



4X4 ENGINEERING

SS13HF HPC

SAFARI V-SPEC SNORKEL
Nissan GQ Patrol with 4.2L TD42 Diesel Engine and
Horizontal Pre-Cleaner



24/11/09

Parts List

| ITEM | PART NO | DESCRIPTION | QTY |
|------|-------------|--|-----|
| 1 | 470-133-200 | BODY - SNORKEL (SS13HF) | 1 |
| 2 | 000-135-800 | 3 ½" AIR RAM ASSEMBLY | 1 |
| 3 | 470-032-200 | BRACKET - UPPER MOUNTING | 1 |
| 4 | 000-002-100 | BOLT - HEX - S/S - 6mm x 1.0 x 14mm (SEMS) | 3 |
| 5 | 000-951-300 | SCREW - S/T - S/S - 4.2mm x 16mm | 3 |
| 6 | 000-960 | INSERT - PLASTIC | 3 |
| 7 | 000-110 | STUD - S/S - 8mm x 1.25 x 25mm | 7 |
| 8 | 000-311-300 | WASHER - BODY - S/S - 8mm x 32mm | 7 |
| 9 | 000-205-300 | NUT - NYLOC - S/S - 8mm x 1.25mm | 7 |
| 10 | 000-887-050 | HOSE - CUFFED - 82mm ID x 500mm | 1 |
| 11 | 000-908 | CLAMP - HOSE - 70/90mm | 2 |
| 12 | 000-434-030 | TAPE - FOAM - 25mm x 300mm | 1 |
| 13 | 470-017-500 | FIXTURE - HOLESAW CENTRE | 1 |
| 14 | 000-914/B | CLAMP - HOSE - No. 56 (BLACK) | 1 |
| 15 | 470-017-200 | TEMPLATE | 1 |

Installation Guide

Fitment to:

- Left Hand Side

Fitting Time:

- 180min

Special Tools:

- 105mm hole saw
- 150mm long hole saw arbour
- step drill
- touch-up paint
- Heat gun
- Prep-wash
- masking tape
- Sikaflex 227 Adhesive Sealant
- Loctite 243 Threadlocker
- Air Body Saw

Prior to commencing the installation, it is the installer's responsibility to verify that all components and particularly the template (Item 15) are correct.

1 Remove the following in accordance with the factory service manual.

- LHS Flare (if fitted to vehicle)
- LHS mudflap
- Inner guard liner
- LHS guard mounted indicator
- Air cleaner ducting
- Radio antenna

2

Use a heat gun to apply a small amount of heat to the Patrol/Maverick badge. Remove and discard the badge. Use suitable adhesive solvent or prep-wash to remove all adhesive residue left on the panel from the badge.

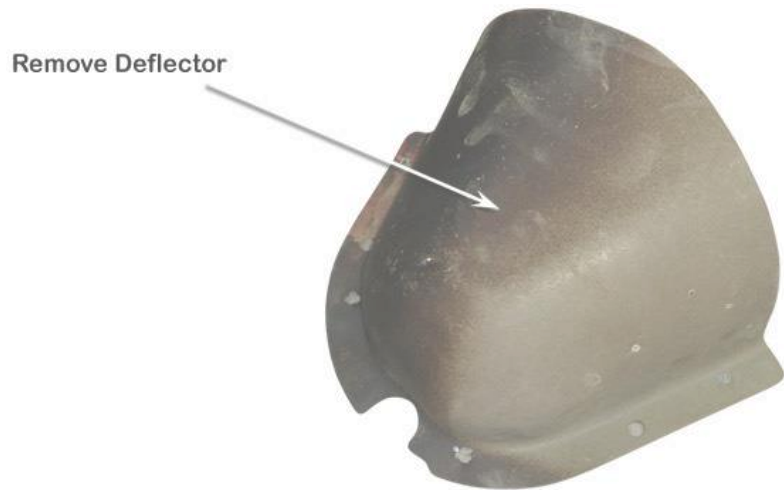


3 Remove and discard the pre-cleaner assembly.

On some models, an air intake deflector is spot welded to the inner guard panel on the wheel arch side of the air intake hole. If a deflector is fitted, this must be removed.

