











RANGER Diesel - 2.2L & 3.2L 2011+



	AMAB3J-9C654-AB	HM16 12330160 000	09/07/2011	1/18
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 <p>GB Warning/Beware</p>	 <p>GB Location/ Position Arrow</p>	 <p>GB Movement Arrow</p>	 <p>GB Connect</p>	 <p>GB Disconnect</p>	 <p>GB Torque wrench</p>
 <p>GB Throw Away</p>	 <p>GB Philips Screwdriver</p>	 <p>GB Use Drill</p>	 <p>GB</p>		



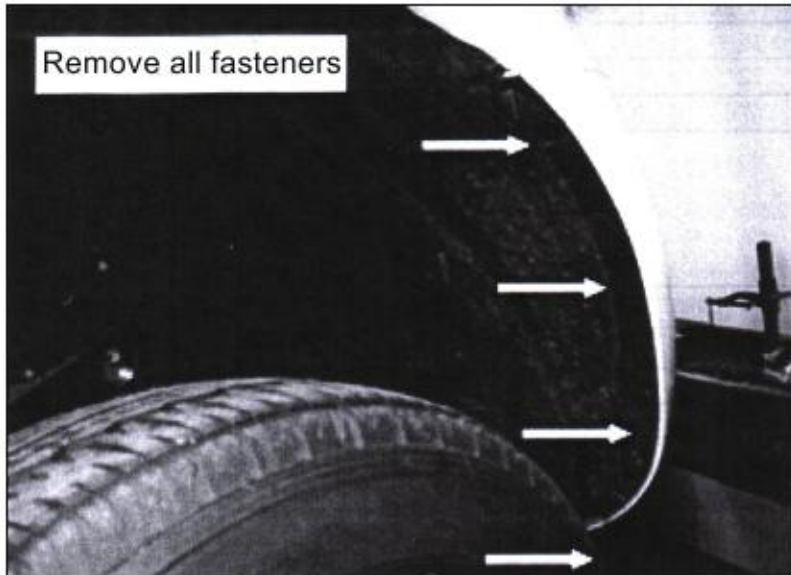
Bolt tensions	Dia.(mm)	Nm	ft.lbs	Dia.(inch)	Nm	ft.lbs
All bolt tensions are as follows unless otherwise specified.	5	5	4	1/4"	9	7
	6	9	7	5/16"	22	15
	8	22	16	3/8"	33	27
	10	44	32	7/16"	55	43
	12	47	57	1/2"	86	66

FITTING KIT		
Description	Qty	Part Number
Snorkel Body Assembly	1	
Upper Intermediate Tube	1	
Lower Intermediate Tube	1	
Airbox Connector	1	
Snorkel Body Retention Bracket	1	
Lower Intermediate Tube Bracket	1	
Upper Intermediate Tube Bracket	1	
Snorkel Pillar Bracket	1	
Snorkel Body Foam Gasket	1	
Hose Clamp	1	
Pillar Bracket Foam Gasket	1	

BOLT KIT		
	Qty	
M8 x 1.25 x 16mm Button Head Socket Screw-Stainless Steel	1	
M8 Washer-Stainless Steel	1	
M8 Spring Washer-Stainless Steel	1	
M8 x 1.25 x 30mm Stud	3	
M8 Washer - Zinc	7	
M8 Spring Washer - Zinc	6	
M8 Nut - Zinc	4	
M8 x 1.25 x 12mm Hex Bolt - Zinc	2	
M8 x 1.25 x 25mm Hex Bolt - Zinc	1	
M6 x 1 x 16mm Bolt - Zinc	1	
M6 Spring Washer - Zinc	1	
M6 Washer - Zinc	1	
M6 x 1 x 20mm Button Head Socket Screw-Stainless Steel	2	
Rivet - Aluminium	2	
M6 Spring Washer-Stainless Steel	2	
M6 Washer-Stainless Steel	2	
M6 Dome Nut	2	
M4 x 0.7 x 8mm Countersunk Capscrew	3	
1/4 x 1" Washer-Zinc	2	
8g x 5/8 Countersunk Screw-Stainless Steel-Black	4	
3M Clear Protective Tape	1	
Rust Preventative Sachet	1	

1

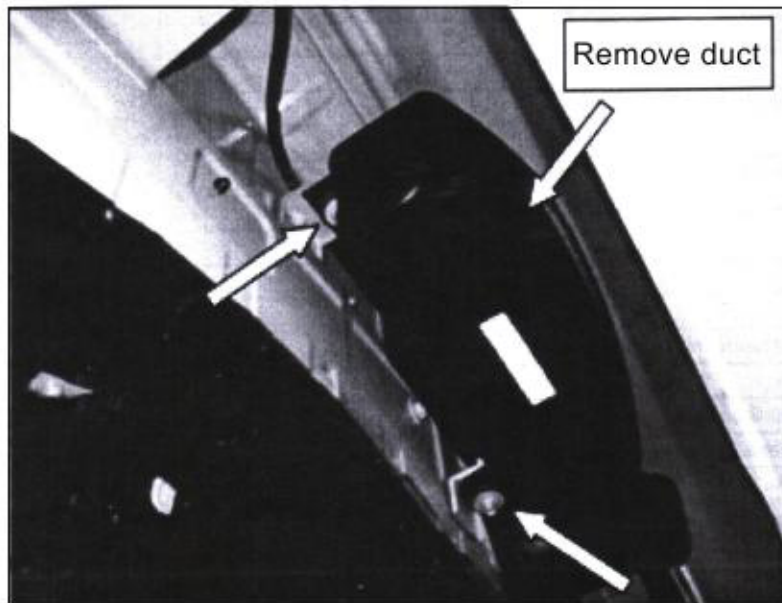
Read instructions fully before commencing fitment.



1. Jack up the front of vehicle, and secure with stands. Remove the right hand side front wheel for access to inner guard area.

