Installation Instructions

615193

2018-27 JEEP WRANGLER JL
2020-27 JEEP GLADIATOR
3.6L ENGINE

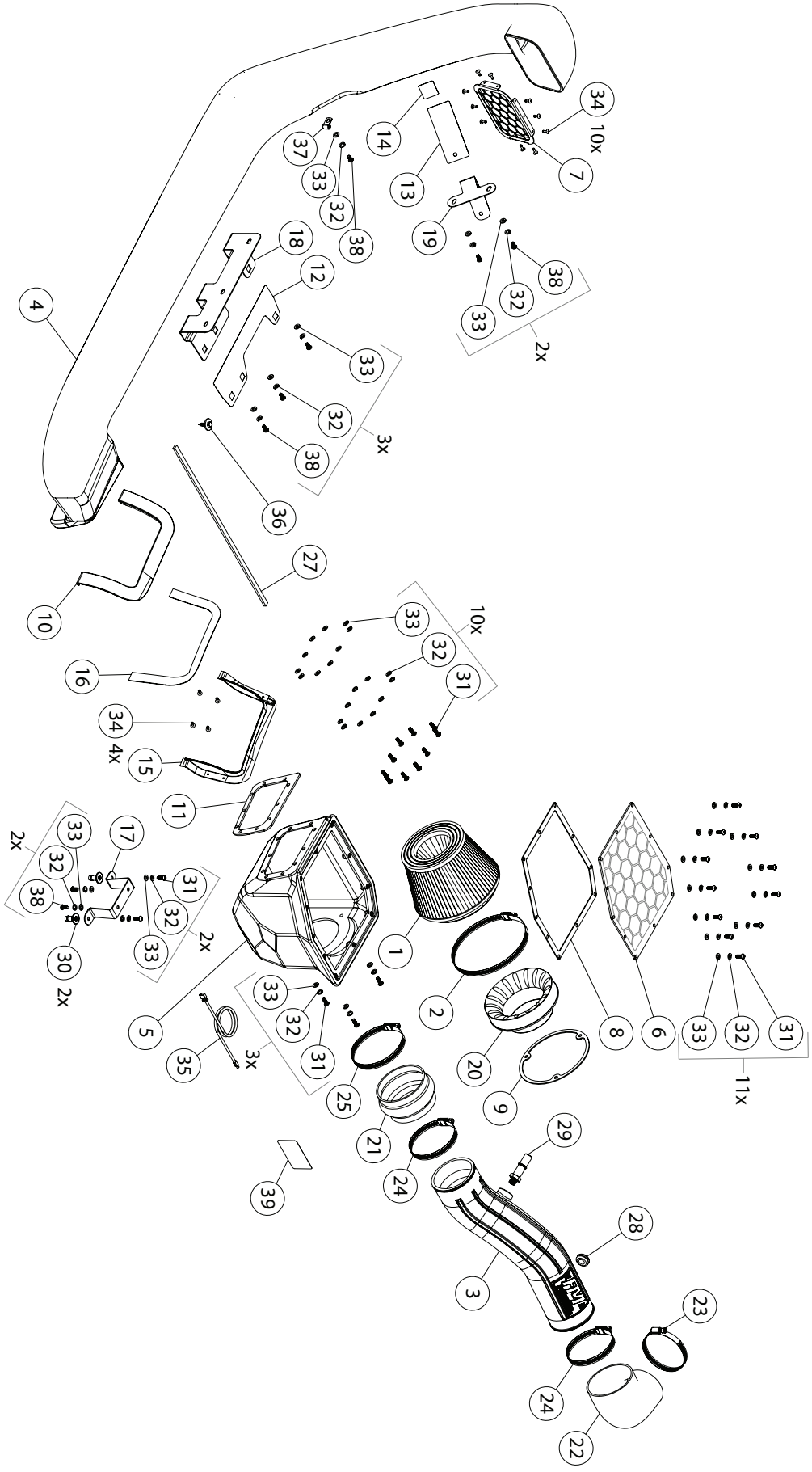
See CARB approved specific application in Overview section on page 3.

