



SS1145HF

Jeep Grand Cherokee WJ
Suits: 4.7L V8 High Output Engine



01/06/2012

Parts List

ITEM	PART NO.	DESCRIPTION	QTY
1	975-133-000	BODY - SNORKEL (SS1140HF)	1
2	000-135-800	3 1/2" AIR RAM ASSEMBLY	1
3	975-032-000	BRACKET - UPPER MOUNTING	1
4	000-002-100	BOLT - HEX - 6mm x 1.0 x 14mm (SEMS)	2
5	000-958-300	POP RIVET - 5mm x 14mm	3
6	000-110	STUD - 8mm x 1.25 x 25mm - S/S	6
7	000-311-300	STUD - 8mm x 1.25 x 25mm - S/S	6
8	000-205-300	WASHER - BODY - 8mm x 30mm - S/S	6
9	975-024-000	HOSE - SNORKEL OUTLET	1
10	000-1913	CLAMP - HOSE - 120/140mm	1
11	975-025-000	JOINER - HOSE - 102mm x 48mm	1
12	000-1911	CLAMP - HOSE - 100/120mm	2
13	975-024-400	HOSE - AIR ENTRY	1
14	975-025-300	PLATE - CLAMPING (Front)	1
15	975-025-400	PLATE - CLAMPING (Upper)	1
16	975-025-500	PLATE - CLAMPING (Lower)	1
17	975-025-600	PLATE - CLAMPING (Side)	1
18	000-958-200	POP RIVET - 4mm x 16mm	14
19	000-300-350	WASHER - BODY 4mm x 11mm - S/S	12

ITEM	PART NO.	DESCRIPTION	QTY
20	975-798-000	FILLER NECK - WAHER BOTTLE (Plastic)	1
21	975-431-000	GROMMET - WASHER BOTTLE	1
22	975-796-000	BRACKET - FILLER NECK SUPPORT	1
23	975-972-400	BLANK-OFF CAP - FILLER NECK	1
24	525-098-300	CAP - FILLER NECK	1
25	000-1019-300	BOLT - B/H CAP SCREW - 5mm x 0.8mm x 10mm - S/S	3
26	000-320-350	WASHER - BODY - 5mm x 15mm - S/S	5
27	000-221-300	NUT - NYLOC - 5mm x 0.8mm - S/S	2
28	000-905	CLAMP - HOSE - 40/60mm	1
29	000-914/B	CLAMP - HOSE - SIZE 56 (BLACK)	1
30	975-017-200	TEMPLATE - FILLER NECK	1
31	975-017-600	TEMPLATE - WASHER BOTTLE	1
32	975-017-700	TEMPLATE - AIR CLEANER	1
33	975-017-500	FIXTURE - HOLES AW CENTRE	1
34	975-017-000	TEMPLATE - GUARD PANEL	1



SS1145HF

Jeep Grand Cherokee WJ
Suits: 4.7L V8 High Output Engine

Installation Guide

Fitment to:

- Left Hand Side

Fitting Time:

- 210min

Special Tools:

- 83mm & 114mm Hole saw
- 35mm & 46mm Hole saw
- 100mm Long Arbour
- 3.2mm, 4.0mm, 5.0mm & 5.5mm Drill Bits
- Body Saw (Reciprocating)
- Step drill
- Centre Punch
- Pop Rivet Gun
- Grinder
- Masking Tape
- Touch-up Paint
- Prep-wash
- Sikaflex 227 Adhesive Sealant
- 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 34) are correct.

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

- Guard Liner (Left Hand Front)
- Side Indicator (if fitted to vehicle)
- Air Cleaner assembly
- Washer Bottle Assembly

2

Remove and discard the air inlet ram tube.

Remove and Discard



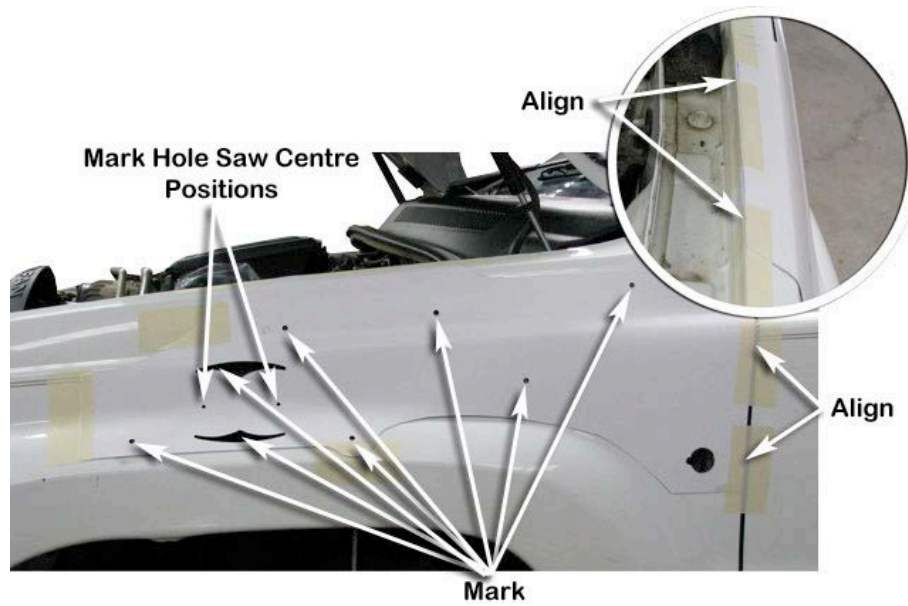
3

Align the guard panel template (Item 34) to the rear and upper edges of the left hand guard panel, use the indicator hole as a reference point only.

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.



4

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 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.

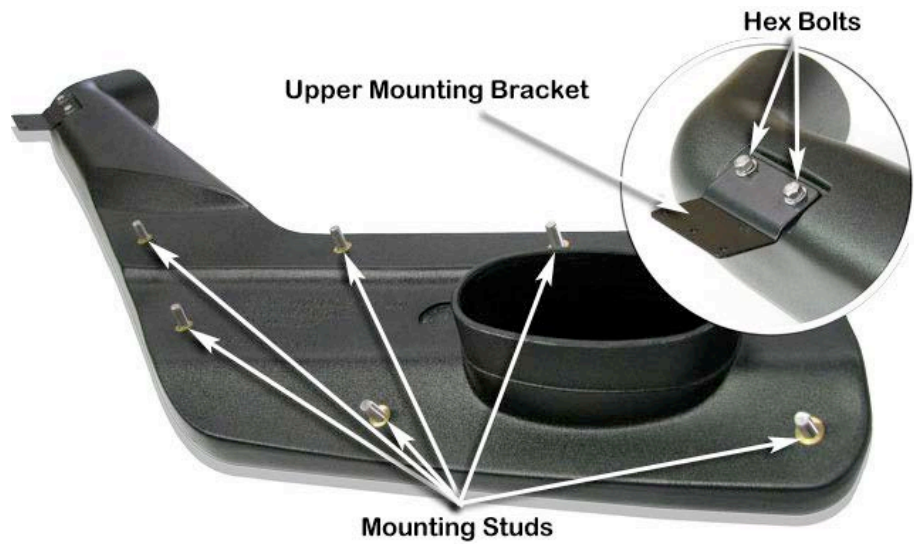
Deburr and paint all holes to prevent rust.