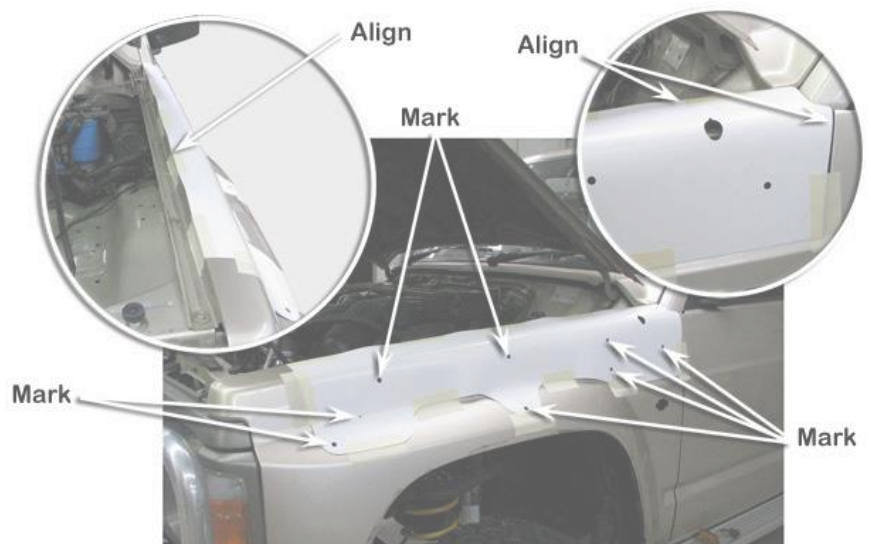
Drill out the 4 spot welds using a 6mm drill bit, drilling from the engine bay side into each of the spot welds.

With all 4 spot welds drilled out, remove the deflector.



4 Align the template (Item 15) with the upper and rear edges of the left hand guard panel. Tape the template to the guard panel with masking tape.

Mark all of the hole positions with a felt tip pen and remove the template.

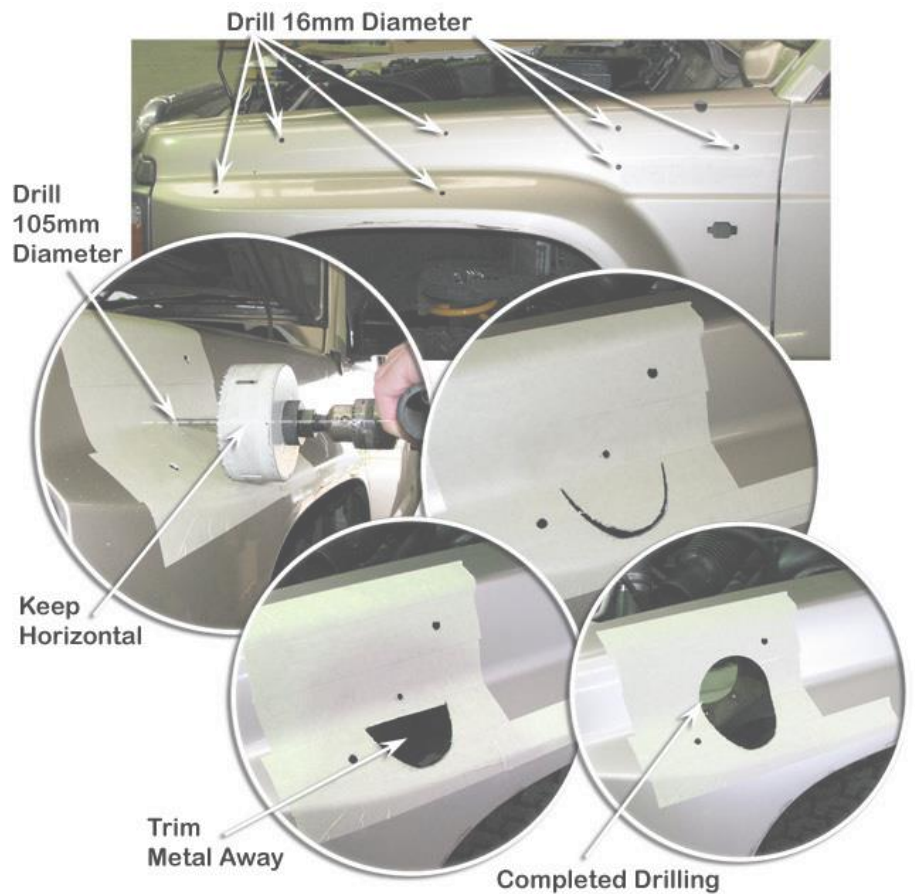


- 5** Drill a pilot hole for each of the marked positions.