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.
- Refer to your vehicle manufacturer's recommendations regarding removal of factory components.
- 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.

ITEM NO.	PART NO.	DESCRIPTION	QTY
1	AF1012	5⅝" × 6" Invtd. Cone Air Filter	1
2		#104 (4-⅛"-7") Screw Clamp	1
3	AF2069	Molded Intake Tube	1
4	AF2077	Molded Snorkel Tube	1
5	AF2078	Air Box	1
6	AF3078	Air Box Cover	1
7	AF3085	Snorkel Intake Grate	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	AF5090	Bracket 1	1
18	AF5092	Bracket 2	1
19	AF5099	Bracket 3	1
20	AF6002	4" - 6" Air Filter Adapter	1

ITEM NO.	PART NO.	DESCRIPTION	QTY
21	AF4009	4"-3½" ID × 2½" L Flex Coupler	1
22	AF4075	3¾" × 3⅛" ID 95° Coupler	1
23	MC314H	2¹³⁄₁₆" - 3¾" #52 Screw Clamp	1
24	MC350H	3⅛" - 4" #56 Screw Clamp	2
25	MC400H	3⅜" - 4½" #64 Screw Clamp	1
26	PK999	Hardware Package includes:	1
27	4000080	18" Lt Dty EPDM Foam Strip	1
28	AF4008	1⅛" OD × ½" ID × ⅜" Grommet	1
29	AF4016	Straight ⅝" Quick Connect ¼" NPT Male Fitting	1
30	AF7001	M6 × 1.0 Barbed Pin	2
31	HW244	M6 × 1.0 × 16MM Screw	26
32	HW318	M6 Lock Washer	34
33	HW319	M6 Flat Washer	34
34	HW552	⅛" x .046 - .250 Blind Rivet	14
35	HW534	Extension Harness	1
36	HA542	M6-1.0 x 25MM Hex Screw w/ 24MM Washer	1
37	HW544	⅜" I.D. x ½" Loom Clamp	1
38	HW284	M6 × 1.0 × 12MM Screw	8
39	D-698-10	Executive Order Decal	1


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OVERVIEW:

2018-20 WRANGLER JL & 2020 GLADIATOR 3.6L

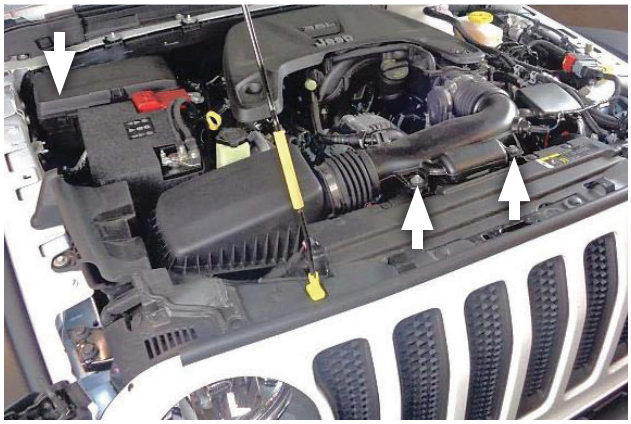
This product has been granted CARB EO D-698-10 for the applications listed above.

2018-27 WRANGLER JL & 2020-27 GLADIATOR 3.6L

The above applications are legal under the provisions of EPA's Tampering Policy dated November 23rd, 2020. The company has reasonable basis (test results) to verify that this product allows the vehicle to operate within legal emissions standards and is therefore legal to be sold for on-street use in all states that accept the legal provisions of the Clean Air Act and the EPA Tampering Policy. This product is NOT LEGAL FOR SALE OR USE IN THE STATE OF CALIFORNIA. Testing with the California Air Resources Board, in order to achieve 50-state compliance, is pending with CARB. Once testing is complete with California, and an E.O. number is issued, this product will be updated to 50-state legal status.