5

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 6) and install the studs finger tight into the snorkel body (item 1) mounting inserts.



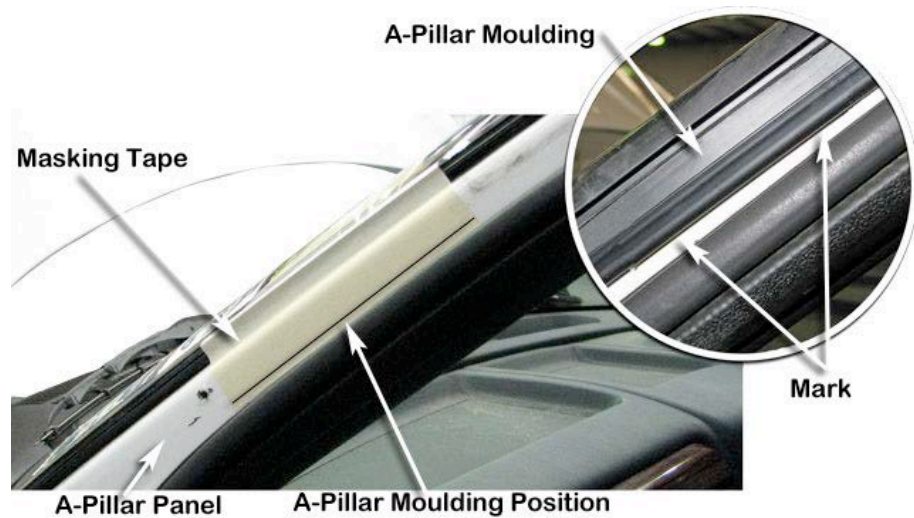
6

Remove the weather seal and A-pillar moulding from the left hand A-pillar.

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

Install the A-pillar moulding and mark along the underside of the moulding onto the masking tape as shown.

Remove the A-pillar moulding.



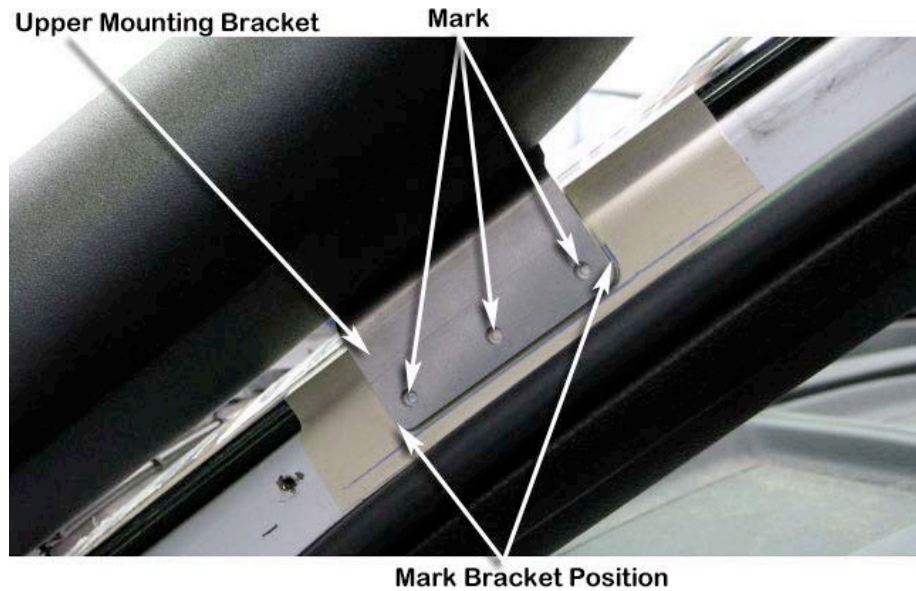
7

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

With the snorkel body correctly positioned, mark the three upper mounting bracket hole positions and the outline of the upper mounting bracket onto the masking tape as shown.

Hint: ensure the bottom edge of the upper mounting bracket is running parallel to the previously marked A-pillar moulding position.

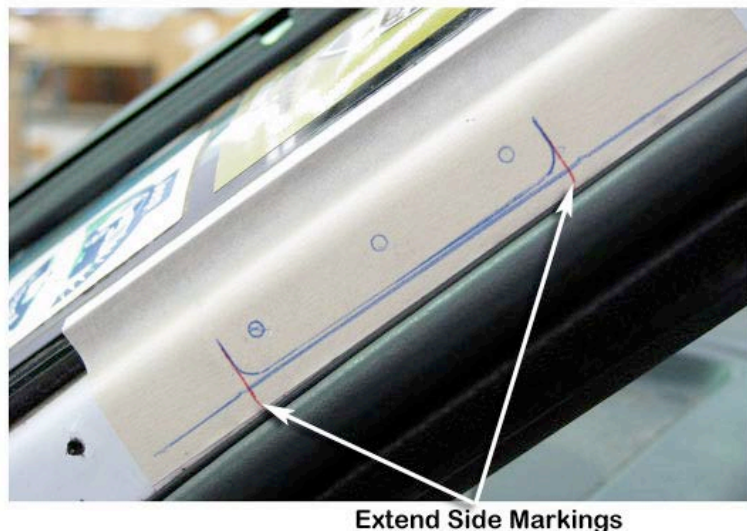
Check for clearance between the door frame and snorkel body opening and closing the door to ensure there is adequate clearance.



