



# SS87HF

Toyota 200 Series Land Cruiser with:  
 - 1VD-FTV 4.5Litre-V8 Intercooled Twin Turbo Diesel  
 - 2UZ-FE 4.7L V8 DOHC VVT-i Gasoline



25/11/2009

ITEM	PART NO	DESCRIPTION	QTY
1	370-133-000	BODY - SNORKEL (SS87HF)	1
2	000-135-800	AIR RAM ASSEMBLY	1
3	370-032-000	BRACKET - UPPER MOUNTING	1
4	000-002-100	BOLT - HEX - 6mm x 1.0 x 14mm (SEMS)	2
5	000-951	SCREW - S/T - 4.2mm x 13mm	3
6	000-960	INSERT - PLASTIC	3
7	370-435-000	GASKET - UPPER MOUNTING BRACKET	1
8	000-110	STUD - S/S - 8mm x 1.25 x 25mm	5
9	000-349-300	WASHER - BODY - 8.4mm x 40mm - 304 S/S	5
10	000-377	WASHER - RUBBER - 8.5 x 42 x 3mm	5
11	000-205-300	NUT - NYLOC - S/S - 8mm x 1.25mm	5
12	370-967-000	BRACKET - GUARD SUPPORT	1
13	370-025-000	SLEEVE - LOWER INSERT (Rubber)	1
14	370-024-000	HOSE - AIR ENTRY	1
15	000-910	CLAMP - HOSE - 90/110mm	2
16	000-914/B	CLAMP - HOSE - No. 56 (BLACK)	1
17	370-016-000	GASKET - FOAM BODY (Self Adhesive)	1
18	370-017-000	TEMPLATE	1



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## Installation Guide

### Fitment to:

- Right Hand Side

### Fitting Time:

- 150min

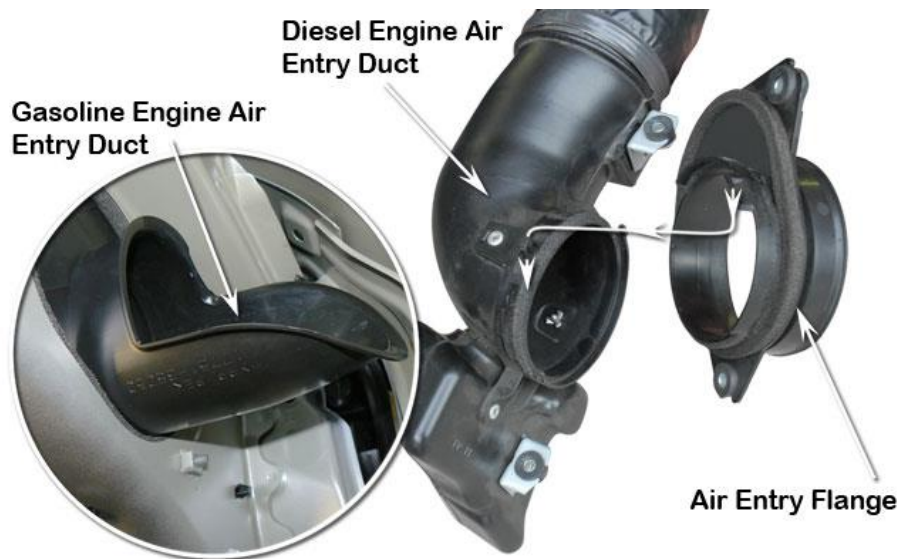
### Special Tools:

- 114mm hole saw
- touch-up paint
- step drill
- masking tape
- air body saw
- Loctite (thread lock)

**Prior to commencing the installation, it is the installer's responsibility to verify that all components and particularly the template (Item 18) are correct.**

