



Installation Instructions

615208

2018-20 JEEP WRANGLER JL 2.0L ENGINE (INCLUDES E-TORQUE)

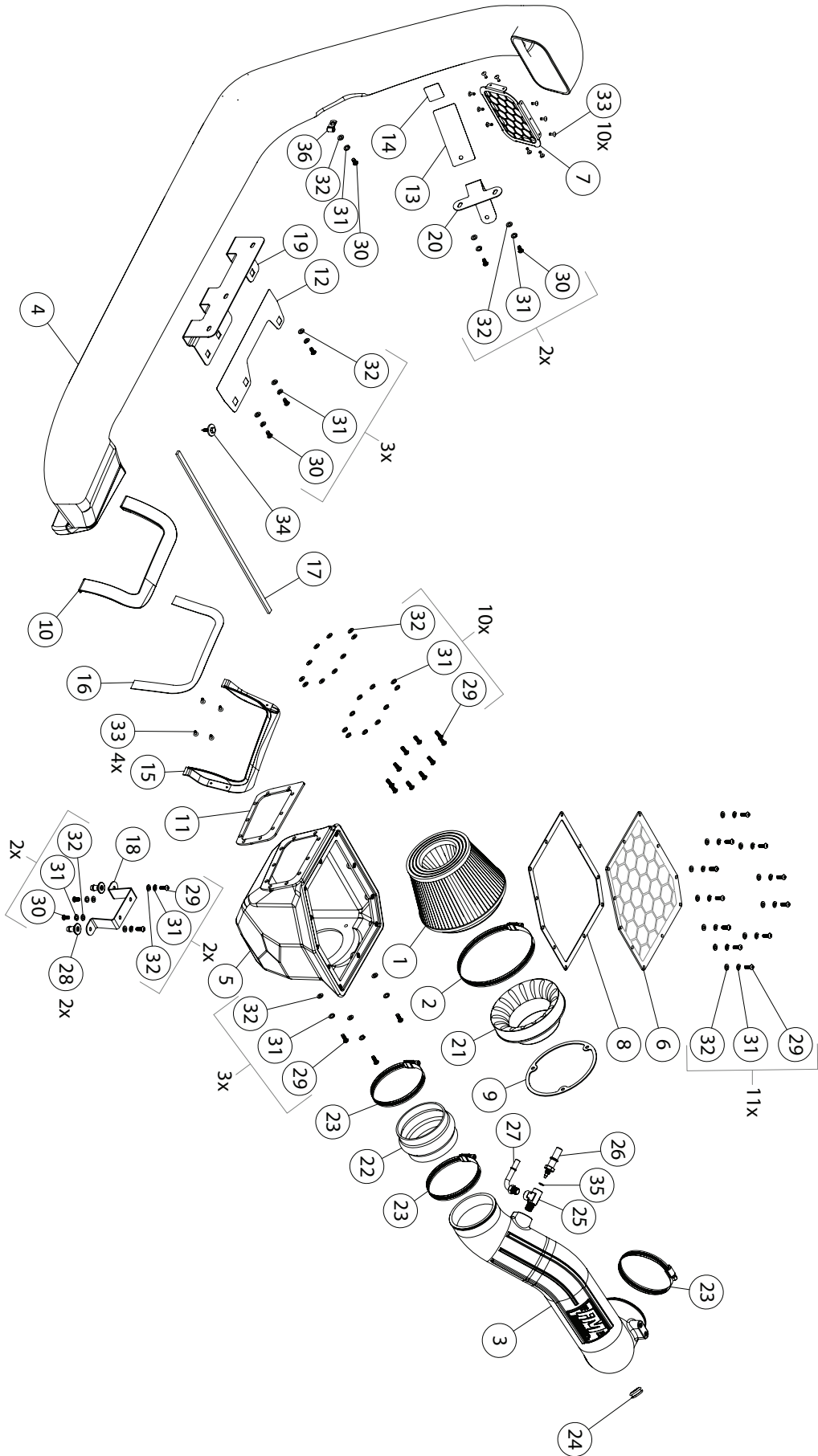
NOT LEGAL FOR SALE OR USE ON ANY POLLUTION-CONTROLLED MOTOR VEHICLE IN CALIFORNIA OR IN STATES THAT HAVE ADOPTED CALIFORNIA EMISSION PROCEDURES.

