



FITTING INSTRUCTIONS

Product: TJM Airtec Snorkel (Long Body)

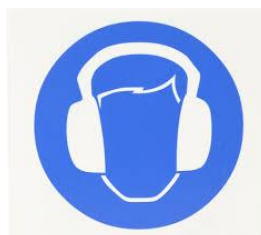
Vehicle: Ford - Ranger Raptor 2018 Onward

Part No. 011SAT0121X 011SATW0121X

- Before commencing installation of this product – Please read the instructions carefully, ensure that the air box configuration is the same as shown in the images of these instructions
- Check all listed components are supplied in the kit.
- Estimated Fitting Time:- Approximately 3 to 4 hours
- Left hand and Right-hand components are determined as seated in the vehicle looking forward.
- Always place the product on a flat level bench or surface, cover with a soft cloth or blanket to prevent damage to parts prior to installation.
- When removing protective coatings, ensure all new edges are deburred, clean any swarf from the area and apply rust preventative product to exposed painted surfaces where applicable.
- To provide adequate sealing of the snorkel system all joints and openings must be sealed using neutral cure silicone.

IMPORTANT :- If the vehicle has a one way drain valve - Do Not seal it - As water entering through the snorkel head needs to drain. TJM recommend frequent inspections of the valve to confirm the air box is not retaining water - Especially after water crossings.

- The fitment of this TJM product does not nullify the OE manufacturer's operating guidelines and/or warnings. Ensure you are familiar with and adhere to the usage instructions specified by the manufacturer in the owner's manual or other official documentation.
- Tools Needed for Installation: - Metric Socket & Spanner Set, Screw Driver Set, Electric Drill, Metric Drill set , Ø 95 Hole Saw , Trim Removal tool and a Tube of Black Neutral cure silicone and a tube of Loctite or similar.
- Safety glasses hearing protection and gloves should be used / worn when performing relevant Tasks during this installation



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| 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 | 77 | 57 | 1/2" | 86 | 66 |
| | 14 | 121 | 90 | - | - | - |

| PARTS LIST | | |
|--|-----|--------------|
| DESCRIPTION | QTY | PART No. |
| Snorkel Body | 1 | 011MB00121X |
| Intermediate Tube | 1 | 011IP000121X |
| Intermediate Tube Bracket | 1 | F-1577 |
| Door ("A") Pillar Bracket | 1 | F-30596 |
| Hose Clamp - (Black) attached to Wedge Tail Top Or Air Ram | 1 | HC052B |
| Hose Clamp – (S/S) attached To Intermediate Pipe | 1 | HC052 |
| Fitting Instructions | 1 | F-29883 |
| Paper Template – Outer Guard | 1 | F-29883-T |
| Foam Gasket | 1 | F-30080 |
| Airbox Pipe / Connector | 1 | 011AC00120A |

| BOLT KIT | |
|---|-----|
| DESCRIPTION | QTY |
| M6 x 1.0 x 16mm Hex Head Bolt | 1 |
| M6 Spring Washer | 1 |
| M6 Flat Washer | 1 |
| M8 x 1.25 x 16mm Hex Head Bolt | 3 |
| M8 Spring Washer | 3 |
| M8 Flat Washer | 3 |
| M8 x 16mm Button Head Socket Screw (Black) | 1 |
| M8 Spring Washer (Black) | 1 |
| M8 x Ø17mm Flat Washer (Black) | 1 |
| M8 x 1.25 x 30 Stainless Steel Studs | 6 |
| M8 x large Mudguard Washer | 6 |
| M8 Nyloc Nut | 6 |
| Nylon Plugs ("A" Pillar) | 2 |
| 3/4" x 8G Stainless Steel PK Self tap Screw | 2 |

| 011SAT0121X ONLY | | |
|------------------|---|-------------|
| Air Ram Top | 1 | 011AR14B97T |

| 011SATW0121X ONLY | | |
|-------------------|---|-------------|
| Wedgetail Top | 1 | 011AIRWT450 |

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1. Position the vehicle on a hoist (where possible) for access to inner guard area.
A Flat Level Concrete surface is also suitable if a Hoist is not available.



2. Jack up the front of vehicle and remove the Right-hand side front wheel for access to the Mud Flap and Wheel arch (inner fender liner).
3. Remove the Mud Flap from the vehicle – Mud flap is held on with 8 clips and 1 bolt located on the underside.

