



4X4 ENGINEERING

SS1400HF

SAFARI V-SPEC SNORKEL
VOLKSWAGEN AMAROK TDI400
2.0L 4 Cylinder Twin Turbo Intercooled Diesel



19/04/2012

Parts List

ITEM	PART NO.	DESCRIPTION	QTY
1	910-133-000	BODY - SNORKEL (SS1400HF)	1
2	000-135-800	3 ½" AIR RAM ASSEMBLY	1
3	910-032-000	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 - 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	910-024-000	HOSE - AIR ENTRY	1
11	910-025-000	PLATE - CLAMPING - (Lower)	1
12	910-025-200	PLATE - CLAMPING - (Side)	1
13	000-958-200	POP RIVET - 4mm x 16mm	10
14	000-300-350	WASHER - BODY - 4mm x 12mm - S/S	7
15	000-910	CLAMP - HOSE - 90/110mm	1
16	910-959-000	CAP - AIR INLET BLANK-OFF	1
17	000-908	CLAMP - HOSE - 70/90mm	1
18	910-017-200	TEMPLATE - AIR CLEANER INLET	1
19	910-017-300	TEMPLATE - INNER GUARD	1
20	000-914/B	CLAMP - HOSE - No. 56 (BLACK)	1
21	910-017-000	TEMPLATE - GUARD PANEL	1

Installation Guide

Fitment to:

- Right Hand Side

Fitting Time:

- 210min

Special Tools:

- 83mm Hole saw
- 4.0mm & 6.5mm Drill Bits
- Body Saw (Reciprocating)
- Step drill
- Pop Rivet Gun
- Grinder & File
- Masking Tape
- Touch-up Paint
- Prep-wash
- Sikaflex 227 Adhesive Sealant or Wurth KD Bond
- Loctite 243 (Thread Lock)

Prior to commencing the installation, it is the installer's responsibility to verify that all components and particularly the template (Item 21) are correct.

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

- Mud Flap (Right Hand Front)
- Guard Liner (Right Hand Front)
- Windscreen Washer Bottle Filler Neck
- Windscreen Washer Bottle
- Air Cleaner Lid
- Air Cleaner Base
- Side Indicator (if fitted to vehicle)

2

Remove and discard the air cleaner inlet duct.

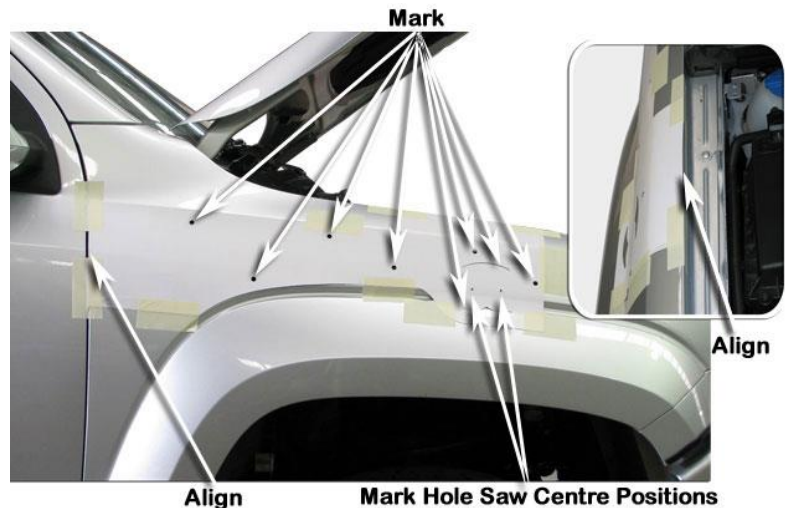


Align the guard panel template (Item 21) to the rear and upper edges of the right hand guard panel.

Tape the template to the guard panel with masking tape.

Mark all six mounting hole positions the two hole saw centre positions and the upper and lower cut out sections with a felt tip pen.

Remove the template.



Apply masking tape to guard panel and flare to ensure no metal filings are trapped between the flare and guard panel as shown.