PRE-ASSEMBLY DIRECTIONS:

- Please inventory all parts now before continuing and if necessary, report any missing items to our tech line. This will avoid potentially stranding your vehicle until any missing replacement parts arrive.
- We highly recommend that you retain all factory air intake system parts.
- Installing this kit requires modification of vehicle body (specifically cutting a portion of the hood). Pay careful attention to modification procedures and work carefully to ensure proper fitment of parts. If you do not feel qualified, seek out the help of a technician or take your vehicle to a body shop to complete installation.
- Refer to your vehicle manufacturer's recommendations regarding removal of factory components.

| ITEM NO. | PART NO. | DESCRIPTION | QTY |
|----------|----------|---|-----|
| 1 | AF1012 | 5 $\frac{5}{8}$ " x 6" Invtd. Cone Air Filter | 1 |
| 2 | | #104 (4- $\frac{1}{8}$ "-7") Screw Clamp | 1 |
| 3 | AF2081 | Molded Intake Tube | 1 |
| 4 | AF2077 | Snorkel Assembly | 1 |
| 5 | AF2078 | Air Box | 1 |
| 6 | AF3078 | Air Box Cover | 1 |
| 7 | AF3085 | Snorkel Grid | 1 |
| N/A | PK1026 | Hardware Package includes: | 1 |
| 8 | GA147 | Air Box Lid Gasket | 1 |
| 9 | GA148 | Filter Adapter Gasket | 1 |
| 10 | GA149 | Hood Adapter Gasket | 1 |
| 11 | GA151 | Snorkel Gasket | 1 |
| 12 | GA152 | Hood Gasket | 1 |
| 13 | GA153 | A Pillar Gasket | 1 |
| 14 | GA154 | Door Gasket | 1 |
| 15 | GA155 | Inner Hood Gasket | 1 |
| 16 | GA156 | Mounting Tape | 1 |
| 17 | 49000080 | 18" Lt Dty EPDM Foam Strip | 1 |
| 18 | AF5090 | Bracket 1 | 1 |
| 19 | AF5092 | Bracket 2 | 1 |

| ITEM NO. | PART NO. | DESCRIPTION | QTY |
|----------|----------|---|-----|
| 20 | AF5099 | Bracket 3 | 1 |
| 21 | AF6002 | 4x6" Air Filter Adapter | 1 |
| 22 | AF4051 | Flex Coupler 4" ID x 2 $\frac{1}{2}$ " L | 1 |
| 23 | MC400H | 3 $\frac{3}{16}$ " - 4 $\frac{1}{2}$ " #64 Screw Clamp | 3 |
| N/A | PK1025 | Hardware Package includes: | 1 |
| 24 | AF4008 | 1 $\frac{1}{16}$ "OD x $\frac{1}{2}$ "ID x $\frac{3}{16}$ " Grommet | 1 |
| 25 | AF4090 | $\frac{1}{4}$ NPT Male Tee | 1 |
| 26 | AF4091 | Male Quick Connect | 1 |
| 27 | AF4095 | $\frac{3}{8}$ - $\frac{1}{4}$ " 90° Quick Connect | 1 |
| 28 | AF7001 | M6 x 1.0 Barbed Pin | 2 |
| 29 | HW244 | M6 x 1.0 x 16MM Screw | 26 |
| 30 | HW284 | M6 x 1.0 x 12MM Screw | 8 |
| 31 | HW318 | M6 Lock Washer | 34 |
| 32 | HW319 | M6 Flat Washer | 34 |
| 33 | HW552 | $\frac{1}{8}$ " x .046 - .250 Blind Rivet | 14 |
| 34 | HA542 | M6-1.0 x 25MM Hex Screw w/ 24MM Washer | 1 |
| 35 | HW543 | O-Ring | 1 |
| 36 | HW544 | $\frac{3}{16}$ " I.D. x $\frac{1}{2}$ " Loom Clamp | 1 |
| 37 | AF8004 | Paper Cut Template | 1 |



OVERVIEW:



1. To simplify assembly, identify and separate all kit components and fasteners. In particular, M6 Washers and Screws (29-32) should be sorted into their own container since they will be used most frequently throughout install process.

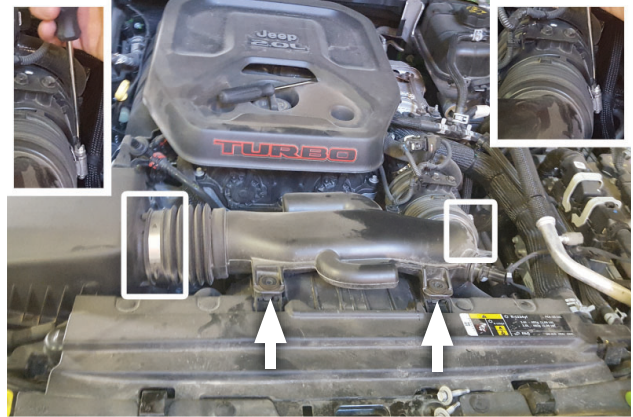
REMOVE FACTORY AIR INTAKE SYSTEM:

WARNING:

Avoid serious burns! Allow vehicle time to cool completely before handling any stock components.



2. Open hood, unplug MAF sensor and detach wire loom clamp from intake tube.



3. Loosen clamps (x2) on either side of factory intake tube, then remove bolts (x2) fastening it to vehicle frame.



4. Remove intake tube from vehicle.



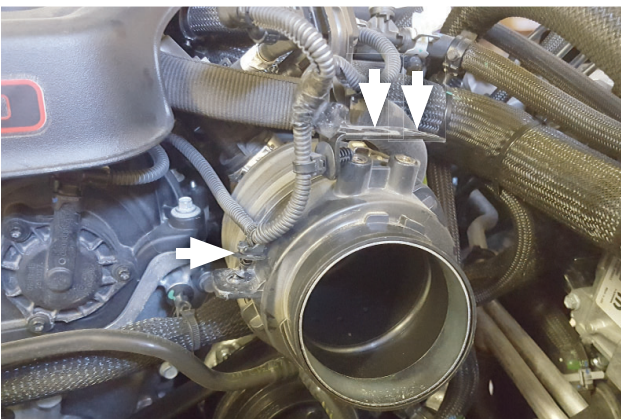
5. Disconnect evap and pcv line from airbox.