Remove the Visible clips holding the wheel arch liner (Inner Fender) From the Vehicle where possible (Some are Hidden under the Fender Flare) - Retain all of fasteners for re-use.



4. With the wheel arch liner (Inner Fender) clips Removed from the Vehicle – Access to the fender Flare clips is accessible.
5. Squeezing the Fender flare clips from behind to remove and pop the flare free from the Fender - working from the door forward. The last clip stays on the vehicle, and does not need to be removed, slide the Flare forward to totally remove it. Access to the Remaining wheel arch liner (Inner Fender) Clips is now possible.

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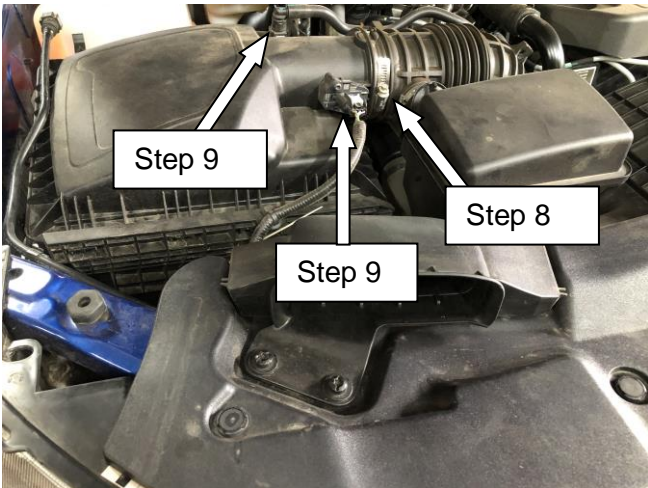
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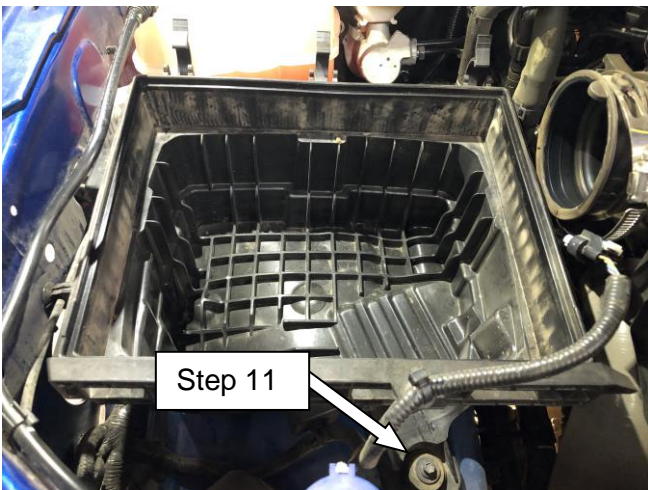
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6. Remove the forward-facing air intake from the vehicle by removing the front two bolts and uncoupling it from the air box.
7. Discard the air intake as it is no longer required. Reinstall the bolts into the existing threaded holes.



8. Loosen the hose clamp securing intake hose to the airbox lid and disconnect. Cover the intake hose with a plastic bag or similar so no foreign matter can enter the engine.
9. Disconnect / unplug the Oxy Sensor and additional sensor fittings from the airbox lid. Place out of the way as the air box needs to be fully Removed.
10. Unclip the clamps on the Front and rear of the airbox to remove the airbox lid and remove the air filter.



11. Remove two bolts securing the airbox base to vehicle and retain for refitting – bolts are located at the front and rear of the airbox base.
12. Totally Remove the airbox base from the vehicle