1. To simplify assembly, identify and separate all kit components and fasteners. In particular, M6 Washers and Screws (31-33, 38) should be sorted into their own container since they will be used most frequently throughout install process.



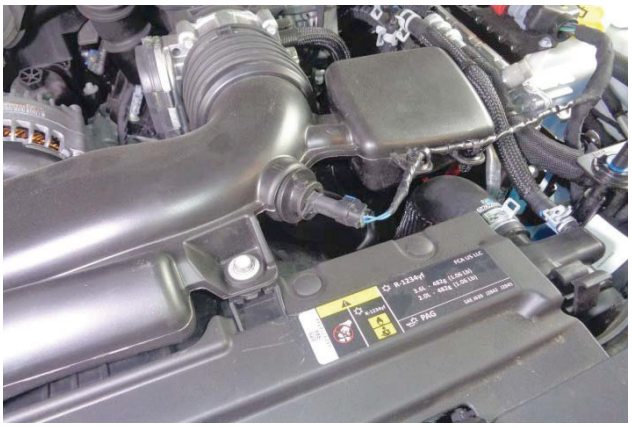
2. Open hood and remove intake mount bolts (x3).

REMOVE FACTORY AIR INTAKE SYSTEM:

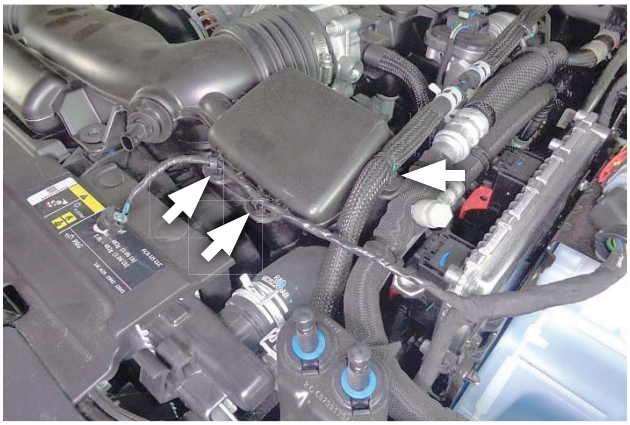
WARNING: Avoid serious burns! Allow vehicle time to cool completely before handling any stock components.



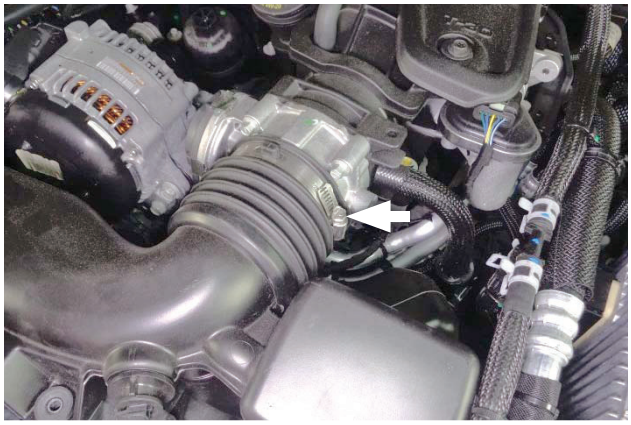
3. Disconnect PCV line from air inlet duct.



4. Disconnect air temperature sensor plug by depressing locking tab, then pulling it straight off of sensor.



5. Separate wire loom clamps (x3) from resonator.



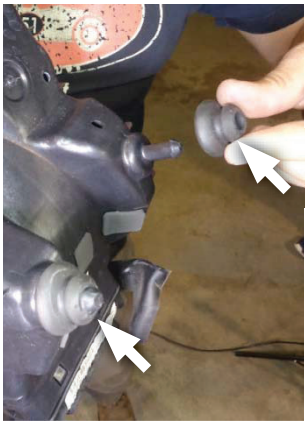
6. Loosen screw clamp connecting inlet air duct to throttle body, then separate duct from body.



