x 25mm (Silver)		8	9
21	U-Nut M6 (Silver)		10	
22	Washer Flat M6 Small (Black)		5	
23	Washer Flat M6 Small (Silver)		4	
24	Washer Flat M6 Large (Black)		5	
25	Washer Flat M6 Large (Silver)		2	
26	Nut Hex Flange M6 (Silver)		2	
27	Nut Nyloc M6 (Black)		1	

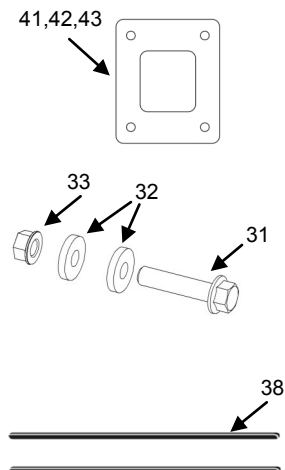
\* Item not shown

**Splash Shield kit, LHS**

Item	Component Name	Part Number	Qty	Nm
28	Splash Panel LHS	PZQ29606FE	1	
29	Splash Panel Return LHS		1	
30	Splash Panel Support Bracket LHS		1	
19	Screw Btn Hd Torx M6 x 25mm (Black)		4	9
20	Screw Btn Hd Torx M6 x 25mm (Silver)		8	9
21	U-Nut M6 (Silver)		9	
22	Washer Flat M6 Small (Black)		4	
23	Washer Flat M6 Small (Silver)		4	
24	Washer Flat M6 Large (Black)		5	
25	Washer Flat M6 Large (Silver)		2	
26	Nut Hex Flange M6 (Silver)		2	
27	Nut Nyloc M6 (Black)		1	


**Bull Bar Fitting Kit – High Grade**

Item	Component Name	Part Number	Qty.	Nm.
31	Screw Flange M10 x 45mm (Silver)	PZQ29606JU	8	54
32	Washer Flat M10 (Silver)		16	
33	Nut Hex Flange M10 (Silver)		8	
39	*Cable Tie		31	
40	*Foam Tape		1	
34	*Conduit 13mm x 670mm		1	
35	*Conduit 13mm x 850mm		1	
36	*Screw M5x15 (Silver)		8	4
37	*Washer M5 (Black)		8	
38	Bumper Cut Pinch Weld Kit		PZQ29606JA	2
41	Shim 5 mm	PZQ29606HX	2	
42	Shim 3 mm		2	
43	Shim 2 mm		2	


**Bull Bar Fitting Kit – Mid Grade**

Item	Component Name	Part Number	Qty.	Nm.	
31	Screw Flange M10 x 45mm (Silver)	PZQ29606JV	8	54	
32	Washer Flat M10 (Silver)		16		
33	Nut Hex Flange M10 (Silver)		8		
39	*Cable Tie		25		
40	*Foam Tape		1		
36	*Screw M5x15 (Silver)		8	4	
37	*Washer M5 (Black)		8		
38	Bumper Cut Pinch Weld Kit		PZQ29606JA	2	
41	Shim 5 mm		PZQ29606HX	2	
42	Shim 3 mm			2	
43	Shim 2 mm	2			

**Bull Bar Fitting Kit – Low Grade**

Item	Component Name	Part Number	Qty.	Nm.	
31	Screw Flange M10 x 45mm (Silver)	PZQ29606HU	8	54	
32	Washer Flat M10 (Silver)		16		
33	Nut Hex Flange M10 (Silver)		8		
39	*Cable Tie		12		
38	Bumper Cut Pinch Weld Kit		PZQ29606JA	2	
41	Shim 5 mm		PZQ29606HX	2	
42	Shim 3 mm			2	
43	Shim 2 mm			2	

\* Item not shown

**Impact Absorber Fitting Kit**

Item	Component Name	Part Number	Qty.	Nm.
45	Impact Absorber Bracket, RHS	PZQ2960323	1	
46	*Impact Absorber Bracket, LHS		1	
47	Chassis Stud		2	
48	Clevis Nut		2	
49	Nut Hex Flange M12 (Silver)		2	92
50	Screw Flange M12 x 50mm		4	102
51	Washer Flat M12		4	

**Undercover, Centre-Kit**

Item	Component Name	Part Number	Qty.	Nm.
52	Stone Shield	PZQ29606FA	1	
19	Screw Btn Hd Torx M6 x 25mm (Black)		3	9
21	U-Nut M6 (Silver)		3	
24	Washer Flat M6 Large (Black)		3	
53	Screw Btn Hd Torx M8 x 25mm (Black)		4	22
54	Washer Flat M8 (Black)		4	
55	Spacer 10 x 30 x 5 (Silver)		2	
56	Nut Hex Flange M8 (Silver)		2	

**Bumper Cut Templates**

Item	Component Name	Part Number	Qty.	Nm.
57	*Template Bumper Cut - Outer RH	PZQ29606HU/JU/ JV	1	
58	*Template Bumper Cut - Outer LH		1	
59	*Template Bumper Cut - Inner RH only		1	
60	*Template Bumper Cut - Upright RH		1	
61	*Template Bumper Cut - Upright LH		1	

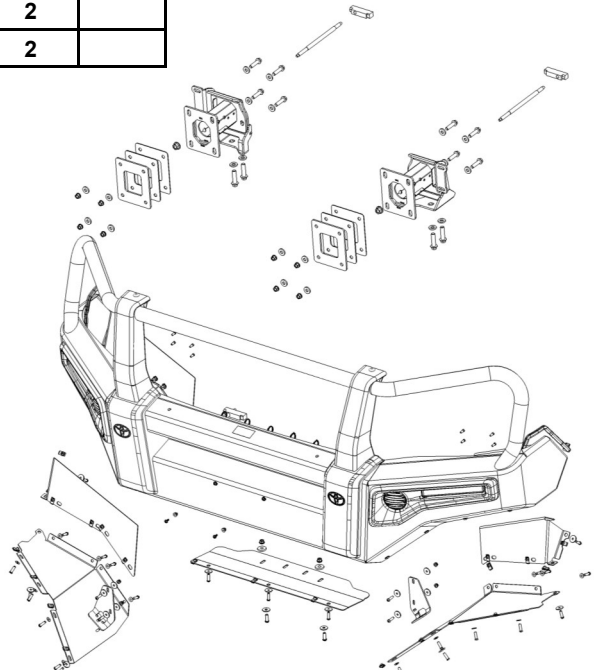
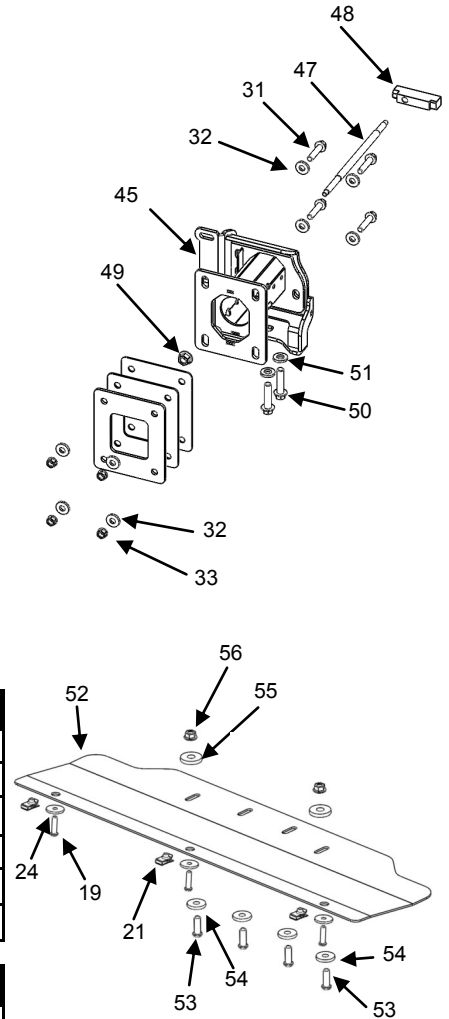
**Registration Plate Fasteners**

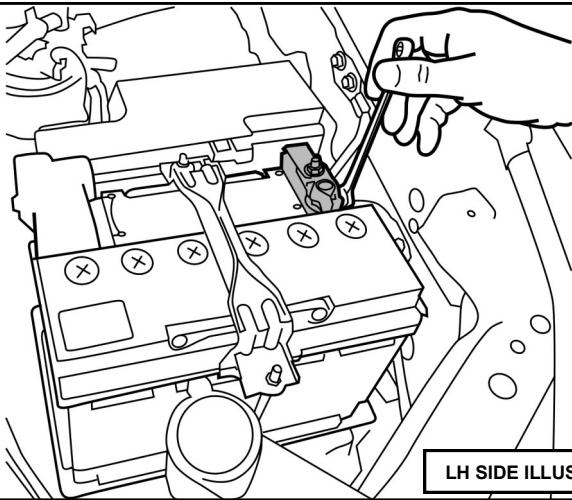
Item	Component Name	Part Number	Qty.	Nm.
62	*Screw Self Tapping 5.2 x 16	PZQ29606HU/JU/ JV	2	
63	*Grommet		2	

**Fender Liner Fasteners**

Item	Component Name	Part Number	Qty.	Nm.
64	*Nut U #10	PZQ29606HU/JU/ JV	2	
65	*Screw Wafer Head 10-32 Self Drilling		2	

\* Item not shown





LH SIDE ILLUSTRATED

**Diagram 1: Disconnect Both Battery's**



**NOTE:**

Always refer to vehicle's Workshop Manual when removing vehicle components.

1. If required note down all clock and radio settings.

Disconnect -ve terminal from both the battery's.



**NOTE:**

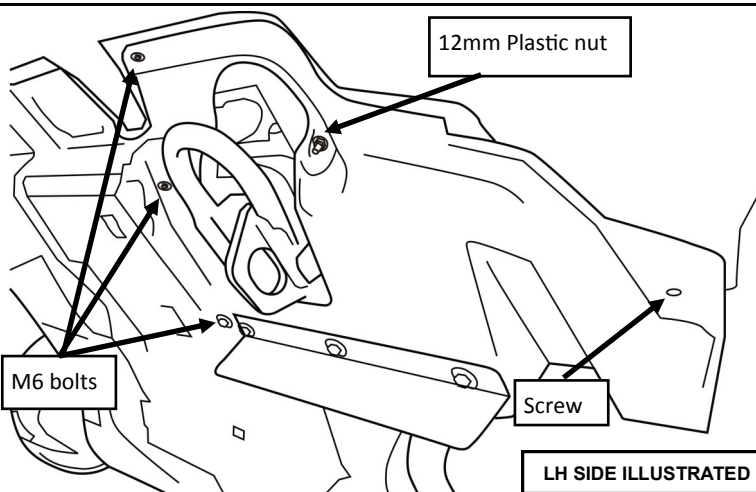
For diesel models, complete step for both batteries.



**NOTE:**

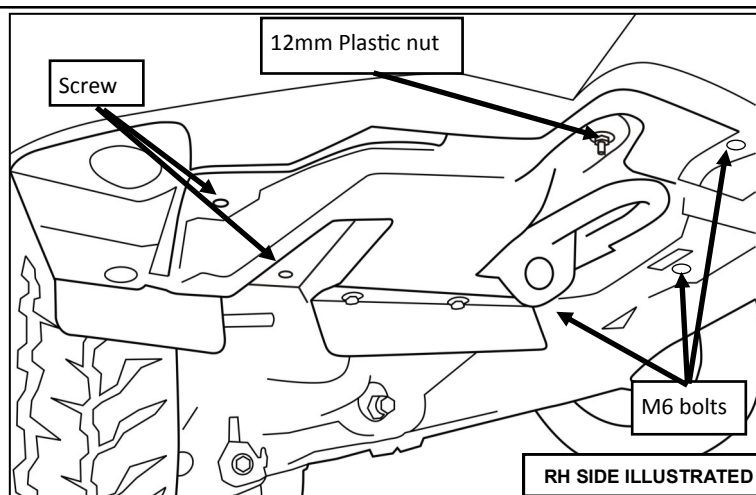
For safety, wrap -ve battery terminal with insulating PVC tape.

2. Remove LH Front corner splash shield sub-assembly by removing 3x Bolts, 1x Self Tapping Screw and 1x Plastic Nut as shown in Diagram 2.



LH SIDE ILLUSTRATED

**Diagram 2: LH Front Corner Splash Shield Removal**

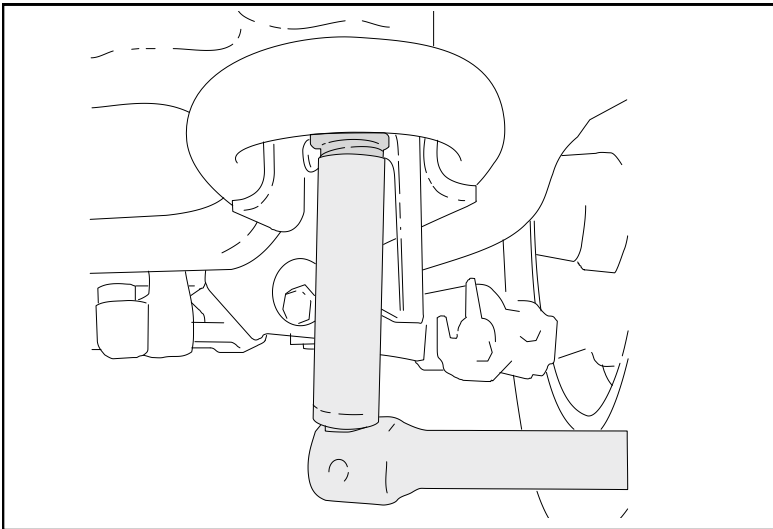


RH SIDE ILLUSTRATED

**Diagram 3: RH Front Corner Splash Shield Removal**

3. Remove RH Front corner splash shield sub-assembly by removing 3x Bolts, 2x self-tapping screws and 1x plastic nut as shown in Diagram 3.

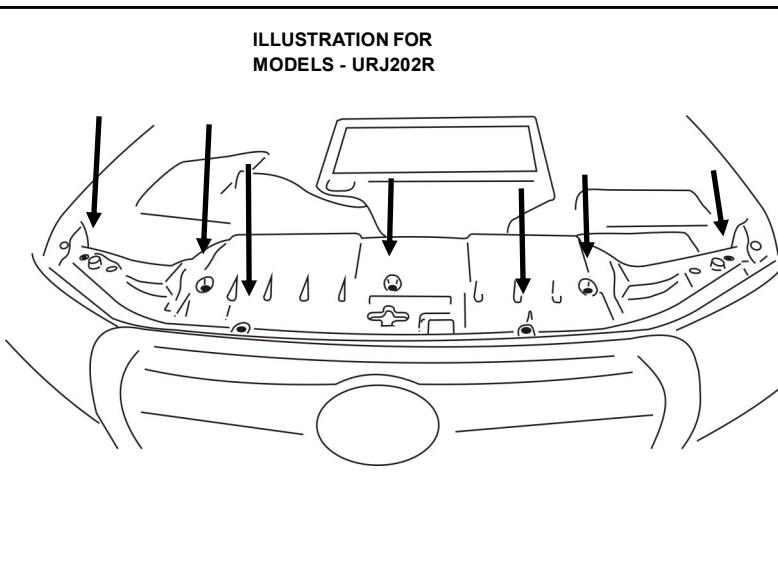
Discard Corner Splash Shields and fasteners.


**Diagram 4: Tow Hook Removal**

- 4.** Remove OE Tow Hook and Tie Down Points on both sides of vehicle as shown in Diagram 4.

Discard 4x OE M12 x 40 Bolts, set aside Tow Hooks and Tie Down Points.

- 5.** Remove Upper Radiator Support Cover by removing 7 Clips as shown in Diagram 5.


**Diagram 5: Upper Radiator Support Cover Removal**
**HINT: -**

Push in centre of Clip to release, allowing Clip to be easily removed.

When refitting, first reset Clip by pushing down centre pin on hard surface.