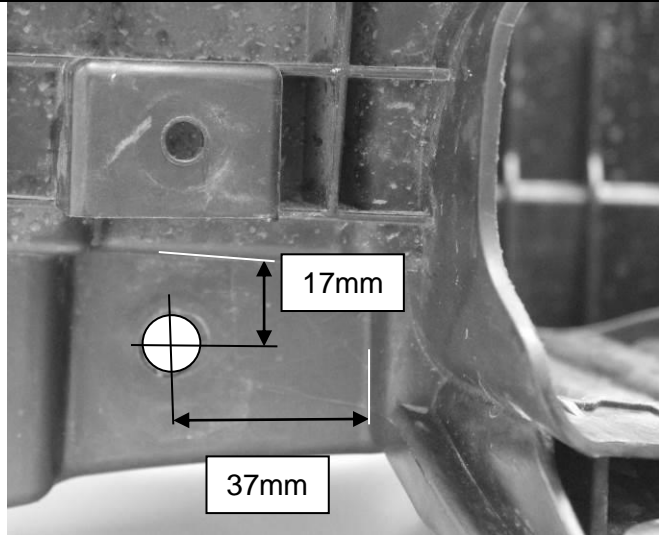
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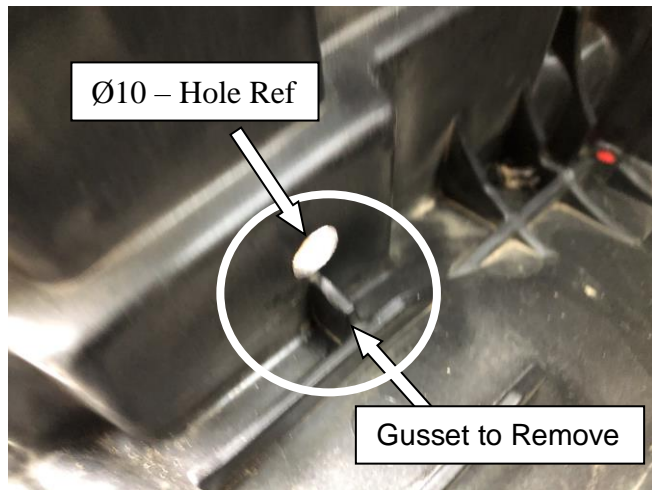
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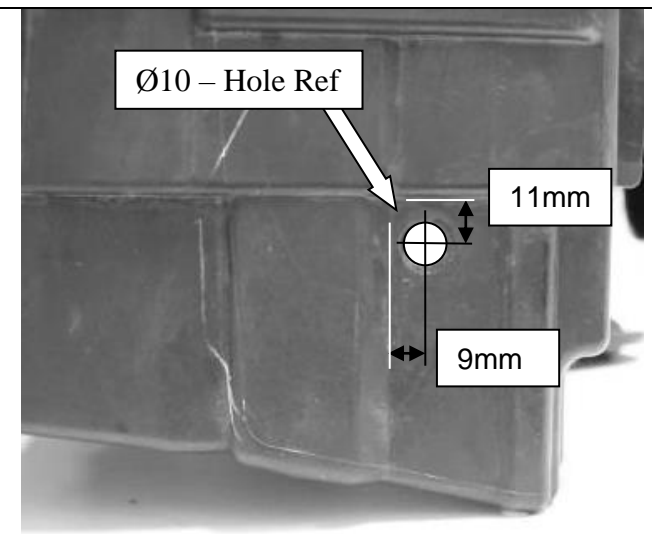


13. With the airbox base totally removed from the vehicle, a new mounting hole is required for the inlet pipe. Mark the Position of the hole on the front face (Below the existing hole) as shown.

14. Drill a $\text{\O}10\text{mm}$ hole in the airbox next to the inlet using the dimensions shown (measurements taken from the centerline of the hole)



15. Trim the plastic gusset on the inside of the airbox around the $\text{\O}10\text{mm}$ hole to allow the flat washer to sit flat on the surface & fit correctly.



16. Another new mounting hole is also required On the driver side of the airbox, Mark out as shown. Drill a $\text{\O}10\text{mm}$ hole in the position shown