2. Remove right hand front mudflap and wheel arch liner, and retain all fasteners for re-use. (if equipped, refer to workshop manual)

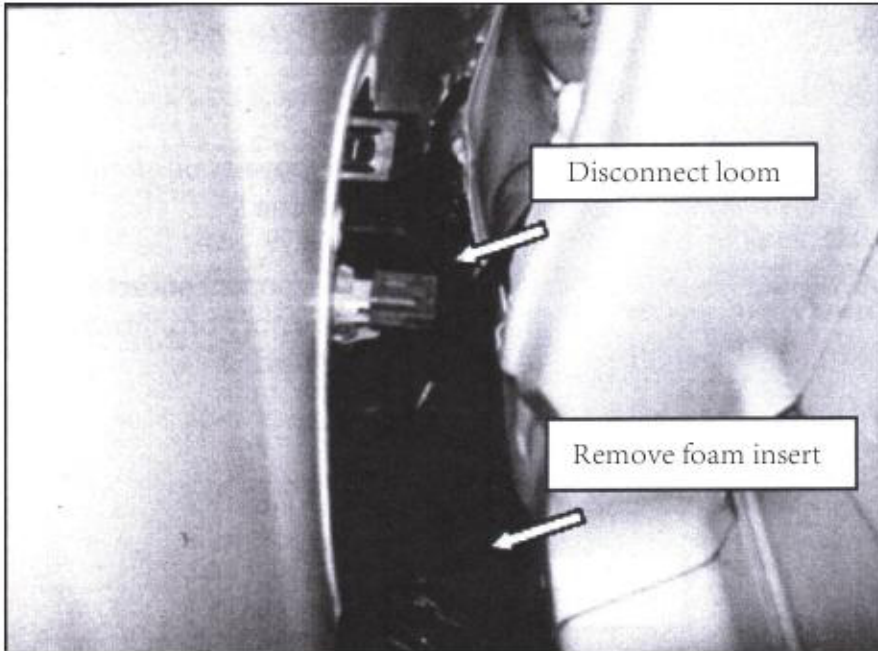
2



3. Remove fitted dirty air duct from within inner guard of vehicle, and discard duct and two bolts.

Note: Diesel vehicle has different duct from one pictured.

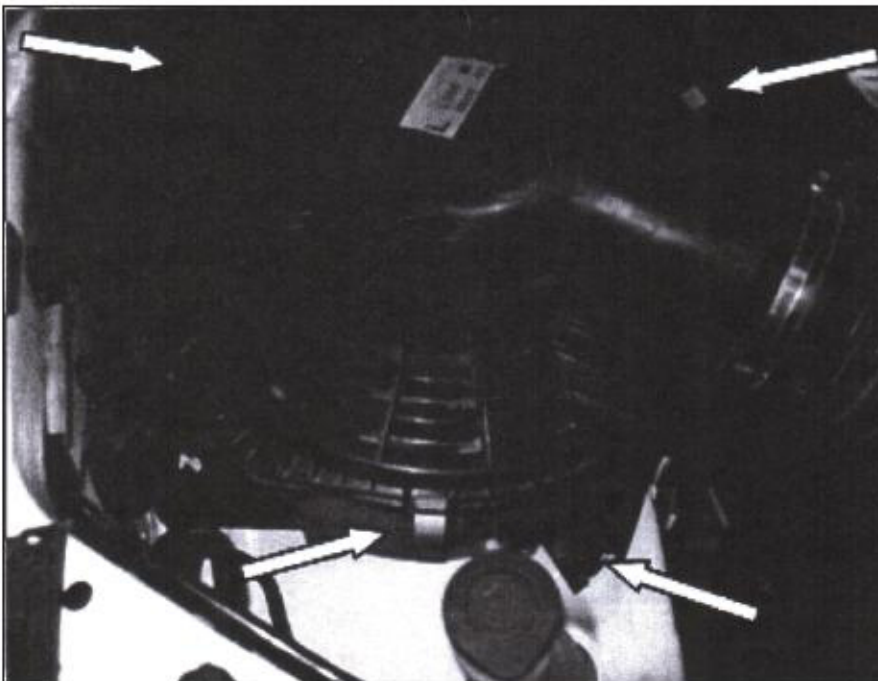
3



4. Remove the foam fender stuffer insert from inside rear of guard, and retain for refitting.

Disconnect indicator wiring loom if side indicator fitted to vehicle

4



5. Unclip airbox lid and move out of way. If necessary, loosen hose clamp and disconnect airbox lid from intake hose.

Remove two bolts holding airbox to engine bay, and retain bolts for refitting.

Remove airbox filter element.

5



GB Disconnect



GB Torque wrench



6. Remove airbox from vehicle

Disconnect socket adaptor from airbox and discard.

6

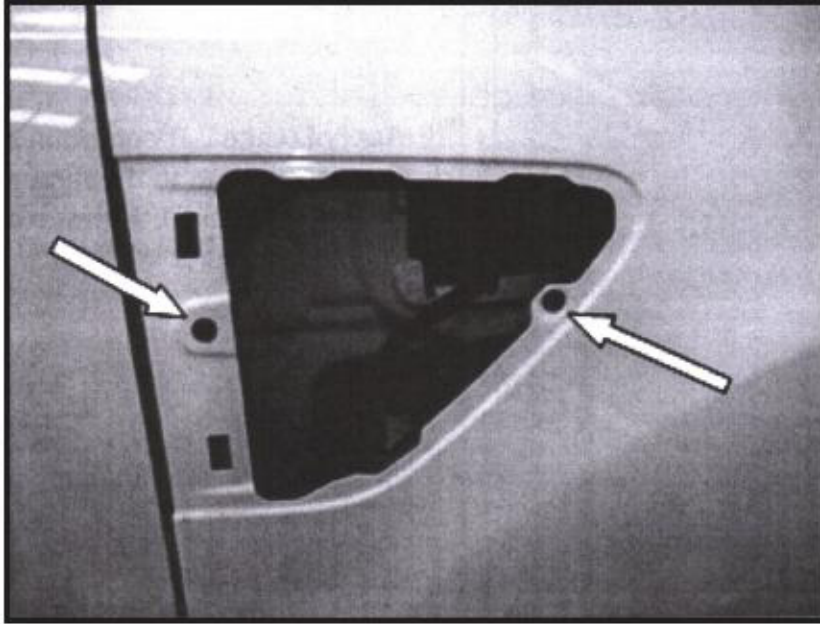


7. Detach and remove fender grill insert from vehicle. Compress clips on inside of fender to remove grill insert.

If fitted, remove indicator insert from fender grill insert, and retain for fitting into snorkel body.