6. Remove airbox screw then remove airbox from engine compartment.

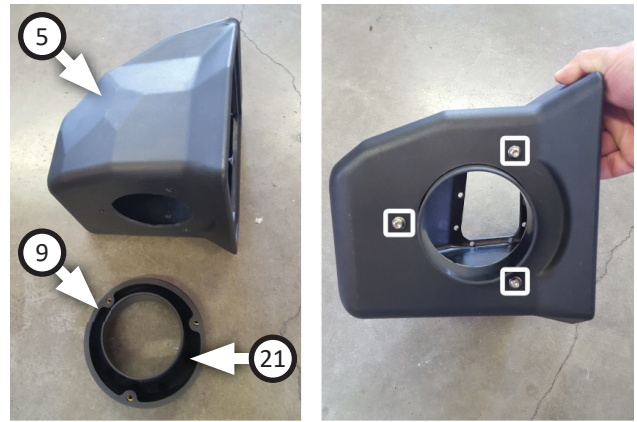


7. If mounting grommets (x2) stay on airbox, transfer them back into mounting holes.

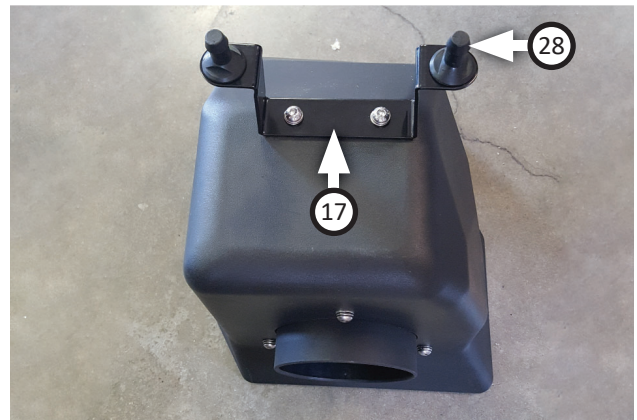


8. Remove bolts (x2) from bracket. Retain them for later use.

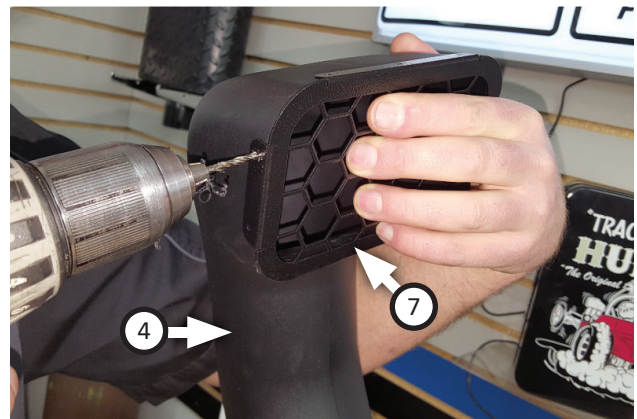
ASSEMBLE AIRBOX & INTAKE:



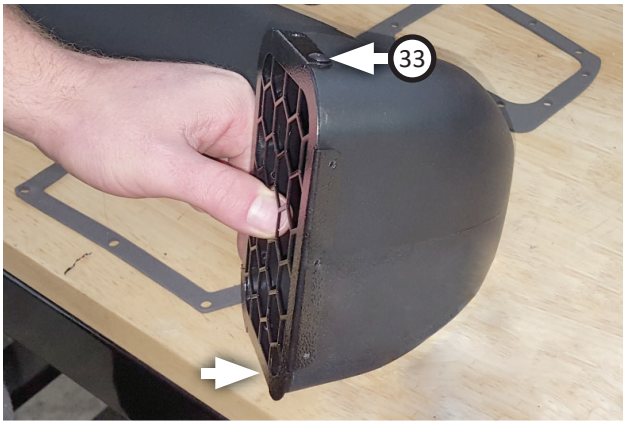
9. Place filter adapter gasket (9) onto filter adapter (21) then fit both into air box (5). Fasten components together using (x3 ea.) screws (29), lock washers (31) and flat washers (32).