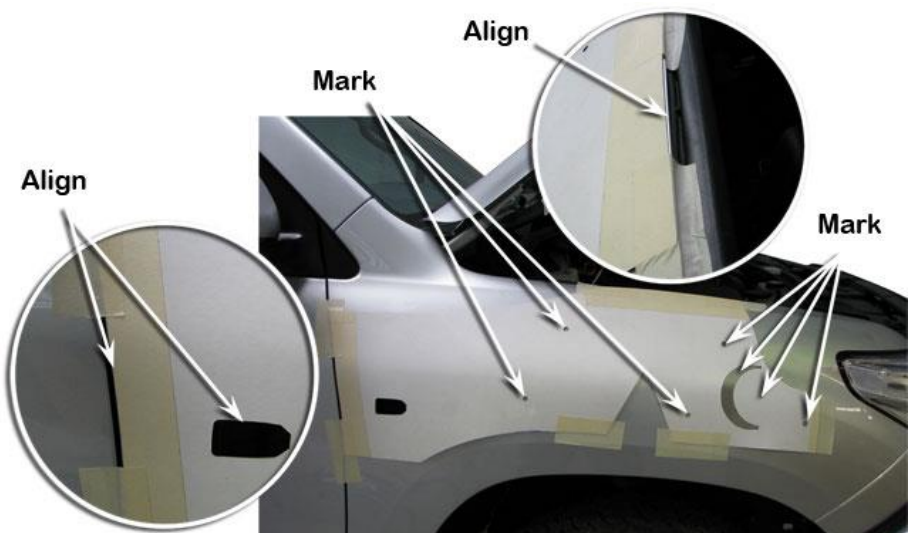
- 1 Remove the RHS mud flap, inner guard liner, guard panel mounted indicator and the air cleaner assembly in accordance with the factory service manual.

- 2 Remove and discard the air entry duct and air entry flange.



- 3 Align the template (Item 18) to the upper and rear edges of the right hand guard panel. Check alignment with the guard mounted indicator hole. Tape the template to the guard with masking tape.

Mark the snorkel outlet hole position and profile and the 5 snorkel mounting hole positions with a felt tip pen.



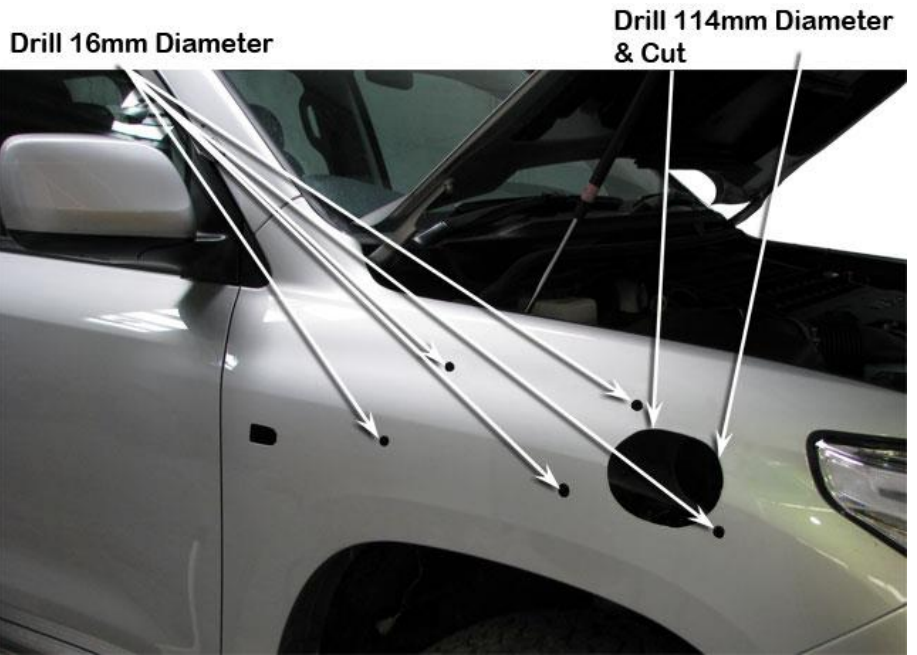
4

Drill a pilot hole for each of the marked positions.

Use the step-drill to drill the 5 mounting holes to 16mm diameter.