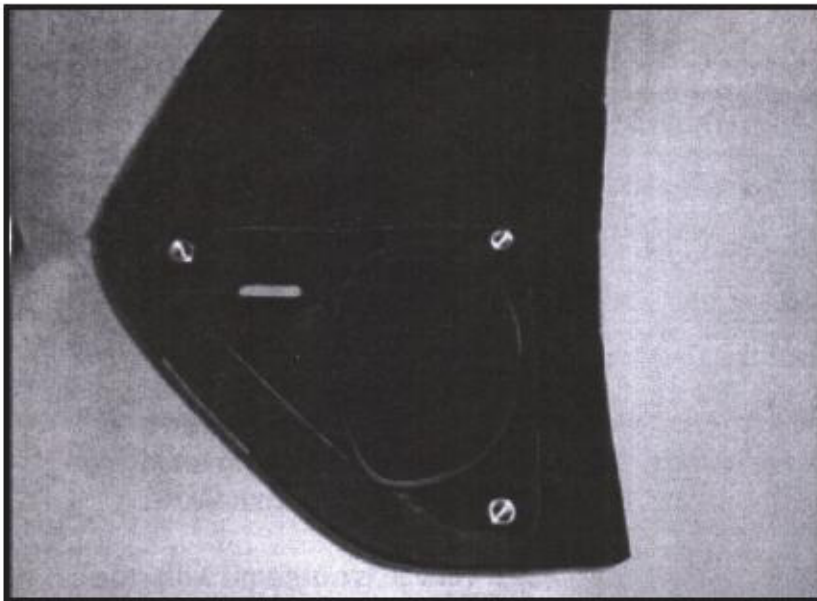


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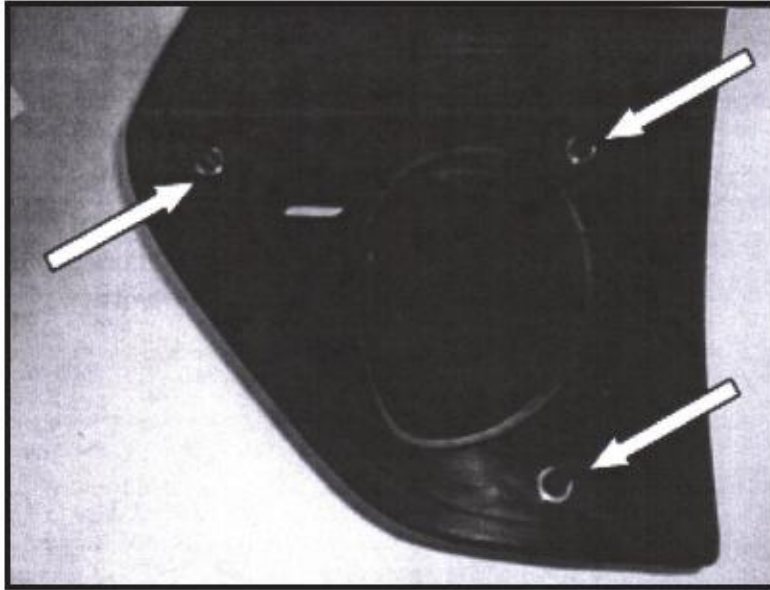
8. Fit snorkel retention bracket (92294) to inside of guard and secure using two supplied rivets.

8



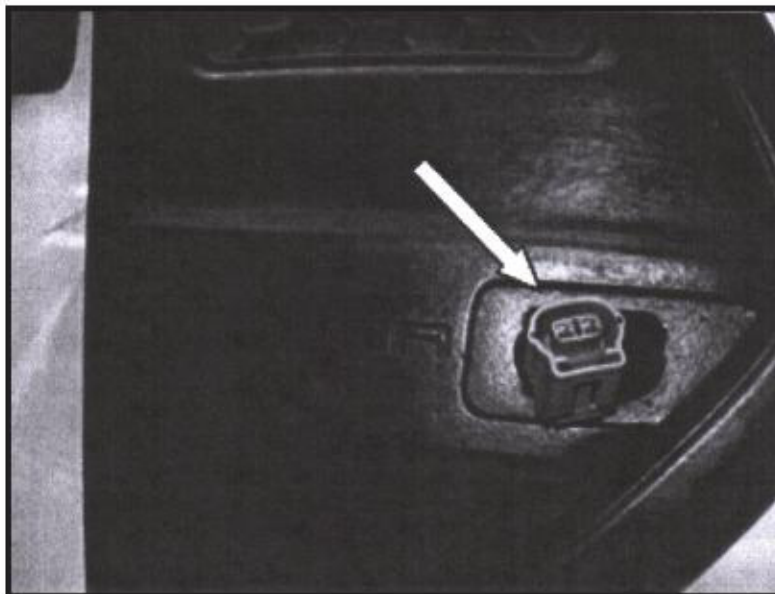
9. Remove backing from snorkel foam gasket and fit to back side of snorkel body moulding.