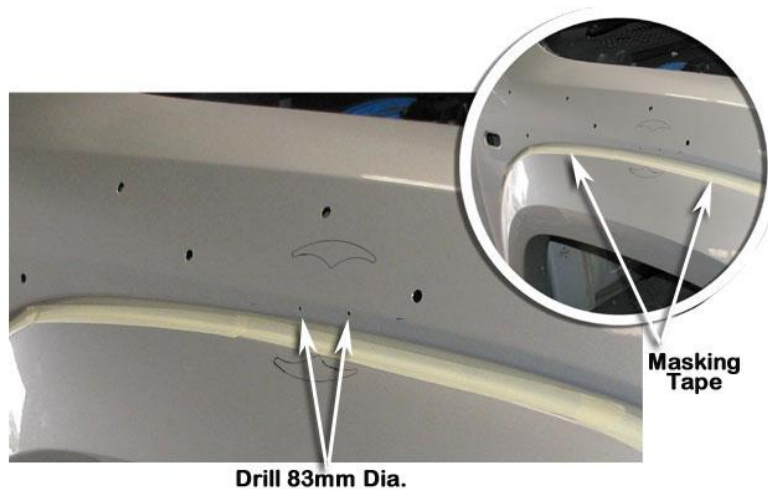
Drill a pilot hole for each of the marked hole positions.

Use a 83mm diameter hole saw to drill the snorkel body outlet hole positions. Ensure the hole saw is square to the guard panel whilst drilling.

Use a body saw to trim away the upper and lower sections of the guard panel and flare between the two 83mm diameter holes as per the template cut outs.

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

Deburr and paint all holes to prevent rust.



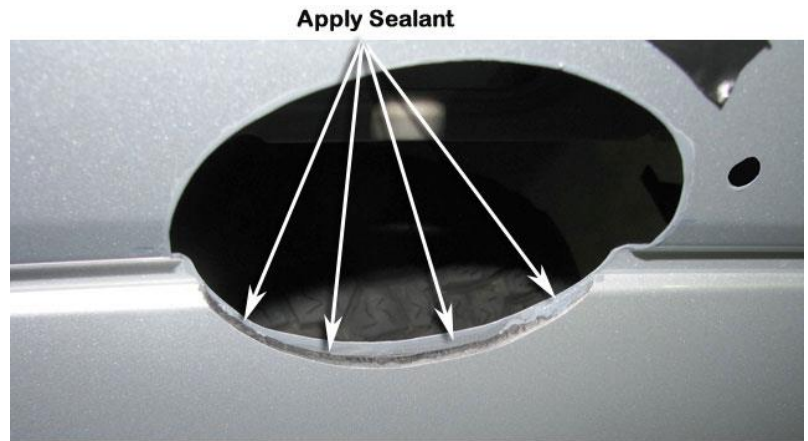
Drill 83mm Dia.



Drill 16mm Dia.

5

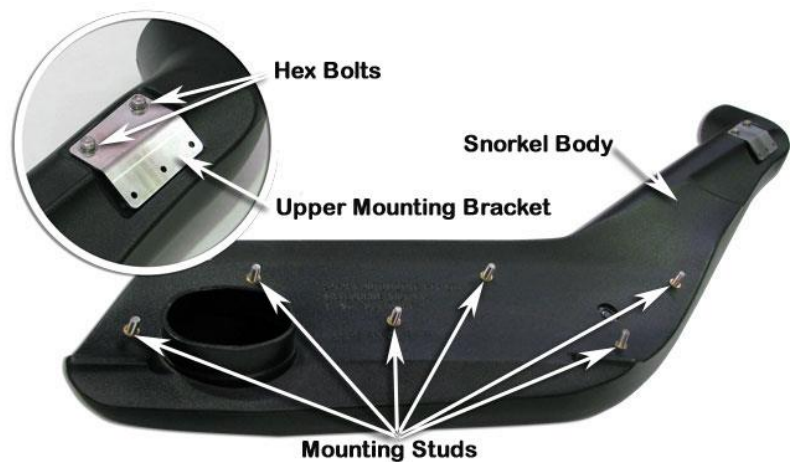
Apply adhesive sealant to the gap between the flare and guard panel as shown.



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.



