

# SS165R

SAFARI R-SPEC SNORKEL  
Holden Rodeo RA-7 - 4JJ1 Engine



01/04/2015

ITEM	PART NO	DESCRIPTION	QTY
1	735-133-000R	BODY - SNORKEL	1
2	000-135-650	3 1/2" AIR RAM ASSEMBLY	1
3	730-032-000	BRACKET - UPPER MOUNTING	1
4	000-002-100	BOLT - HEX - 6mm x 1.0 x 14mm (SEMS)	3
5	000-958-350	POP RIVET - 4.8mm x 14mm	3
6	735-124-000	INNER DUCT (SS165HF)	1
7	000-110	STUD - S/S - 8mm x 1.25 x 25mm	3
8	000-311-300	WASHER - BODY - 8mm x 30mm	3
9	000-205-300	NUT - NYLOC - 8mm x 1.25mm	3
10	000-951-300	SCREW - S/T - 4.2mm x 16mm	1
11	735-024-000	HOSE - AIR ENTRY	1
12	000-909	CLAMP - HOSE - 80/100mm	1
13	000-908	CLAMP - HOSE - 70/90mm	1
14	000-953-032	RUBBER EDGING - 320mm Long	1
15	000-914/B	CLAMP - HOSE - No. 56 (BLACK)	1
16	735-017-000	TEMPLATE	1



**4X4 ENGINEERING**

# SS165R SAFARI R-SPEC SNORKEL

Holden Rodeo RA-7 - 4JJ1 Engine

## Installation Guide

**WARNING: On automatic transmission equipped vehicles, a higher level of intake resonance may be experienced under certain conditions with the "Power" mode switch selected.**

Fitment to Right Hand Side

Fitting Time: 120 min

Special Tools:

- 105mm Hole Saw
- Step Drill
- Pop rivet gun
- Sharp Knife
- Heat Gun
- Prep-wash
- Scribe
- Loctite (thread lock)
- Sikaflex 227 adhesive sealant
- Touch-up paint
- Die Grinder/Coarse File

**Prior to commencing the installation, it is the installer's responsibility to verify that all components and particularly the template (Item 16) are correct.**

**1**

Disconnect the battery and remove the engine control unit (ECU). Cover the plugs to prevent foreign particles from entering the ECU plugs and sockets.

ECU Plugs Covered



**2**

Remove the following in accordance with the factory service manual.

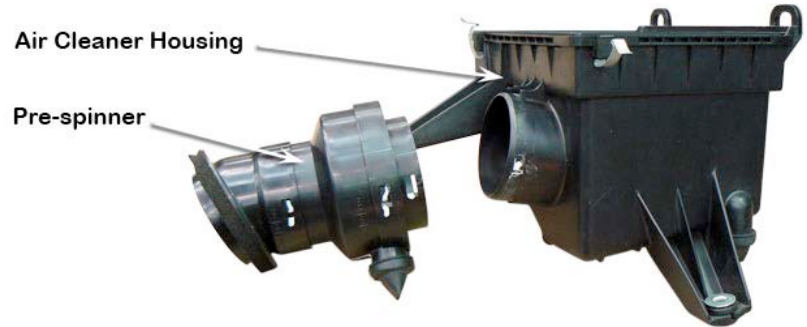
- RHS inner guard liner
- RHS flare (if fitted to vehicle)
- RHS guard panel mounted indicator
- Air cleaner assembly
- RHS rubber weather seal moulding

**3** Remove and Discard:

- Air entry duct from the inner guard.
- 3.0 VCDi guard panel mounted badge (use heat gun sparingly to soften the badge adhesive and prep-wash to clean sticky residue).



- Pre-spinner from air cleaner housing.