9



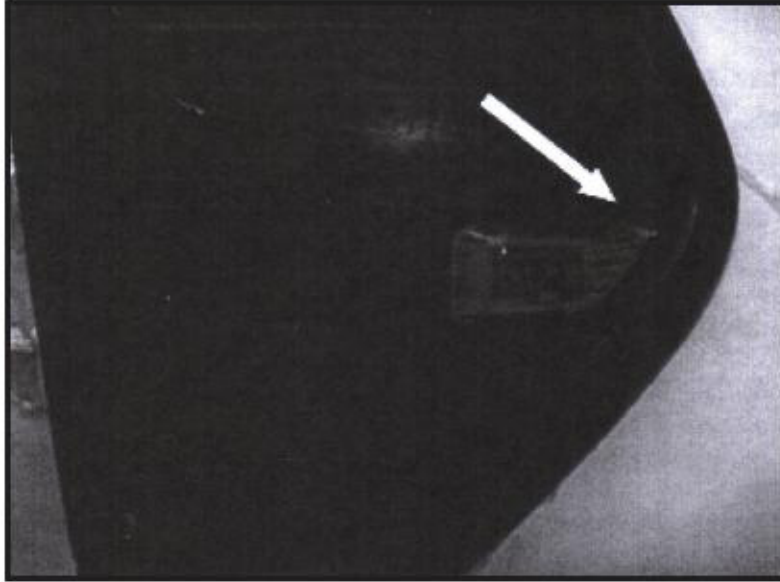
10. Apply Loctite 271 compound or an equivalent to the three M8 studs supplied, then secure the studs in the snorkel body.

10



11. Place snorkel body up against side of fender, and secure in position on inside of fender using supplied M8 washers, M8 spring washers, and M8 nuts.

11



13. For vehicles fitted with standard roof trim, leave up roof ditch moulding, and expose first 200mm of roof ditch.

12



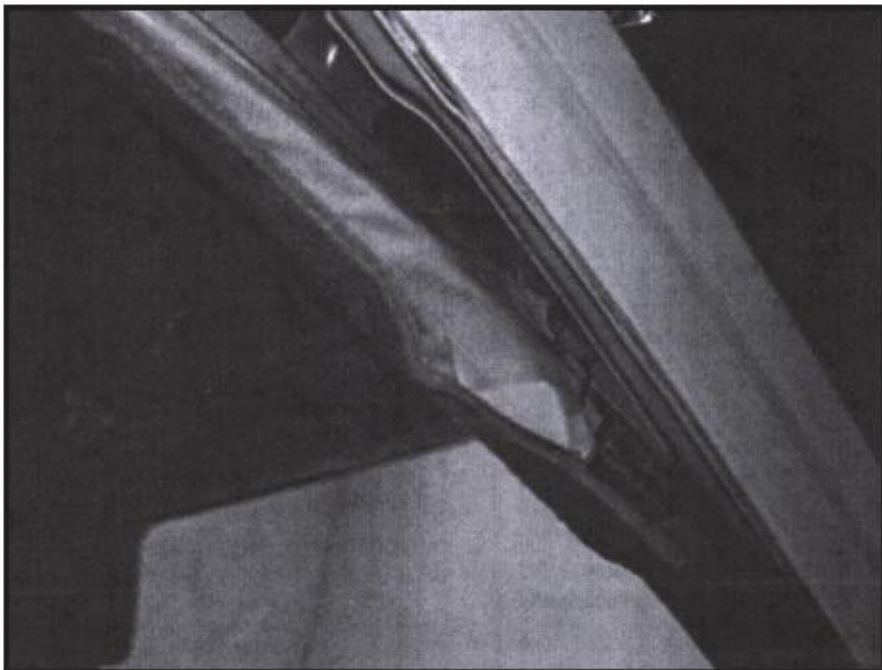
Attach roof pillar bracket (92318) to snorkel head using supplied stainless steel M8 pan head stainless steel bolt, M8 stainless steel washer and M8 stainless steel spring washer. Attach supplied tape on gutter ditch edge to prevent bracket rubbing on paintwork.

13



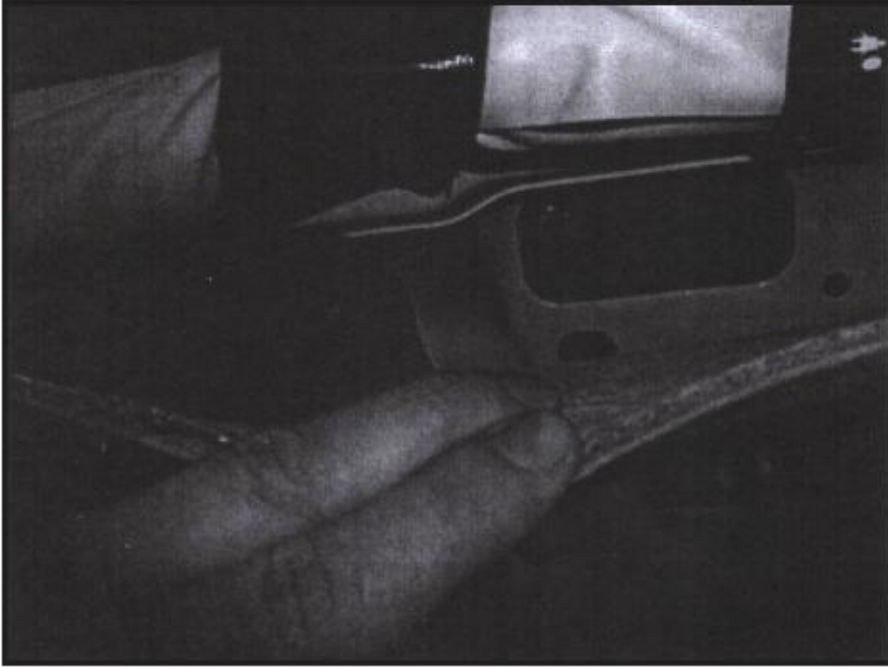
14. Partially remove rubber door seal to allow access to roof lining.