8

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

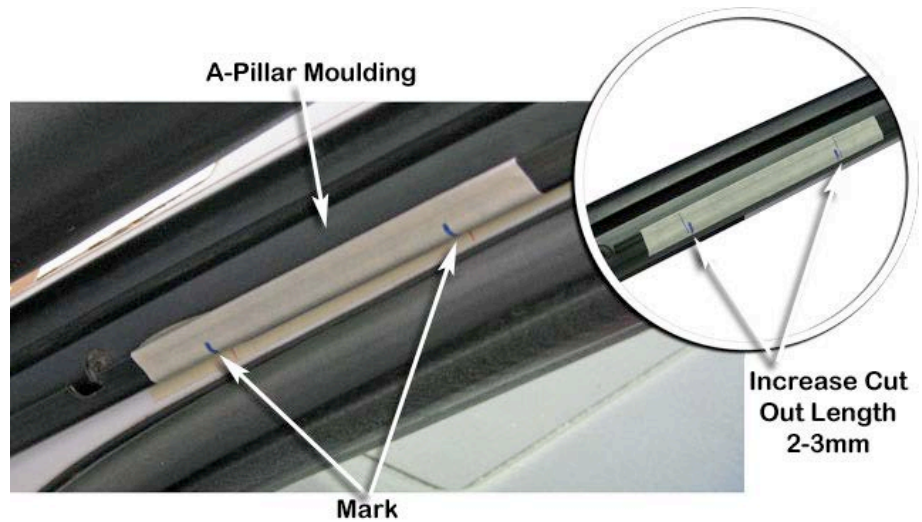
Extend the side markings of the upper mounting bracket on the masking tape as shown.



9

Place a strip of masking tape approximately 200mm long onto the A-pillar moulding above the bottom mounting hole.

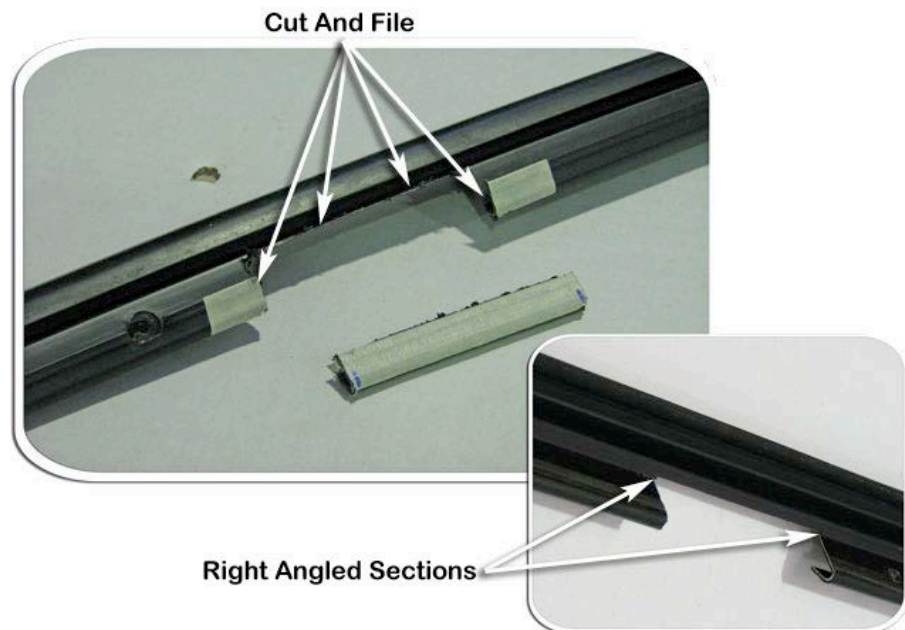
Refit the A-pillar moulding and transfer the upper mounting bracket position onto the masking tape, remove the A-pillar moulding, increase the overall length of the cut out by approximately 2 – 3mm at each end for clearance to the upper mounting bracket.



10

Use a body saw to remove the marked section of the A-pillar moulding, cutting through the channel and into the right angled section by approximately 2 – 3mm as shown, use a file to neaten all of the cuts.

N.B: It is critical the A-pillar moulding is trimmed correctly to ensure the upper mounting bracket mounts flush against the A-pillar when installed.

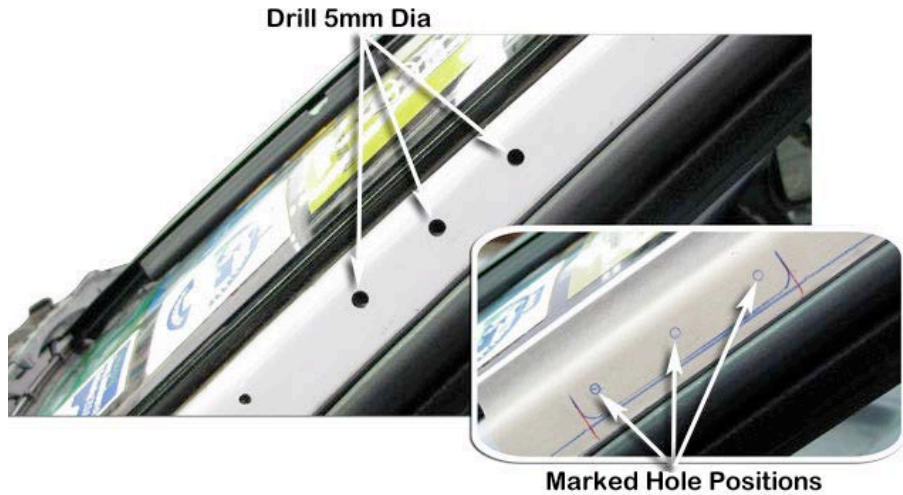


11

Drill a pilot hole at each of the three marked hole positions, drilling through the outer and internal A-pillar panels.

Drill each hole position to 5.0mm diameter.

Deburr and paint holes to prevent rust.



12

Install the A-pillar moulding and check the fitment of the upper mounting bracket, if required remove the A-pillar moulding and increase the size of the cut out where required to ensure the upper mounting bracket fits correctly onto the A-pillar.

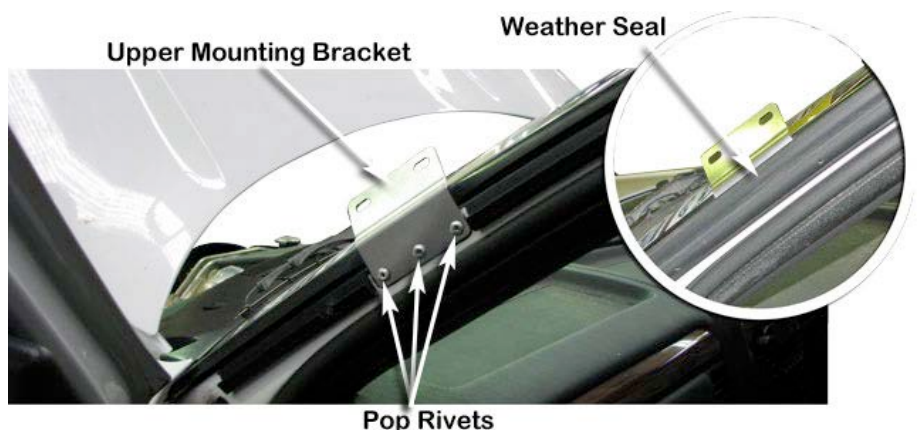


13

Apply a small amount of adhesive sealant to the underside of the upper mounting bracket (item 3).