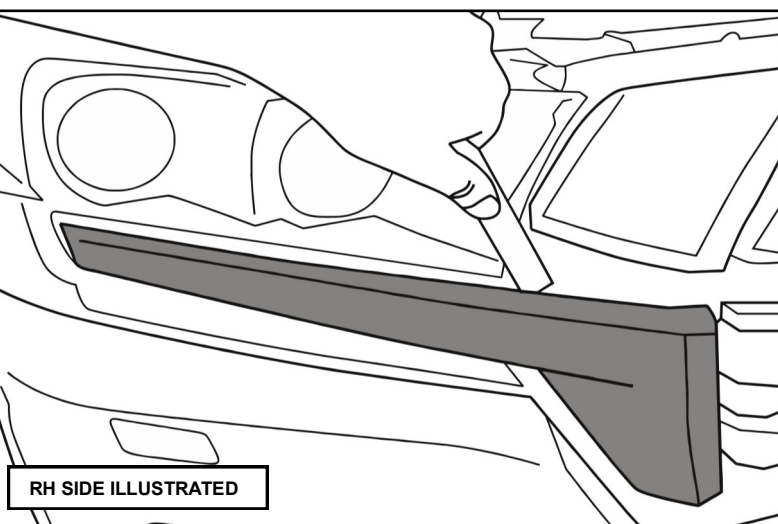
**NOTE: -**

Illustration shows models - VDJ200R for models - URJ202R clip locations are identical

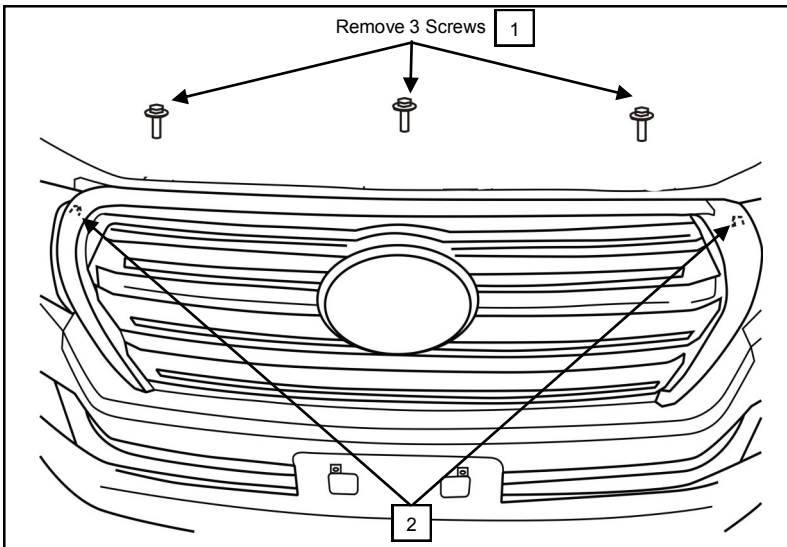
- 6. FOR HIGH GRADE VEHICLES:**

Where applicable remove RH and LH Chrome Headlight Trims using a plastic trim removal tool / lever as shown in Diagram 6.

Retain all components.


**Diagram 6: Chrome Headlight Trim Removal**
**HINT: -**

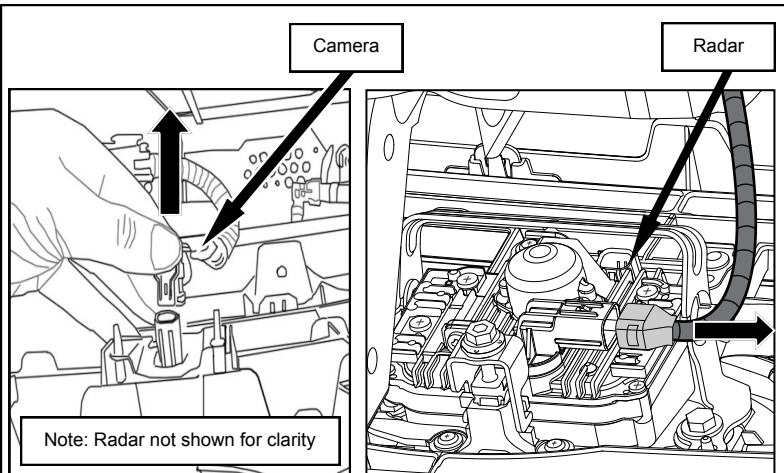
Apply protective tape to adjoining components prior to removal.



7. Remove the 3 x Screws on top of the Grille and retain [1] as shown in Diagram 7.

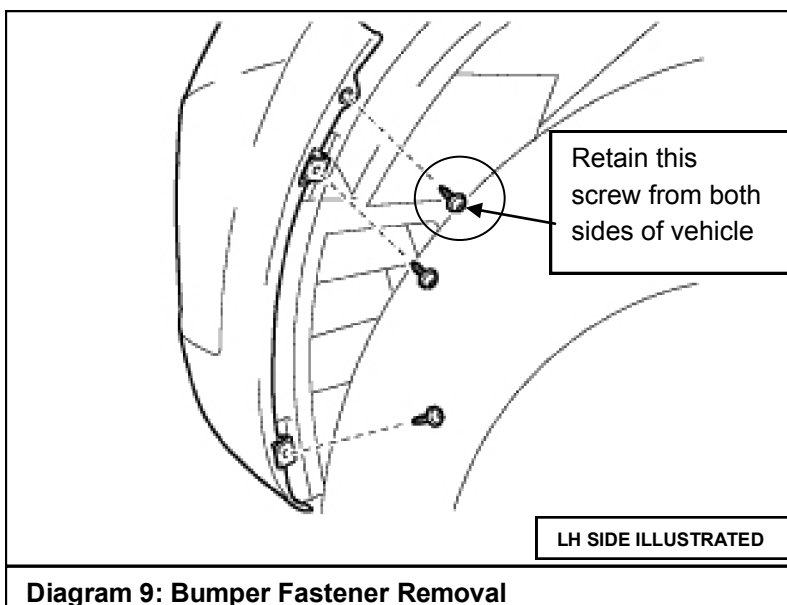
Detach 1 x Clip on both sides of the Grille and retain [2] as shown in Diagram 7.

**Diagram 7: Grille Fastener Removal**



8. If fitted, disconnect Camera and Radar Looms at rear of the Grille as shown in Diagram 8.

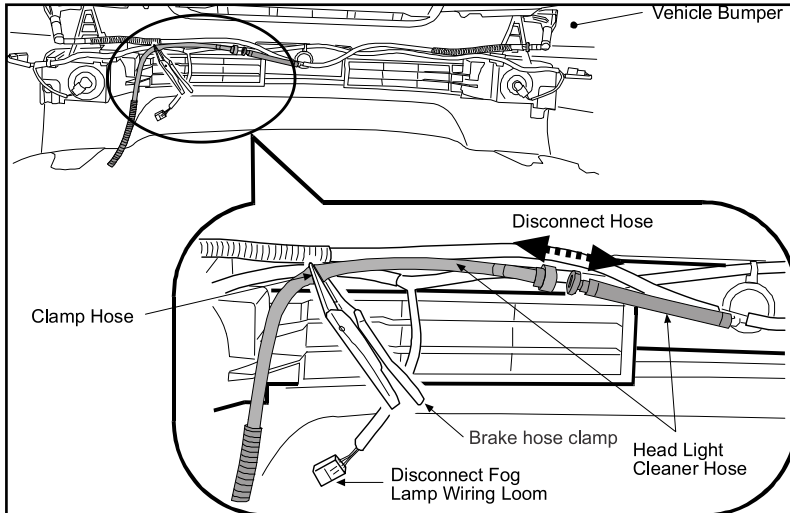
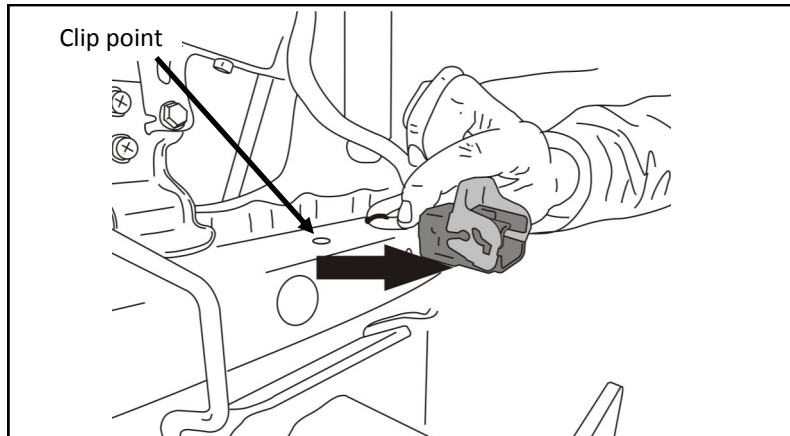
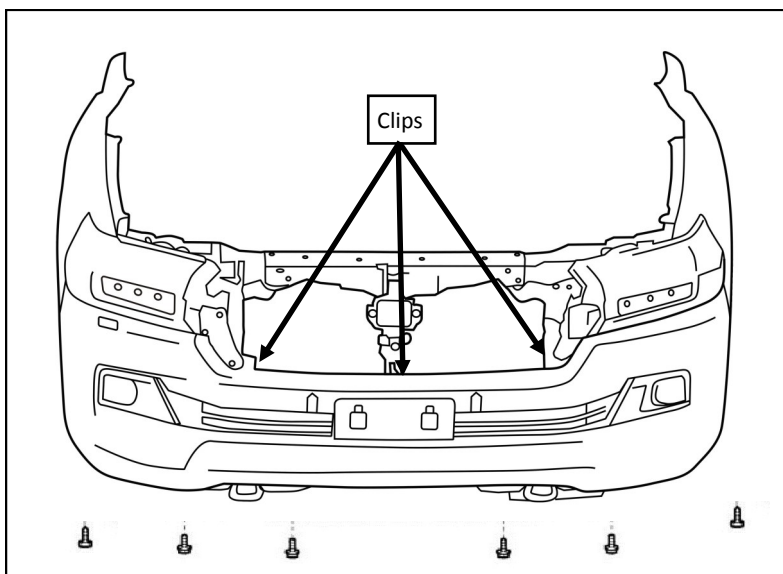
**Diagram 8: Disconnect Camera Harness**



9. Use a T30 "Torx" socket to remove the 6x screws from the Bumper inside the Wheel Arches (3 per side) as shown in Diagram 9.

Retain 2x screws as indicated and discard the rest.

**Diagram 9: Bumper Fastener Removal**


**Diagram 10: Disconnect Head Light Hoses**

**Diagram 11: Disconnect Fog Lamp Harness**

**Diagram 12: Bumper & Grille Removal**

- 10.** For models with Head Light Cleaners fitted, clamp the Head Light Cleaner Hose behind Bumper to prevent water escaping using brake hose clamps or similar.

Disconnect Head Light Cleaner Hose at main pick-up connection, as shown in Diagram 10.

- 11.** For models with Fog Lamps fitted, disconnect the LHS and RHS Fog Lamp Wiring Harnesses from the Vehicle Harness.

Unclip vehicle connector from its mount, as shown in Diagram 11.

- 12.** Remove Registration Plate from the front of the bumper & retain. Discard fasteners.

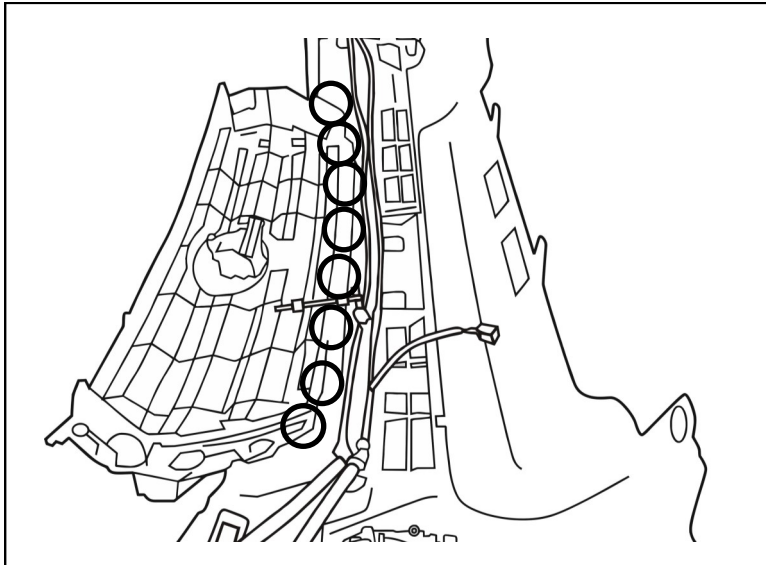
To remove the Bumper, remove 4x bolts and 2x self tapping screws and 3x clips as shown in Diagram 12.

Detach the 10 x Claws and remove the Front Bumper & Grille together and *place onto a protective surface or bumper stand.*

Retain the 3 x Clips. Discard remaining Screws and Bolts.

Note: Grille not shown for clarity.



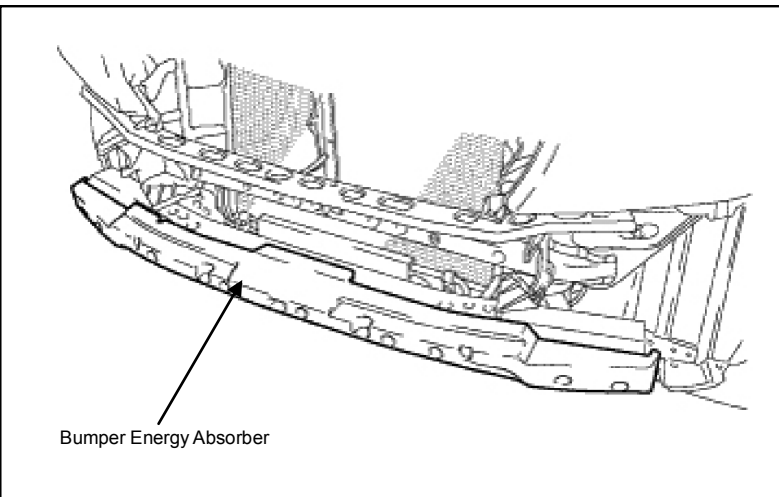

**Diagram 13: Grille Removal**

- 13.** Remove the Grille from the Bumper by unclipping 8 x Claws as shown in Diagram 13.

**HINT: -**

Apply tape to Bumper and Grille components prior to Grille removal.

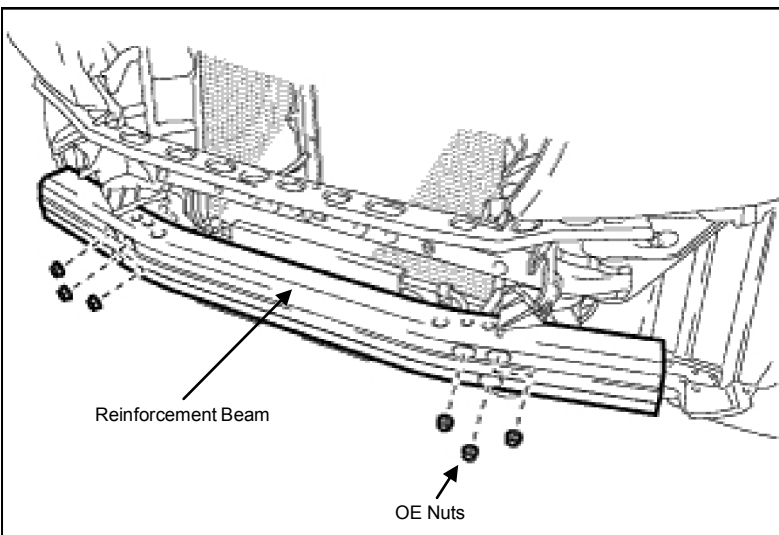
Retain Grille.



Bumper Energy Absorber

**Diagram 14: Bumper Energy Absorber Removal**

- 14.** Remove Front Bumper Energy Absorber from Bumper Reinforcement Subassembly and discard, as shown in Diagram 14.



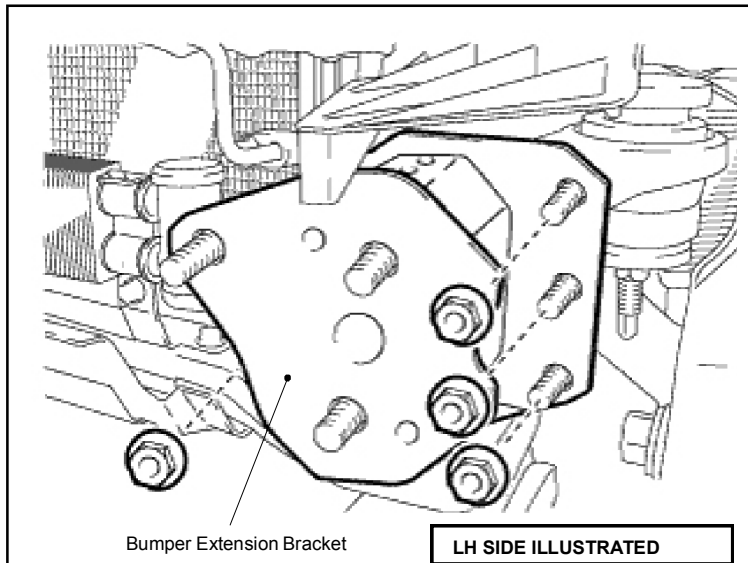
Reinforcement Beam

OE Nuts

**Diagram 15: Bumper Reinforcement Beam Removal**

- 15.** Remove the front Bumper Reinforcement Beam by removing 6 x Nuts as shown in Diagram 15.

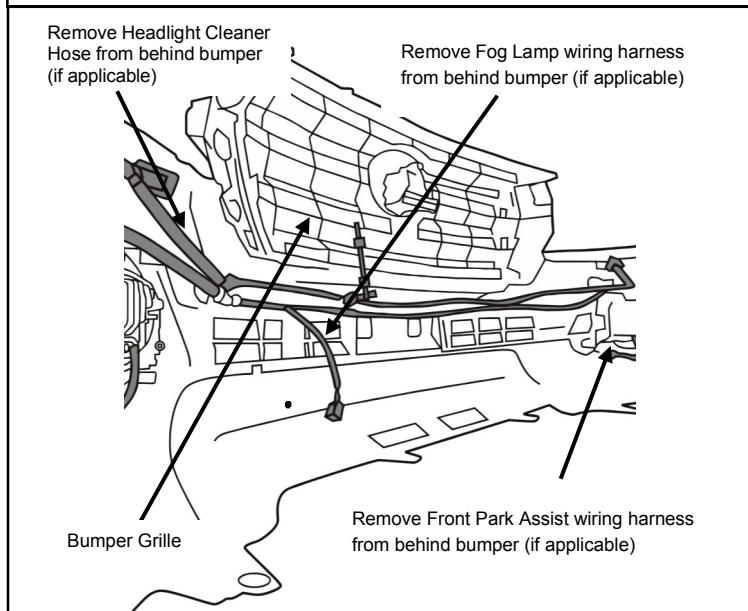
Discard the Reinforcement Beam & Nuts.