14



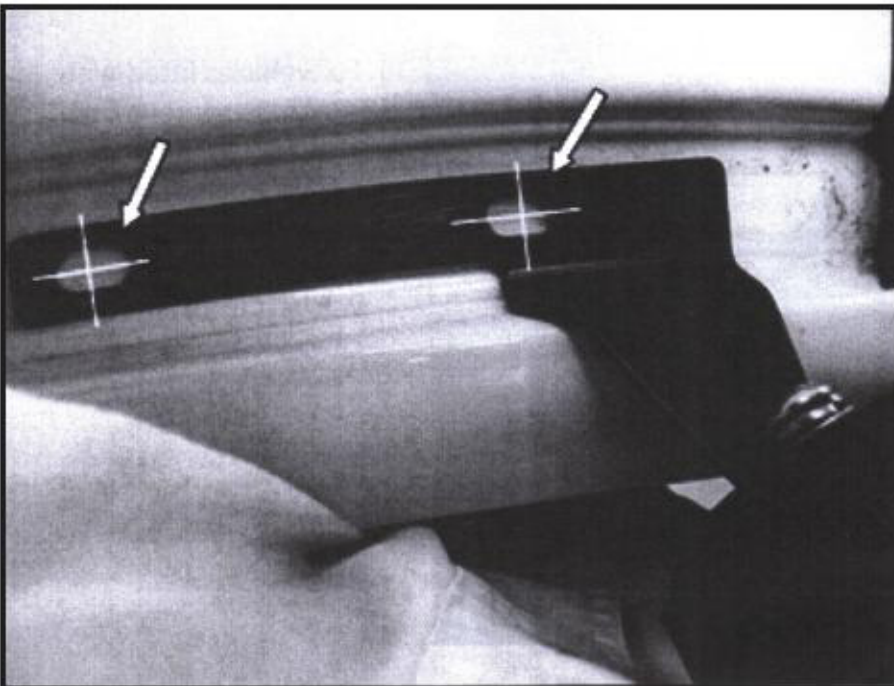
15. Carefully lower roof lining to expose side curtain airbag.

15



16. Carefully roll up, and tape side curtain bag clear of roof cavity.

16

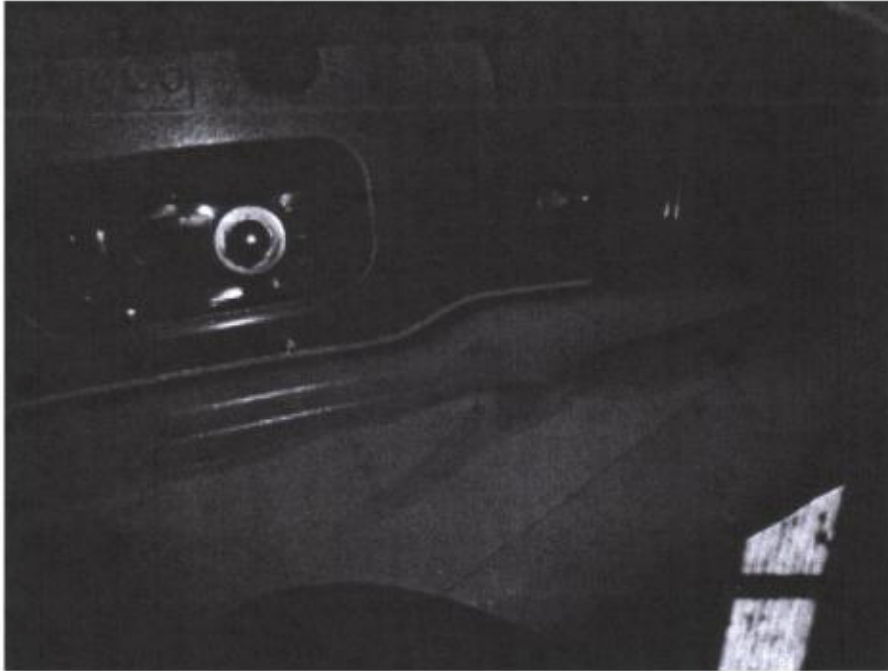


17. Ensure snorkel body is seated against fender correctly, then mark centres of two holes in bracket.

Remove bracket, then using a depth stop (to avoid damage to side curtain airbag), drill two holes in roof gutter to diameter 6.5mm through roof skin. Deburr holes, and remove all swarf from airbag and roof lining area.

Treat exposed surface with supplied rust prexentative.

17

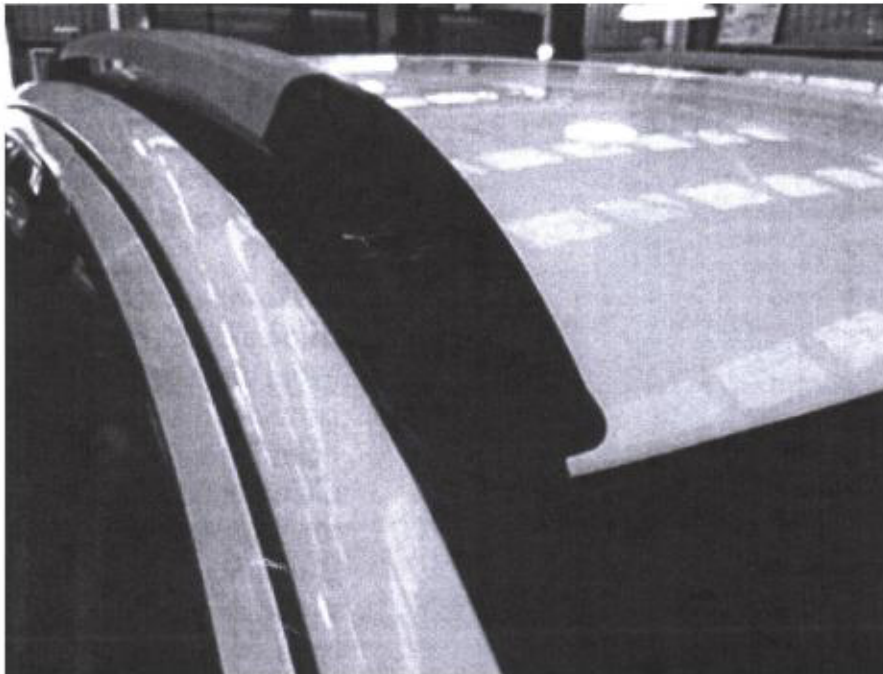


18. Using 2-off M6 x 20mm button head stainless steel screws and stainless steel washers, refit bracket to gutter ditch with foam gasket (92410) underneath bracket, and supplied tape attached on gutter ditch edge to prevent rubbing.