Install all three pop rivets (item 5) and secure the upper mounting bracket to A-pillar panel.

Install the weather seal to the A-pillar moulding.

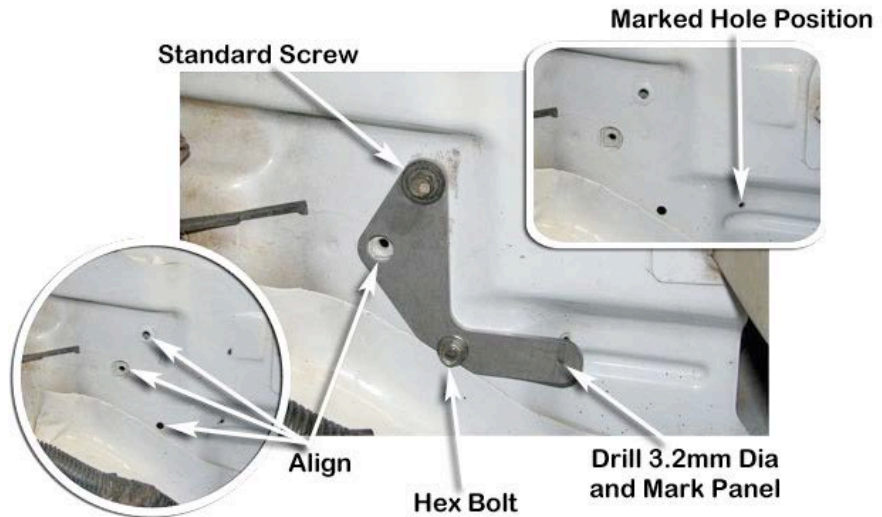


14

Align the hole saw centre fixture (item 33) to the three holes in the inner guard panel shown, secure to the inner guard panel with the standard screw through the top hole and with a 6mm hex bolt through the bottom hole.

Using a 3.2mm drill bit, drill through the guide fixture and mark the hole centre onto the inner guard panel.

Remove the hole saw centre fixture.

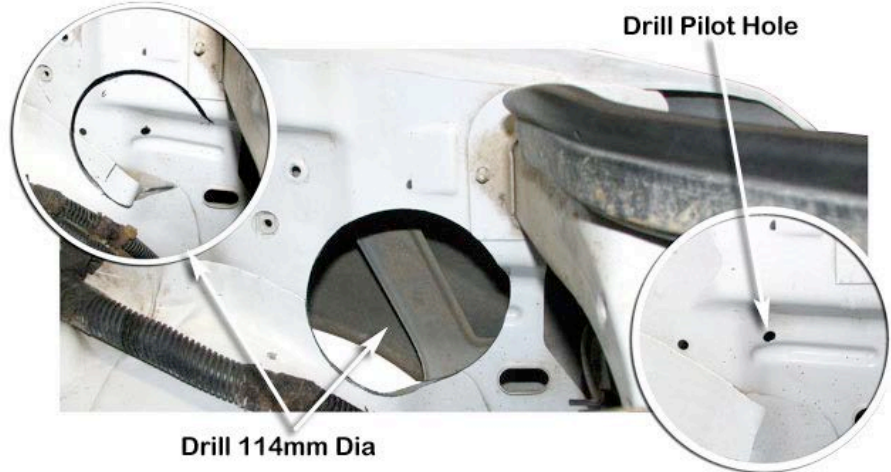


15

Use a centre punch to punch the centre of the hole accurately, this will ensure the drill stays central whilst drilling.

Drill a pilot hole at the marked hole position.

Use a 114mm hole saw with the 100mm long arbour installed to drill through the inner guard panel. Ensure that the hole saw is square to the inner guard panel and parallel with the front support panel whilst drilling.



Place a 5mm body washer (item 26) at the cut edges of the double panel and mark the required hole positions as shown.

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

Drill each hole position to 5.5mm diameter.

Deburr and paint all holes to prevent rust.



16

Install a 5mm B/H cap screw (item 25) with a body washer (item 26) installed through the holes in the inner guard panel, fasten the double panels together with a body washer (item 26) and nyloc nut (item 27) as shown.

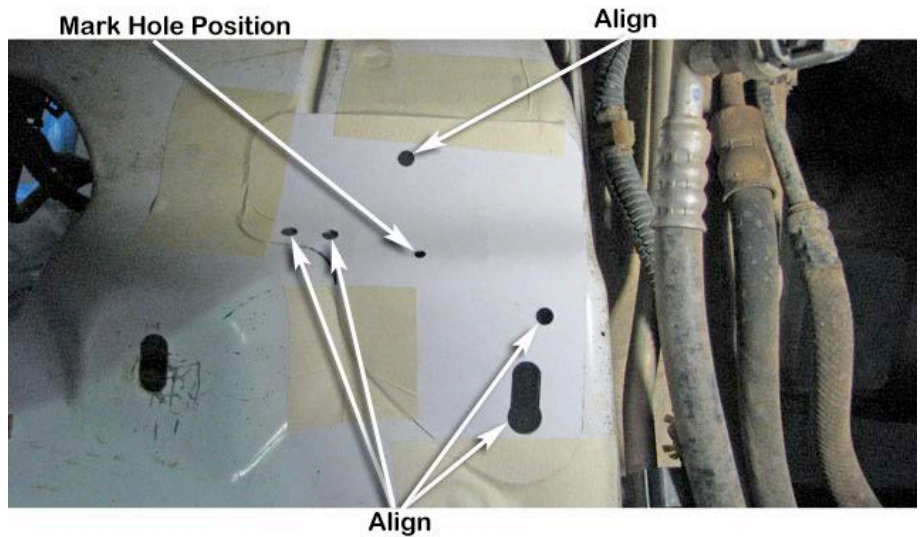


17

Align the filler neck template (item 30) to the standard holes in the inner guard panel shown.

Tape the template to the inner guard panel with masking tape and mark the required hole position.

Remove the template.