- 16.** Remove the Bumper Extension Bracket by removing 4 x Nuts (per bracket) from each side of the vehicle as shown in Diagram 16.

Discard Bumper Extension Brackets. Retain only 4 Nuts, i.e. 2-off per side.

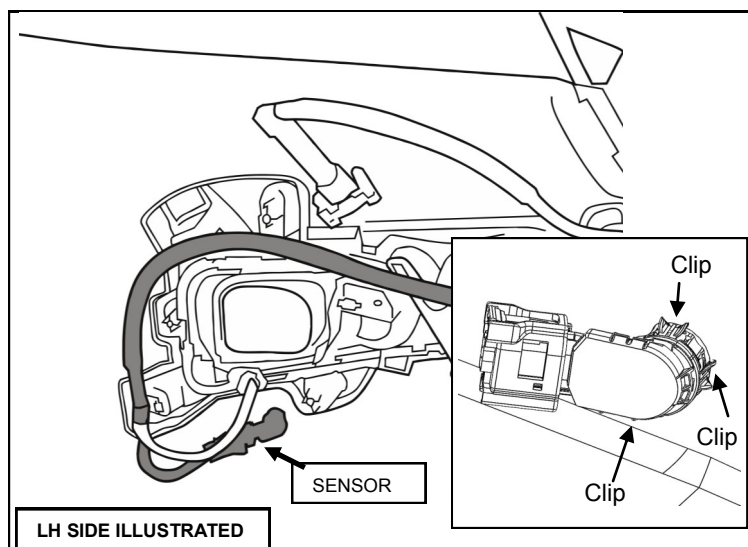
**Diagram 16: Bumper Extension Bracket Removal**



- 17.** *If Fog Lamps fitted follow steps 17 - 21 otherwise go to step 22.*

Remove Fog Lamp Wiring Harness, Park Assist Sensor Wiring Harness (if applicable) and Headlight Cleaner Hose (if applicable) from behind the Front Bumper by cutting the retaining clips and retain, as shown in Diagram 17.

**Diagram 17: Harness / Hose Removal**

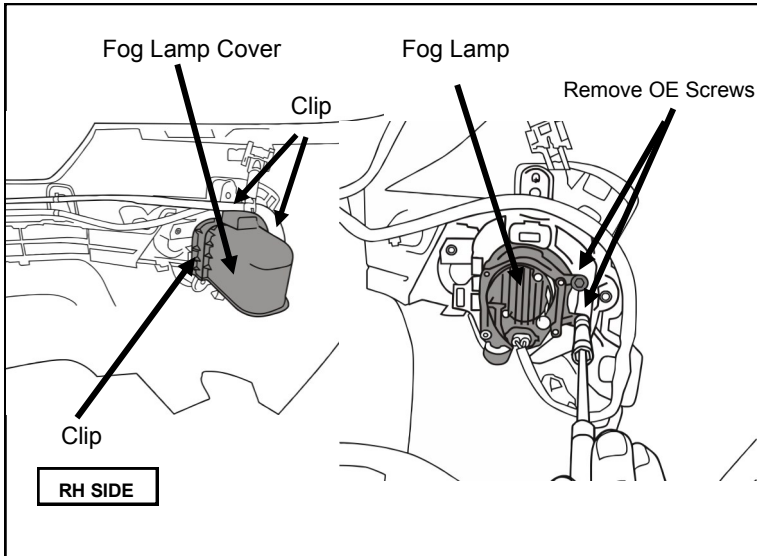


- 18.** Disconnect loom from Fog light connector.

For models with Front Park Assist disconnect the Loom from the Front Park Assist Sensor.

Remove and retain Park Assist Sensors by pressing on clips found on the left and right side of the sensor, and push the sensor out of the Front of the Bumper, as shown in Diagram 18.

**Diagram 18: Remove Front Park Assist Sensor**

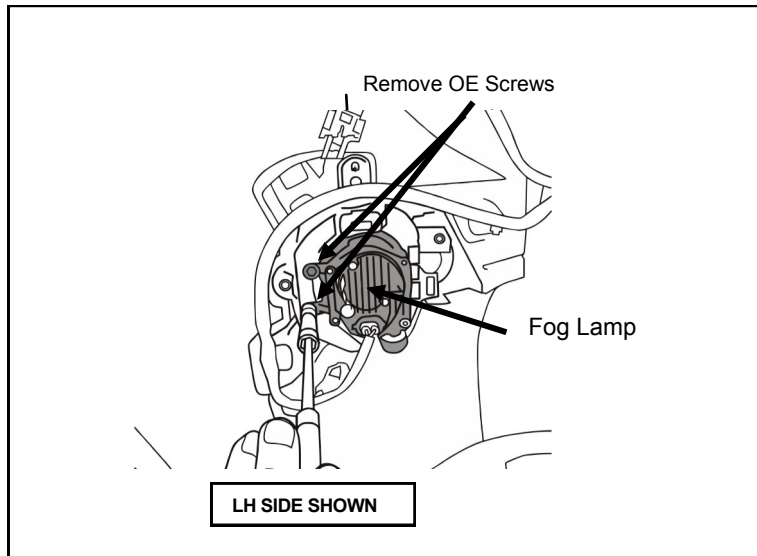


**Diagram 19: Fog Lamp Removal (RH)**

- 19.** Remove and retain the RH Fog Lamp Cover as shown in Diagram 19, by disconnecting 3 x clips

Remove the RH Fog Lamp from housing by unscrewing 2 x screws.

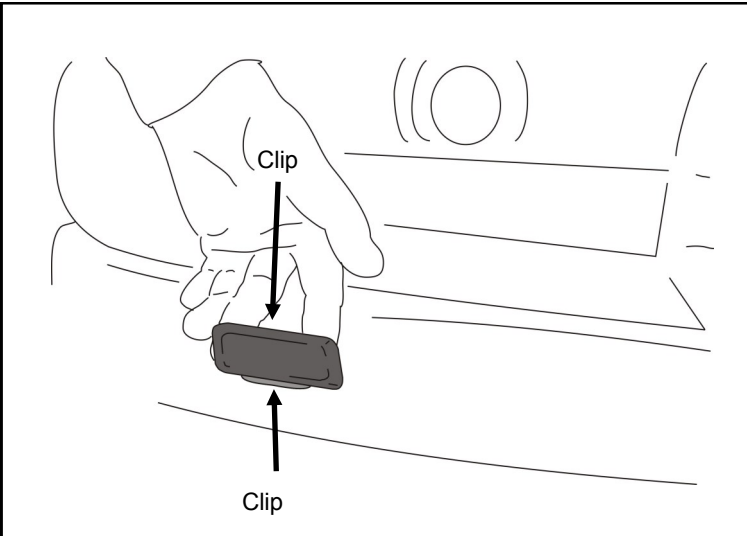
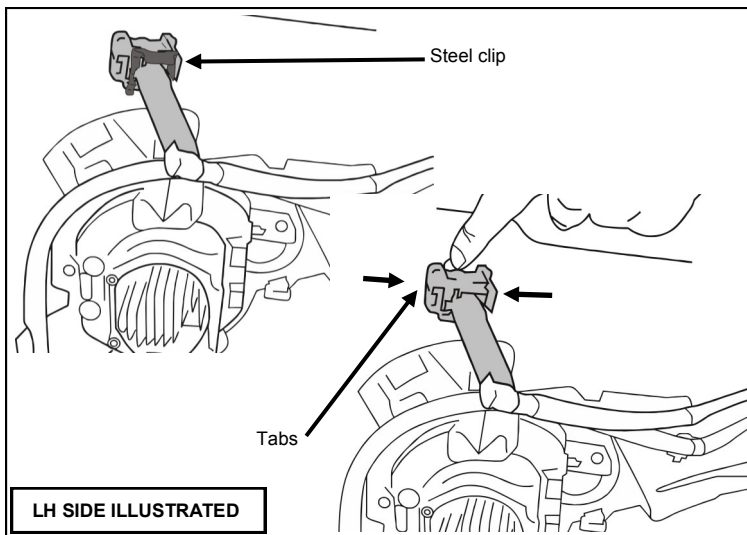
Discard the screws



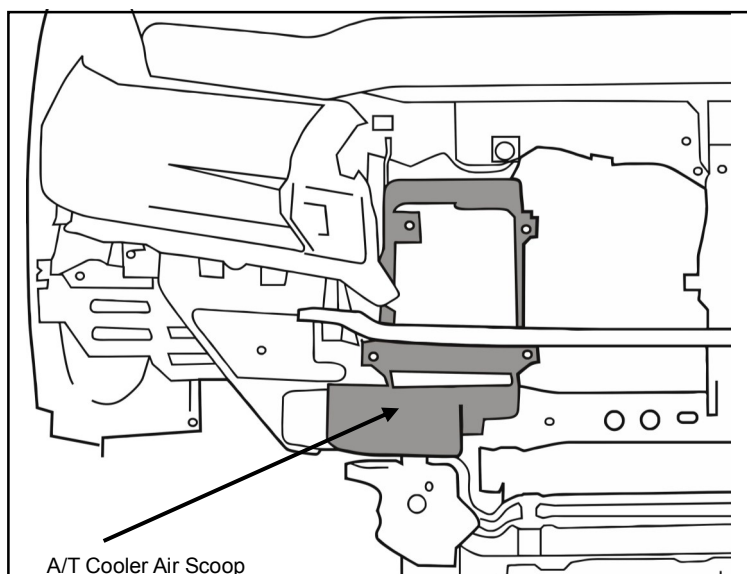
**Diagram 20: Fog Lamp Removal (LH)**

- 20.** Remove LH Fog Lamp from housing by unscrewing 2 x screws as shown in Diagram 20.

Discard the screws


**Diagram 21: HID Washer Removal**


LH SIDE ILLUSTRATED

**Diagram 21a: HID Washer Removal**

**Diagram 22: Trimming A/T Cooler Air Scoop**

- 21.** For models with HID Washer fitted remove HID Washer Jet by firstly unclipping the external cover by pulling the washer out and unclipping the cover then remove the steel clip from bumper mount as shown in Diagram 21a.

While holding the washer assembly at the front of the bumper push on Tabs as shown, to remove unit, then set aside.

Repeat for other side.

Retain the Bumper Assembly.

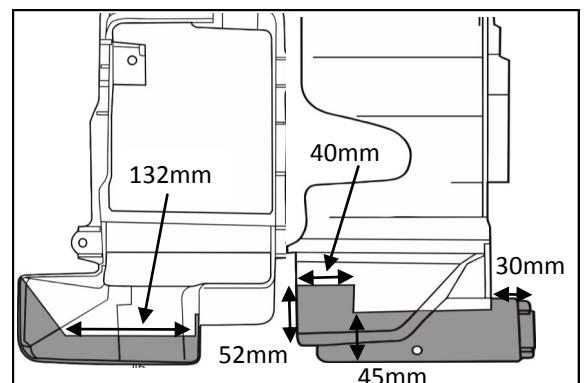
**NOTE:-**

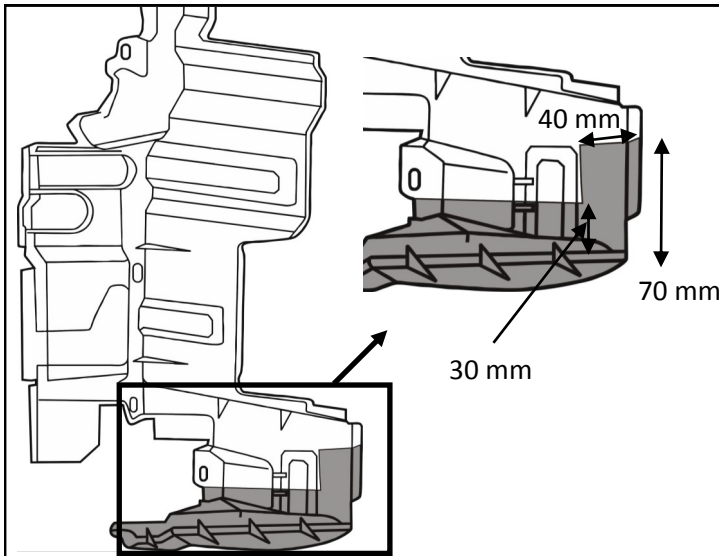
Headlamp Washer Units are fitted to Bumper

- 22.** Locate Automatic Transmission Cooler Air Scoop in front of radiator on the RH side of the vehicle as shown in Diagram 22.

Mark the cutting lines on A/T Cooler Air Scoop as shown in Diagram 22a.

Use a pair of tin snips or multi-tools to cut out a section in Air Scoop and discard. De-bur all cut edges.


**Diagram 22a: Trim RH A/T Scoop**


**Diagram 23: Trimming LH Radiator Shroud**

- 23.** Mark and cut the LH Radiator Air Deflector, located above the LH Chassis Rail, as shown in Diagram 23.

**Bumper Trim / Bumper & Grille Fitment**

- 24.** Check the templates are correct to scale then cut out the templates ready to apply to bumper as shown in Diagram 24. Adhere the templates in place using masking tape and mark out cutting line

**!** WARNING - Take care to adequately hold and support the bumper while cutting to avoid damaging the bumper.

**!** SAFETY - Protective equipment should be worn when using power tools.

Use a multi-tool,  $\varnothing 22\text{mm}$  hole saw,  $\varnothing 10\text{mm}$  drill bit and drill to cut the bumper along the trim line.

**HINTS:-**

- Apply tape to bumper in the region of the cut line to protect paint work.
- Commence cutting from outer edge of the bumper and cut towards the center from both sides.

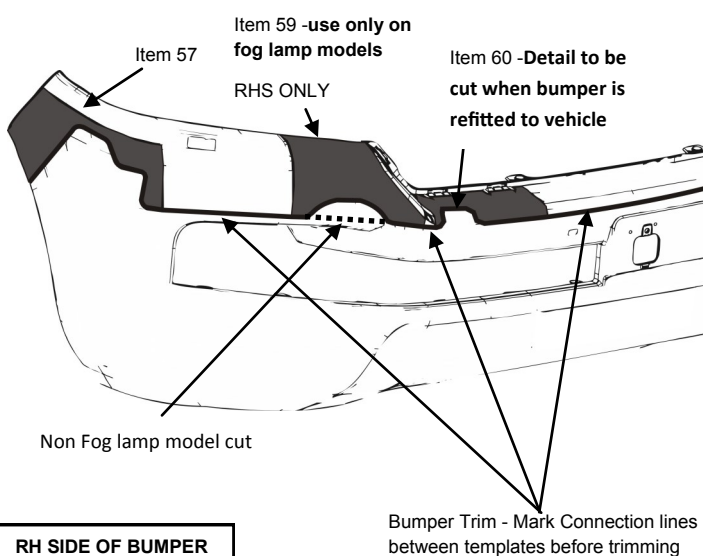
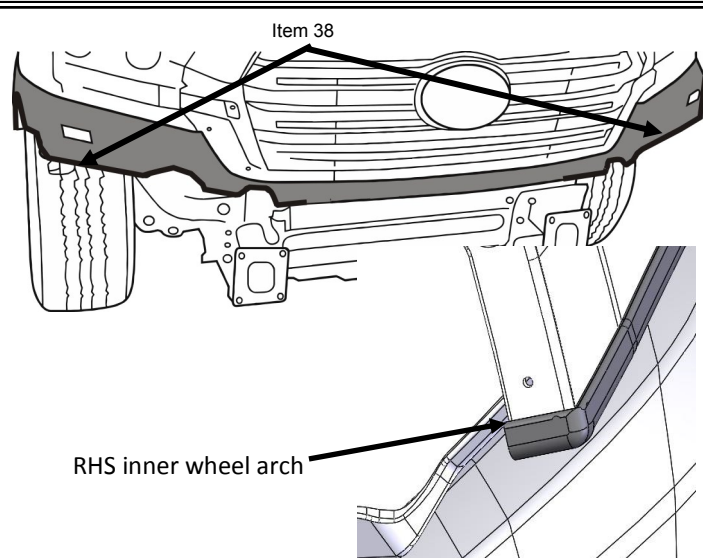
Once cutting is complete and burrs removed re-install the bumper and grille onto the vehicle using the 2 screws and 3 clips removed and retained during step 7,9 & 12.

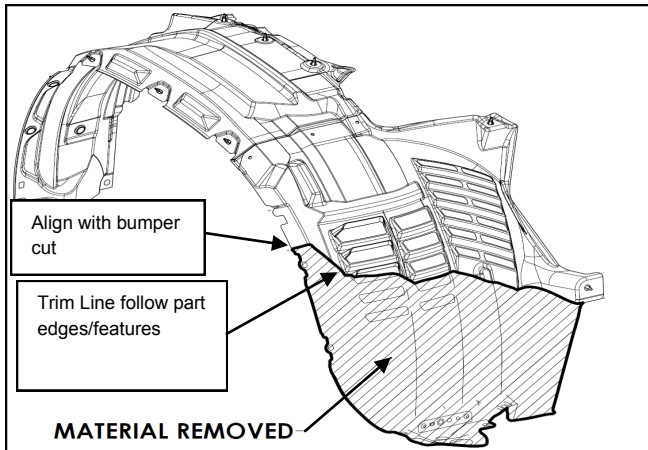
If applicable re-install the chrome headlight trim removed in step 6 and reconnect the camera and radar looms disconnected at step 8.