7. Pull airbox up sharply to release it from its mount grommets, then remove assembled airbox and ducts from vehicle.



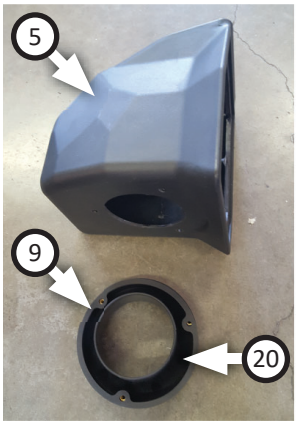
8. Remove air temp sensor by lifting locking tab and turning sensor a quarter-turn counter-clockwise and pulling it straight out of duct. Carefully remove o-ring from sensor and retain for later use.





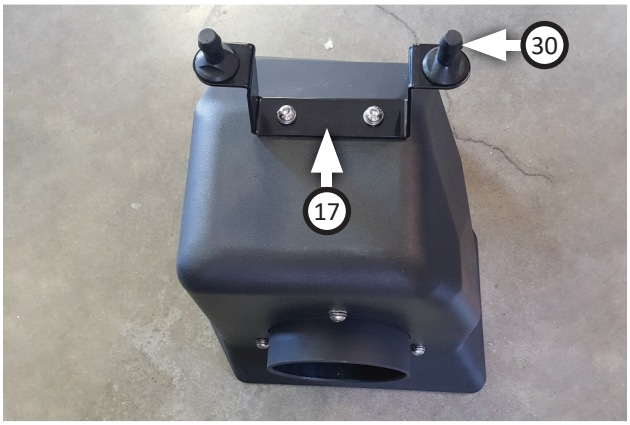
9. If either rubber mount grommets came out of vehicle with airbox, remove them from airbox and install them into their holes in vehicle.

ASSEMBLE AIRBOX & INTAKE:

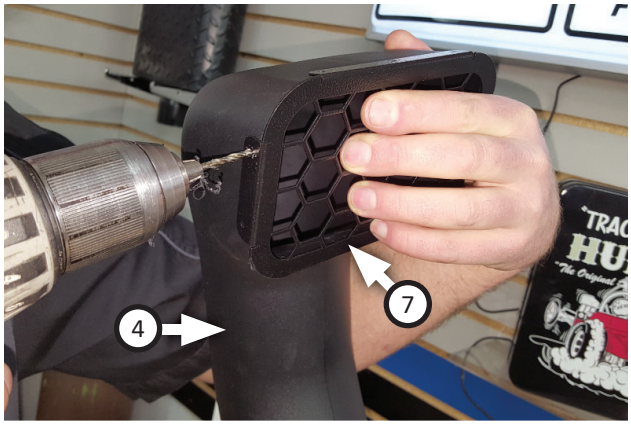




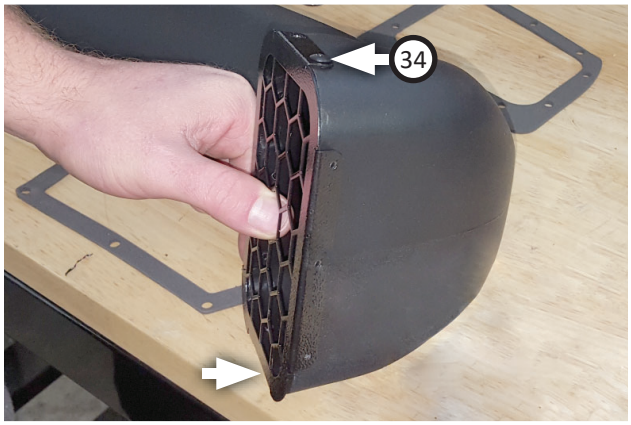
10. Place **filter adapter gasket (9)** onto **filter adapter (20)** then fit both into **air box (5)**. Fasten components together using (x3 ea.) **screws (31)**, **lock washers (32)** and **flat washers (33)**.