7

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

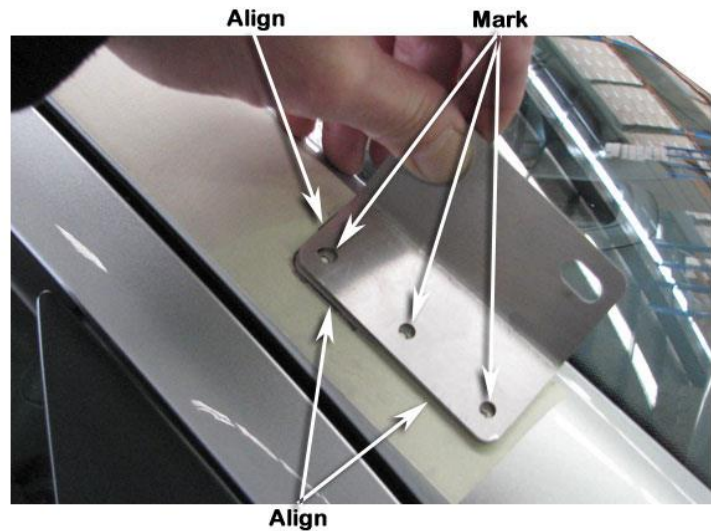
Carefully install the snorkel body (item 1) to the guard panel.

With the snorkel body correctly positioned, mark the position of the upper mounting bracket onto the masking tape as shown.



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

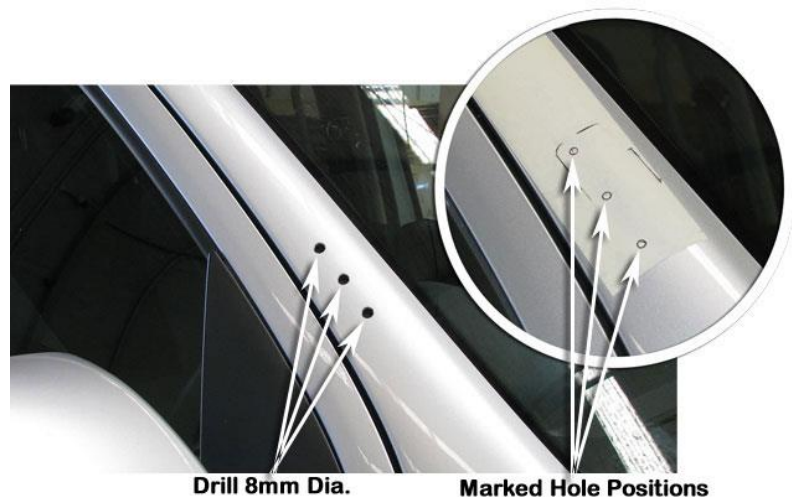
Position the upper mounting bracket onto the A-pillar and align the bracket to the marked bracket position on the masking tape. With the bracket correctly positioned mark the three mounting hole positions with a felt tip pen.



Drill a pilot hole at each of the three marked hole positions.

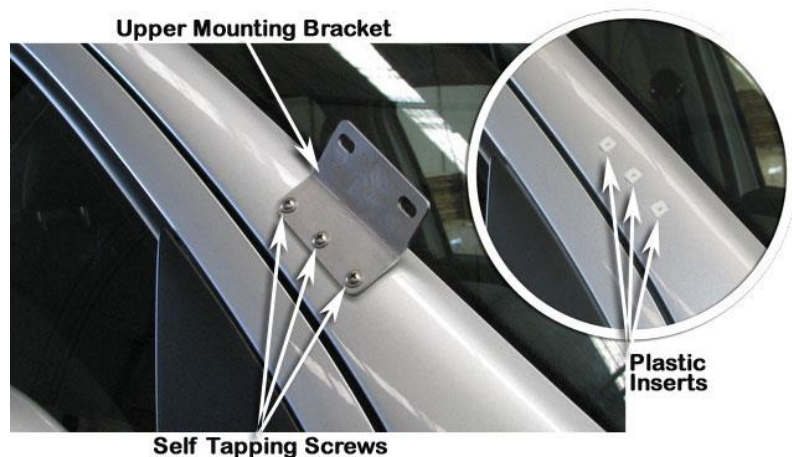
Drill each hole position to 8mm diameter with a step drill or 8mm drill bit.

Deburr and paint holes to prevent rust.



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 stainless steel self-tapping screws (item 5).