- 25.** Install 2X 1120mm Pinch Weld (Item 38) to the trimmed Bumper at the locations shown in Diagram 25 and secure using super glue.

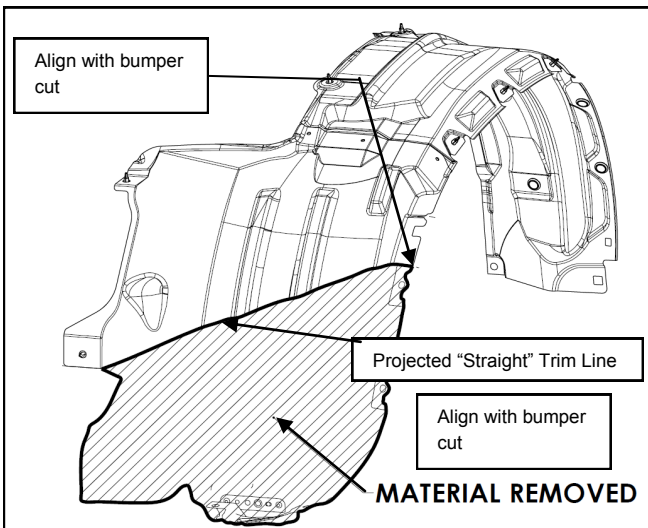
**HINT:-**

- Begin applying the pinch weld on the return of the cut bumper in the wheel arch and progress to the centre

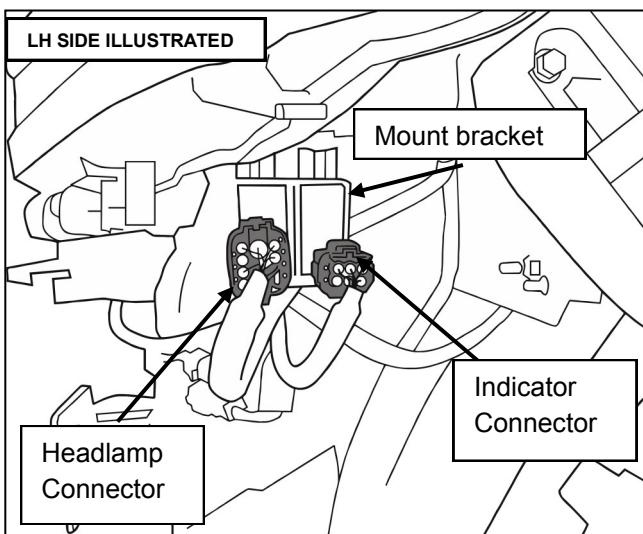

**RH SIDE OF BUMPER**
**Diagram 24: Bumper cut**

**Diagram 25: Pinch Weld Installation—Fog lamp model shown**



**Diagram 26: Trim RH Fender Liner**



**Diagram 27: Trim LH Fender Liner**



**Diagram 28: Remove Connector Mount Bracket**

- 26.** Trim Fender Liners as shown in Diagrams 26 using a Multi-Tool. Trim in line with bumper cut on outboard side.

**HINT:-**

Use tape to define cut profile and mark out using a paint pen.



**SAFETY** - Protective equipment should be worn when using power tools.

- 27.** Trim Fender Liners as shown in Diagram 27 using a Multi-Tool. Trim in line with Bumper cut on outboard side

**HINT:-**

Use tape to define cut profile and mark out using a paint pen.

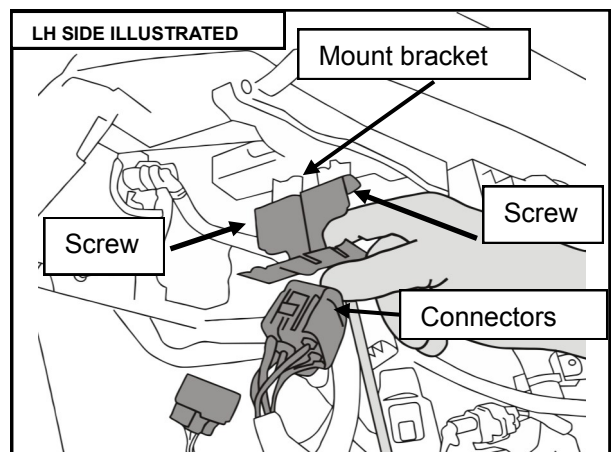


**SAFETY** - Protective equipment should be worn when using power tools.

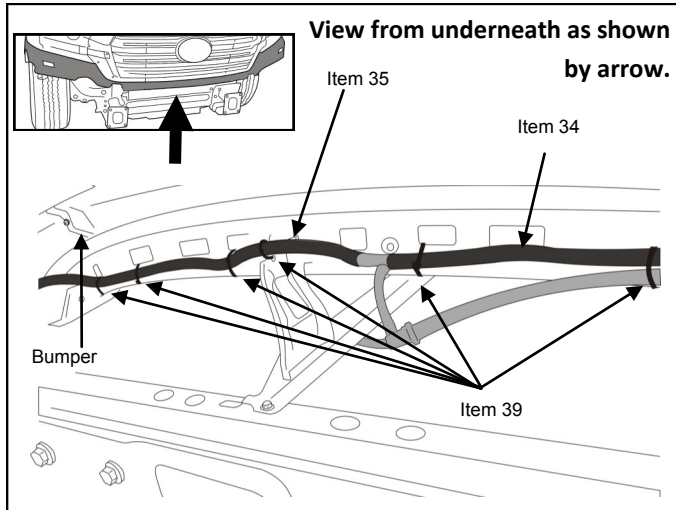
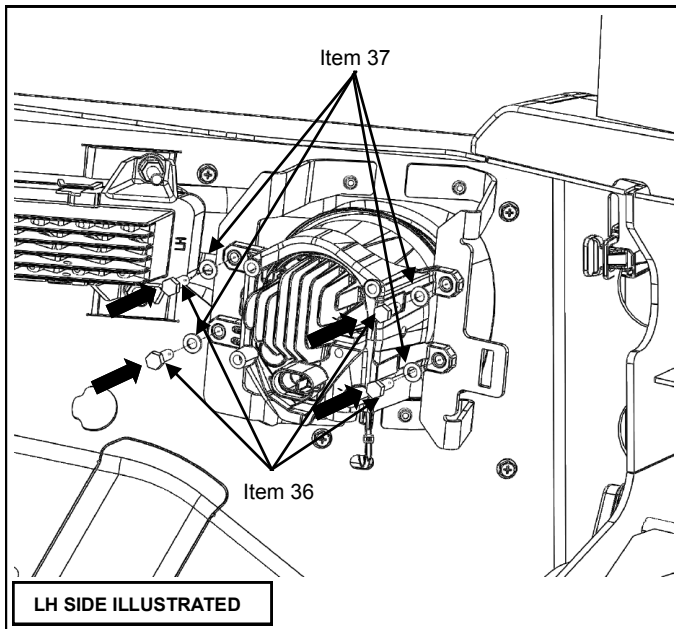
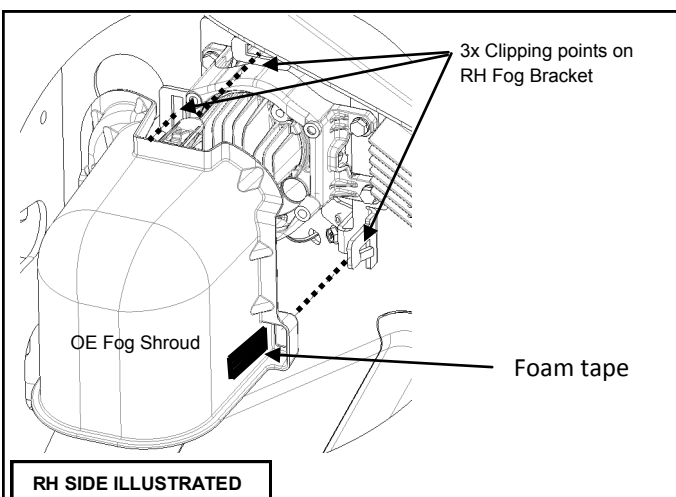
- 28.** Unclip head lamp connectors from the mount bracket and disconnect connectors.

Remove the connector mount bracket by unscrewing 2x Phillips head screws as shown in Diagram 28a. Discard bracket and screws.

Repeat for RH, but disconnect indicator connector only.



**Diagram 28a: Remove Connector Mount Bracket**


**Diagram 29: Install Headlamp Washer Plumbing to Vehicle**

**Diagram 30: Fog Light Installation**

**Diagram 31: OE Fog Lamp Shroud Installation**

- 29.** For vehicles with HID Washer Units fitted reinstall washer jet units to LHS and RHS, apply Conduit (Items 34 & 35) to Headlight Cleaner Hose as shown in Diagram 29. Fit 850mm length (Item 35) on RH of junction and 670mm length (Item 34) on LH junction and refit Headlight Cleaner Hose back to vehicle routing along the underside of the Grille Support Member as shown.

Use 6X Cable Ties (Item 39) to secure Hoses in position as shown.

Connect Hoses back to Front Bumper Water Jets on both sides.

Remove hose clamps from Hoses and check for leaks.

**NOTE:-**

Do not over tighten Cable Ties to avoid restricting the water hose.

- 30.** For vehicles with fog lamps fitted, install the fog lamps onto the fog lamp brackets using 4x Screw M5 x 15 (Item 36) and 4 x Washer M5 (Item 37) as shown in Diagram 30a.

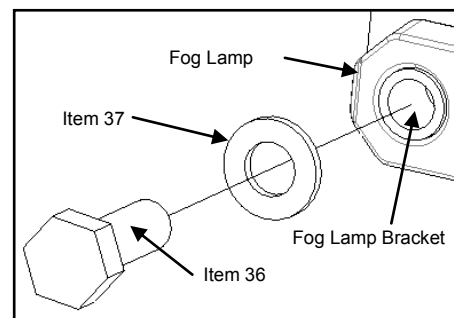
For vehicles with FPA sensors fitted, clip the FPA sensors into the Bull Bar.



**M5 Screw TORQUE = 4 Nm**

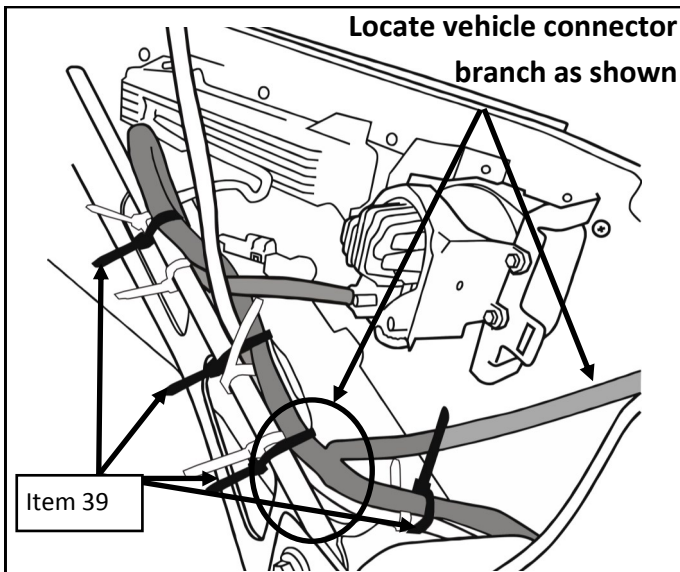
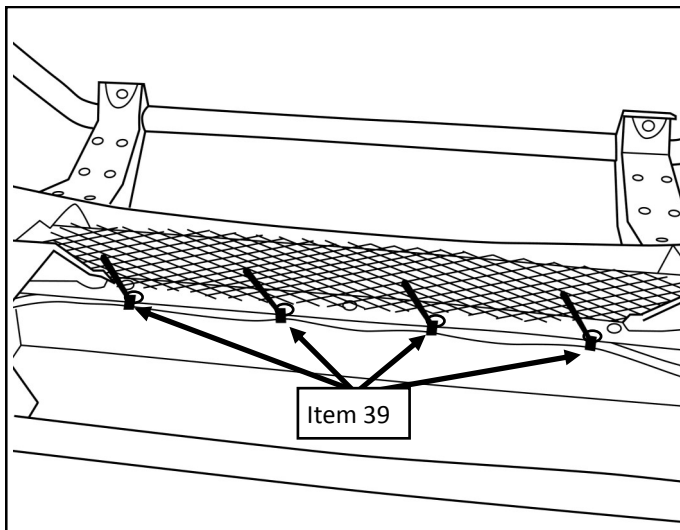
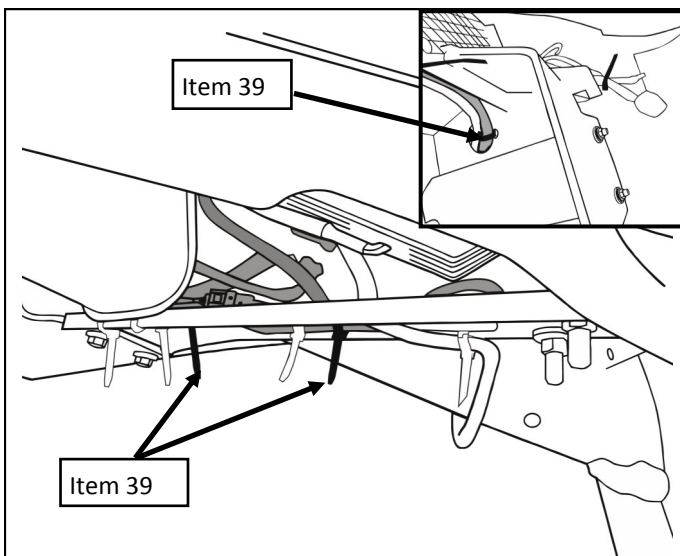
**NOTE:-**

Ensure Screws are assembled as shown in Diagram 30a

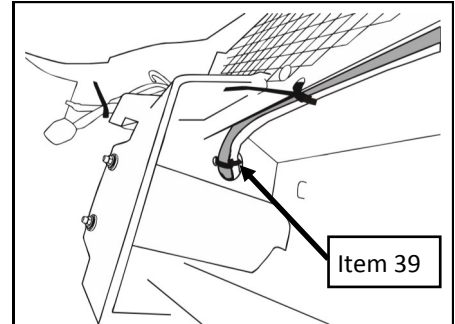

**Diagram 30a: Screw Installation**

Repeat for RHS.

- 31.** For vehicles with fog lamps fitted on RH only, apply foam tape (Item 40) to fog lamp shroud then install the fog lamp shroud onto the 3x clipping points built into the RH Fog Lamp Bracket as shown in Diagram 31.


**Diagram 32: Harness routing**

**Diagram 33: Harness routing**

**Diagram 34: Harness routing**

- 32.** For vehicles with FPA and/or fog lamps fitted, route harness to bull bar beginning from LHS following the bull bar harness as shown in diagrams 32-34, otherwise proceed to step 35. Connect to the FPA sensor (if applicable) and fog lamp, cable tie at points shown in Diagram 32/32a using 5 x Cable Ties (Item 39).


**Diagram 32a: Harness routing**

**HINT:**-Push through the largest connector first to allow for easier routing

**NOTE:**-Ensure the length of harness to the vehicle connector is maximized to enable reconnection to the vehicle harness

- 33.** Tie across center of bar using 4 x Cable Tie (Item 39) as shown in Diagram 33.
- 34.** Cable tie as shown in Diagram 34 using 3 x Cable Tie (Item 39). Bundle loose lengths of the harness under the wing braces in preparation for mounting bar to vehicle.



**NOTE** - If fitting driving lamps do so now.  
If fitting antenna do so now.



• **IMPORTANT**- Max. antenna base OD: 42mm, max. mass: 1.3kg, max. height: 1.15m.



**NOTE** - Fitment of antenna may require PZQ2900020 1/2" BSW extended length bolt.

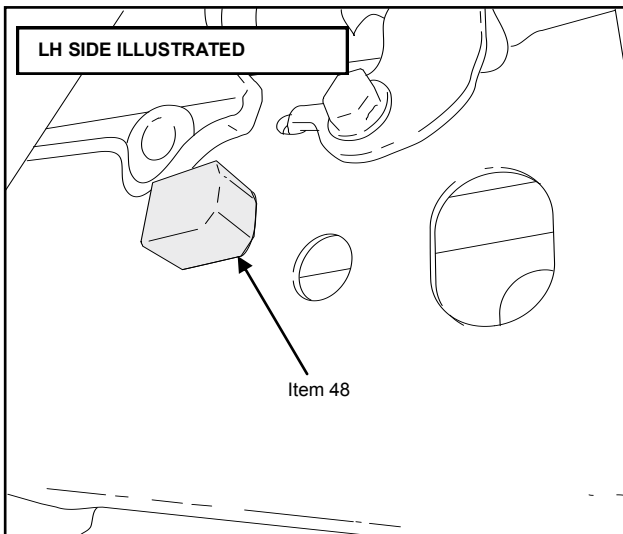


**WARNING** - For vehicles with Toyota Safety Sense (Lane Monitoring, Active Cruise Control (ACC) and Autonomous Emergency Braking (AEB) Systems):

Antenna is not to be fitted to the bull bar as it may affect lane Monitoring and Autonomous Emergency Braking (AEB) Systems

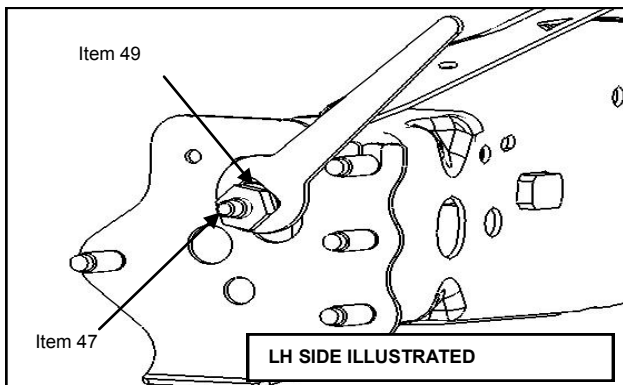
Fitment of non-genuine driving lamps may affect Active Cruise Control (ACC) and Autonomous Emergency Braking (AEB) Systems




**Diagram 35: Install Clevis Nut**

- 35.** Insert Clevis Nut (Item 48) into Chassis Rail from the inboard side of the Chassis as shown in Diagram 35. Ensure chamfered face is facing towards the front of the vehicle.