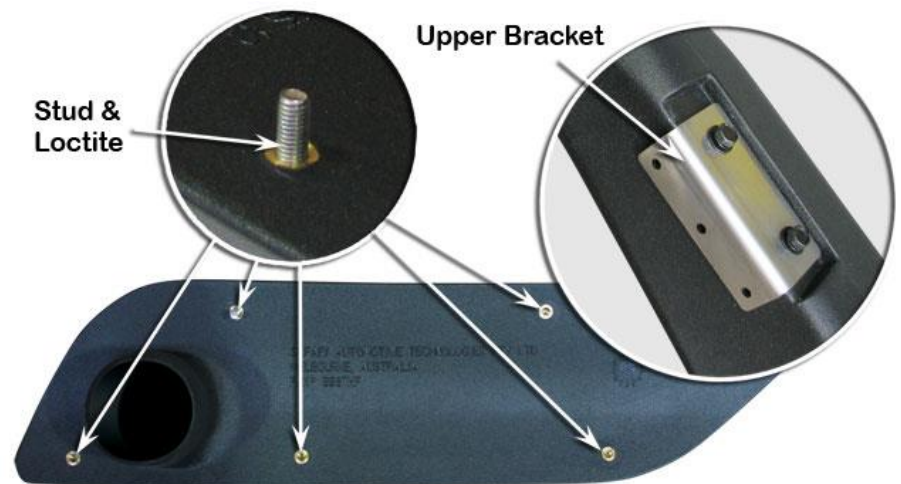
Drill the snorkel outlet hole with the 114mm hole saw.

Use the air body saw to enlarge the snorkel outlet hole to the marked profile. Deburr and paint holes.



5

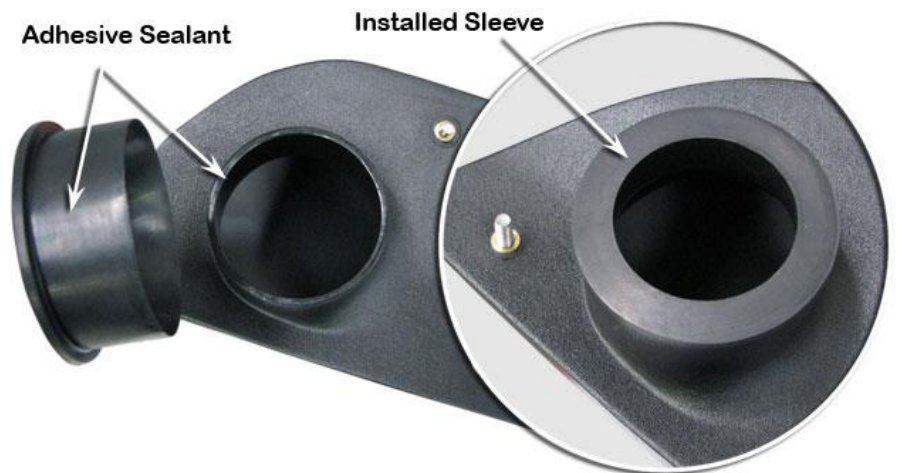
Install the upper mounting bracket (Item 3) to the snorkel body (Item 1) with hex bolts (Item 4). Apply Loctite to each of the snorkel mounting studs (Item 8) and install finger tight into the snorkel body mounting inserts.



6

Apply a generous coating of adhesive sealant to the inside surface of the snorkel outlet snout and the outer surface of the rubber sleeve (Item 13).

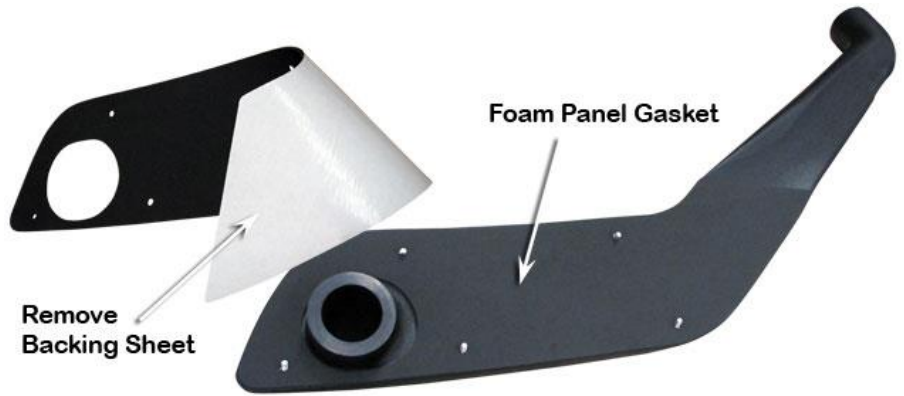
Install the rubber sleeve (Item 13) into the snorkel body outlet snout.