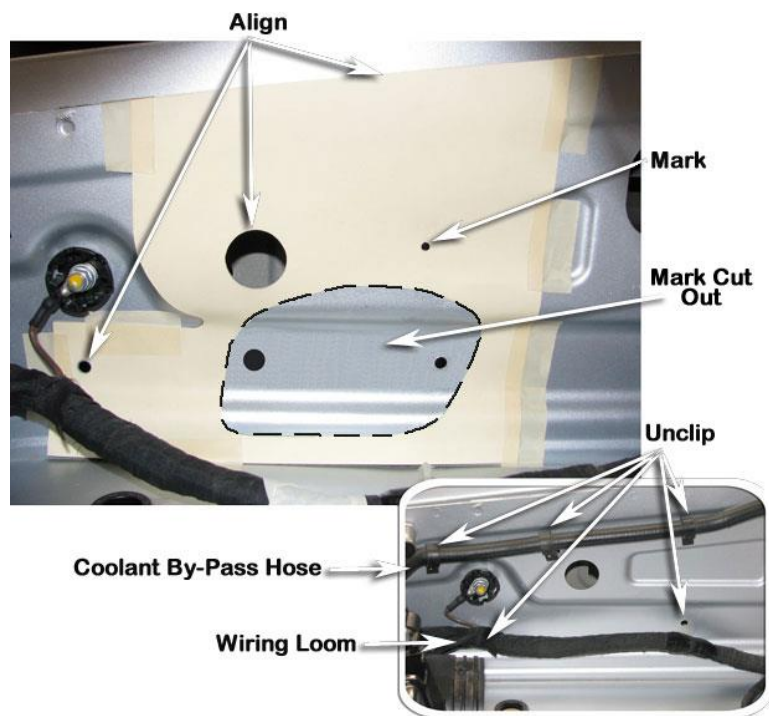


Unclip the wiring loom and coolant by-pass hose from their mounting positions, align the inner guard template (item 19) to the top edge, wiring loom mounting hole and the 30mm diameter hole of the inner guard panel as shown. Ensure the template follows all of the contours of the inner guard panel.

With the template correctly aligned, tape the template to the inner guard panel with masking tape.

Mark the required cut-out and the loom relocation hole onto inner guard panel.

Remove the template.



Drill a pilot hole at the marked hole position.

Drill the hole position to 6.5mm diameter.

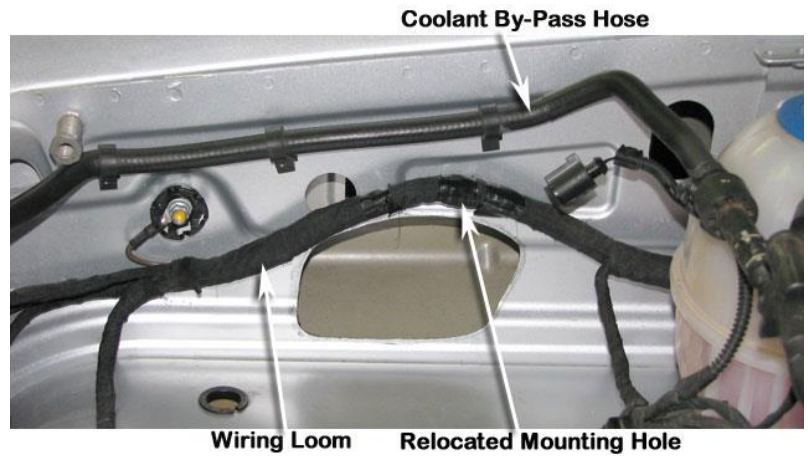
Use the body saw to cut the hole in the inner guard panel (cutting on the outside of the line).

Deburr and paint holes to prevent rust.