Use the step-drill to drill the 7 mounting holes to 16mm diameter.

Drill the snorkel body outlet hole with the 105mm hole saw with a long arbour installed and keep the drill horizontal at all times whilst drilling the snorkel body outlet hole in the guard panel.

The hole saw will bottom out while cutting this hole, so you will need to stop and trim some of the metal out of the lower part of the hole with an air body saw as shown. Take care to not trim away any part of the holesaw centre hole section.



- 6** Install the holesaw centre fixture (Item 13) over the air intake hole in the guard panel and fasten to the inner guard panel with hex bolts (Item 4).

Drill through the inner guard panel as shown with a 105mm diameter holesaw using the fixture's central hole as a locating guide.

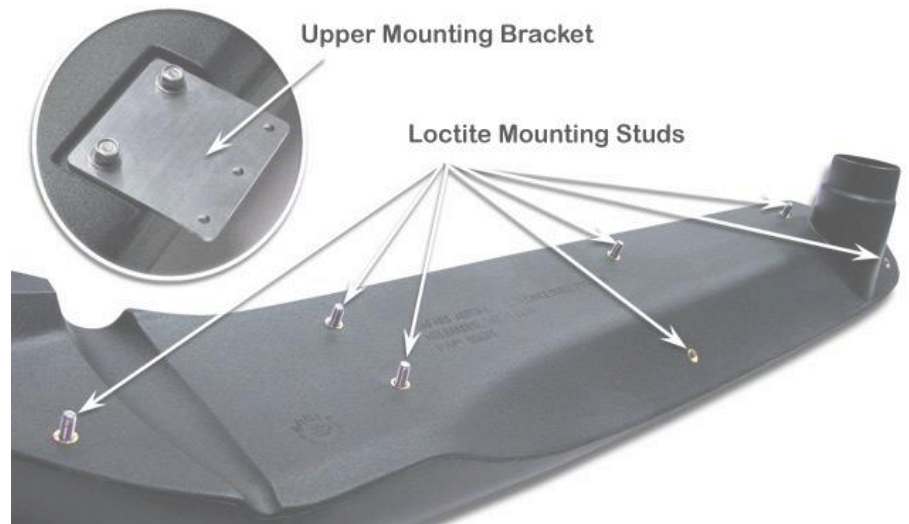
Remove and discard the holesaw centre fixture and retain 2 of the 3 hex bolts (Item 4) for later use.

Deburr and paint all holes hole to prevent rust.



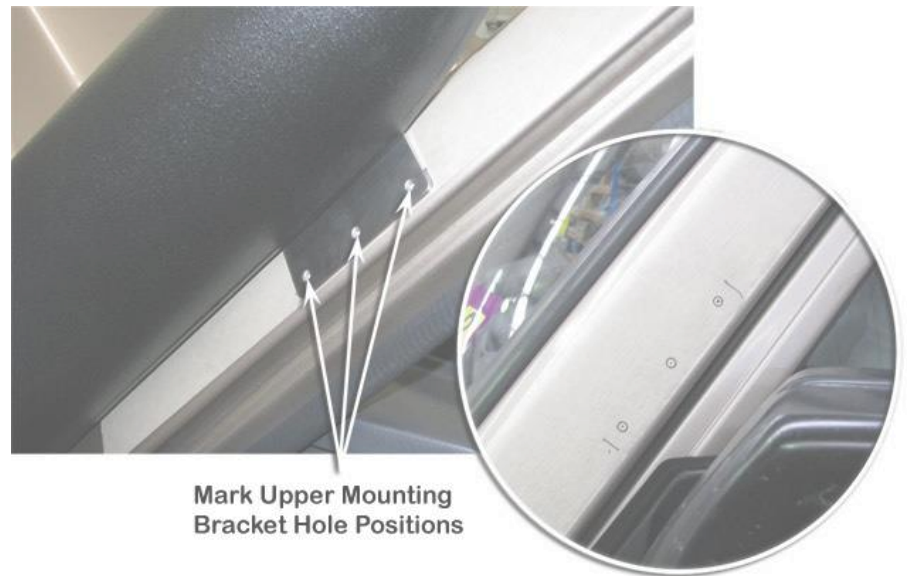
7

Install the upper mounting bracket (Item 3) to the snorkel body (Item 1) with hex bolts (Item 4). Apply Loctite to each of the mounting studs (Item 7) and install into the snorkel body mounting inserts.