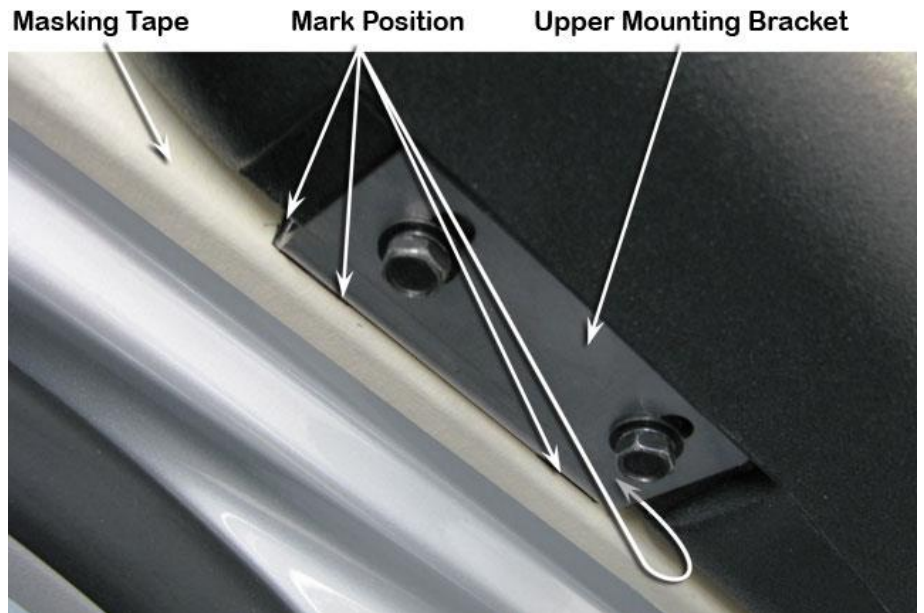


**7** Remove the self adhesive backing sheet from the foam body gasket (Item 17).

Align the foam body gasket (adhesive side down) to the back of the snorkel body and press down on the foam body gasket to adhere to the snorkel body (Item 1).

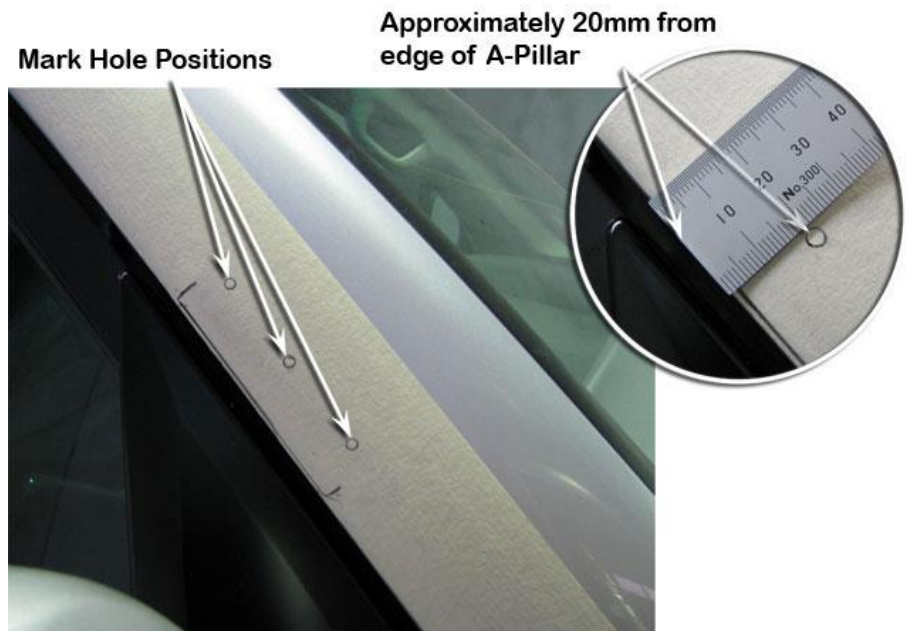


**8** Place a strip of masking tape along the A-Pillar and install the snorkel body (Item 1) to the guard panel. When the snorkel body is correctly positioned, mark the outline of the upper mounting bracket (Item 3) onto the masking tape as shown.