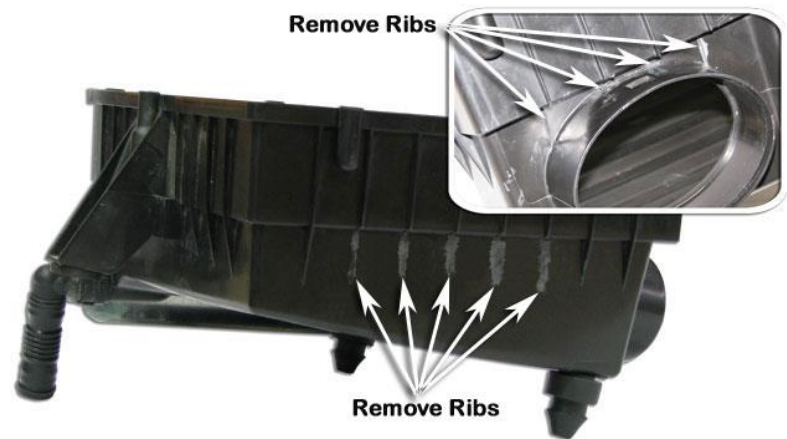
13

Re-install the wiring loom to the front and relocated mounting hole position, re-install the coolant by-pass to the standard mounting positions as shown.



14

Use a grinder to remove 5 ribs from the side of the air cleaner base and the 4 ribs from around the air cleaner inlet snout as shown.

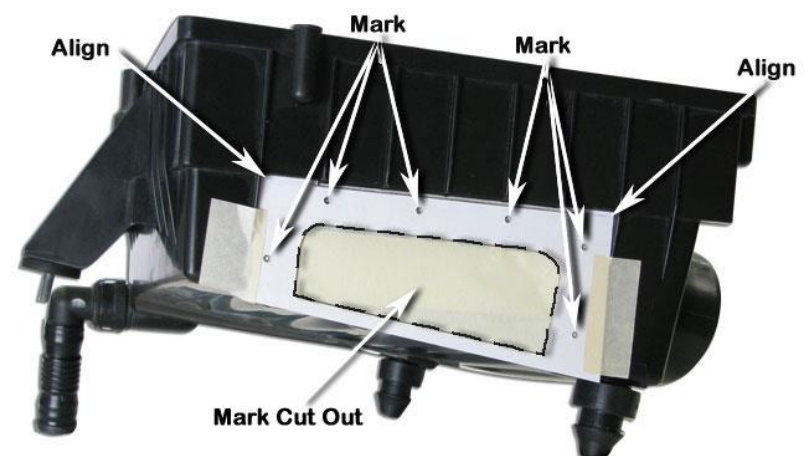


15

Align the air cleaner inlet template (item 18) onto the side of the air cleaner housing as shown.

Mark all six hole positions and the new air inlet hole with a felt tip pen.

Remove the template.

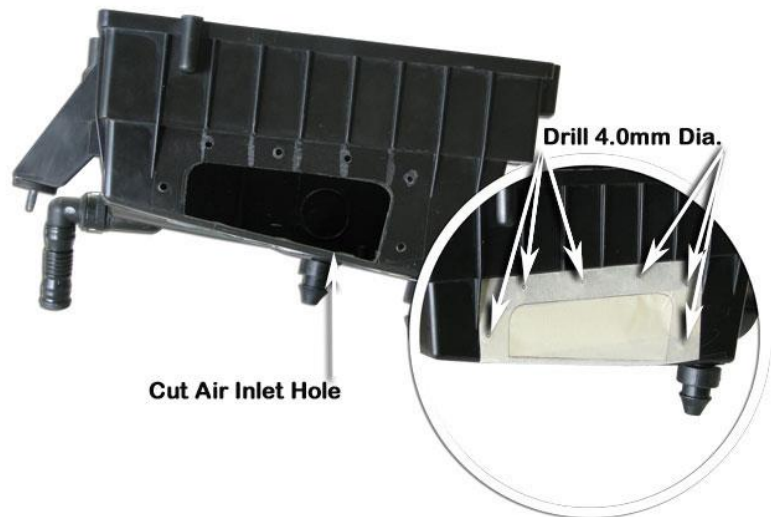


Drill a pilot hole for each of the marked hole positions.

Drill the six hole positions to 4.0mm.

Use the body saw to cut the new air inlet hole.

Neaten the air inlet hole with a file and deburr the six holes.