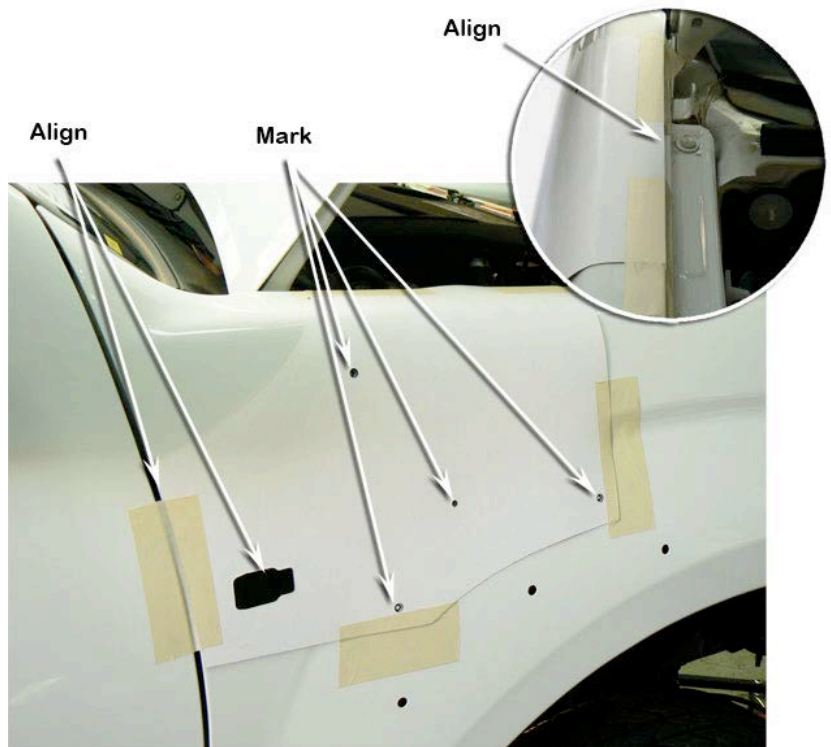


**4**

Tape the template (Item 16) to the rear and upper edges of the RHS guard panel using the indicator hole as a reference point.

With the template correctly positioned, mark all of the hole positions with a felt tip pen.

Remove the template.



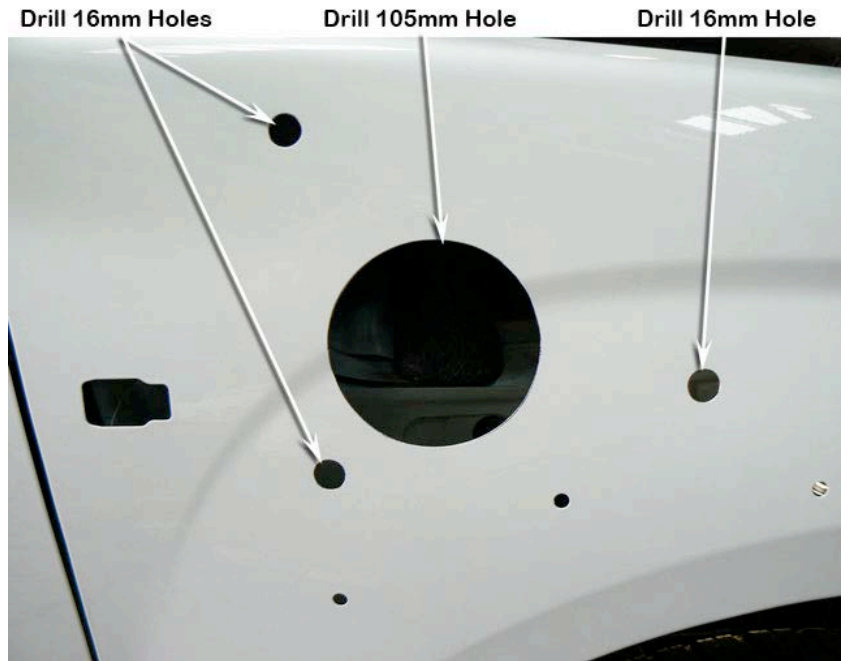
5

Drill a pilot hole for each marked hole position.

Drill the main hole in the guard panel with a 105mm hole saw.

Drill the 3 mounting hole positions to 16mm with a step drill.

Deburr and paint holes to prevent rust.



6

Apply Loctite to all three studs (Item 7) and install the studs into the snorkel body mounting inserts (Item 1).



7

Fasten the upper mounting bracket (Item 3) to the snorkel body (Item 1) with 6mm hex bolts (Item 4).

Open the RHS door and carefully place the snorkel body (Item 1) onto the guard panel. With the snorkel body correctly positioned, mark the three upper mounting bracket hole positions with a scribe.



8

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

Drill a pilot hole in the centre of each marked hole position and then drill to 5mm diameter.

Deburr and paint holes.