**9** Remove the snorkel body (Item 1) from the vehicle and remove the upper mounting bracket (Item 3) from the snorkel body (Item 1).

Position the upper mounting bracket onto the previously marked bracket outline on the A-Pillar and mark the 3 mounting hole positions with a felt tip pen.

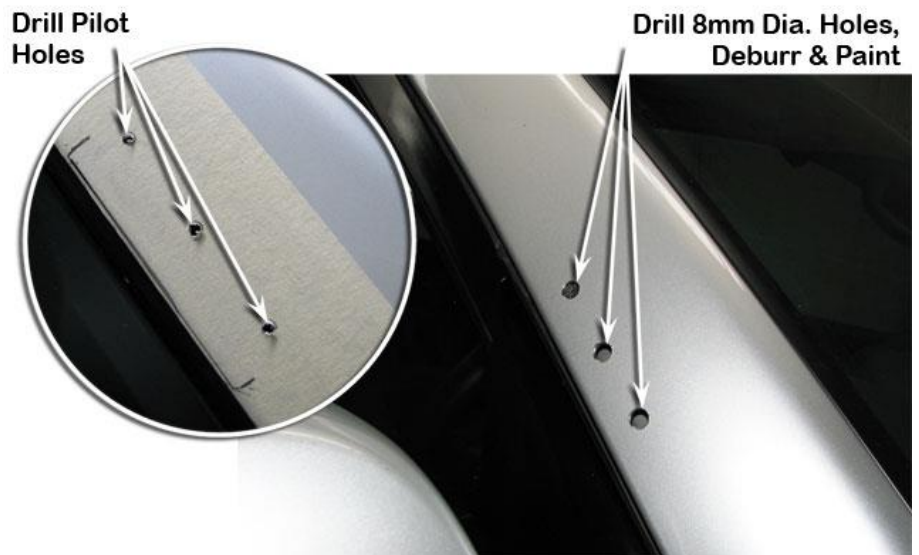


10

Drill a pilot hole for each of the 3 marked hole positions on the A-Pillar.

Drill each hole to 8mm diameter.

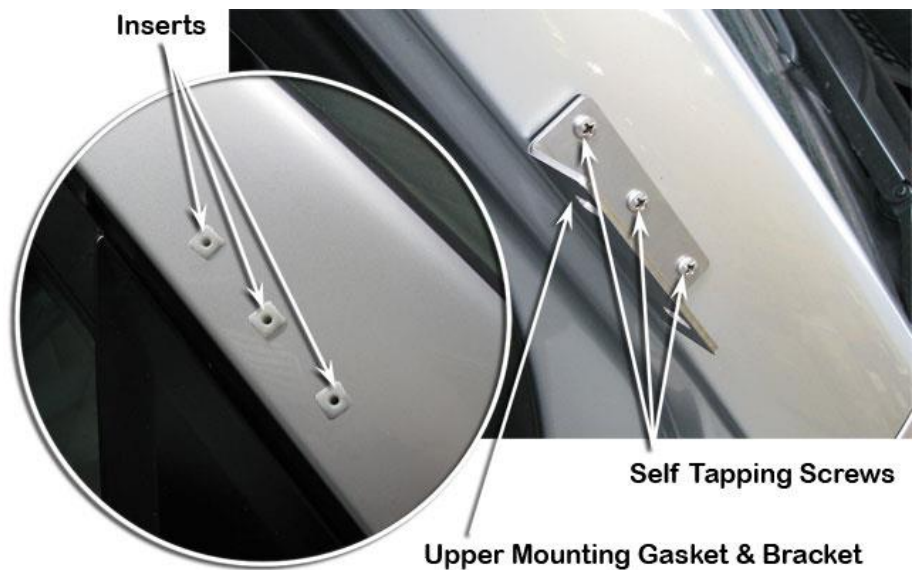
Deburr and paint holes.



11

Install the 3 plastic inserts (Item 6) into the upper mounting bracket holes in the A-Pillar.

Install the upper mounting bracket gasket (Item 7), the upper mounting bracket (Item 3) and secure with 3 self tapping screws (Item 5).



Remove the sealing foam strip from the air entry snout.