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 3 upper mounting bracket hole positions (Item 3) onto the masking tape as shown.



9

Remove the snorkel body (Item 1) from the vehicle.

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 to prevent rust.

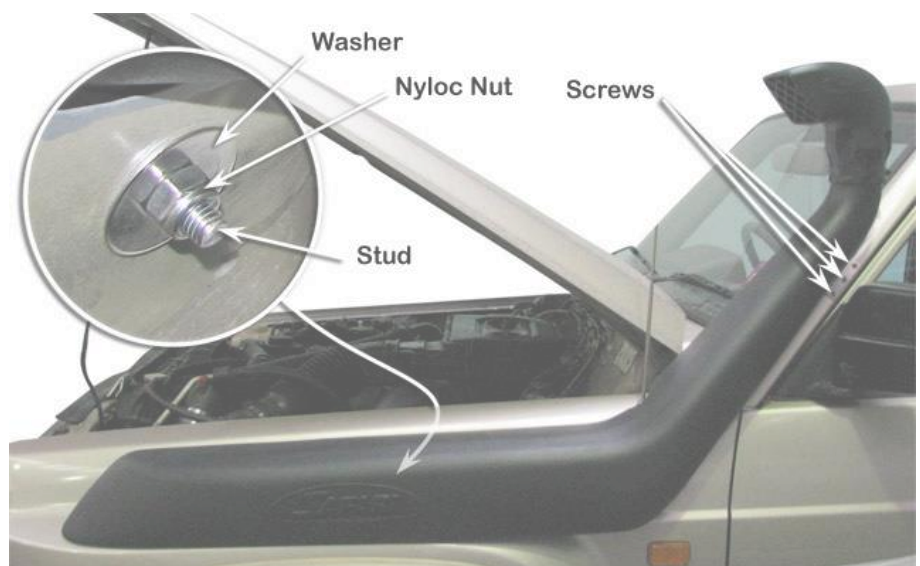
Install the 3 plastic inserts (Item 6) into the upper mounting bracket holes in the A-Pillar.



10 Install the snorkel body to the guard panel.

With the snorkel body correctly positioned, fasten to the guard using a body washer (Item 8) and Nyloc nut (Item 9) on each stainless steel mounting studs previously installed into the snorkel body mounting inserts.

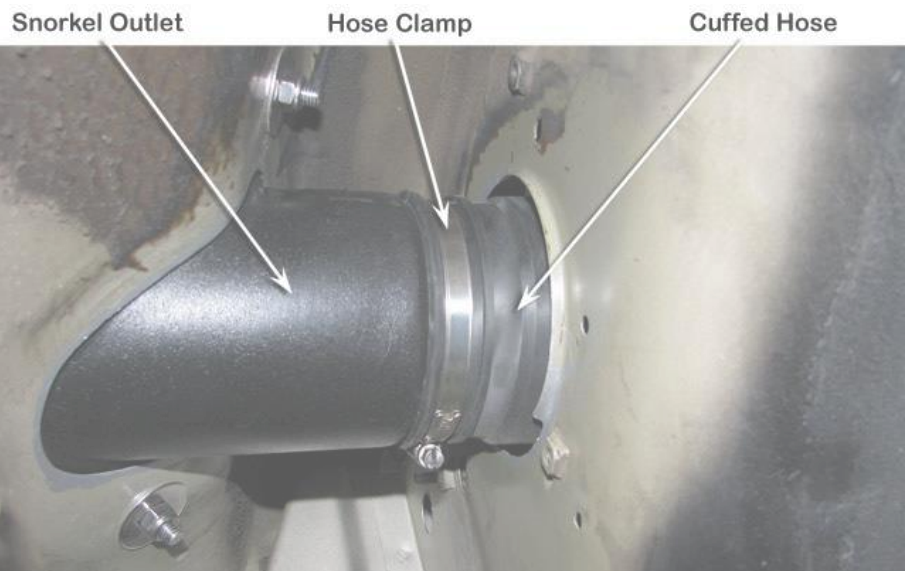
Fasten the upper mounting bracket to the A-Pillar with 3 stainless steel screws (Item 5).



