

# SS176HF

SAFARI V-SPEC SNORKEL  
HOLDEN COLORADO RG 4WD & SUV  
2.8L CTDI 4cyl Duramax Engine



01/04/2013

## Parts List

ITEM	PART NO.	DESCRIPTION	QTY
1	745-133-000	BODY - SNORKEL (SS176HF)	1
2	000-135-800	3 1/2" AIR RAM ASSEMBLY	1
3	745-032-000	BRACKET - UPPER MOUNTING	1
4	000-002-100	BOLT - HEX - 6mm x 1.0 x 14mm (SEMS)	2
5	000-951-300	SCREW - S/T - 4.2mm x 16mm - S/S	3
6	000-960	INSERT - PLASTIC	3
7	000-110	STUD - 8mm x 1.25 x 25mm - S/S	6
8	000-311-300	WASHER - BODY - 8mm x 30mm - S/S	6
9	000-205-300	NUT - NYLOC - 8mm x 1.25mm - S/S	6
10	745-024-000	HOSE - AIR ENTRY	1
11	745-025-000	ADAPTOR - STEEL 90mmOD x 60mm (notched relief)	1
12	000-958-150	POP RIVET - 4.0mm x 13mm	3
13	745-217-000	TEMPLATE - AIR CLEANER INLET	1
14	000-909	CLAMP - HOSE - 80/100mm	1
15	000-910	CLAMP - HOSE - 90/110mm	1
16	000-914/B	CLAMP - HOSE - SIZE 56 (BLACK)	1
17	745-017-000	TEMPLATE - GUARD PANEL	1

## Installation Guide

**Fitment to:**

- Right Hand Side

**Fitting Time:**

- 180min

**Special Tools:**

- 111mm Hole Saw
- Step Drill
- 4.0mm Drill Bit
- Pop Rivet Gun
- Body Saw (reciprocating)
- Masking Tape
- Loctite 243 (thread lock)
- Touch-up paint
- Sikaflex 227 Adhesive Sealant

**Prior to commencing the installation, it is the installer's responsibility to verify that all components and particularly the template (Item 17) are correct.**

**1** Remove the following in accordance with the factory service manual:

- RHS Mud Flap
- RHS Guard Liner
- Air Cleaner Assembly

**2**

Remove and discard

- Air intake ducting



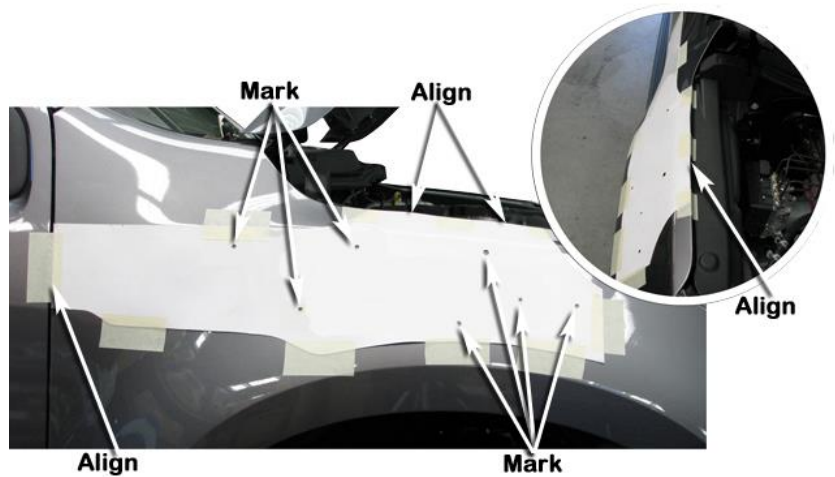
3

Align the guard panel template (Item 17) with the upper and rear edges of the RHS guard panel as shown.

Tape the template to the guard panel with masking tape.

Mark all hole positions with a felt tip pen.

Remove the template.