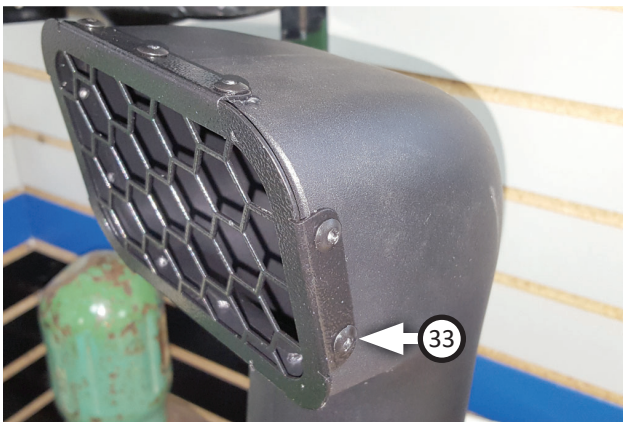
10. Fasten (x2) barbed pins (28) to bracket 1 (18) with (x2 ea.) screws (29), lock washers (31) and flat washers (32). Secure bracket to airbox with (x2 ea.) screws (30), lock washers (31) and flat washers (32).



11. Place snorkel intake grate (7) flush against face of molded snorkel tube (4) then drill a hole into each side using grid holes as a guide. Deburr and blow debris off of parts.



12. Install (x2) **blind rivets (33)** into holes to secure intake grate to snorkel tube, then drill remaining (x8) holes.



13. Deburr and blow off components then install remaining (x8) **blind rivets (33)** securing intake grate to snorkel tube.

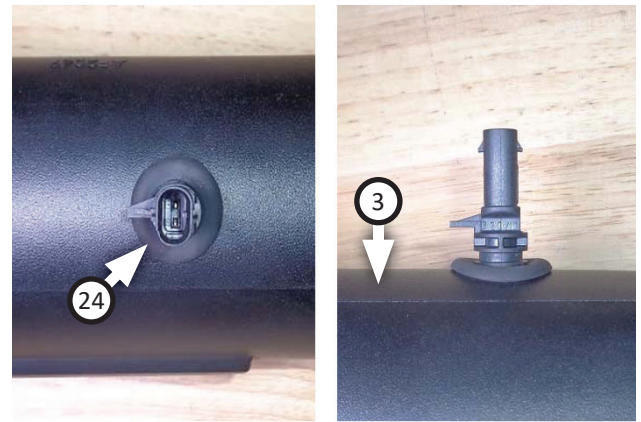


NOTE: Hold parts together with (x2) screws, then install remaining screws.

14. Connect airbox and **snorkel gasket (11)** to snorkel tube with (x10 ea.) **screws (29)**, **lock washers (31)** and **flat washers (32)**.

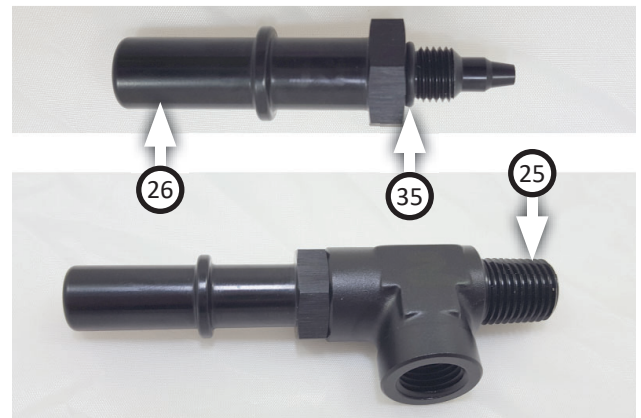


15. Remove IAT sensor from factory intake tube then remove o-ring from sensor.



NOTE: Lubricate grommet as needed to ease install.

16. Fit **grommet (24)** into **intake tube (3)** then insert IAT sensor (from previous step) into it as shown.



NOTE: Do NOT apply teflon tape to barb or the o-ring will not fit properly once parts are fitted together.

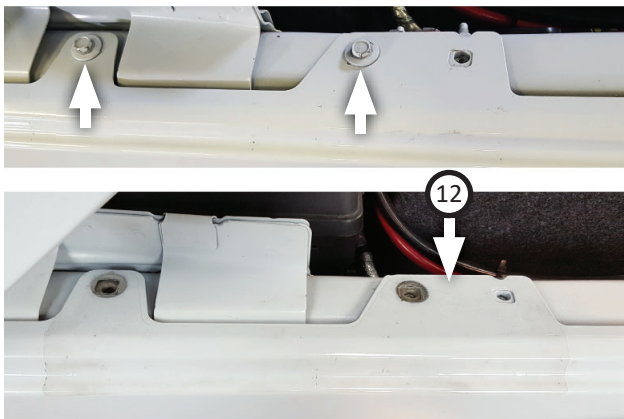
17. Place **o-ring (35)** onto **adapter (26)** then connect it to **tee (25)**. Thread parts together fully, then tighten them another $\frac{1}{8}$ - $\frac{1}{4}$ turn.



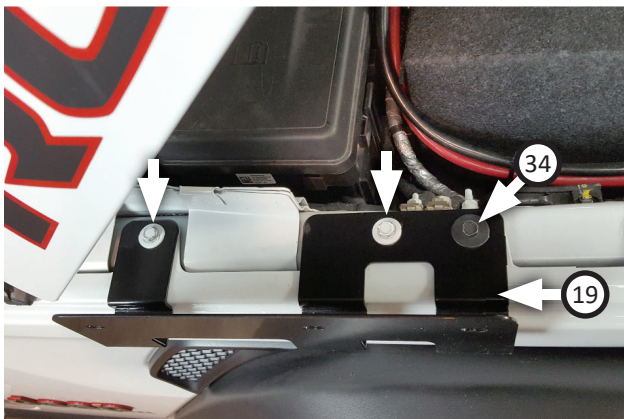
NOTE: Do NOT apply teflon tape to barb or the o-ring will not fit properly once parts are fitted together.