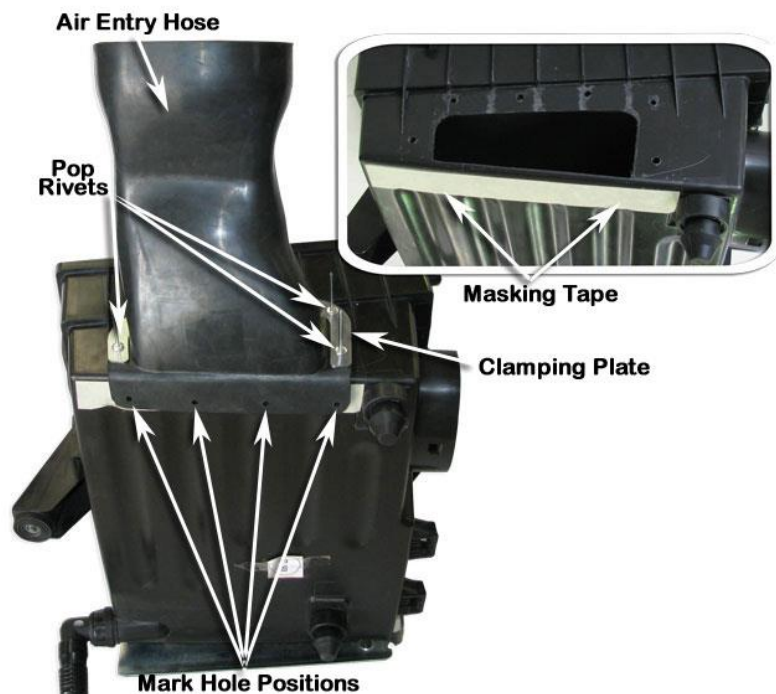


Place a strip of masking tape along the bottom of the air cleaner housing as shown.

Install the side clamping plate (item 12) to the air entry hose (item 10), install the hose onto the air cleaner housing and loosely install pop rivets (item 13) to locate the hose onto the air cleaner housing.

With hose correctly positioned mark the four lower mounting hole positions onto the masking tape with a felt pen.

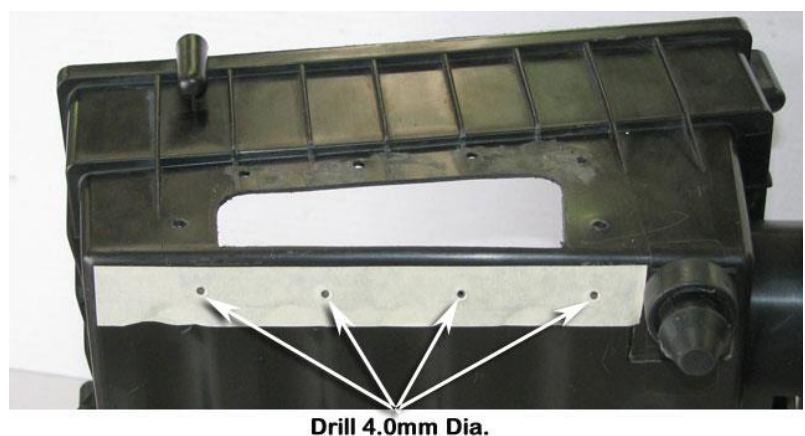
Remove the air entry hose.



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

Drill the four hole positions to 4.0mm.

Deburr the four holes.

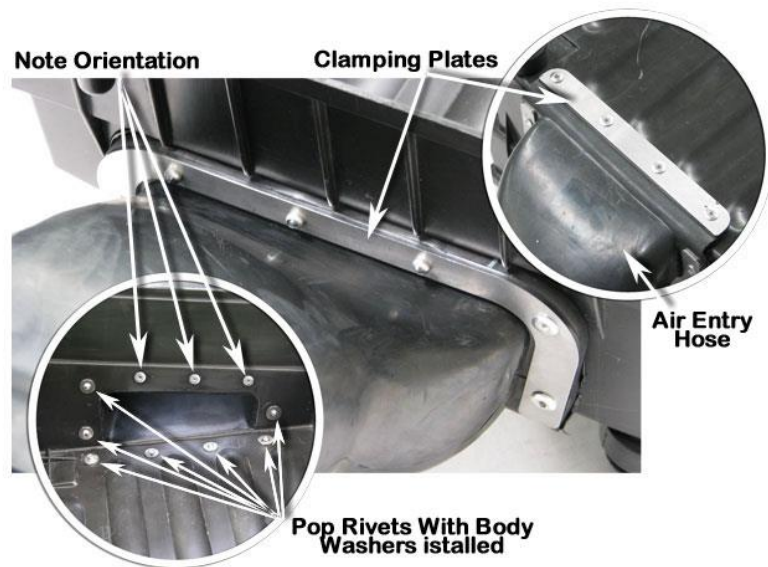


Apply adhesive sealant to the mating surfaces of the air cleaner base and the air entry hose.