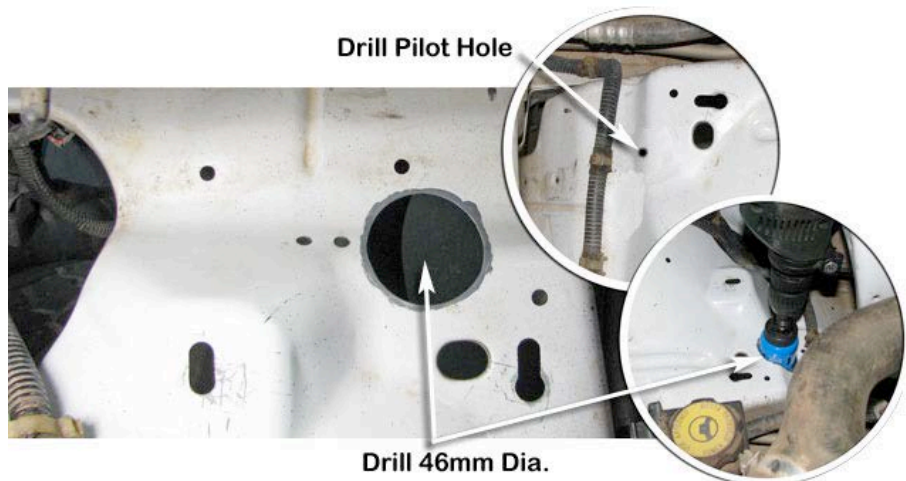


18

Use a centre punch to punch the centre of the hole accurately, to ensure the drill stays central whilst drilling.

Drill a pilot hole at the marked hole position.

Use a 46mm hole saw to drill the hole in the inner guard panel, the drill must be held vertically whilst drilling as shown.



19

The top section of the standard washer bottle filler neck must be removed.

Mark a line around the filler neck approximately 24 – 25mm above the front washer hose retaining lug and approximately 9 - 10mm above the rear washer hose retaining lug as shown, ensure the line is running square to the neck.

Remove the washer motors from the washer bottle.

Use a body saw / hacksaw to cut off the top section of the filler neck at the marked position.

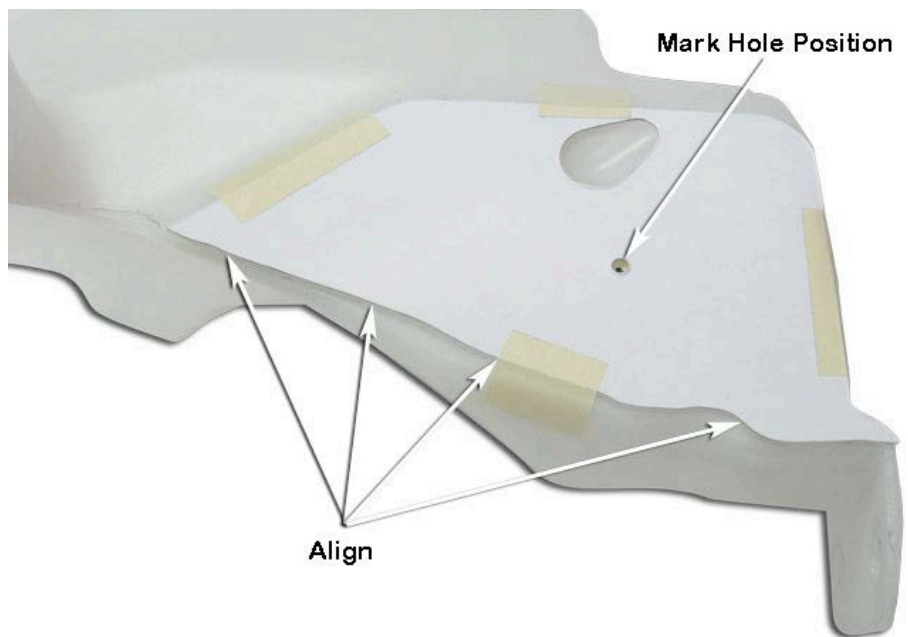
Deburr the cut off end and thoroughly clean out the washer bottle to ensure all plastic swarf is removed from the bottle.



20

Align the washer bottle template (item 31) to the top seam of the washer bottle as shown, with the template correctly aligned mark the hole position with a felt tip pen.

Remove the template.



21

Drill a pilot hole at the marked position.

Use a 35mm hole saw to drill the hole in the washer bottle.

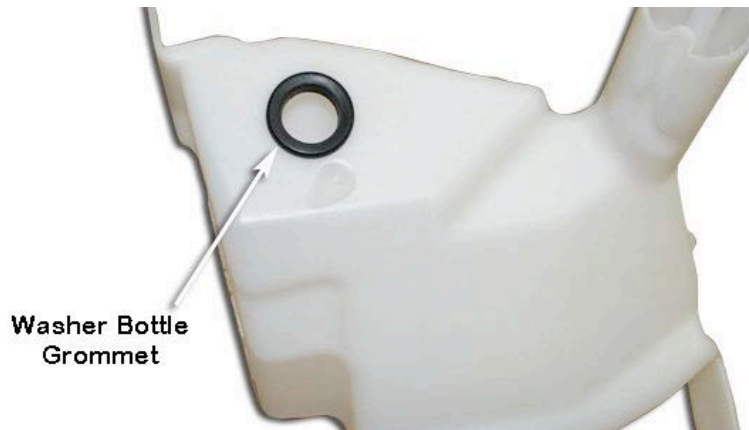
Deburr the hole.



22

Install the washer bottle grommet (item 21) into the 35mm diameter hole in the washer bottle.

Install the washer motors removed previously.



23

Install the washer bottle assembly into the vehicle and secure with the standard fasteners.

Apply a small amount of lubricant to the filler neck (item 20) and to the washer bottle grommet (item 21).

Install the filler neck into the grommet, fasten the filler neck support bracket (item 22) to the filler neck with B/H cap screw (item 25) and body washer (item 26).