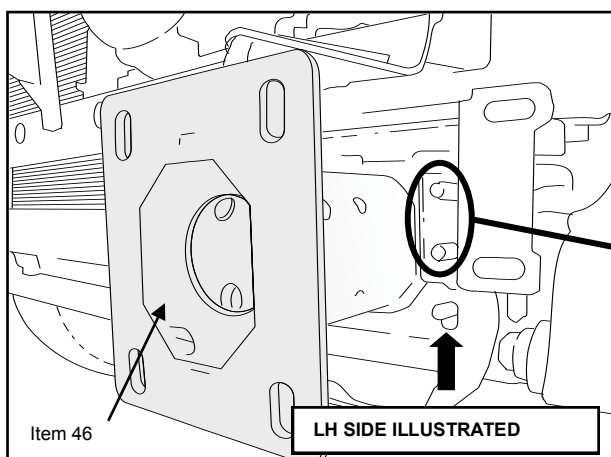
Repeat the process on RH.


**Diagram 36: Install Chassis Stud**

- 36.** Install Chassis Stud (Item 47) into Clevis Nut as shown in Diagram 36. Ensure end of Chassis Stud with thread lock applied (shorter threaded end) is installed fully into the Clevis Nut.

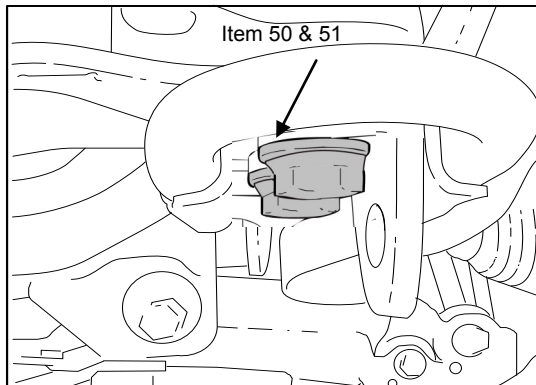
Fasten Chassis Stud by temporarily installing 2X Nut Hex Flange M12 (Item 49). Tighten Nuts against each other and fasten Chassis Stud into Clevis Nut using open end spanners as shown in Diagram 36.

Once full length of thread of Chassis Stud is installed, remove both M12 Flange Nuts and repeat the process on RH.


**Diagram 37: Install Impact Absorber Bracket**

- 37.** Slide Impact Absorber Bracket LH (Item 46) onto chassis flange as shown in Diagram 37. Loosely install outboard chassis OE Flange Nut retained from step 16. Repeat on RH with Impact Absorber Bracket RH (Item 45).

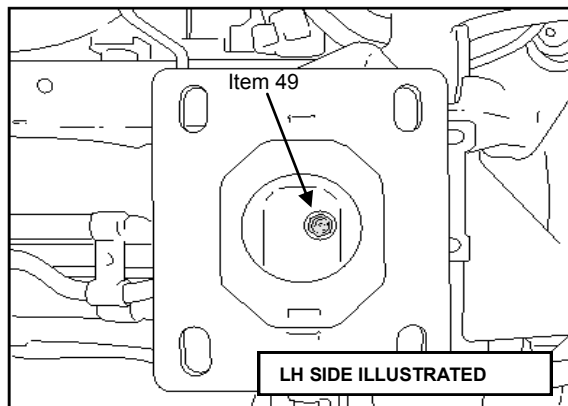
**IMPORTANT:-**  
The two outer upper chassis Flange Nuts are not to be refitted.


**Diagram 38: Re-install OE Tow hook**

- 38.** Re-install OE Tow Hook and Tie Down point using 2X Screw Flange M12 x 50 and 2X Washer Flat M12 (Items 50 & 51) as shown in Diagram 38.

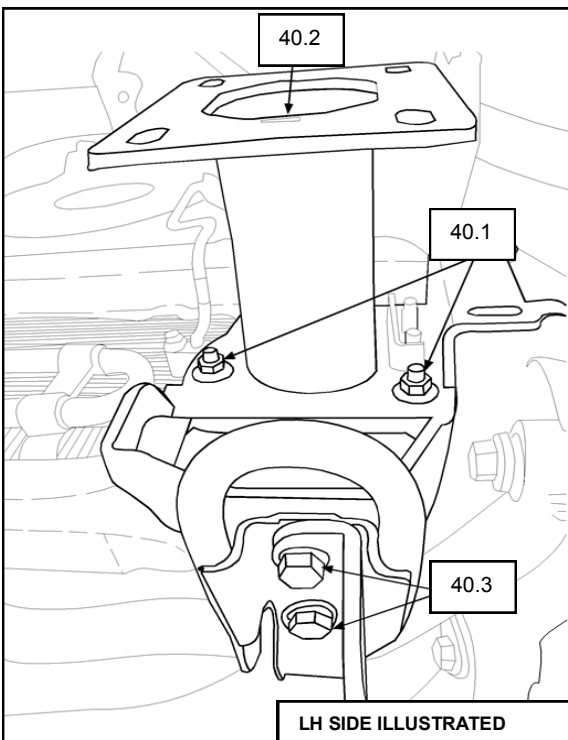
Ensure base of Impact Absorber Bracket is flush against underside of chassis. Ensure Tie Down Point is on the outboard side of Bolts. Repeat process on RH.


**NOTE:-**  
Do not fully tighten at this point.


**Diagram 39: Install M12 Flange Nut**

- 39.** Install Nut Hex Flange M12 (Item 49) to the Chassis Stud as shown in Diagram 39 using 18mm A/F deep socket. Repeat for RH side.

**NOTE:-**  
Do not fully tighten at this point.


**Diagram 40: Correctly Torque Bolts**

- 40.**  **NOTE:-**  
Ensure to follow torque application sequence as described in the following steps.

40.1 Install remaining OE M10 chassis Flange Nuts from step 16 and tighten inboard and lower outboard using torque wrench, as shown in Diagram 40.

**Torque = 67Nm**



40.2 Tighten M12 Flange Nut on Chassis Stud using torque wrench, as shown.

**Torque = 92Nm.**



40.3 Tighten 2X M12 1.25P x 50mm flange bolts (OE Tow Hook) using Torque wrench, as shown.

**Torque = 102Nm**



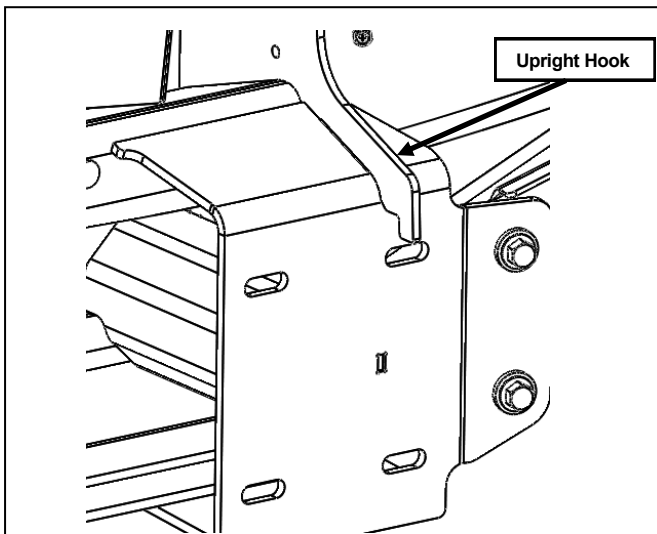
40.4 Loosen all the above nuts and bolts (steps 40.1, 40.2 & 40.3) only once, half a turn.

40.5 Repeat the above tightening sequence in the order of steps 40.1, 40.2 & 40.3. **Check all torques again to specified values.**

Repeat for other side.



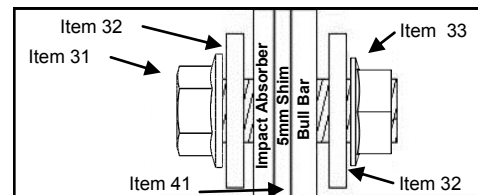
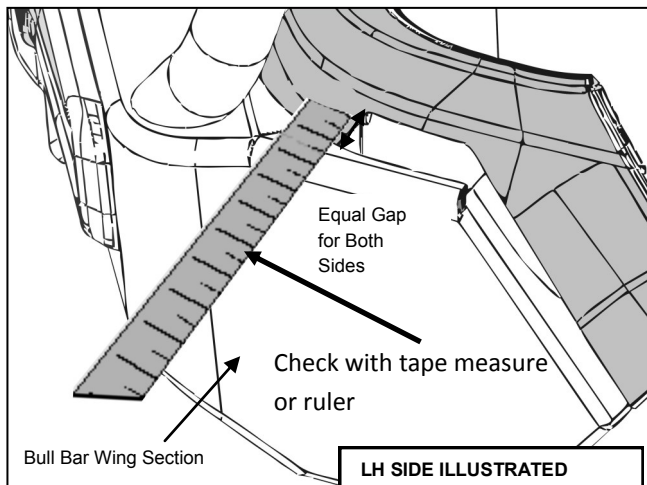
**IMPORTANT:-**  
Please ensure steps 40.4 & 40.5 are followed to ensure correct clamping force.


**Diagram 41: Rest Bar "hooks" onto RH and LH Brackets**

41. Use a lifting aid (Hydraulic Platform Lift) or two people to lift the bull bar into position by resting LH & RH Upright "hook" feature (as shown in Diagram 41) onto the Impact Absorber Brackets

Tilt forward then place 1X 5mm Shim (Item 41) in between bull bar and impact absorber bracket on each side to achieve nominal adjustment.

Loosely secure using 1X Screw Flange M10 x 45mm (Item 31), 2X Washer Flat M10 (Item 32) and Nut Hex Flange M10 (Item 33) as shown in Diagram 41a. Repeat for the other side.


**Diagram 41a: Bull Bar to Impact Absorber Bracket**

**Diagram 42: Align Bull Bar**

42. Adjust the bull bar alignment left-to-right to achieve an equal gap between the bull bar wing and the LH & RH bumper as shown in Diagram 42.

Fit the remaining 6X Screw Flange M10 x 45mm (Item 31), 12X Washer Flat M10 (Item 32) and 6X Nut Hex Flange M10 (Item 33) on both sides.

Finger tighten only.

43. Lift the Bull Bar to achieve a minimum 20mm vertical gap between the wings of the bull bar and the cut bumper cover as shown in Diagram 43.

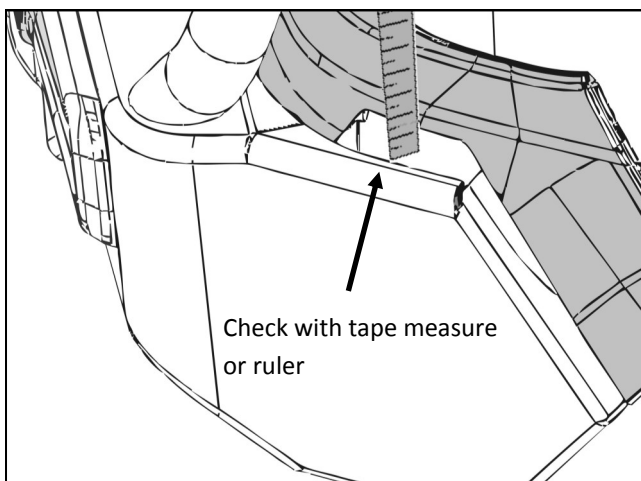
Nip up bull bar 8X M10 fasteners.

Check there is an even gap between the bull bar and the vehicle bumper in the fore-aft direction: minimum clearance of 15mm.

Utilize 2mm, 3mm or 5mm shims (Item 43, 42, 41) between the impact absorber brackets and the bull bar on the RH or LH side or both sides to achieve this fore-aft clearance.

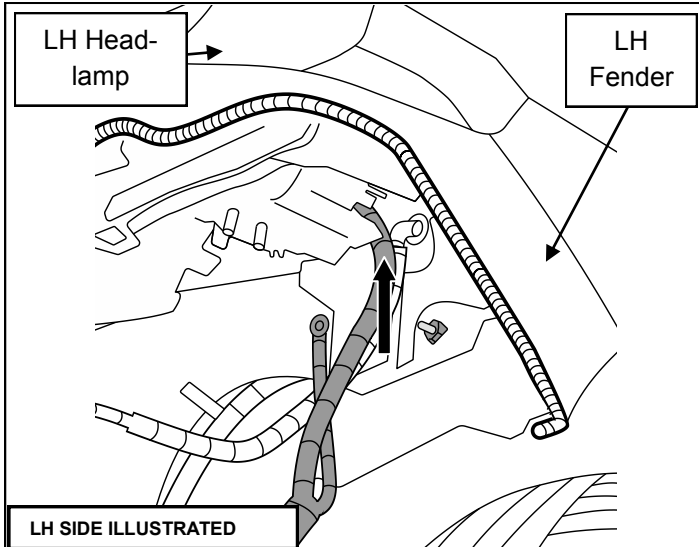


Once the correct gapping has been achieved, tighten M10 flange bolts to 54 Nm.

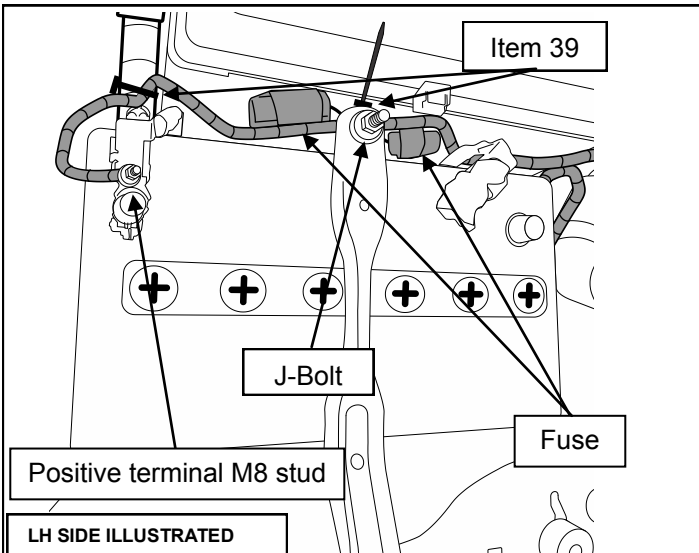

**Diagram 43: Position Bull Bar**
**NOTE:-**

Vehicle may settle over time due to properties of rubber body mounts.

No more than 10mm of Shims should be fitted per side.


**Diagram 44 Feed in harness**

- 44.** Feed harness through aperture behind head lamp for connection to battery as shown.

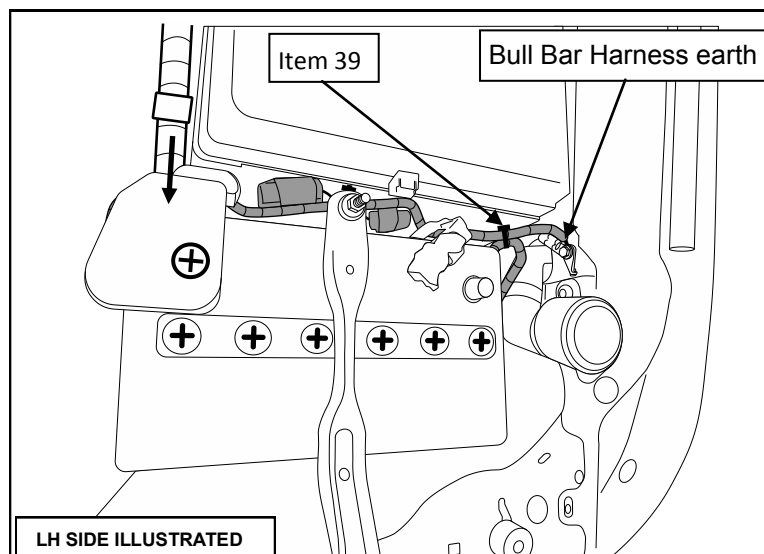

**Diagram 45: Install Harness**

- 45.** Remove the positive terminal connector cover from the positive battery terminal and route the Bull Bar harness (Item 44) into the engine bay as shown, with fuses on each side of the J-Bolt.