18. Thread **90° tee (27)** fully into adapter; then thread assembly into intake tube.

PREPARE VEHICLE FOR SNORKEL INTAKE:



19. Remove bolts (x2) from fender beside fuse box. Then align **hood gasket (12)** with bolt holes (x3) on fender and press it on, working out air bubbles.



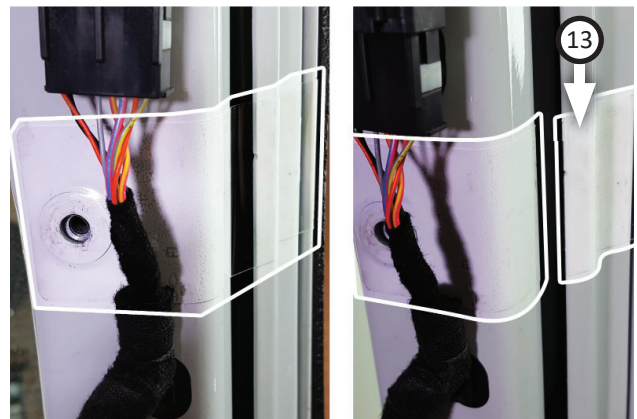
20. Place **bracket 2 (19)** over hood gasket, then using (x2) bolts (from previous step) and provided **bolt (34)**, fasten bracket and gasket to vehicle frame.



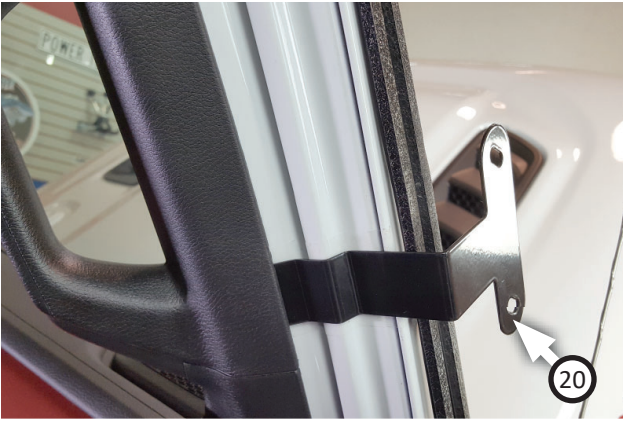
21. Release cover from base of A pillar then remove bolt covers from passenger grab handle on A pillar.



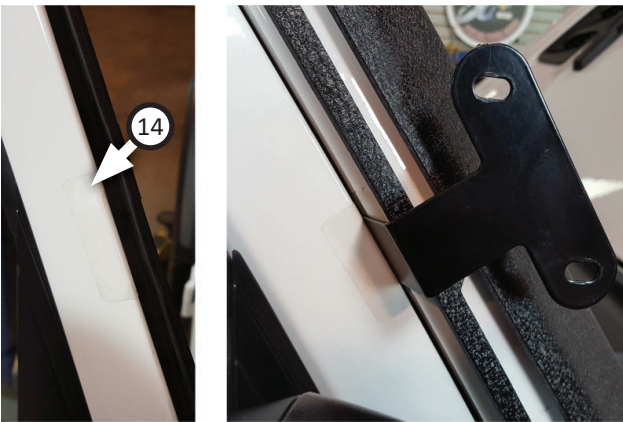
22. Remove bolts (x2) securing grab handle to A pillar, and set parts aside for later use.



23. Place **A pillar gasket (13)** around A pillar and window frame, aligned with bottom grab handle hole. Slit gasket between A pillar and window then press it on fully.



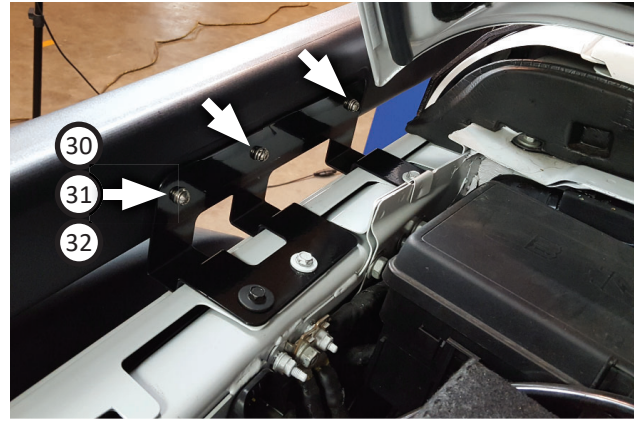
24. Place **bracket 3 (20)** over gasket and reinstall all grab handle components (removed steps 21-22).