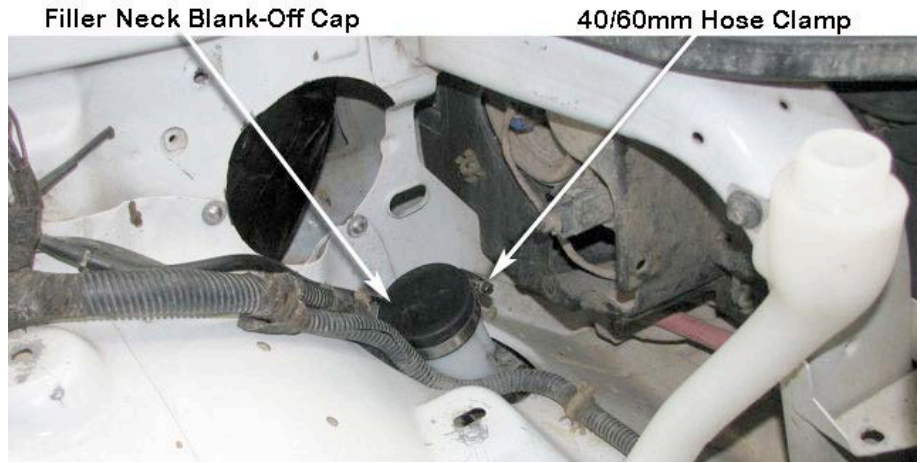
Fasten the filler neck support bracket (item 22) to the standard hole in the front support panel, with the standard self taper screw removed previously from the filler neck mounting.



24

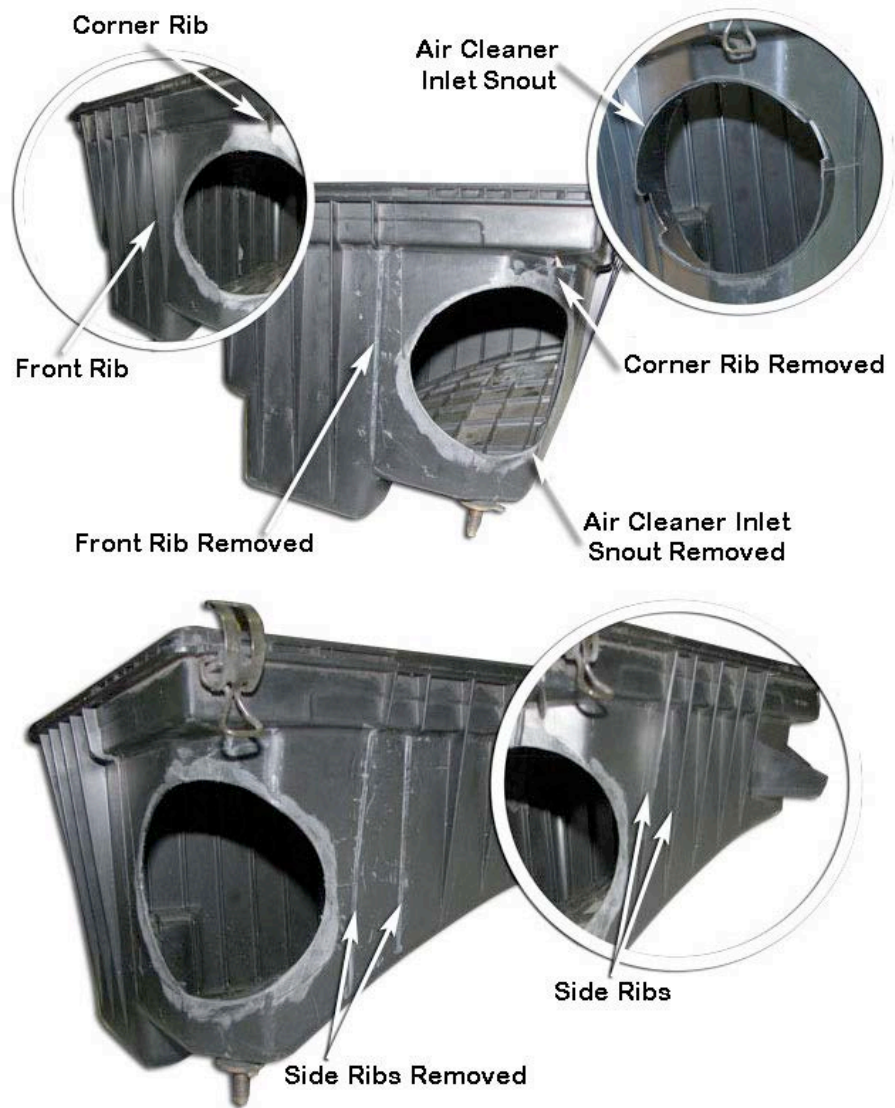
Install the filler neck blank-off cap (item 23) over the cut-off filler neck.

Install the 40/60mm hose clamp (item 28) over the cap and tighten.



25

Use a grinder to carefully remove the air cleaner inlet snout, corner rib, one rib from the front and two ribs from the side of the air cleaner housing as shown.



Align the air cleaner template (item 32) to the front and side ribs and below the radius of the air cleaner housing.

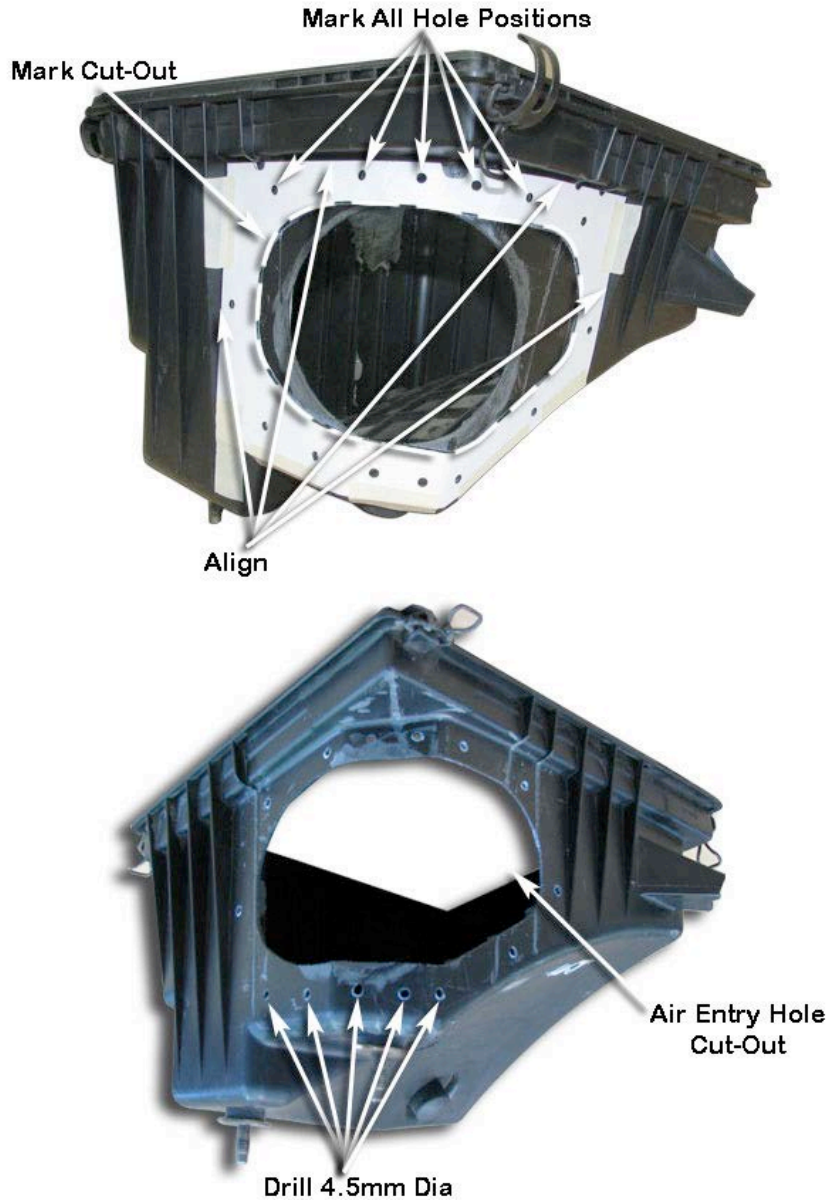
Mark the required cut out and the fourteen hole positions.