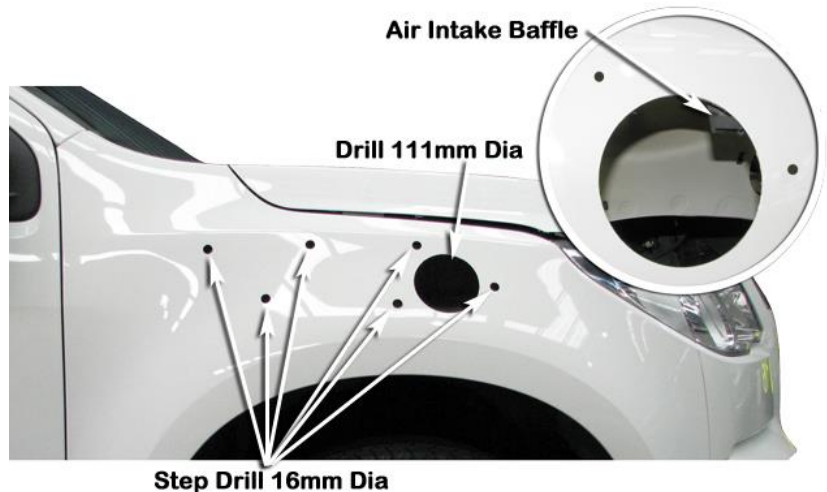
4

Drill a pilot hole for each of the marked hole positions.

Use a 111mm diameter hole saw to drill the snorkel body outlet hole position, ensure the hole saw marks the air intake baffle as shown.

Use a step drill to drill the six mounting holes to 16mm diameter.

Deburr and paint all holes.



5

Remove the air intake baffle and mark a cutting line approximately 10mm larger than the hole saw mark, use a body saw to remove the section of the air intake baffle as shown, neaten the cut and re-install the air intake baffle.



## NEW ZEALAND INSTALLATIONS ONLY :

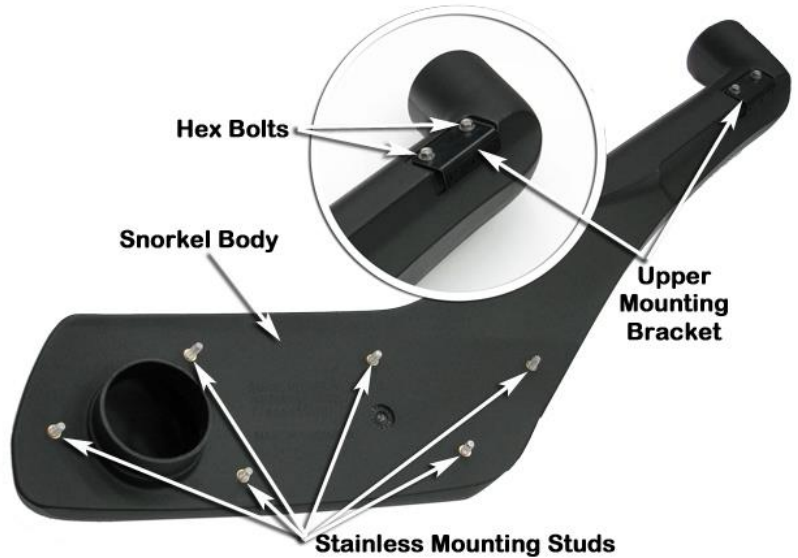
Safari have developed 2 methods of Snorkel A pillar attachment, for the conventional method please proceed with the current document alternatively please see the link below for further instructions.

[www.safari4x4.co.nz/apillarmounting](http://www.safari4x4.co.nz/apillarmounting)

6

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

Apply Loctite 243 to each of the stainless steel mounting studs (Item 7) and install the studs finger tight into the snorkel body (Item 1) mounting inserts as shown.

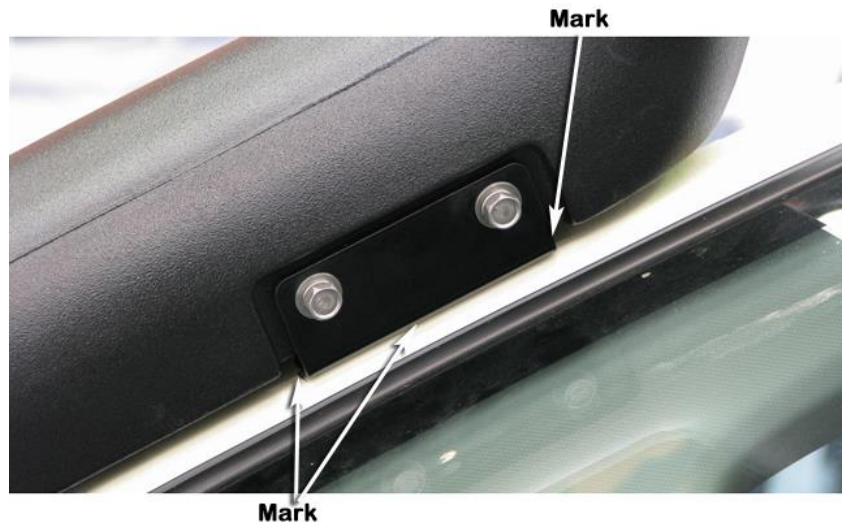


7

Place a strip of masking tape along the A-pillar panel.