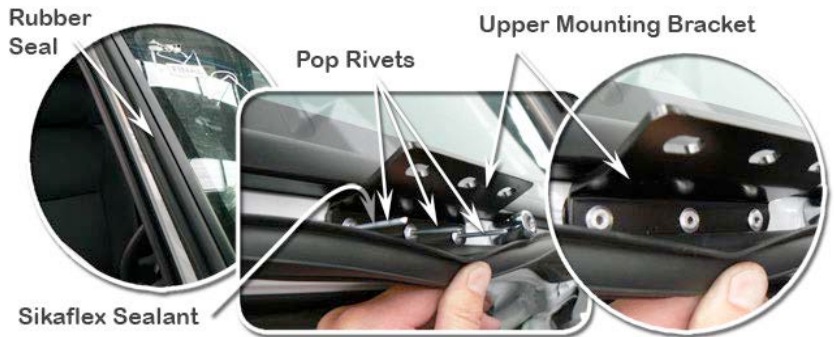
Drill 5mm Holes



9

**Important!** - Install the Rubber weather seal moulding to the A-pillar.

With the rubber weather seal moulding correctly installed onto the A-Pillar, apply Sikaflex sealant to the underside of the upper mounting bracket (Item 3) and with the rubber seal pulled away from the A-pillar (*hint - use two small sockets to hold the seal out*), install the upper mounting bracket (Item 3) to the A-pillar with three pop-rivets (Item 5).



10

Trim the rubber weather seal moulding as shown so that it fits neatly around the upper mounting bracket (Item 3).

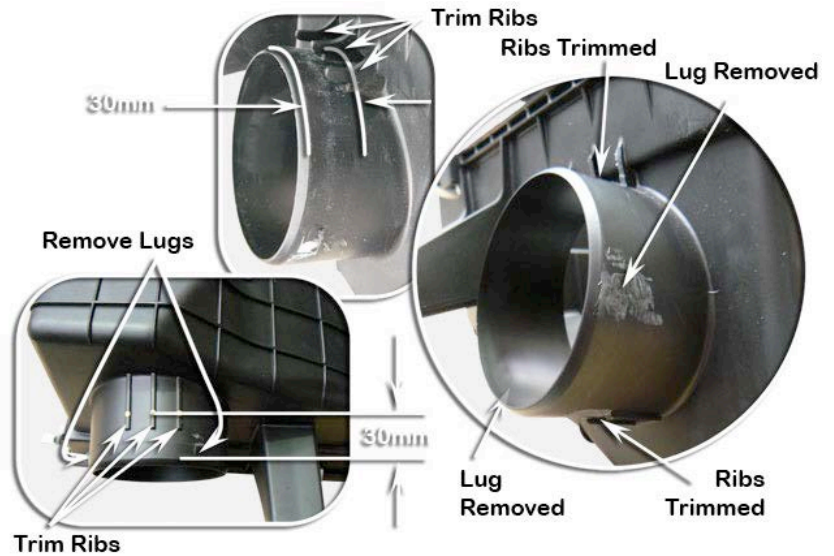
Trim Rubber Seal



11

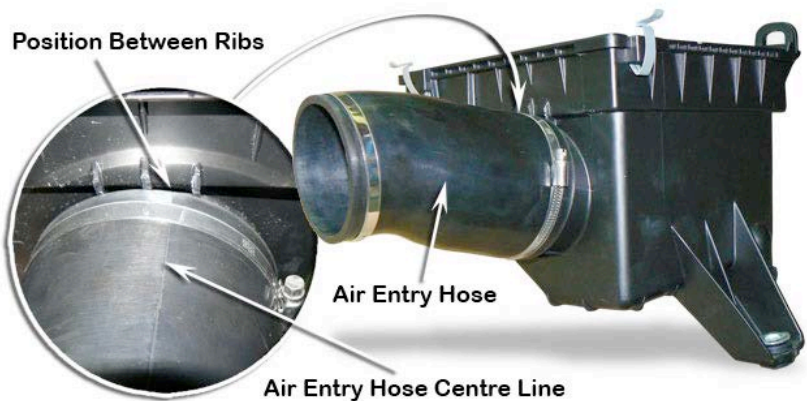
Use a die grinder or coarse file to remove the retaining lugs from the air cleaner housing inlet.

A hose connection length of 30mm is required on the air cleaner inlet snout. Measure and mark the three upper and three lower ribs and use a sharp blade or coarse file to trim the ribs as shown.