Remove the template.

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

Drill each hole position to 4.5mm diameter.

Use a body saw to cut out the required air entry hole in the air cleaner housing, use a file to neaten the rough edges of the cut out.



Trial fit the air entry hose (item 13) to the air cleaner housing, checking the size of the air entry hole and all of the fourteen mounting holes line up, if necessary increase the size of the air entry hole.

Remove the air entry hose.



28

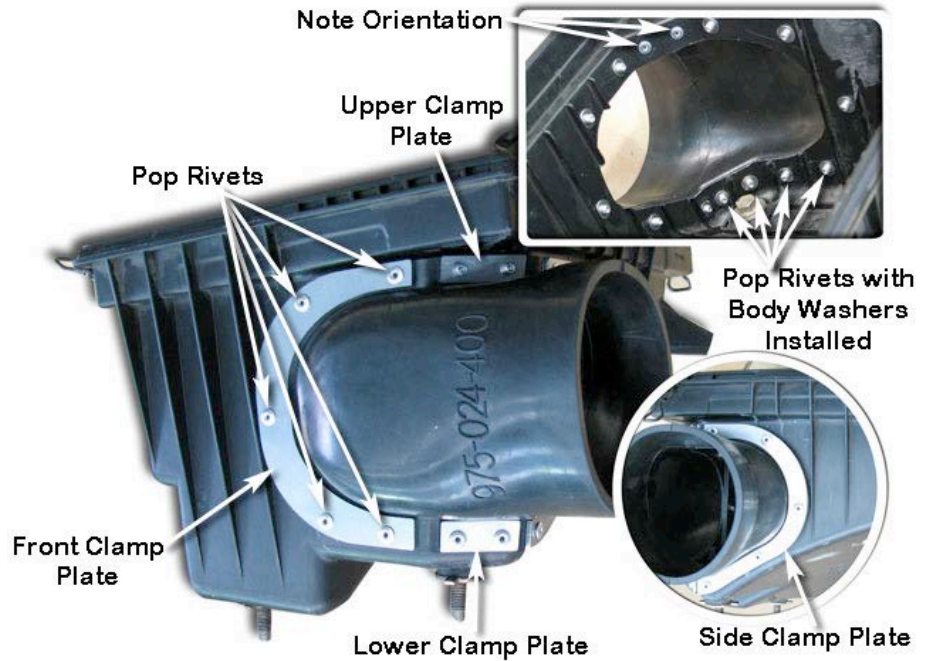
Apply adhesive sealant to the mating surfaces of the air entry hose and the air cleaner housing.

Install the air entry hose (item 13) to the air cleaner housing.

Install the front, side, upper and lower clamp plates (item's 14, 15, 16 and 17) and all fourteen pop rivets (item 18) (note the orientation of the two top pop rivets).

With all of the pop rivets installed, place a body washer (item 19) onto twelve of the pop rivets as shown, secure the pop rivets with a pop rivet gun starting from the corner of the air cleaner housing and working outwards.

Clean-up any excess sealant to ensure a neat finish.



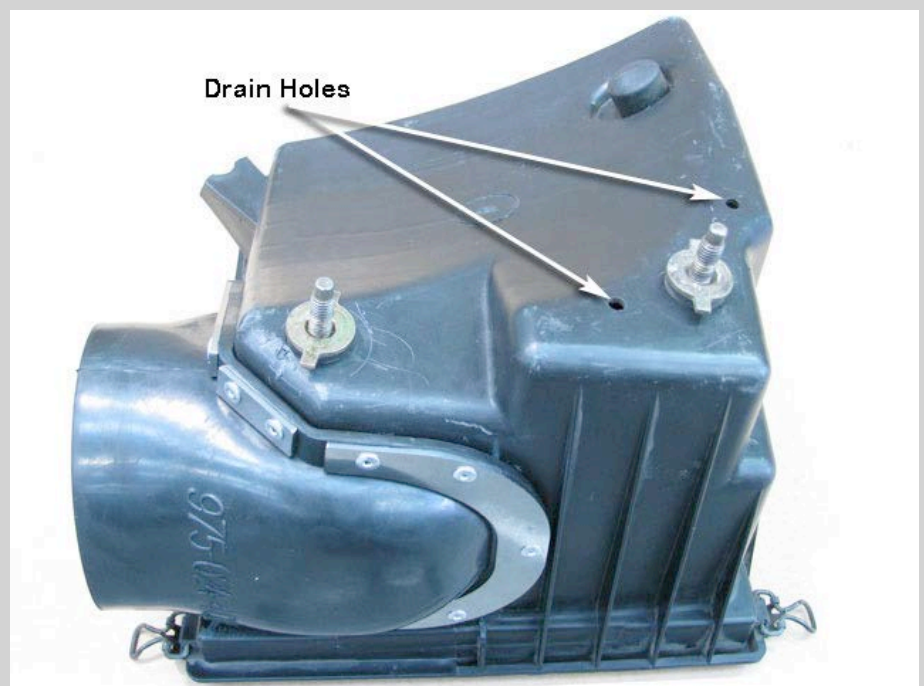
29

INSTALLER OPTION

The air cleaner housing contains two drain holes as shown.