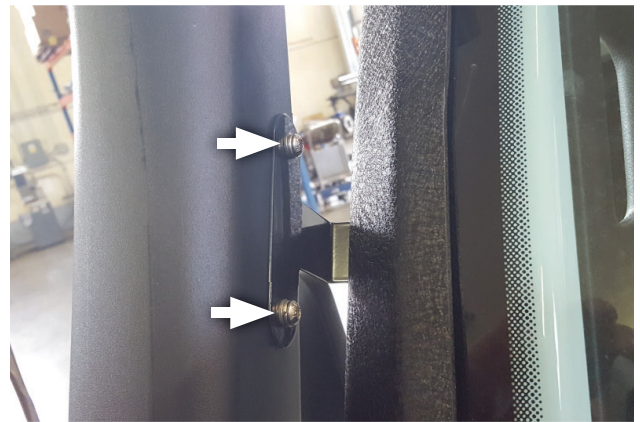
25. Carefully close passenger door, align **door gasket (14)** on outside so it protects door from rubbing against bracket 3 then apply it to front/inside.



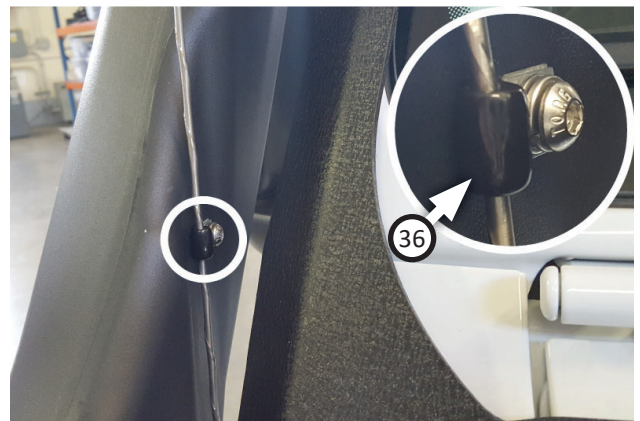
26. Place assembled airbox snorkel unit onto vehicle. Align air box into factory rubber grommets so it sets down in place.



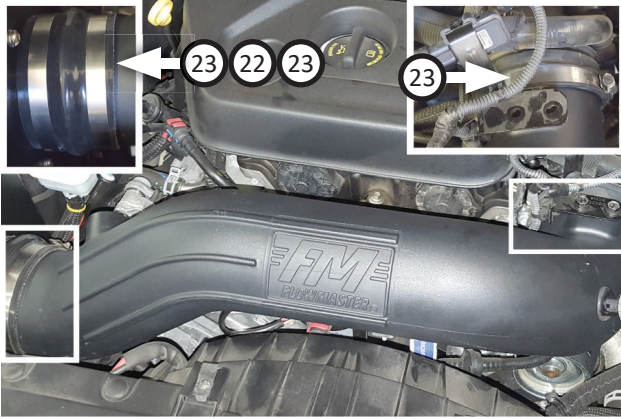
27. Secure snorkel to bracket 2 by inserting (x3 ea.) **screws (30)**, **lock washers (31)** and **flat washers (32)**. Leave screws finger tight for now.



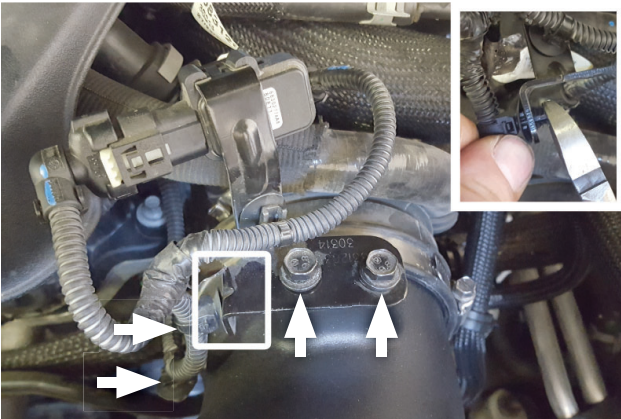
28. Secure bracket 3 to snorkel tube using (x2 ea.) **screws (30)**, **lock washers (31)** and **flat washers (32)**.



29. Place **loom clamp (36)** onto antennae, pinch it closed then secure it to snorkel using **screw (30)**, **lock washer (31)** and **flat washer (32)**.



30. Fit flex coupler (22) and (x2) screw clamps (23) fully onto fitting side of intake tube. Place screw clamp (23) onto resonator coupler. Place intake tube assembly into engine compartment and center tube between coupler and throttle body.



NOTE: You may have to clip end of loom barb so it can install completely without touching intake tube.