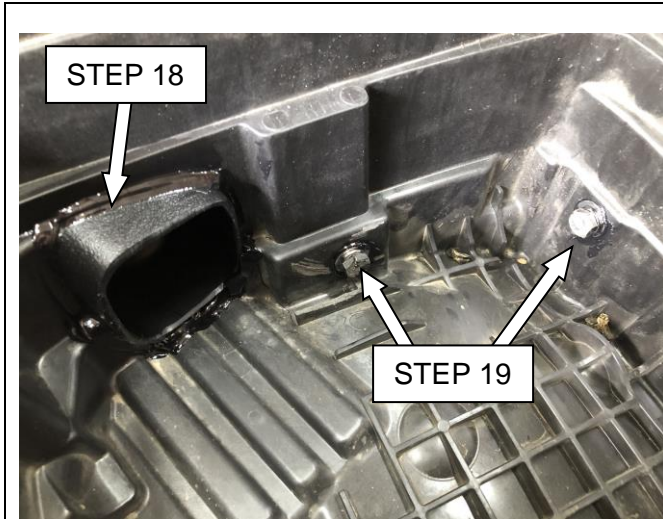
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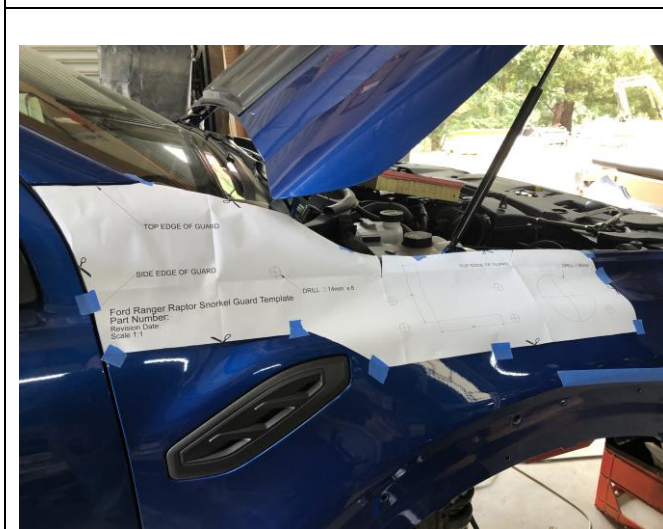
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17. Fit the inlet pipe to the airbox base – ensure the new Ø10mm holes line up.
18. Apply a bead of neutral cure silicone to the inlet pipe inside the airbox to totally seal the inlet pipe to the airbox.
19. Bolt the inlet pipe to the airbox (through the new Ø10mm holes) using the M8 x 1.25 x 16mm bolts, M8 flat washers & M8 spring washers supplied.



20. To fit the snorkel, the plastic plug located in the engine bay needs to be removed. (Located on the Driver's side – As shown) this part is not Required.



21. Cut out the paper guard / Fender template supplied in the fitting kit. Confirm template number is F-29883-T
22. Fit the template to guard / fender and align to the top and side edges as shown. Mark the centre of the Holes and drill holes as described on the template 6 places using a Ø14 mm Drill bit.

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23. Using a hole saw, Drill / cut a diameter 95mm hole for the snorkel body outlet tube. Deburr all sharp edges on all holes and apply suitable rust preventative to exposed edges if applicable.
24. Remove the paper Template and clean the guard / Fender ready for the fitment of the snorkel body shortly.

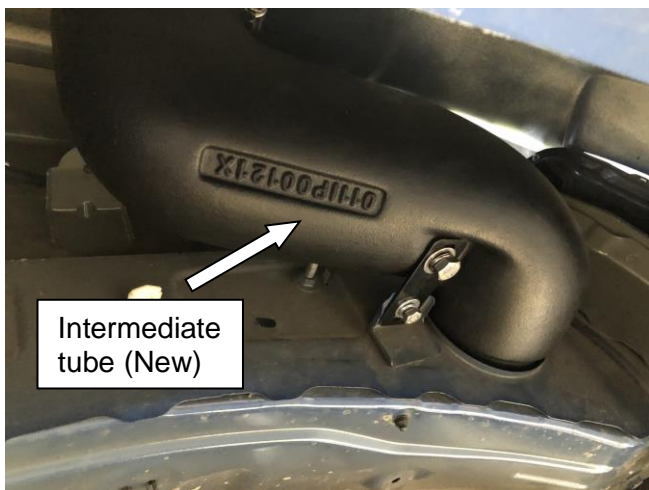


New Air box Assembly

Ensure all fittings are secure



25. Refit the new (lower) airbox assembly back into the vehicle. Tighten the two retaining bolts and refit the filter and lid refer to step 11.
26. Re connect the intake Hose, Re secure the clamp to fix the hose to the airbox lid, As Covered in step 8.
27. Re connect both the Oxy Sensor and additional sensor fittings to the airbox lid.
28. Fasten the Clips / clamps on the Front and rear of the airbox, ensure all fittings are secure and Lid is on correctly.



29. Position the Intermediate tube through the fender hole as shown. (refer to step 20) Fit the hose clamp HC052 between the intermediate tube and the inlet pipe connection. Apply a bead of neutral cure silicone to the end of the inlet pipe Securing & sealing the two parts together.