Carefully install the snorkel body (Item 1) to the guard panel.

With the snorkel body correctly positioned, mark the outline of the upper mounting bracket (Item 3) onto the masking tape.

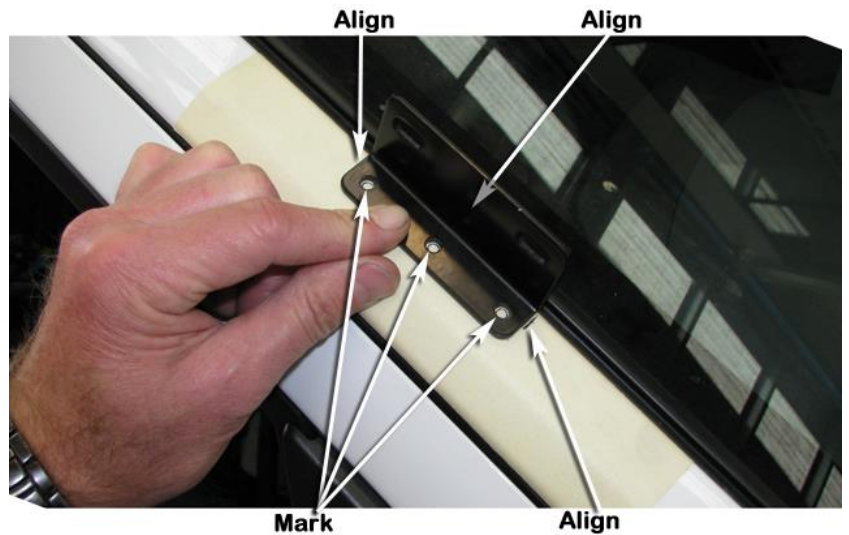




8

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

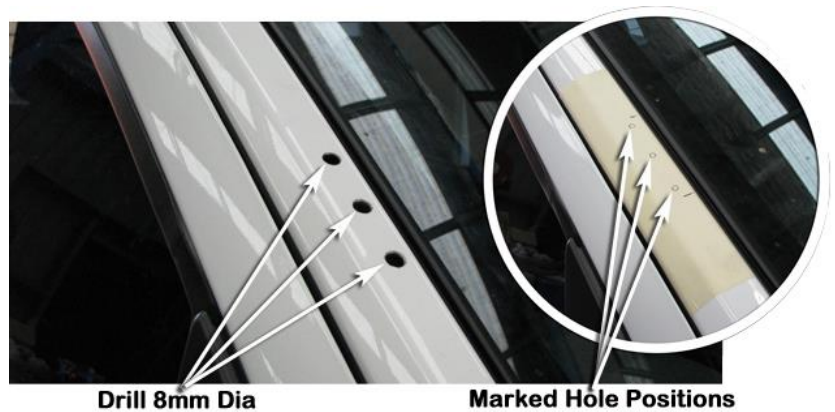
Position the upper mounting bracket (Item 3) onto the A-pillar and align the bracket with the marked bracket outline. Mark the three mounting hole positions with a felt tip pen.



9

Drill a pilot hole at each of the three marked hole positions. Drill each hole position to 8mm diameter with a step drill or 8mm drill bit.

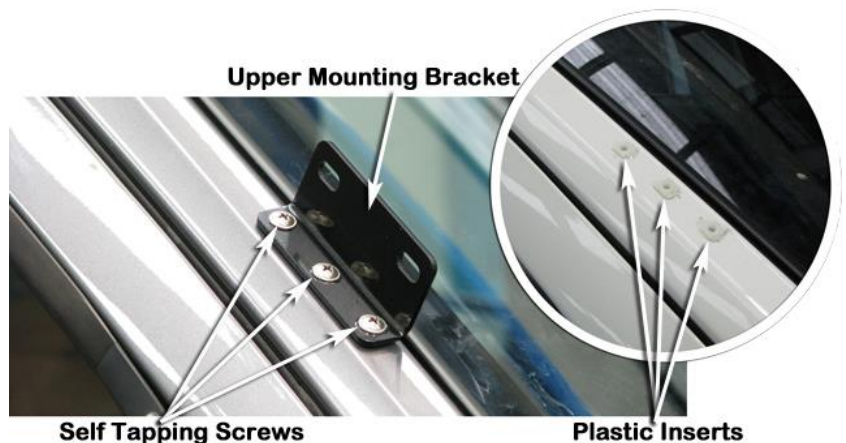
Deburr and paint holes.



10

Install the plastic inserts (Item 6) into the 8mm diameter holes in the A-pillar.