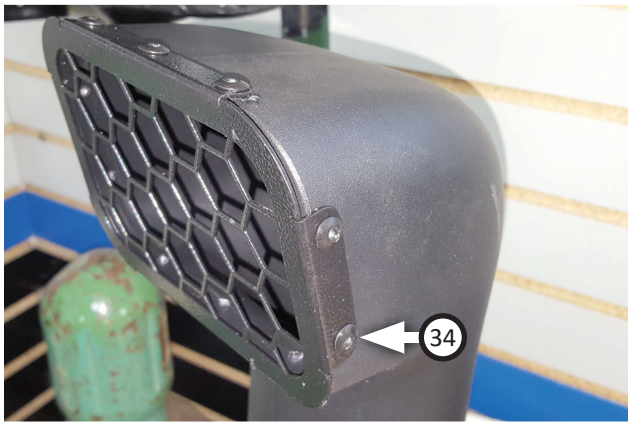
11. Fasten (x2) **barbed pins (30)** to **bracket 1 (17)** with (x2 ea.) **screws (31)**, **lock washers (32)** and **flat washers (33)**. Secure bracket to airbox with (x2 ea.) **screws (38)**, **lock washers (32)** and **flat washers (33)**.



12. 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.



13. Install (x2) **blind rivets (34)** into holes to secure intake grate to snorkel tube, then drill remaining (x8) holes.



14. Deburr and blow off components then install remaining (x8) **blind rivets (34)** securing intake grate to snorkel tube.



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

15. Connect airbox and **snorkel gasket (11)** to snorkel tube with (x10 ea.) **screws (31)**, **lock washers (32)** and **flat washers (33).**



16. Insert **grommet (28)** into **intake tube (3)**. If necessary, moisten grommet with soapy water to ease install.



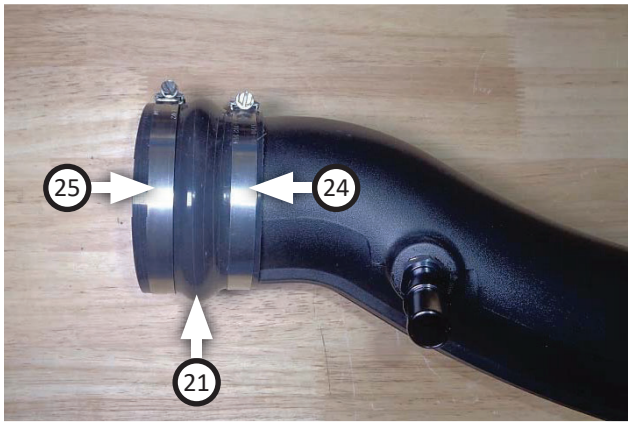


17. Carefully push air temp sensor into grommet, orienting tab toward tube's filter end.

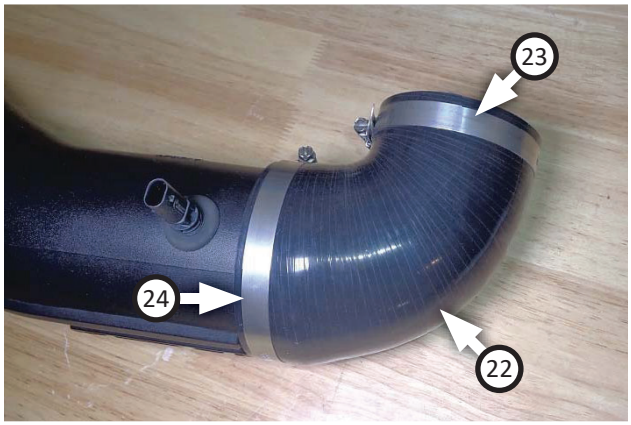
NOTE: The sensor boss does not sit flush against grommet; there will be a slight gap.