11

Place a 70/90mm hose clamp (Item 11) over one end of the cuffed hose (Item 10) and install the cuffed hose to the snorkel body outlet snout.

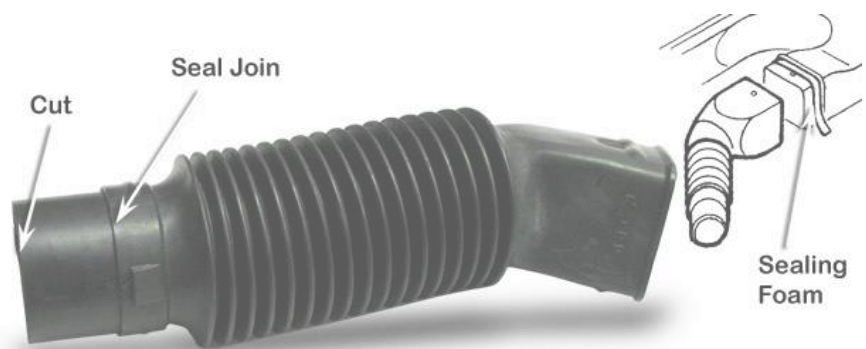
Tighten the 70/90mm hose clamp.



12 Remove the plastic connecting duct from the pre-cleaner and cut to length as shown.

Apply Sikaflex adhesive sealant to the join of the plastic connecting ducting to ensure that a watertight connection is achieved.

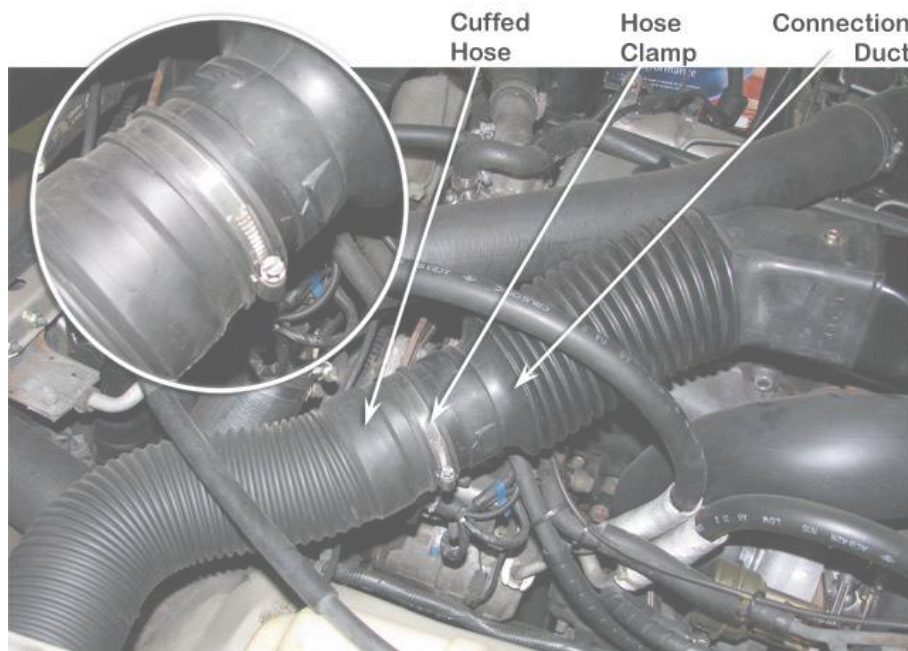
Remove the existing foam tape from the air cleaner inlet snout and apply new foam sealing tape (Item 12) to act as a seal.



13

Place a 70/90mm hose clamp (Item 11) over the other end of the cuffed hose (Item 10) and install the cuffed hose to the modified plastic connection duct.

Tighten the 70/90mm hose clamp.



14

Loosely install the black hose clamp (Item 14) 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 14).



15 Install the guard panel mounted indicator, radio antenna, inner guard liner, flare, mudflap (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.