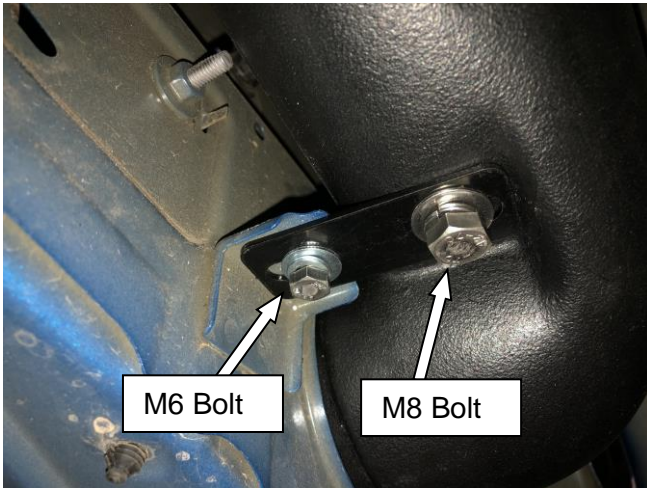
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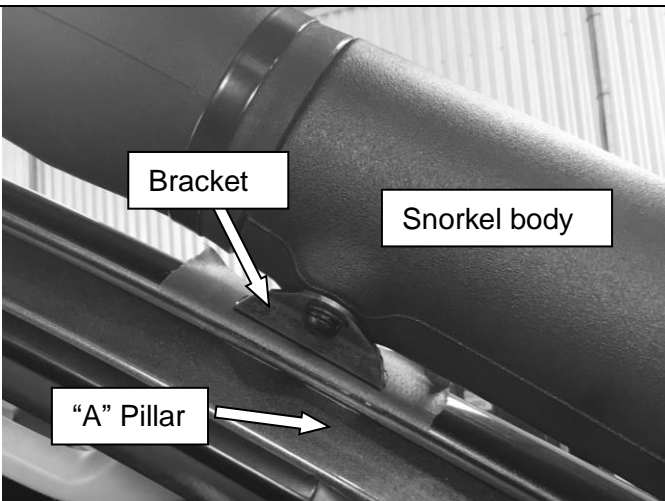
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30. With the intermediate tube into position using the flat bracket supplied - attach the bracket to vehicle using M6 x 1.0 x 16mm bolt, M6 spring washer & M6 flat washer on the Engine bay side.
31. For the Bracket to pipe use the M8 x 1.25 x 16mm bolt, M8 spring washer & M8 flat washer – as Shown. Lightly tighten at this stage.



32. Apply tape to the vehicle "A" pillar area to avoid scratching the paint.
33. Secure the snorkel body to the vehicle. Screw the M8 studs (6 Places) into the snorkel body using loctite or similar compound.
34. Temporarily place snorkel body onto the vehicle and lightly tighten using M8 mudguard washers & M8 x 1.25 nyloc nuts. Check the clearances between the snorkel body, intermediate tube and airbox base, trim any of the mouldings or slot holes if necessary, to obtain a good fit.



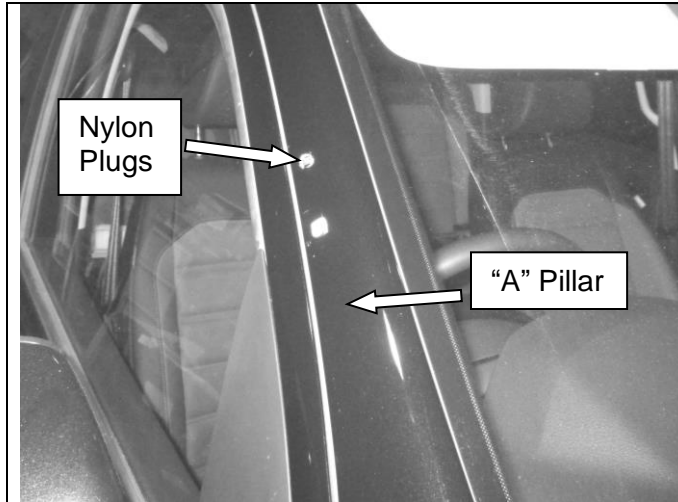
35. Attach the door pillar bracket to snorkel using the supplied black M8 x 1.25 x 16mm button head screw, M8 spring washer & M8 flat washer.
36. Using the door pillar bracket as a template, mark the two-hole positions on the A pillar.
37. Remove the snorkel body and pillar bracket from vehicle.