Measure in 18mm from the end of the air entry snout on the air cleaner base and mark around the entire circumference as shown.

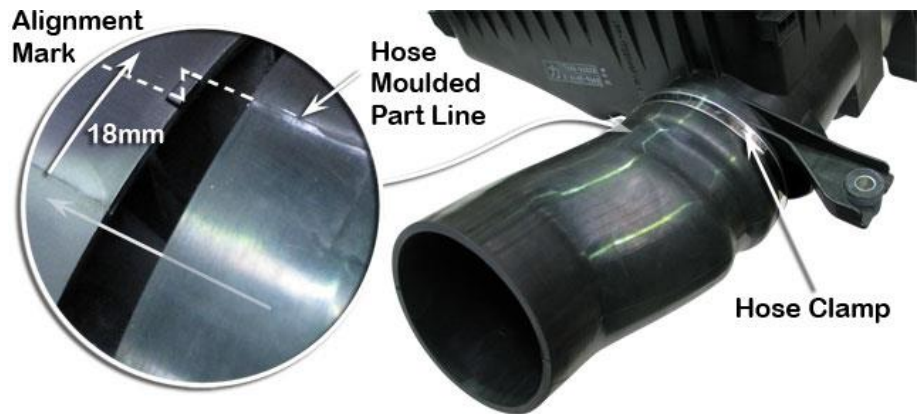
Measure up 18mm - 19mm from the air cleaner inlet snout moulding part-line and mark as shown.





- 12** Install the air entry hose (Item 14) onto the air cleaner inlet snout and align the moulded part line of the air entry hose to the marked position on the air cleaner inlet snout as shown.

Ensure that the air entry hose is installed square onto the air cleaner inlet snout and lined up to the marked circumference. When aligned correctly, secure with a 90/110mm stainless steel hose clamp (Item 15).



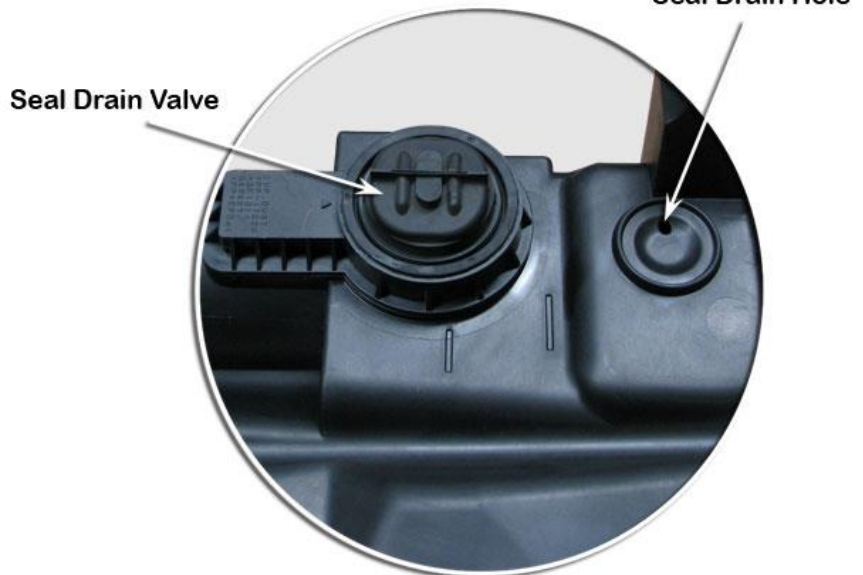
- 13**

**Installer's Option:**

The air cleaner housing base/underside has two drain openings that may permit water to enter the air intake.