Install the air entry hose onto the air cleaner base, install the side and lower clamping plates to the hose and install all ten pop rivets (note: pop rivet orientation), install a 4mm body washer (item 14) to seven of the pop rivets as shown.

Use the pop rivet gun to secure the pop rivets starting from the centre and working outwards.

With all pop rivets secured clean-up any excess sealant to ensure a neat finish.



Install the air inlet blank-off cap (item 16) over the air cleaner inlet snout, with the blank-off cap correctly installed secure with a 70/90mm hose clamp (item 17), ensure the hose clamp is positioned to the rear edge of the blank-off cap.



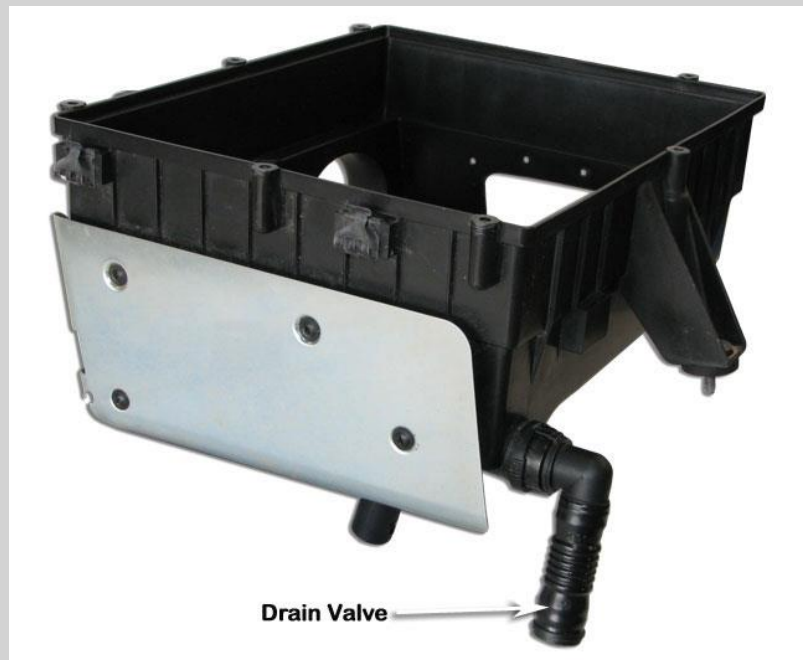
21

INSTALLER OPTION

The air cleaner housing contains a drain valve as shown.

The serviceability of the drain valve must be checked by the installer.

If necessary the drain valve should be replaced or sealed by the installer, to prevent water from entering the air cleaner housing.



22

The end of the air entry hose (item 10) must be squashed inwards and taped to hold in position as shown.

N.B: it is critical the hose is taped the way shown in the photo, for installation purposes.



23

With the hose correctly taped, spray lubricant over the outside of the hose.

Install the air cleaner assembly into position, guiding the air entry hose through the holes in the inner guard panel, ensure the two air cleaner base mounting pins locate correctly into the mounting holes and fasten the rear mounting bolt.



Shape the 90/110mm hose clamp (item 15) to the oval shape of the air entry hose, loosely install the hose clamp onto the air entry hose.

Carefully install the snorkel body (item 1) to the guard panel, guiding the snorkel body outlet snout into the air entry hose (item 10), align the snorkel body to the upper mounting bracket and guard panel.

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).

Ensure the air entry hose is correctly installed onto the snorkel body outlet snout and tighten the 90/110mm hose clamp (item 15).



Install the washer bottle assembly, install the washer bottle filler neck, install the side indicator and connect wiring, install the air cleaner element and air cleaner lid and connect wiring and hoses. Top up the washer bottle with washer fluid and check washer operation, install the guard liner, mud flap and any other items that may have been removed during the snorkel installation process.

Install the black hose clamp (item 20) loosely to the base of the air ram assembly (item 2).

Install the air ram assembly onto the snorkel body.

Align the air ram and tighten the black hose clamp (item 20).