Connect harness to the positive terminal M8 stud and torque then secure it with Cable Ties (Item 39) at 2 locations as shown in Diagram 45.

 **Battery Terminal : M8 - 14 Nm.**

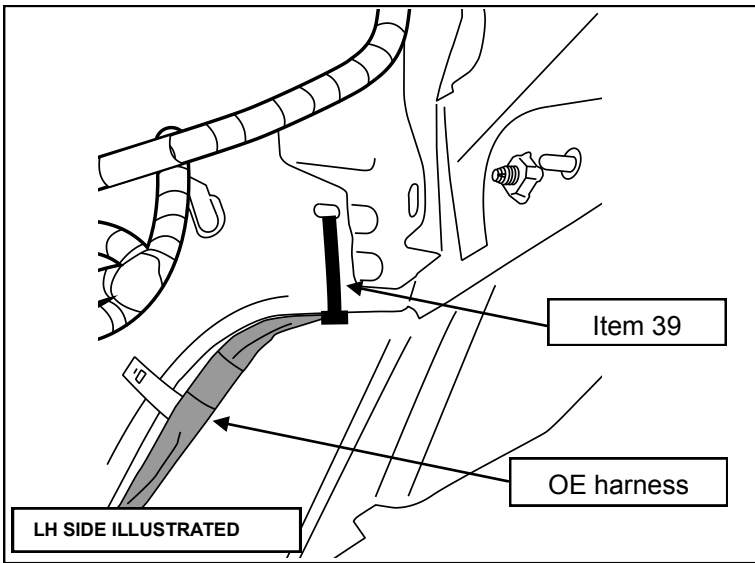
Replace cover on terminal.


**Diagram 46: Install Harness**

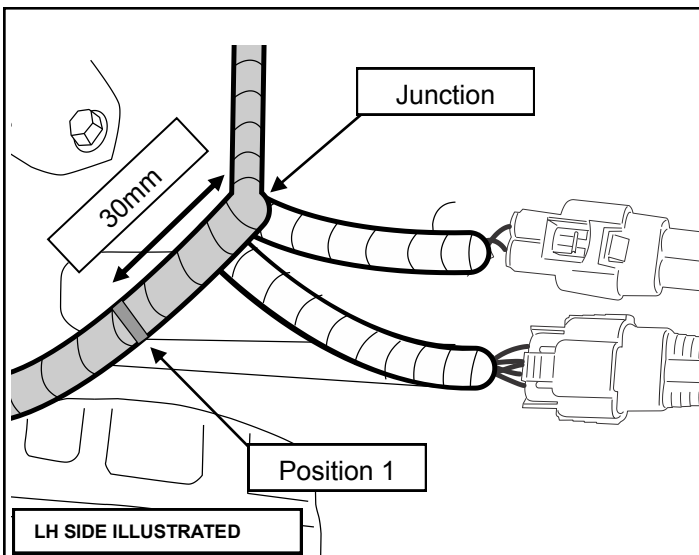
- 46.** Connect the Bull Bar harness negative terminal (earth) to the vehicle body Earth.

Cable Tie (Item 39) the bull bar harness negative, bull bar harness positive and vehicle body earth harness.

 **Body Earth Bolt : M6 - 8.5 Nm.**

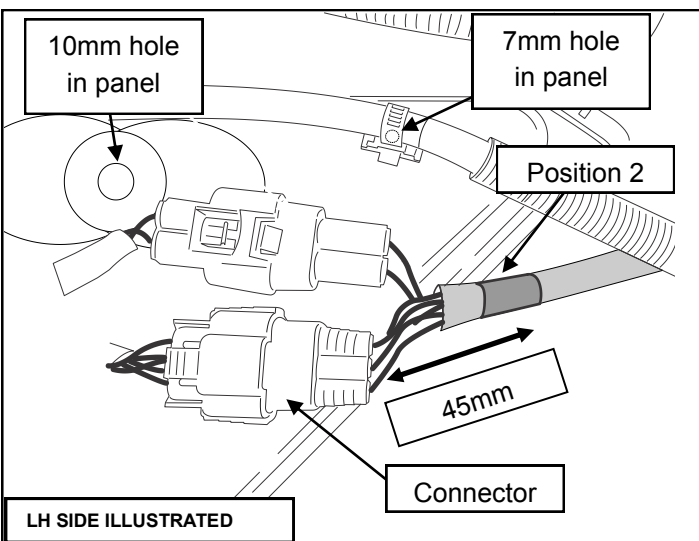


- 47.** Secure PVC wrapped OE harness that is terminated with a 4 pin black male connector and 6 pin grey male connector, to radiator support panel as shown with 1X cable tie (Item 39).

**Diagram 47: Secure harness**


- 48.** Mark in RED or number tie position 1 on OE harness, measured 30mm from junction as shown.

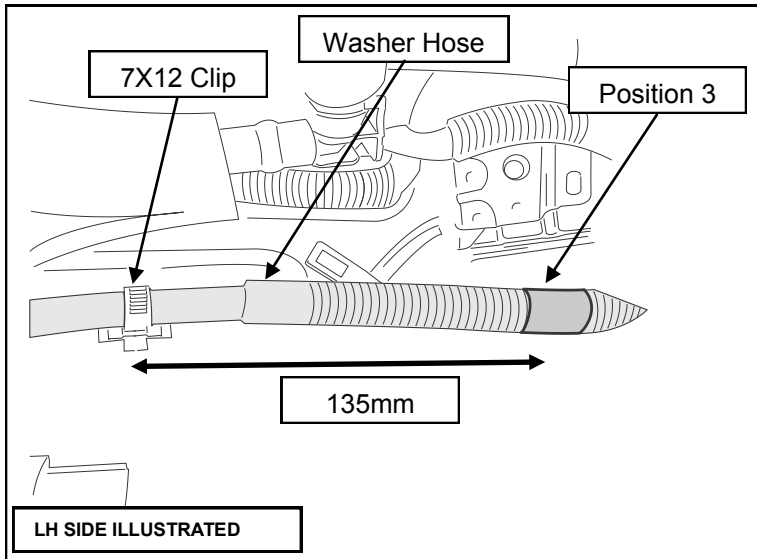
Mark with paint pen or electrical tape.

**Diagram 48: Identify tie position**


- 49.** Mark in YELLOW or number tie position 2 on OE harness, measured 45mm from the connectors as shown.

Mark with paint pen or electrical tape.

**Diagram 49: Identify tie position**

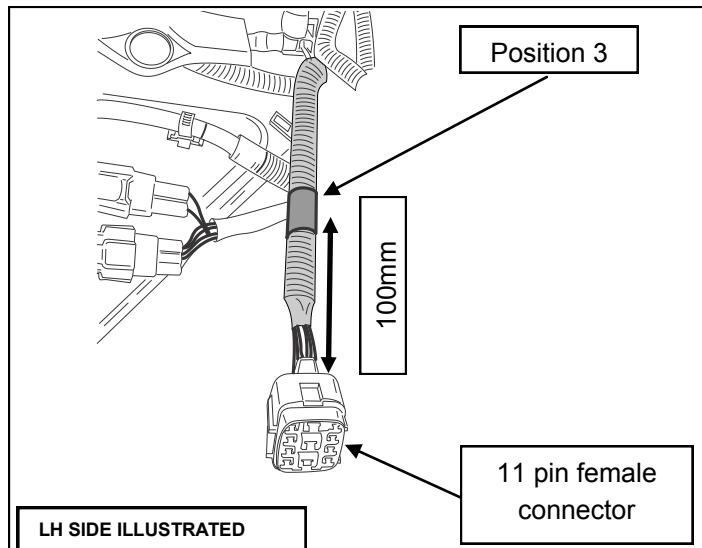


LH SIDE ILLUSTRATED

**Diagram 50: Identify tie position**

- 50.** If applicable, mark in WHITE or number tie position 3 on OE washer hose, measured 135mm from 7X12 clip on washer hose.

Mark tie position with paint pen or electrical tape.

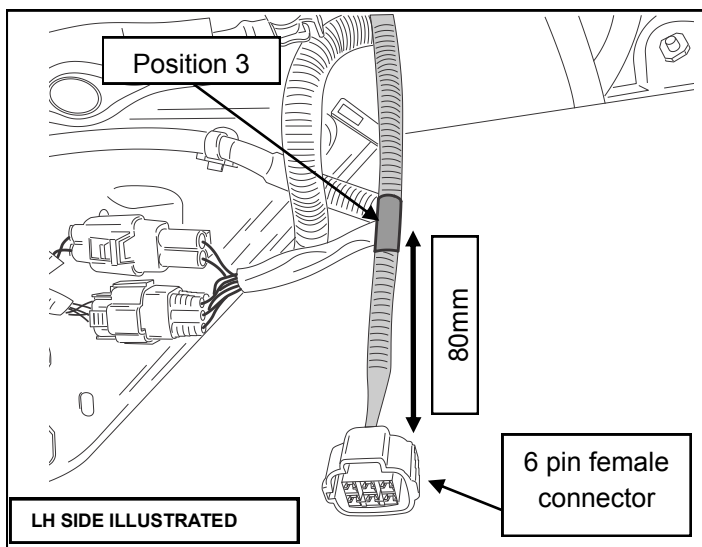


LH SIDE ILLUSTRATED

**Diagram 51: Identify tie position**

- 51.** Mark in WHITE or number tie position 3 on OE headlamp harness, measured 100mm from back of 11 pin black female connector.

Mark tie position with paint pen or electrical tape.



LH SIDE ILLUSTRATED

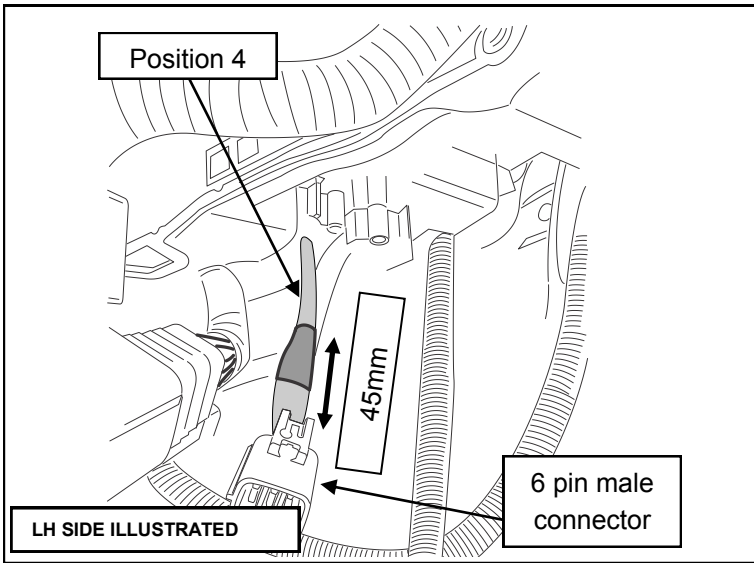
**Diagram 52: Identify tie position**

- 52.** Mark in WHITE or number tie position 3 on OE indicator harness, measured 80mm from back of 6 pin grey female connector.

Mark tie position with paint pen or electrical tape.

- 53.** Mark in GREEN or number tie position 4 on OE indicator harness, measure 45mm from back of 6 pin grey male connector.

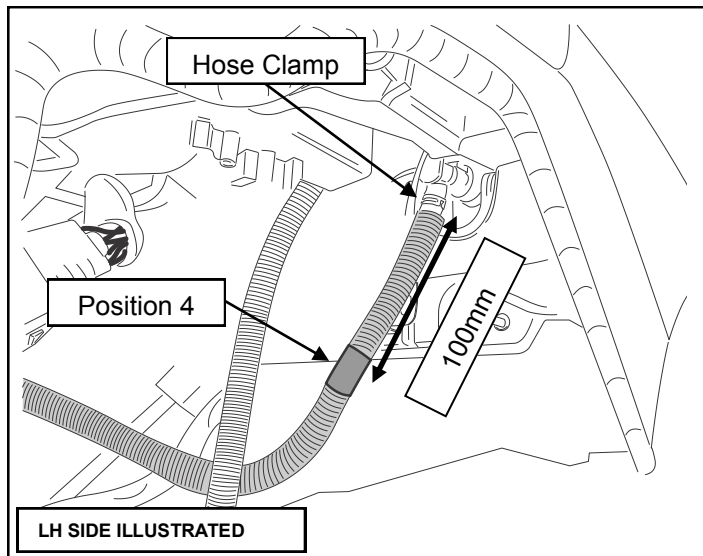
Mark with paint pen or electrical tape.



**Diagram 53: Identify tie position**

- 54.** If applicable, mark in GREEN or number tie position 4 on OE washer hose measured 100mm from hose clamp.

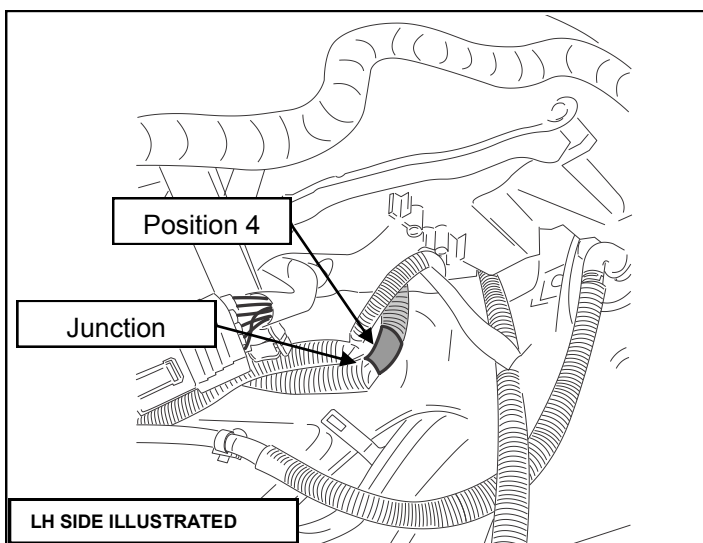
Mark with paint pen or electrical tape.



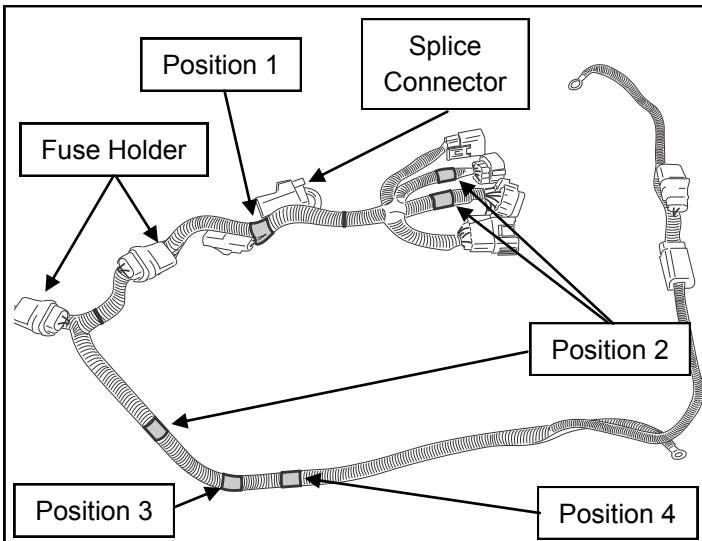
**Diagram 54: Identify tie position**

- 55.** Mark in GREEN or number tie position 4 on OE harness, adjacent to junction of 4X harnesses.

Mark with paint pen or electrical tape.



**Diagram 55: Identify tie position**



**Diagram 56: Identify tie positions**

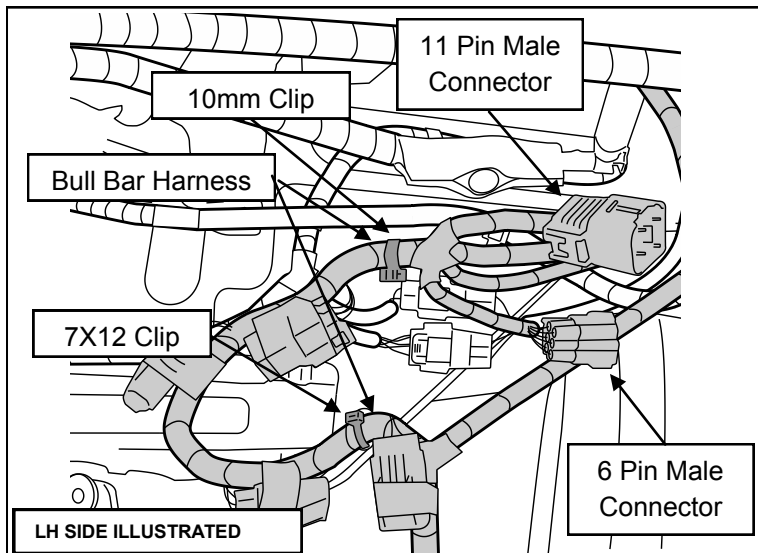
**56.** Identify tie positions 1-4 on bull bar harness that are marked as:

Position 1: RED X1 place

Position 2: YELLOW X3 places

Position 3: WHITE X1 place

Position 4: GREEN X1 place



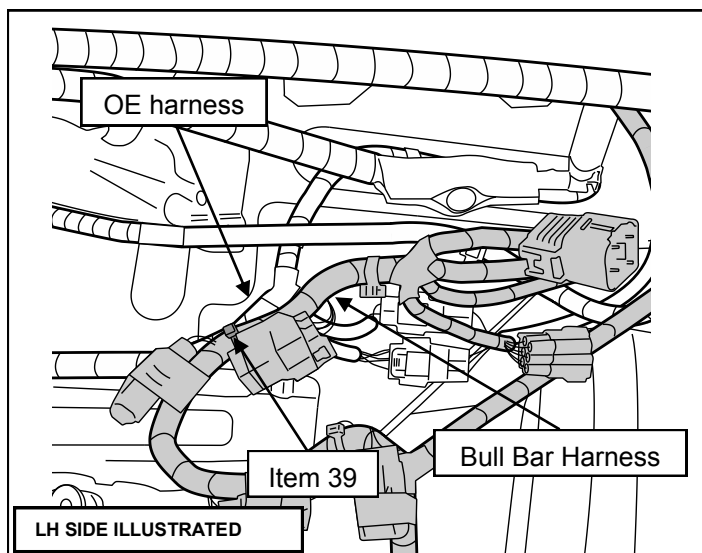
**Diagram 57: Install harness**

**57.** Install 10mm diameter clip on bull bar harness to 10mm hole in radiator support panel as shown.

Install 7X12 clip on bull bar harness to 7X12 hole in radiator support panel in orientation shown.