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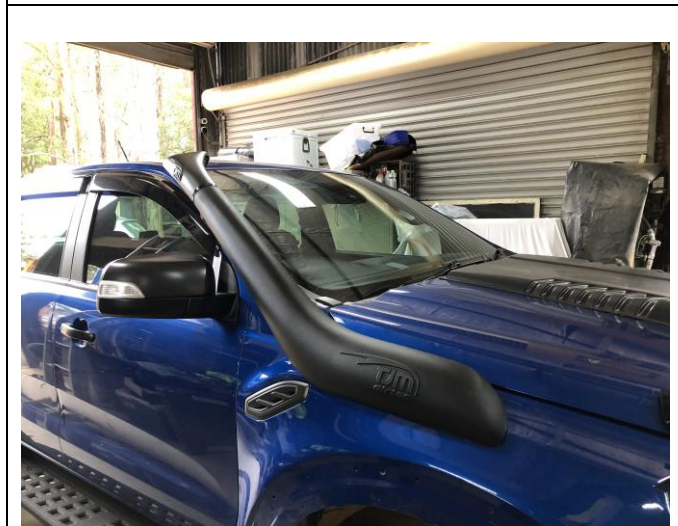
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38. Centre punch the two holes as marked. **Caution when Drilling** – Do not Drill too far into the "A" pillar (May Contain Wiring etc) Drill a 4mm pilot hole through the outer skin of the "A" pillar. Drill the skin of both holes out to 8mm.

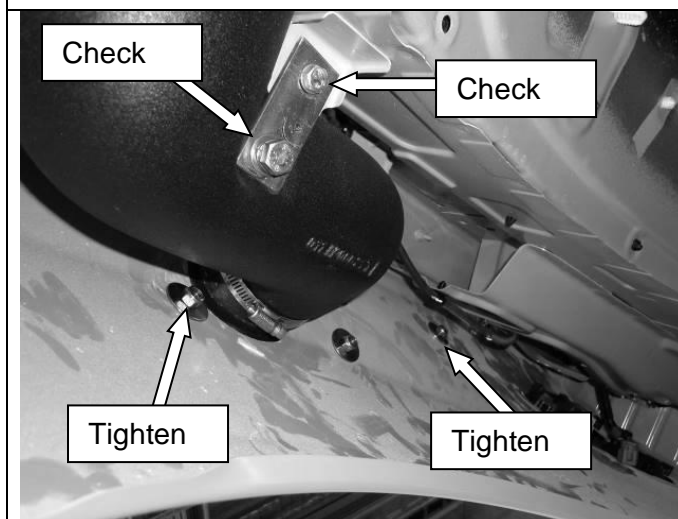
39. Remove the protective tape from the A pillar. Deburr all holes, clean any swarf from the areas and apply rust preventative to exposed surfaces & edges.

40. Carefully apply silicone to the 8mm holes and insert the nylon plugs as shown.



41. Apply a liberal coating / Bead of neutral cure silicone to the snorkel body outlet and Intermediate pipe connection, fit the hose clamp to join the two parts together.

42. Refit the snorkel body onto vehicle. Check all the connection points on snorkel body, intermediate tube and airbox base, Tighten & check all clamps, wipe off any excess sealant.



43. Fully tighten all nuts on snorkel body and the two bolts on intermediate tube bracket and bolt on pillar bracket.

Tighten hose clamp around intermediate tube entry point.

Check clearance between intermediate tube and inner guard panel

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- 44. Refit the Inner guard / fender liner, Fender Flare and mud flap as described in steps 3, 4 and 5 above using original clips and fittings.
- 45. Check all Nuts and Bolts on snorkel body and intermediate tube are tightened to specified torques as shown on page 2. **Important:-** Ensure all plastic joints are water tight and fully sealed.
- 46. Refit the front Right-hand wheel to vehicle if removed for snorkel fitting at step 1.



Wedge Tail Top Shown



Fit either the Wedge tail or Ram air Top using the hose clamp supplied in the fitting kit. Torque up the clamp to the value shown on Page 2 of these instructions.



RamAir Top Shown



Vehicle shown with Ram Air Top Fitted.



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TJM Airtec Snorkel shown with Wedge tail top fitted to Vehicle.



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