12

Loosely install the air entry hose (Item 11) and the 80/100mm stainless steel hose clamp (Item 12) onto the modified air cleaner housing inlet. Orientate the air entry hose (Item 11) so that the hose centre line is positioned between the two upper ribs shown. Then tighten the hose clamp (Item 12).

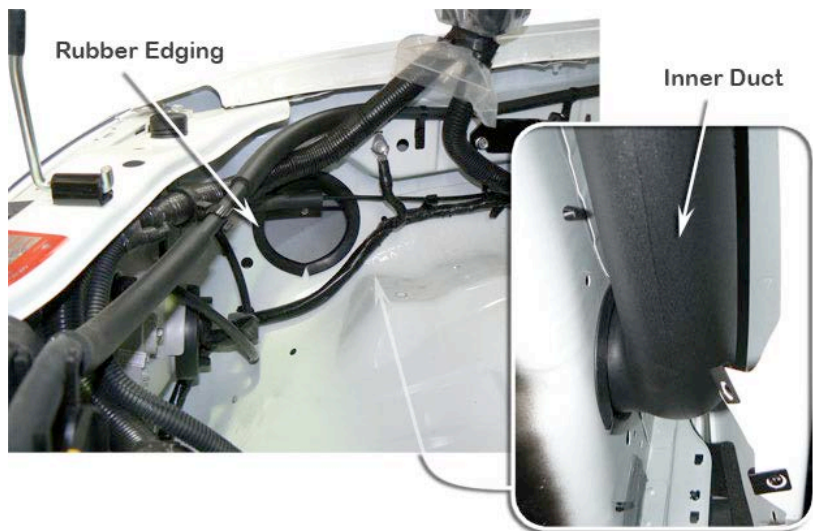


13

Install the rubber edging strip (Item 14) around the hole in the inner guard as shown.

Working from the inner guard area, install the inner duct (Item 6) through the hole in the inner guard.

Then rotate the other end of the inner duct up so that it is aligned with the main hole in the guard panel.



- 14** With the inner duct (Item 6) correctly positioned, apply a generous amount of Sikaflex sealant to the inside surface of the inner duct (Item 6) inlet snout and to the outside surface of the snorkel body (Item 1) outlet snout.

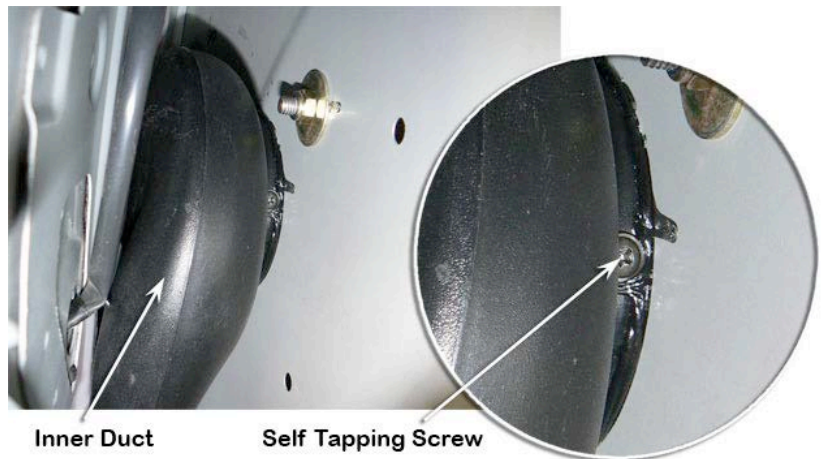
Carefully guide the snorkel body outlet snout into the inner duct inlet and install the snorkel body to the guard panel.



- 15** Align the snorkel body to the upper mounting bracket and guard panel. 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 3 x 6mm hex bolts (Item 4).