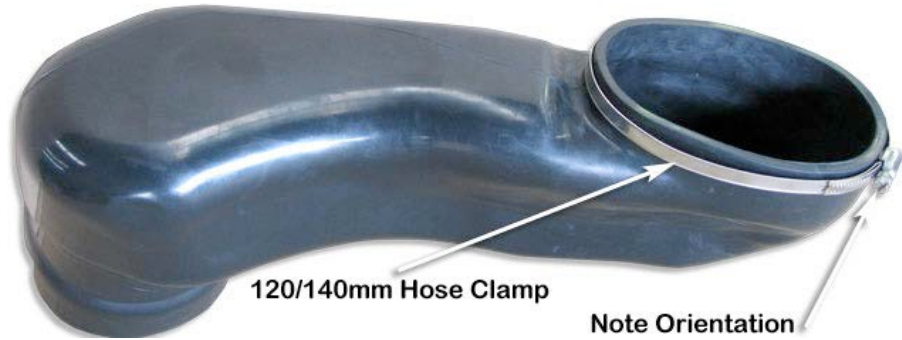
The drain holes can permit water to enter the air intake.

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



30

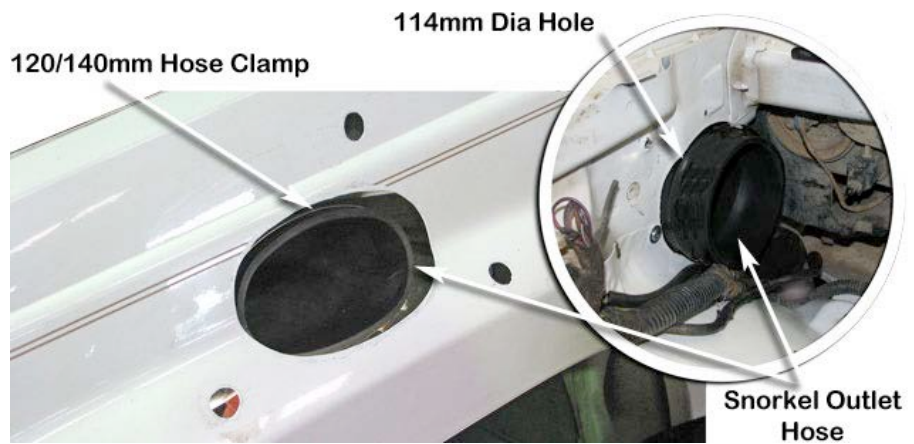
Form the 120/140mm hose clamp (item 10) around the oval shape of the snorkel outlet hose (item 9), note the orientation of the hose clamp relative to the snorkel outlet hose.



31

Install the round end of the snorkel outlet hose (item 9) through the 114mm diameter hole in the inner guard panel.

Install the formed 120/140mm hose clamp (item 10) loosely over the oval end of the snorkel outlet hose and align the hose to the hole in the guard panel.

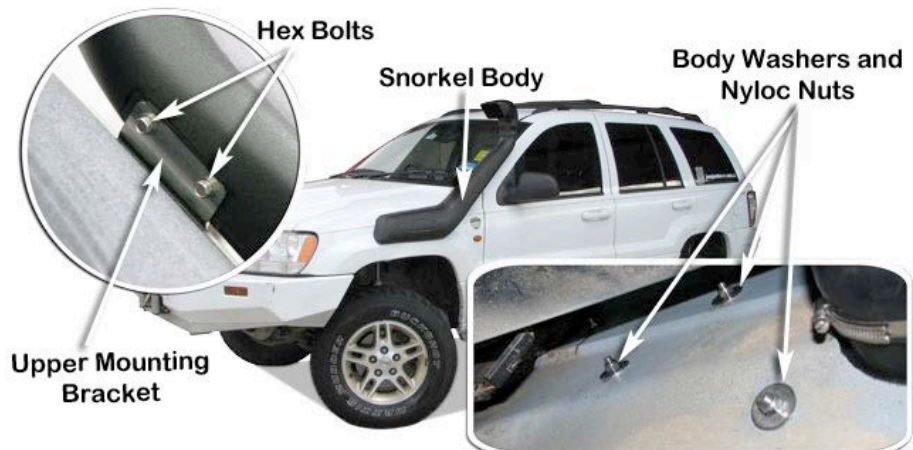


32

Carefully install the snorkel body (item 1) to the guard panel, guiding the snorkel body outlet snout into the snorkel outlet hose (item 9), 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 7) and nyloc nuts (item 8).

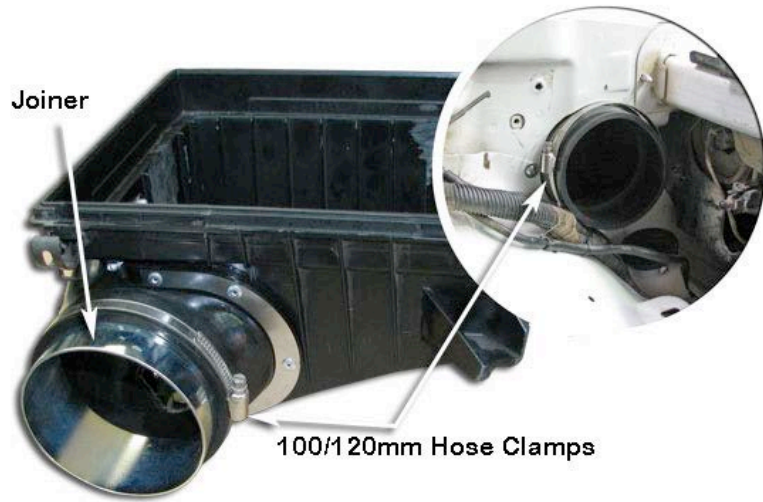
Fasten the snorkel body to the upper mounting bracket with hex bolts (item 4).



33

Install the joiner (item 11) 20mm into the air entry hose (item 13), secure with 100/120mm hose clamp (item 12).

Loosely install a 100/120mm hose clamp (item 12) over the snorkel outlet hose (item 9) as shown.



34

Install the air cleaner housing into position guiding the joiner into the snorkel outlet hose (item 9), with the air cleaner base correctly positioned fasten with the standard mounting hardware.

Align the snorkel outlet hose correctly onto the joiner and secure the 100/120mm hose clamp (item 12).

Snorkel Outlet Hose



35

Align the snorkel outlet hose (item 9) correctly onto the snorkel body outlet snout, ensure the hose is installed hard up against the shoulder of the outlet snout and tighten the 120/140mm hose clamp (item 10).



36

Install the air cleaner element, air cleaner housing top, side indicator, guard liner and any other components removed during the installation process, top up the washer bottle with washer fluid, install the filler neck cap (item 24) and check washer operation.

37

Install the black hose clamp (item 29) 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 29).



38

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