Secure the upper mounting bracket (Item 3) to the A-pillar with three self-tapping screws (Item 5).



Carefully install the snorkel body (Item 1) to the guard panel, align the snorkel body to the guard panel and upper mounting bracket.

When correctly aligned, fasten the snorkel body to the guard panel with body washers (Item 8) and nyloc nuts (Item 9).

Fasten the snorkel body to the upper mounting bracket with hex bolts (Item 4).



Align the notched end of the air cleaner inlet template (item 13) to the end and moulding part-line of the air cleaner inlet housing as shown.

Mark the three hole positions and remove the template.

Drill a pilot hole for each of the marked hole positions.

Drill the three hole positions to 4.0mm diameter.



Measure and mark a line around the circumference of the steel adaptor (item 11) 40mm in from the end as shown.

Install the steel adaptor and align the marked line to the end of the air cleaner inlet housing.

Align the notched relief of the steel adaptor to the air cleaner inlet housing.

With the steel adaptor correctly installed mark the three hole positions onto the steel adaptor.

Remove the steel adaptor and drill a pilot hole for each of the marked hole positions.

Drill the three hole positions to 4.0mm diameter.



Apply adhesive sealant to the steel adaptor (item 11) and to the inside of the air cleaner inlet housing.

Install the steel adaptor, install the three pop rivets (item 12), with all three pop rivets installed secure the steel adaptor to the air cleaner inlet housing using a pop rivet gun.

Clean up any excess sealant to ensure a neat finish.





15

Trial fit the air cleaner housing and check for adequate clearance between the steel adaptor and the standard hole in the inner guard panel, if necessary mark the inner guard panel for the extra clearance.

If more clearance is required, remove the air cleaner housing and file/cut the marked section of the inner guard panel for the required clearance.

Deburr and paint to prevent rust.

Install the air cleaner housing and fasten with standard mounting bolts.



16

**INSTALLER OPTION :**

The air cleaner housing lid contains a drain valve as shown. The drain valve can permit water to enter the air intake.

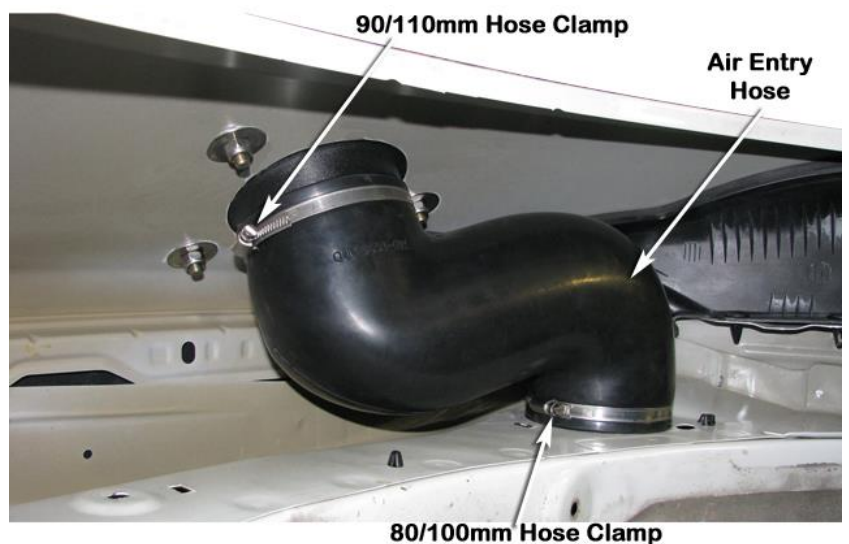
It is up to the installer to decide whether the drain valve should be sealed.



17

Loosely install a 80/100mm hose clamp (Item 14) and a 90/110mm hose clamp (item 15) onto the air entry hose (item 10). (Note the orientation and position of the hose clamps on the air entry hose).

Apply CRC or similar lubricant to the inside of the air entry hose, install the hose onto the steel adaptor and snorkel body outlet snout.





Align the hose for best fitment, correctly position the 80/100mm and 90/110mm hose clamps at either end of the air entry hose and tighten the hose clamps.

18

Install the black hose clamp (Item 16) loosely over the base of the air ram assembly (Item 2).

Install the air ram assembly onto the snorkel body.

Align the air ram assembly and tighten the black hose clamp (Item 16).



19

Install the guard liner, mud flap, air cleaner element, air cleaner lid, reconnect sensor wiring and any other items that may have been removed during the snorkel installation process.

20 **N.B: It is the installer's responsibility to ensure that all connections are water tight.**