Secure inside roof with 2-off M6 dome nuts, M6 spring washers and M6 washers. Lightly tighten at this stage only.

NOTE: DOME NUTS ONLY TO BE USED, TO AVOID AIRBAG PUNCTURING IF ACTIVATED.

18



19. For vehicles fitted with roof bars, remove door seal, roof lining and airbag ad per steps 14,15 and 16. Undo and remove dome nuts and washers from roof lining cavity.

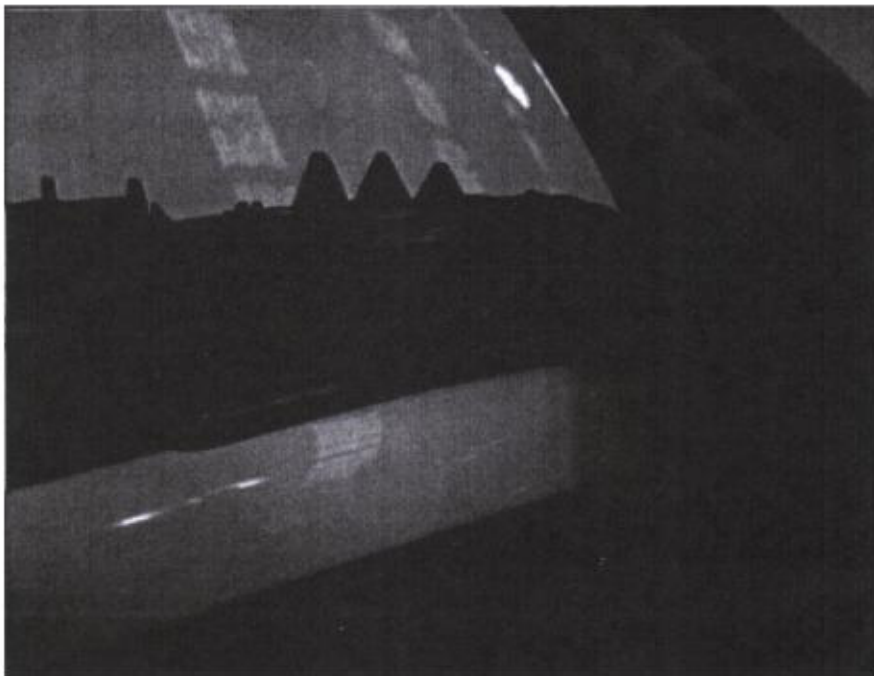
19



20. Attached roof pillar bracket to snorkel and check allignment to existing holes. Slot holes if necessary, then deburr and treat surface with supplied rust preventative.

Fit gasket beneath bracket, and fit supplied tape on gutter edge to prevent rubbing.

20



21. Refit roof bars, and check clearance with roof bracket.

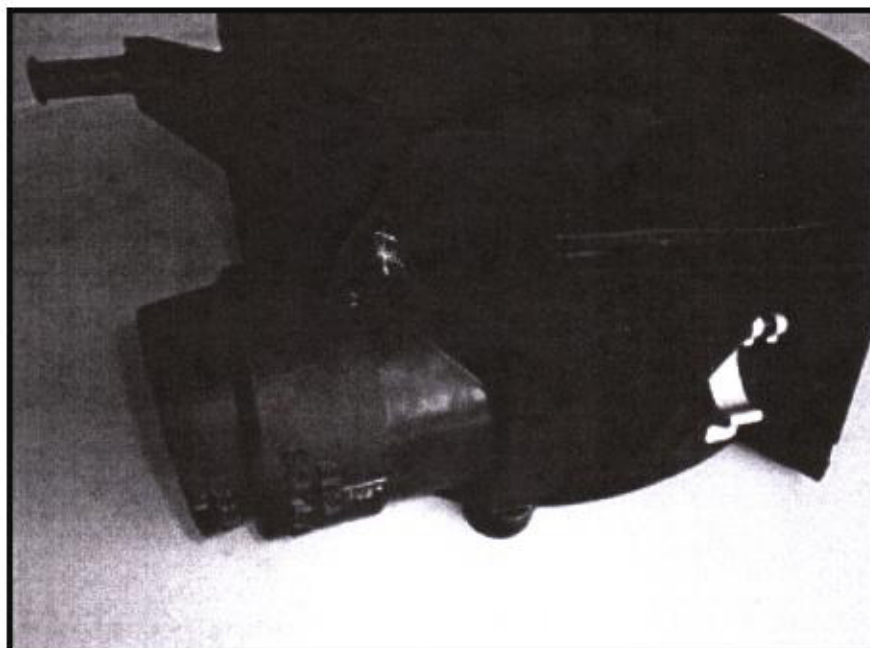
Trim rubber boot on roof bars to provide clearance with bracket, then lightly tighten dome nuts inside roof cavity.

21



22. Fit bracket(92295) to lower intermediate tube using M8 x 12mm bolt, washer and spring washer, and lightly tighten. Attach supplied hose clamp.

22



23. Fit new airbox adaptor (92292) as shown, and fully seal both joint surfaces with sikaflex or suitable neutral cure silicon sealant.