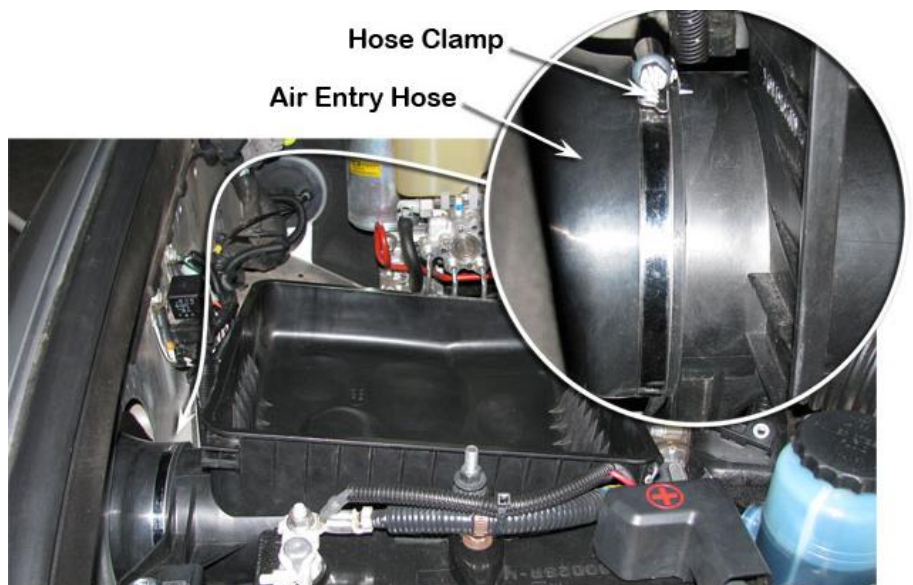
It is up to the installer to decide whether they should be sealed.

**Installer's Option**



- 14**

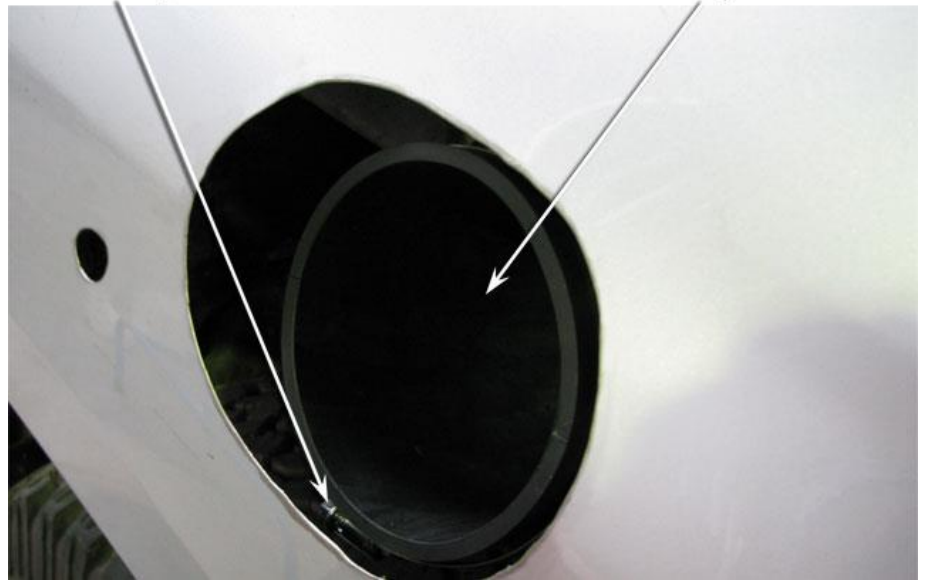
Install the air cleaner base assembly back into the vehicle. Fasten with the original mounting hardware. Install the air cleaner element and air cleaner lid. Reconnect the air mass sensor plug.



15

Loosely install a 90/110mm stainless steel hose clamp (Item 15) onto the snorkel snout end of the air entry hose (Item 14) and ensure that the clamping bolt of the hose clamp is orientated for accessibility.