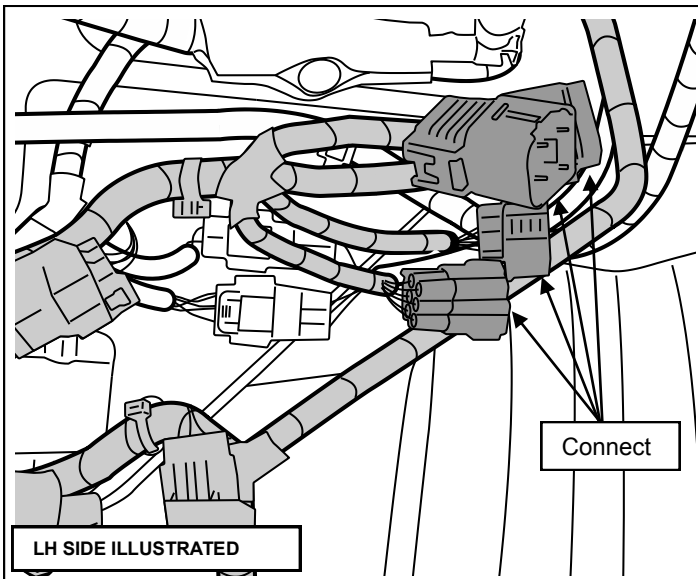
**IMPORTANT:** Ensure 11 pin male connector is orientated to be above the 3X branches, and 6 pin male connector to be below the 3X branches as shown.



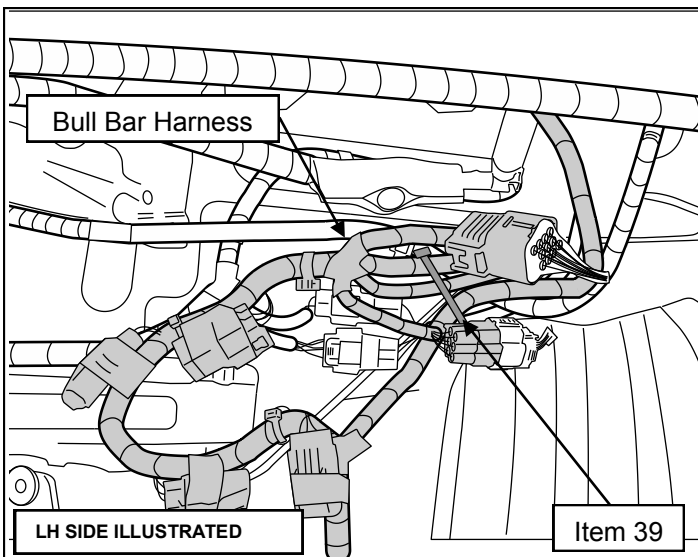
**Diagram 58: Secure harness**

**58.** Secure bull bar harness at RED indicator to OE harness at tie position 1 marked in step 48 using 1X cable tie (Item 39).

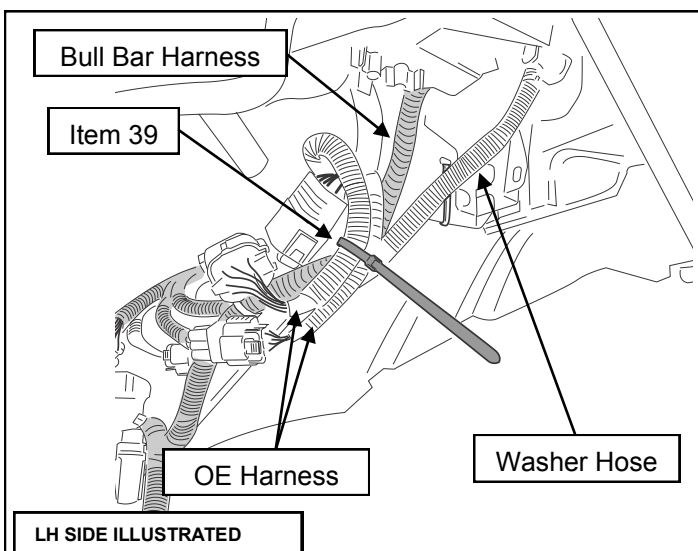



**Diagram 59: Connect harness**

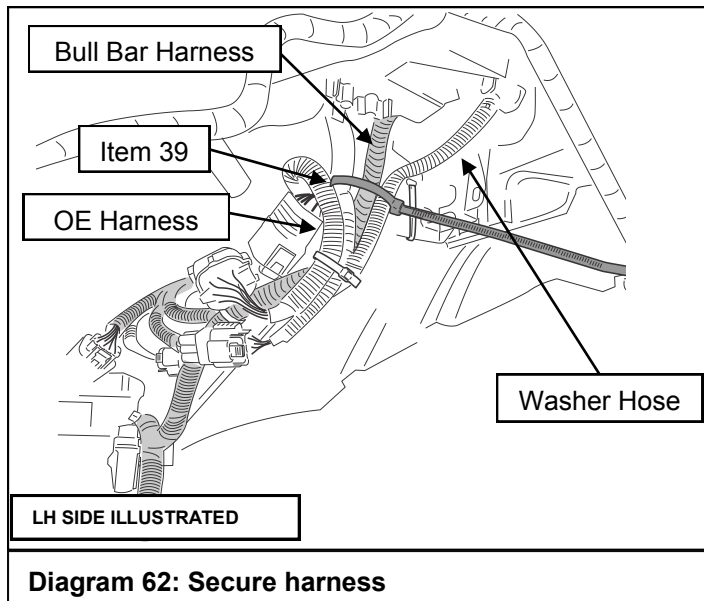
- 59.** Connect all 4X bull bar harness connectors to OE headlamp (11-pin) and OE indicator (6-pin) harnesses.


**Diagram 60: Secure harness**

- 60.** Secure bull bar harness at YELLOW indicator (3X places) to OE harness at tie position 2 marked in step 49 using 1X cable tie (Item 39) in orientation shown.


**Diagram 61: Secure harness**

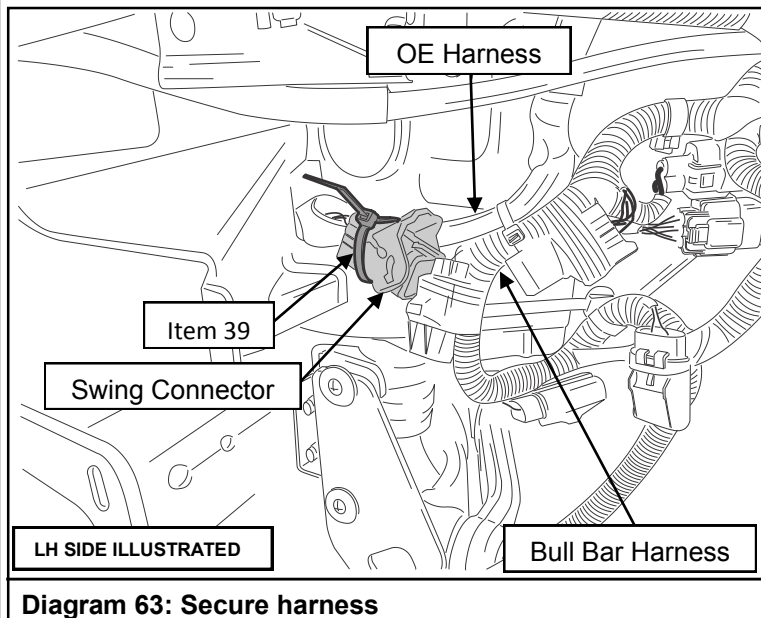
- 61.** Secure bull bar harness at WHITE indicator to 2X OE harnesses marked in steps 51 and 52, and if applicable, washer hose marked in step 50 at tie position 3 using 1X cable tie (Item 39) in orientation shown.



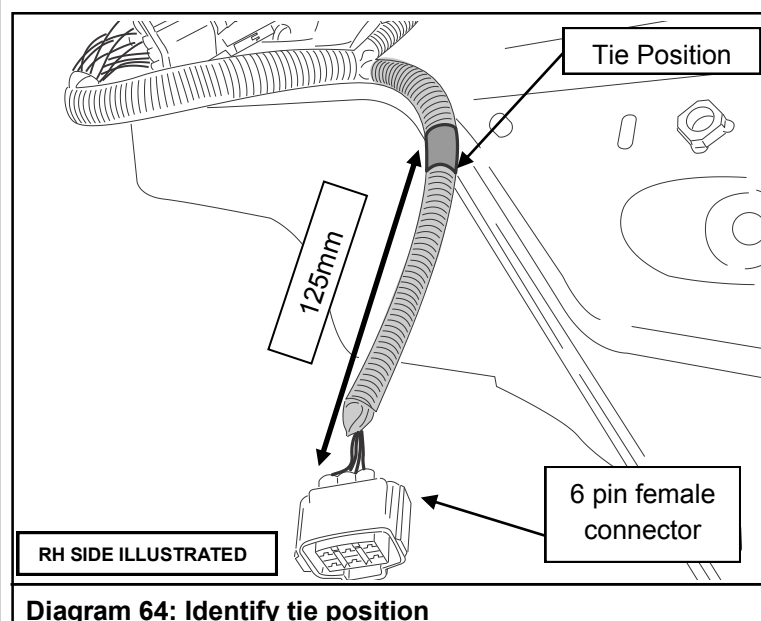
- 62.** Secure bull bar harness at GREEN indicator to OE harnesses marked in steps 53 and 55 and if applicable, washer hose marked in step 54 at tie position 4 using 1X cable tie (Item 39) in orientation shown.



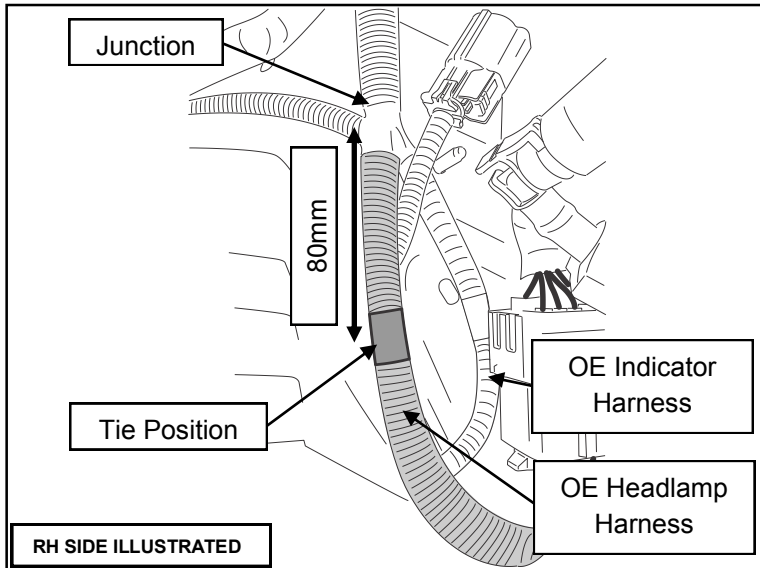
**IMPORTANT:** Ensure there is no interference between the wiring harness and headlamp washer unit.



- 63.** Connect the fog lamp harness swing connector and Cable Tie (Item 39) as shown in Diagram 63 fastening the connector to the OE harness to stop movement.

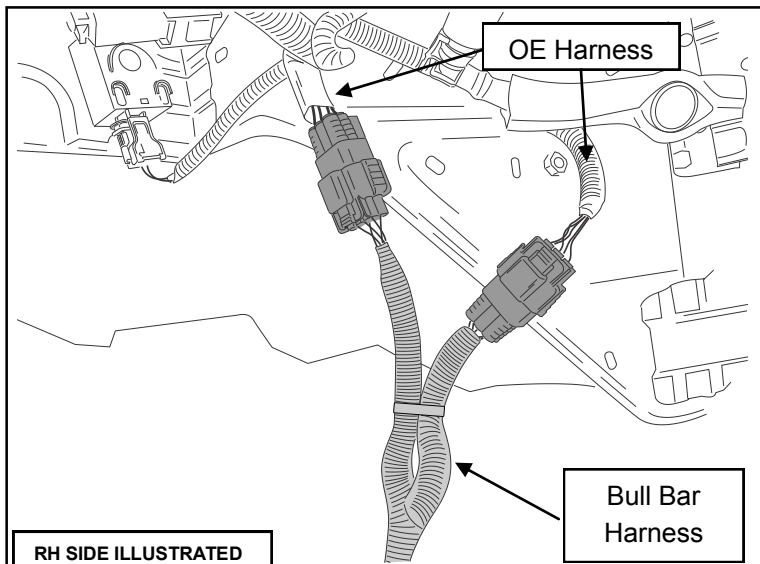


- 64.** On RHS, mark tie position on OE indicator harness, measured 125mm from back of 6 pin grey female connector.  
Mark with paint pen or electrical tape.

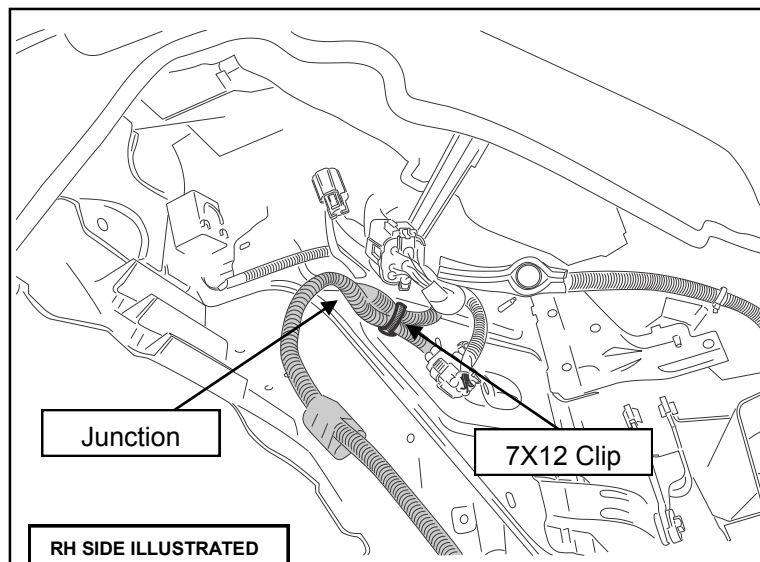

**Diagram 65: Identify tie position**

- 65.** On RHS, mark tie position on OE headlamp and indicator harness, measured 80mm from junction of harness terminated with 11 pin male black connector.

Mark with paint pen or electrical tape.


**Diagram 66: Install Harness**

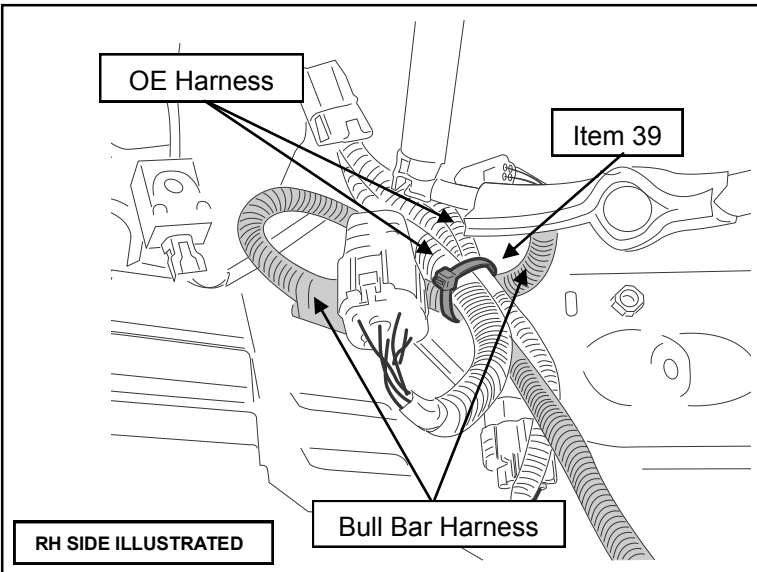
- 66.** Connect Bull Bar Harness (Item 44) between the indicator connectors separated in step 28 as shown with 2 connections.


**Diagram 67: Install Harness**

- 67.** Install 7X12 clip on bull bar harness to 7X12 hole on radiator support panel as shown.