Refit airbox assembly back into engine bay, and lightly tighten bolts.

23



24. Fit lower intermediate tube into position under guard. Using supplied M6 bolt, M6 washer, and M6 spring washer, lightly tighten bolt to hold in position.

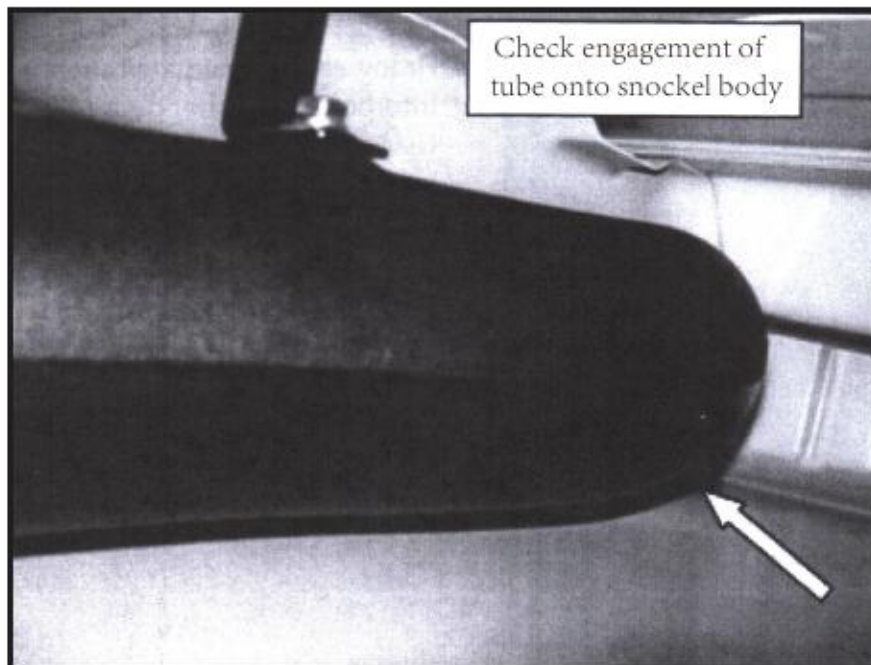
24



25. Fit upper intermediate tube into inner guard, and engage onto lower intermediate tube socket, then fit upper intermediate tube onto snorkel body socket. Hold intermediate tubes in correct positions, and mark centre of hole in inner guard panel for upper intermediate tube bracket.

Remove both intermediate tubes from guard and drill marked hole to diameter 9mm. Deburr sharp edges and treat surface with supplied rust preventative.

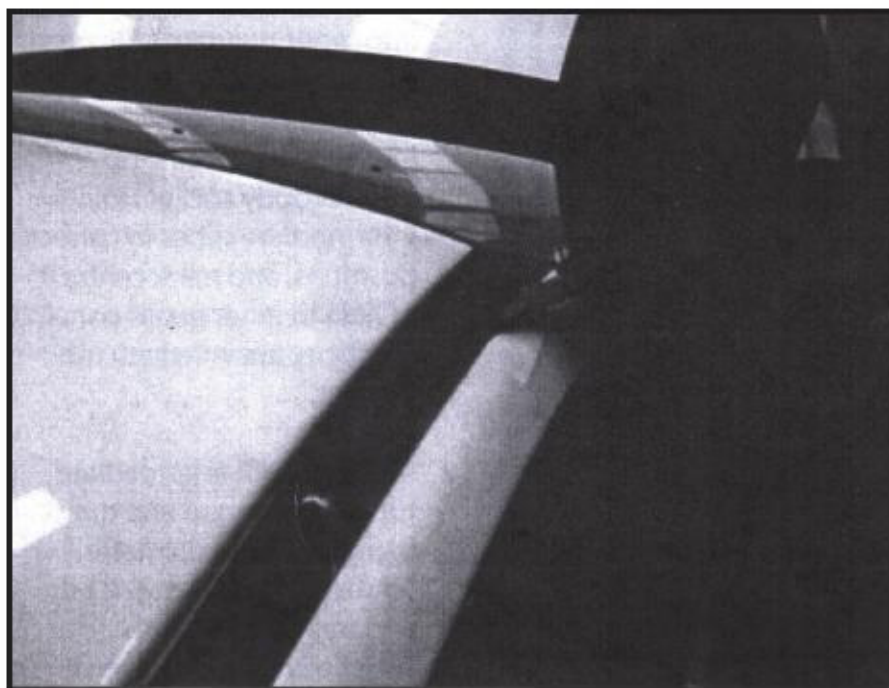
25



26. Refit both intermediate tubes back into inner guard, and attach upper intermediate tube bracket to inner guard panel using supplied M8 x 25mm bolt, M8 washers, and M8 spring washers, and refit lower intermediate tube bracket into position. Check all clearances and adjust brackets if necessary.

Remove intermediate tubes from inner guard area, and fully tighten M8 nuts securing snorkel body to fender. (bolts on intermediate tubes may be undone, and brackets left in position inside guard if installer prefers)