Hose Clamp Air Entry Hose



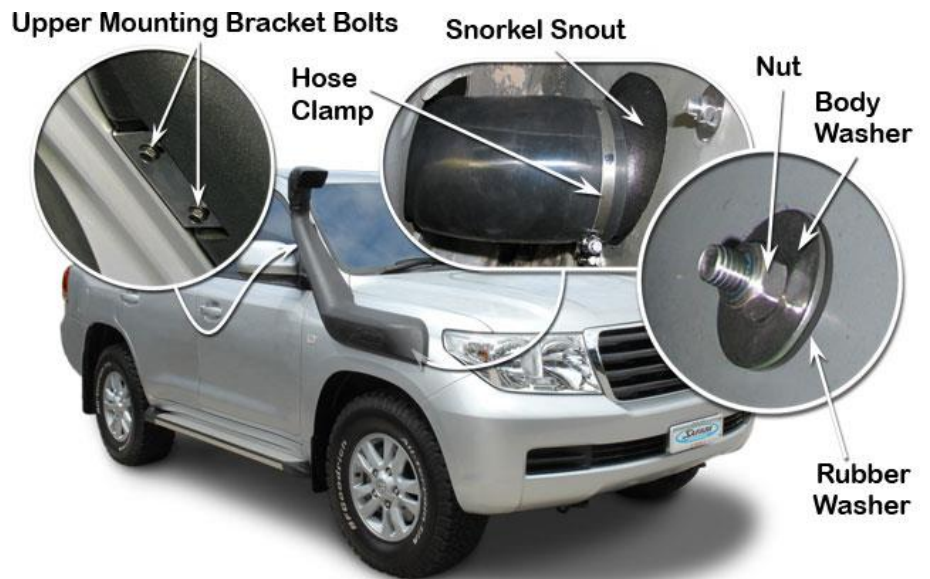
16 Install the snorkel body (Item 1) to the guard panel. When aligned correctly to the guard panel and the upper mounting bracket, install the rubber washers (Item 10) and body washers (Item 9). Secure the snorkel body to the guard panel with nyloc nuts (Item 11) in accordance with the following:

**DIESEL ENGINE** on all but the lower rear mounting stud.

**PETROL ENGINE** on all mounting studs.

Secure the snorkel body (Item 1) to the upper mounting bracket (item 3) with 2 hex bolts (Item 4).

Secure the air entry hose to the snorkel body outlet snout with the 90/110mm hose clamp (Item 15).

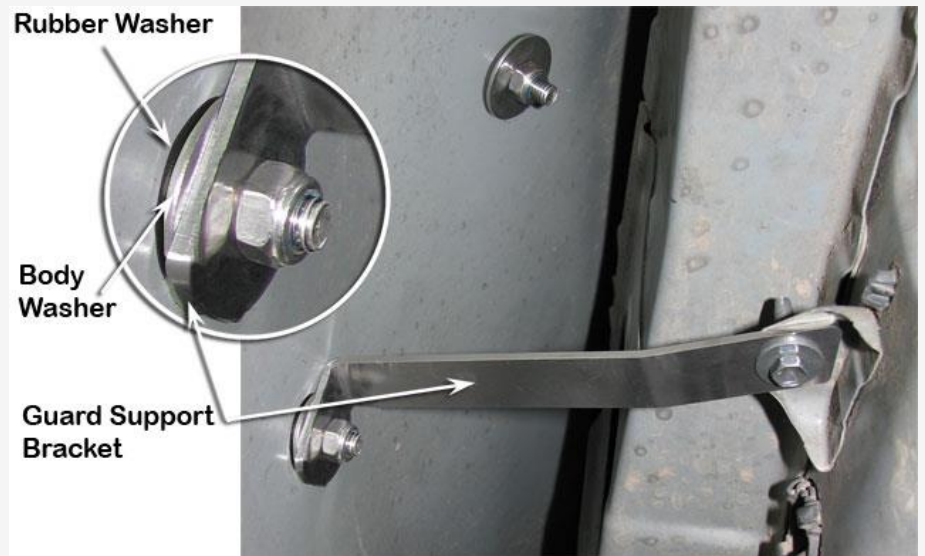


## DIESEL ENGINE

Install a rubber washer (Item 10), then a body washer (Item 9) to the lower rear mounting stud and then install the guard support bracket (Item 12) and retain loosely with a nyloc nut as shown (Item 11).

Apply Loctite to the threads of a standard M6 air entry duct retaining bolt (removed previously). Align the guard support bracket to the standard rear air entry duct mounting bracket (as shown) and retain loosely with the M6 bolt.

Tighten the nyloc nut (Item 11) at the guard panel end of the guard support bracket and then the M6 bolt at the engine bay end of the guard support bracket (Item 12).



17

Loosely install the black hose clamp (Item 16) to the base of the air ram (Item 2) and install the air ram to the snorkel body (Item 1). Align the air ram and tighten the hose clamp (Item 16).



18 Install the guard mounted indicator, inner guard liner, mud flap (and any other items that may have been removed) in accordance with the factory service manual.

**It is the installer's responsibility to ensure that all connections are watertight.**