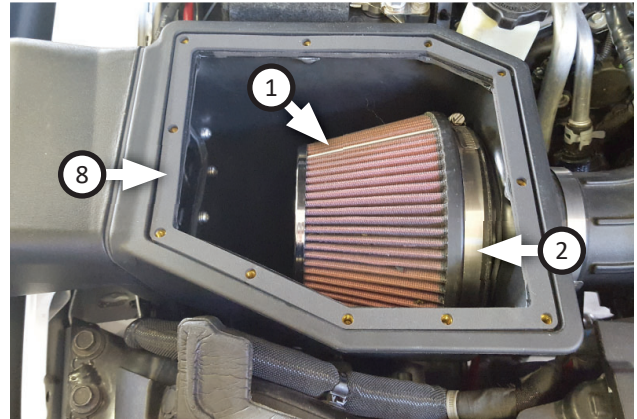
31. Install bracket onto intake tube using bolts (x2) (removed step 8).



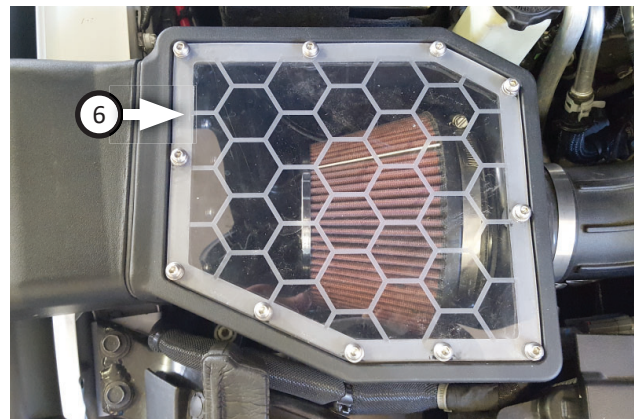
32. Check that intake tube is centered and fitting properly, then tighten clamps (x3). Plug in IAT sensor (removed step 15).



33. Connect evap and pcv line (from step 5) to intake tube.



34. Place air filter (1) into air box, securing it over air filter adapter with #104 screw clamp (2). Then place air box lid gasket (8) onto air box.



35. Place air box cover (6) onto air box using (x11 ea.) screws (29), lock washers (30) and flat washers (31). Adjust and secure all installed components.

MODIFY HOOD FOR SNORKEL FITMENT:



36. Carefully cut out paper hood cut template from kit. Be as precise as possible.



37. Open hood and set template onto it, aligning rear and side edges. Secure bottom edge with tape.



38. Fold template down off of hood then tape cutout as shown.



39. Fold template back onto hood and after re-aligning it, tape it down. Tape front portion down one piece at a time as shown.



40. Lower hood onto snorkel tube and make sure template hood cutout is located correctly.



41. Mark hood (tape) around edge of template cutout then remove template from vehicle.

HOOD MODIFICATION CUTTING PROCEDURE:

As you cut your hood, you will notice it has two layers; make sure that you keep your saw perpendicular to your cutting plane so that it won't cut too big of an outline in bottom layer.

Making cuts little by little will create a more precise edge fitted exactly to your snorkel.

Precision requires time and attention, allow yourself both to avoid being too aggressive with your cuts.



42. Make a cut well within marks through both layers of hood, then lower your hood so you can inspect location of cutout. That way you can adjust it front or rearward so it fits better.



43. Make another cut closer to marks on cutout. If you have to move your cutout one way or another, this is the best time to do it.



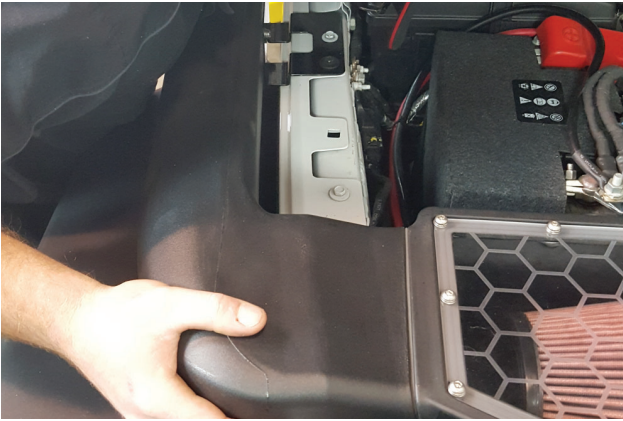
44. Make another cut up to your marks through top layer. Use a file to smooth your cutout so you can more accurately compare its location to tube.



45. Cut bottom hood layer using top layer cutout as a guide. Keep your blade perpendicular to keep your cutout from getting too enlarged, particularly on hood corners.



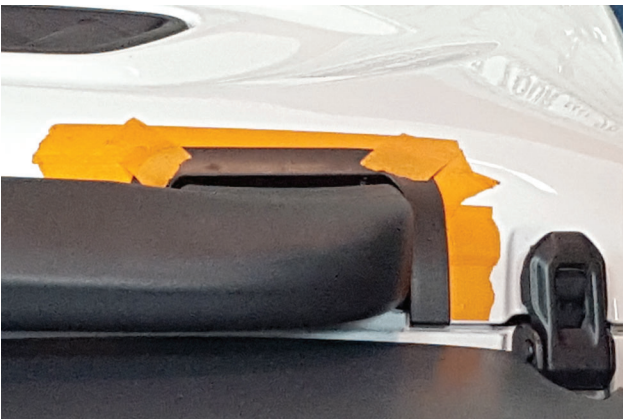
46. Once hood is cutout to marks, lower hood and inspect it against snorkel tube. Use **hood adapter gasket (10)** to mark where cutout should be aligned to center tube.