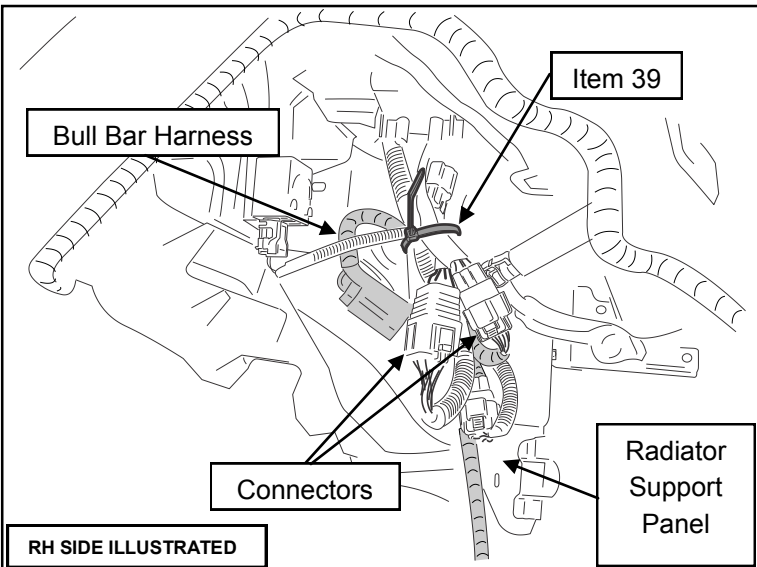


**IMPORTANT:** Ensure junction on bull bar harness is above the 7X12 clip.




- 68.** Secure 2 positions on OE harnesses marked in steps 64 and 65 and at RED indicator on bull bar harness to the 7X12 clip with 1X cable tie (Item 39) as shown.

**Diagram 68: Secure harness**

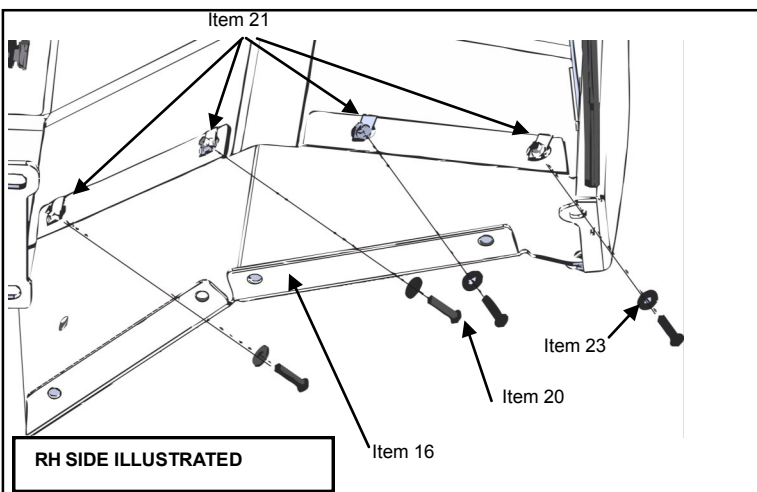


- 69.** Ensure that connectors are oriented away from radiator support panel as shown.

Secure bull bar harness to OE harnesses at location shown using 1X cable tie (Item 39).

	<b>IMPORTANT:</b>
	Do not cable tie around washer hose. Ensure there is no interference between the wiring harness and headlamp washer unit.

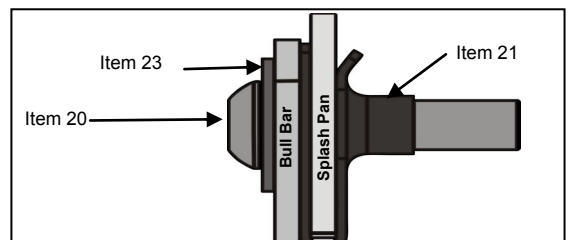
**Diagram 69: Secure harness**



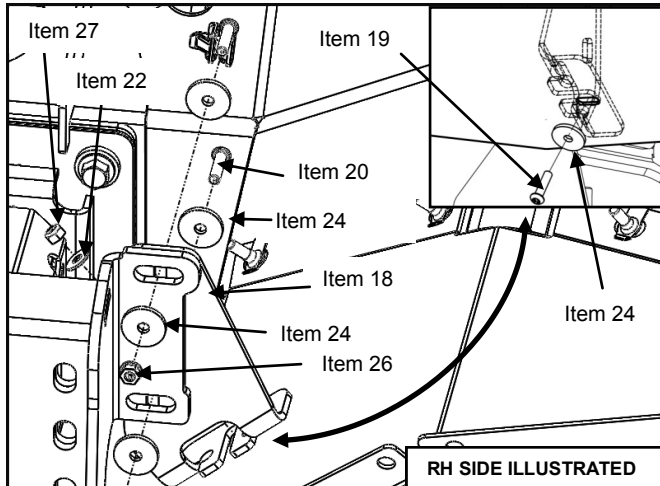
- 70.** Install 4X U-Nut M6 (Item 21) into the Splash Panel RHS (Item 16) as shown in Diagram 70, making sure they are inserted into the upwards facing surface of the Splash Panel RHS.

Mount Splash Panel RHS to bull bar wing using 4X Screw Button Head Torx M6 x 25 Silver (Item 20) and 4X Washer Flat M6 Small Silver (Item 23) into the U-Nut M6 (Item 21) in the order shown in Diagram 70a and tighten.

Repeat for LH. Finger tighten only.



**Diagram 70a: Splash Panel to Bull Bar Bolt Arrangement**

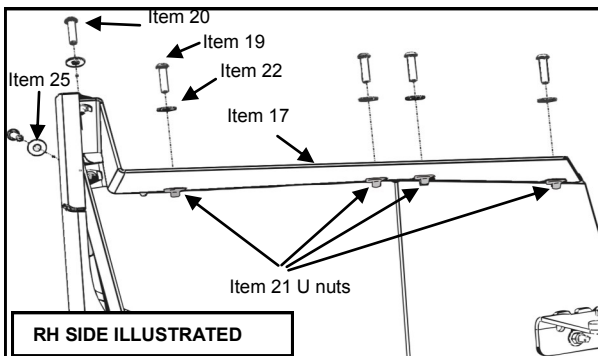

**Diagram 71: Install Support Bracket**

- 71.** With Splash Panels fitted, install the Splash Panel Support Bracket RH (Item 18) to Impact Absorber Bracket RH using 2X Screw Button Head Torx M6 x 25 Silver (Item 20), 1X Washer Flat M6 Large Black (Item 24), and 2X Nut Hex Flange M6 (Item 26).

Attach Splash Panel RH to Splash Panel Support bracket RH using 1X Screw Button Head Torx M6 x 25 Black (Item 19), 1X Washer Flat M6 Large Black (Item 24), 1X Washer Flat M6 Small Black (Item 22), and 1X Nut Nyloc M6 (Item 27) as shown in Diagram 71.

Torque all bolts. Repeat for LH.

 **M6 Screw TORQUE = 9 Nm**


**Diagram 72: Install Splash Return Panel RH**

- 72.** Install 6X U-Nut M6 (Item 21) into the Splash Panel Return RH (Item 17) as shown in Diagram 72, making sure they are inserted onto the forward facing surface of the Panel.

Mount Splash Panel Return RH using 4X Screw Button Head Torx M6 x 25 Black (Item 19), 4X Washer Flat M6 Small Black (Item 22), 2 Screw Button Head Torx M6 x 25 Silver (Item 20) and 2X Washer Flat M6 Large Silver (Item 25), into the 6X U-Nut M6 as shown in Diagram 72a.

Repeat for LH. Finger tighten only.

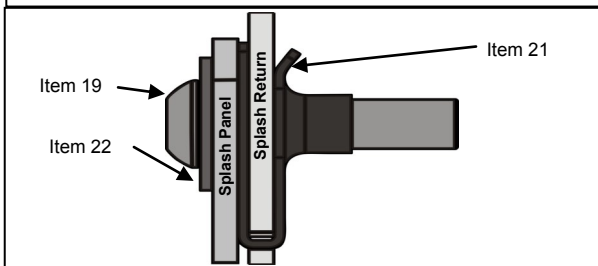
(Note: LH requires one less M6 fastener set (Item 19, 21, 22))

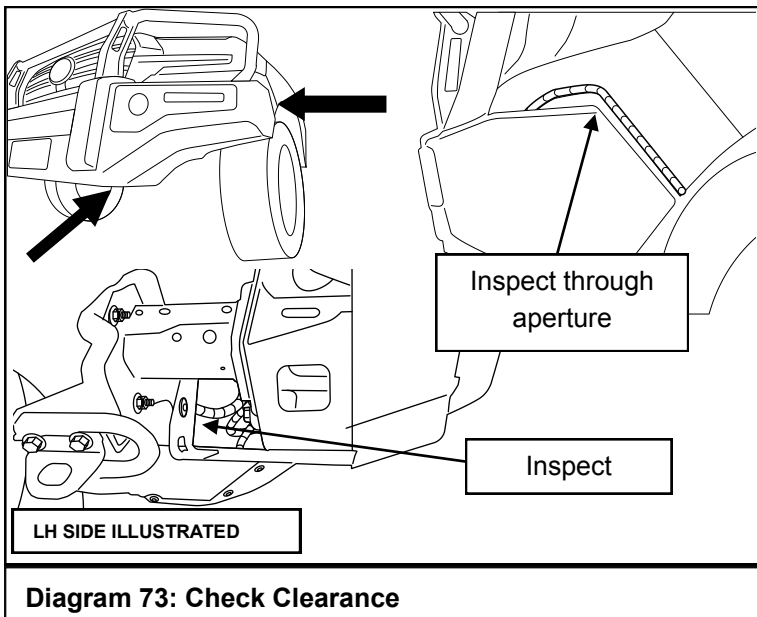
Ensure that all panels sit evenly then tighten all M6 Screws.

 **M6 Screw TORQUE = 9 Nm**

**NOTE:-**

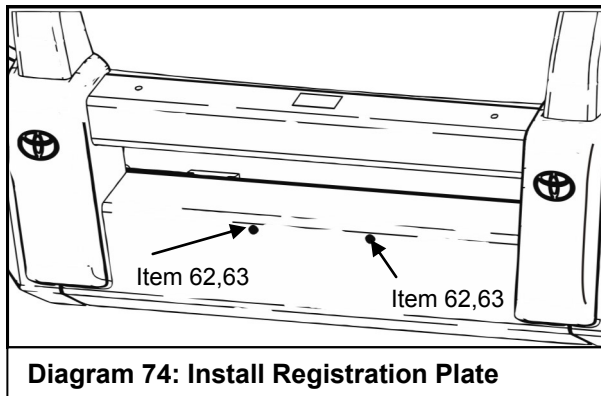
It is crucial to have a M6 flat washer at the Screw head of each connection.


**Diagram 72a: Splash Panel Return to Splash Panel Bolt Arrangement**

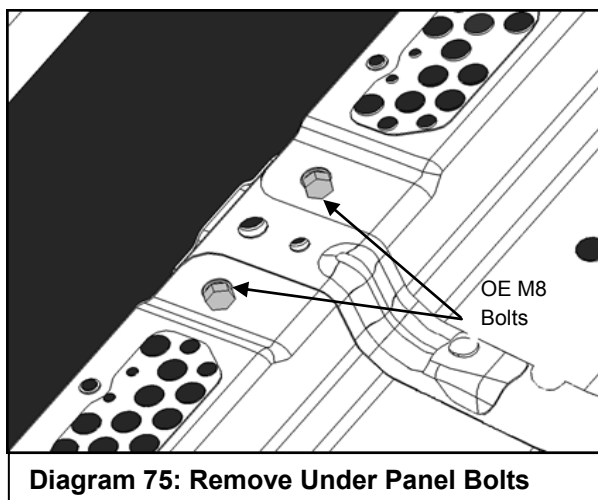
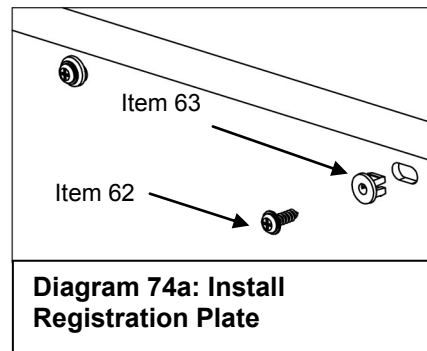


**73.** Inspect position of bull bar harness or OE harness as shown to ensure a minimum clearance to bull bar under panels of 20mm in the longitudinal direction and 40mm in the vertical direction.

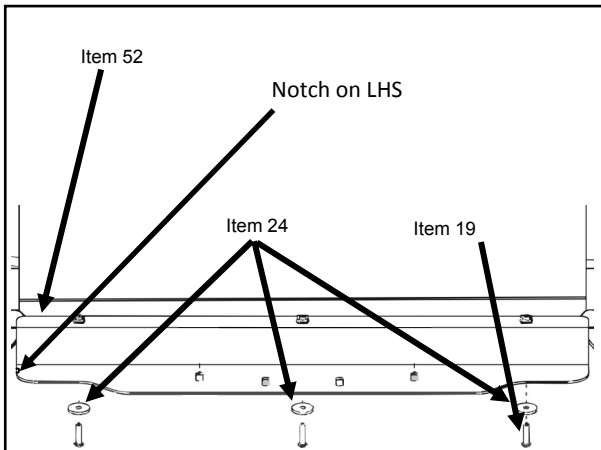
If harness does not achieve minimum clearances, recheck installation of harness in steps 44-62.



**74.** Install Registration Plate to Bull Bar using 2X Screw Self Tapping 5.2 x 16 (Item 62) and 2X Grommet (Item 63) as shown in Diagram 74,74a.



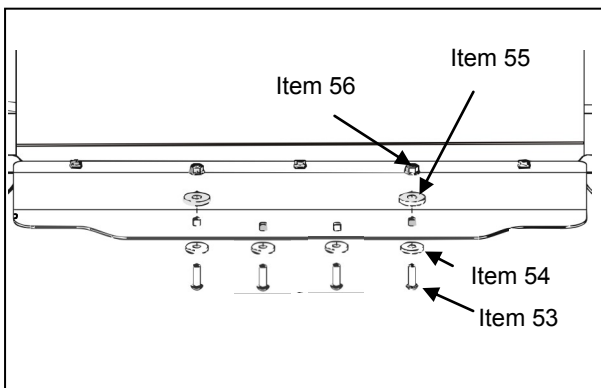
**75.** Remove 2X OE M8 Bolts from front of engine under panel as shown in Diagram 75 and discard.


**Diagram 76: Attach Stone Shield to Lower Pan**

- 76.** Fit 3X U-Nut M6 (Item 21) to the top surface of Stone Shield (Item 52). Place Stone Shield on upper faces of the three mount tabs located on the lower return of the lower pan and align with the bottom surface of engine under panel.

Attach using 3X Screws Button Head Torx M6 x 25 Black (Item 19) and 3X Washer Flat M6 Large Black (Item 24) as shown in Diagram 76.

Finger tighten only.

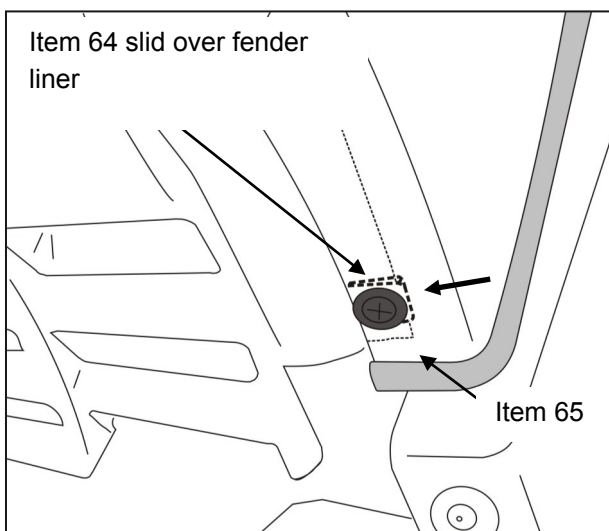

**Diagram 77: Attach Rear Fasteners**

- 77.** Place 2X Spacer M10 x 30 x 5 (Item 55) between the Stone Shield and engine under panel on 2X outboard holes and secure using 2X Screw Button Head Torx M8 x 25 (Item 53), 2X Washer Flat M8 (Item 54) and Nut Hex Flange M8 (Item 56) shown in Diagram 77. Finger tighten only.

Secure Stone Shield to the engine under panel through the two rear central slots into OE captive nuts using 2X Screw Button Head Torx M8 x 25 (Item 53) and 2X Washer Flat M8 (Item 54).

 **M6 Screw TORQUE = 9 Nm**

 **M8 Screw TORQUE = 22 Nm**


**Diagram 78: Attach Bumper to Fender Liner**

- 78.** Using 1X Nut U (Item 64) and 1X Screw Wafer Head 10-32 Self Drilling (Item 65) fasten the vehicle bumper cut and fender liner together by placing the clip around the fender liner and placing the screw concentric with the clip and screwing in position as shown in Diagram 78.

**INSTALLATION HINT:-**

Reconnect the negative terminal to both batteries to enable engine to be started.

 **Battery Terminal : M6 - 4-5 Nm.**

**Note:-**

Check operation of the Indicators, Park/Clearance Lights, Head Lights, Fog Lights, Front Park Assist Sensors, HID Washers and driving lights where applicable

**END**