26

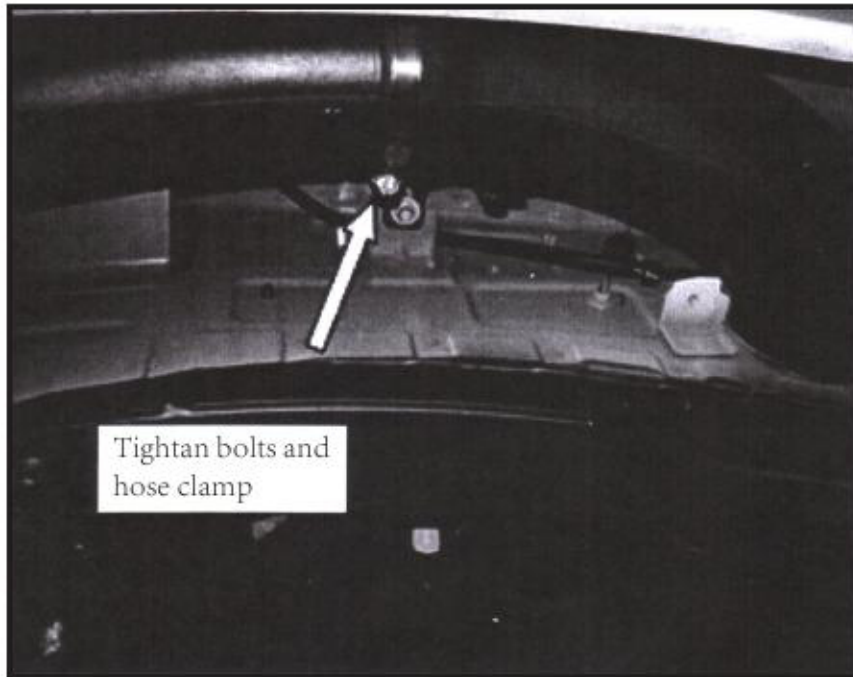


27. Fully tighten dome nuts inside roof lining to secure bracket in roof gutter ditch.

Trim a recess in underside of roof ditch moulding to provide clearance for bolt heads on bracket, and refit roof ditch moulding to gutter.

Carefully place airbag back into roof lining cavity and refit roof lining and door seal.

27



28. Apply liberal amount of sikaflex or similar neutral cure sealant to both internal and external mating surfaces for three connection points, including snorkel body outlet socket. Ensure sufficient coverage for water tightness.

Refit intermediate tubes to inner guard and hold in position. Fully tighten all bracket bolts and hose clamp on intermediate tube. Clean off any excess sealant from joints.

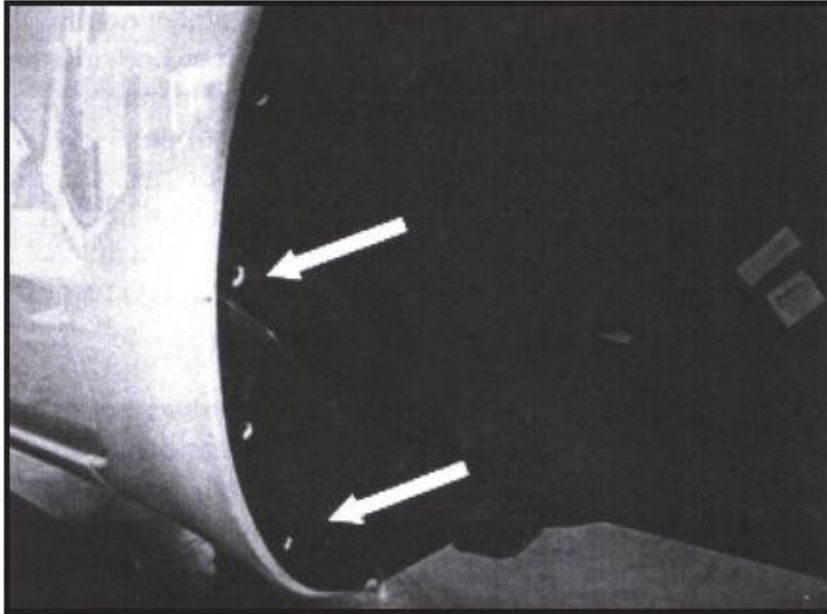
Fully tighten bolts on airbox.

28



29. Refit filter element and airbox cover back onto airbox and tighten hose clamp.
30. Refit foam fender stuffer back into rear of inner guard.

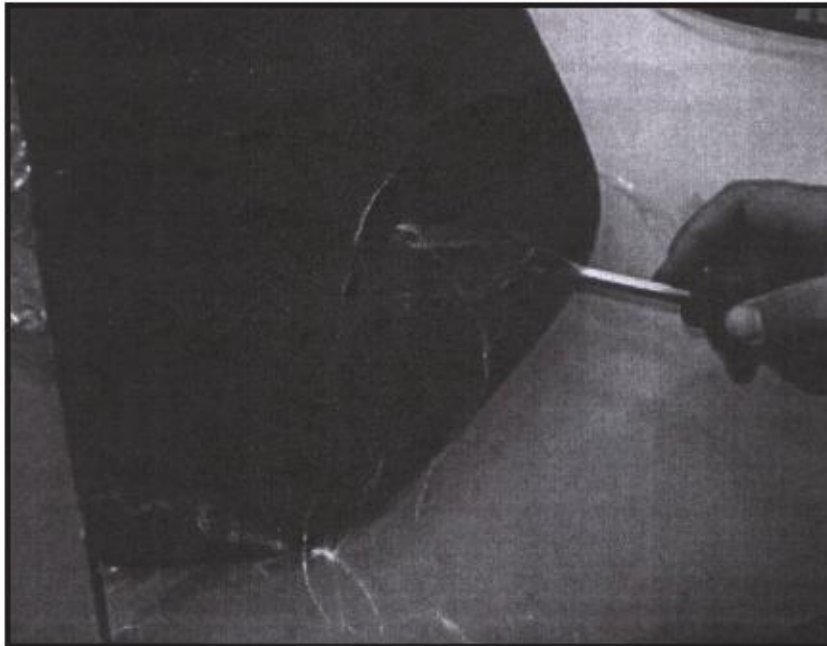
29



31. Refit wheel arch liner and mudflap back onto vehicle with original fittings.

32. Refit front wheel back on vehicle.

30



33. For vehicles fitted with side indicator, replacement of bulb will result in whole indicator assembly needing replacement.

Leaver front of indicator away from snorkel body using interior trim removal tool or similar, and carefully remove indicator assembly out of snorkel body.

Disconnect wiring loom and fit new indicator assembly. Clip indicator assembly back into position pushing front of indicator in first.