47. This is your last chance to adjust position of your intake system. Gauge your parts to ensure there are no kinks or odd angles and if necessary, you can loosen brackets to adjust them slightly.



48. At this point, it may be better to work with a file to prevent cutting out too much material. The intent is to make adapter gasket fit your hood top layer as closely as possible, while centering it to snorkel tube (sides first then top).



49. Once you are satisfied with cutout and gasket fitment, close hood and tape gasket into place.



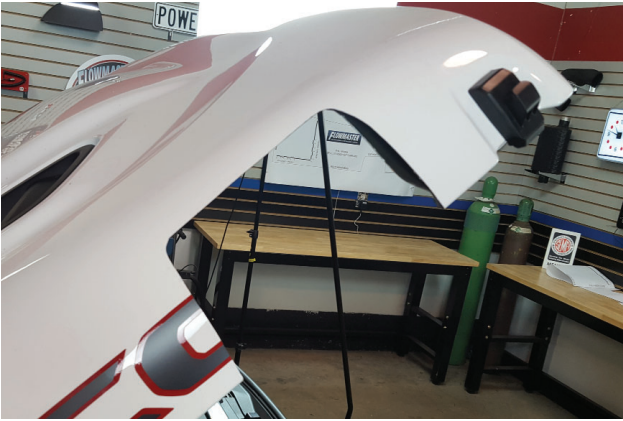
50. Open hood and set **inner hood gasket (15)** into bottom layer of cutout, then mark points that need additional cutting.



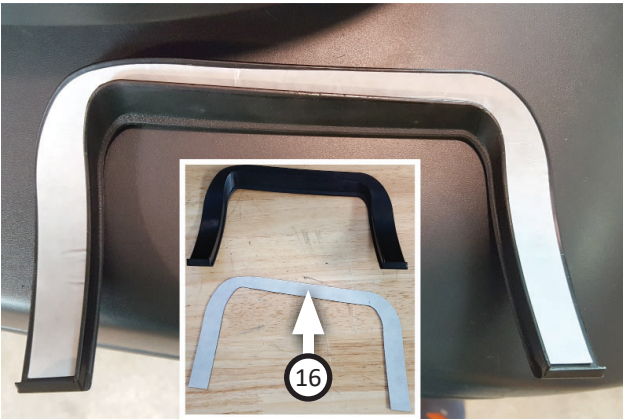
51. Cut out marked inner hood as necessary. Work slowly and carefully, checking cutout often until gasket fits exactly in place. Again, as you get close to fitment, work with a file to avoid excessive cuts.



52. Once complete, your gaskets should fit together snugly without sliding around in cutout as shown.



53. Remove gaskets and tape from hood. Blow all debris off vehicle and engine then wipe cutout with microfibre cloth, to remove any residue.



NOTE: Mounting tape has very strong adhesive which only allows for one placement attempt. Work carefully.

54. Mounting tape (16) and hood adapter gasket are asymmetrical. Align them then peel backing off of mounting tape and carefully stick it to gasket.

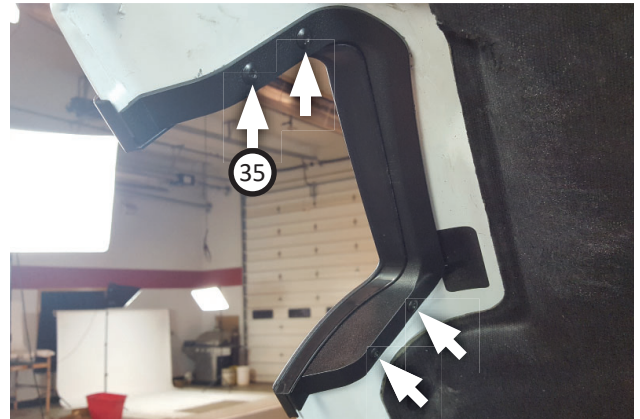


55. Peel remaining paper off of mounting tape, open hood partially and install gasket into cutout, hooking bottom portion on first then carefully pressing it down.



NOTE: Be careful not to drill through top layer of hood as you drill through inner gasket and hood.

56. Open hood fully, then set inner hood gasket into place. Drill (x4) holes through inner gasket and inner hood then deburr parts and blow off parts.



57. Fasten inner hood gasket to hood using (x4) blind rivets (35) through holes drilled in previous step.



58. Apply foam strip (17) to inside edge of hood adapter gasket. Work from one end, pressing it on fully then cut strip to length so it works as a seal.



59. Make sure your snorkel airbox is properly sealed, then check all clamps at connections and ensure brackets are properly tightened.

FILTER MAINTENANCE:

We recommend that you clean and oil your air filter at 25,000 mile intervals using **Flowmaster Filter Refresh Kit (PN 615001)**. See our website or your Flowmaster distributor for details.

Congratulations, the installation of your Flowmaster Delta Force Performance Snorkel is now complete!