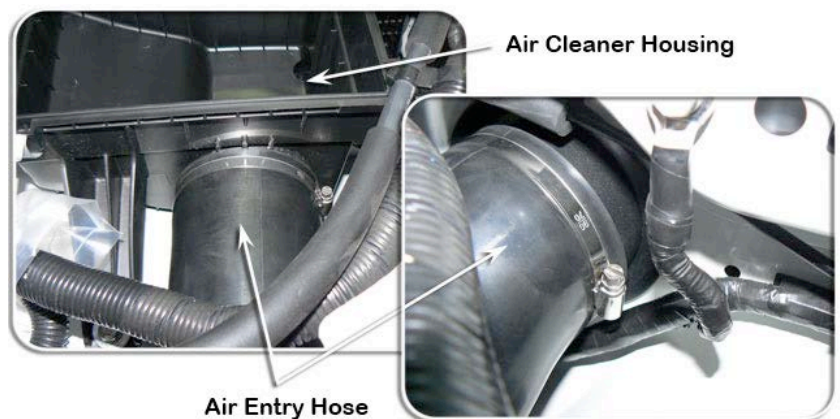
**16**

Ensure that the inner duct is hard up against the shoulder of the snorkel body outlet and that it is located centrally inside the inner guard hole. Secure the inner duct to the snorkel body with a 4.2mm x 16mm self tapping screw (Item 10).



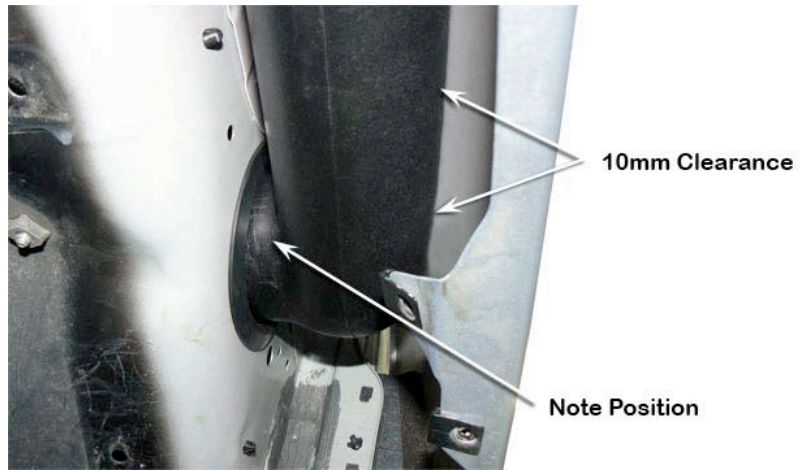
**17**

Install a 70/90mm hose clamp (Item 13) to the air entry hose (Item 11) and install the air cleaner housing. Use the standard mounting hardware to secure the air cleaner housing.



18

Ensure that the inner duct (Item 6) is correctly installed into the air entry hose (Item 11) and that the inner duct has approximately 10mm clearance to the guard panel. When correctly positioned, tighten the 70/90mm hose clamp.

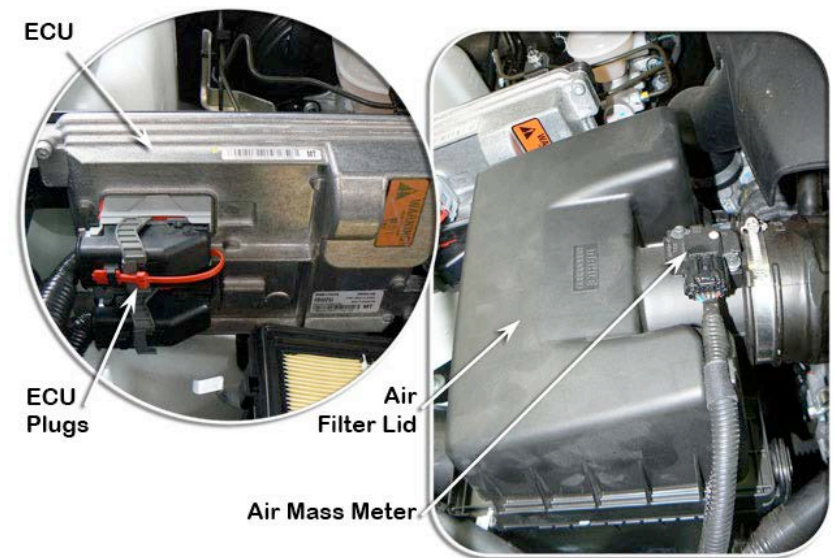


19

Install the ECU and with great care, install the ECU plugs into their respective sockets. Reinstall the air filter element, air cleaner housing top and connect the air mass sensor plug.

Install the guard mounted indicator lamp and connect the wiring plug.

Reconnect the battery terminals, reinstall the guard liner, flare (if fitted to vehicle) and any other components that may have been removed.



20

Loosely install the black hose clamp (Item 15) to 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 15).

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