18. Apply 2 wraps of PTFE tape to **quick connect fitting (29)** threads then install it into intake tube.

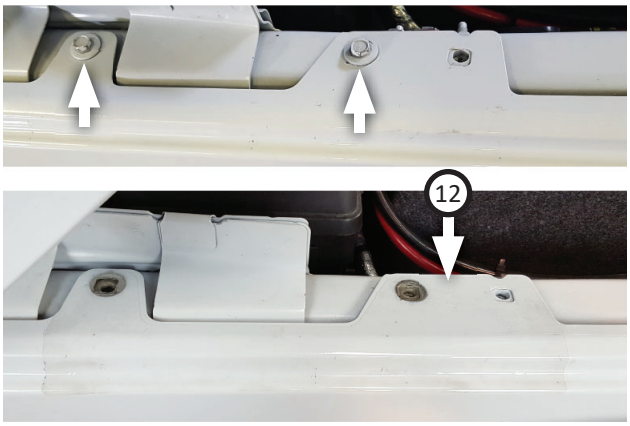


19. Place **#56 screw clamp (24)** onto small end of **transition coupler (21)** and connect it to filter end of intake tube. Slip **#64 screw clamp (25)** onto its other end. Do not tighten clamps at this time.

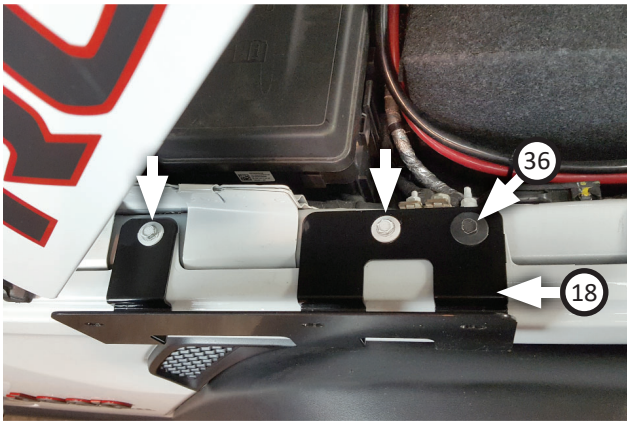


20. Fit **#56 screw clamp (24)** onto large end of **95° coupler (22)** then connect it to throttle body end of intake tube. Fit **#52 screw clamp (23)** onto other coupler end. Do not tighten clamps at this time.

PREPARE VEHICLE FOR SNORKEL INTAKE:



21. 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.



22. Place **bracket 2 (18)** over hood gasket, then using (x2) bolts (from previous step) and provided **bolt (36)**, fasten bracket and gasket to vehicle frame.

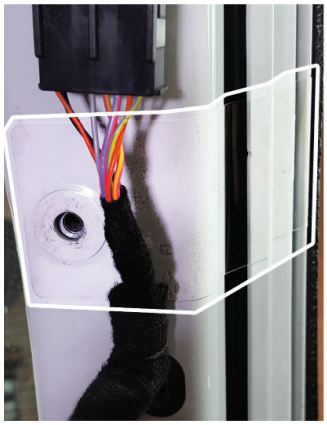


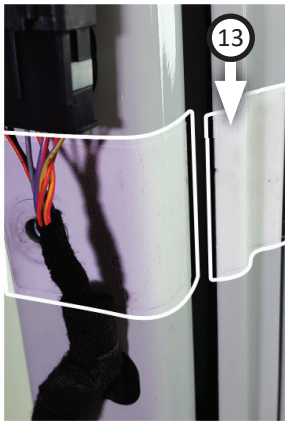


23. Release cover from base of A pillar then remove bolt covers from passenger grab handle on A pillar.

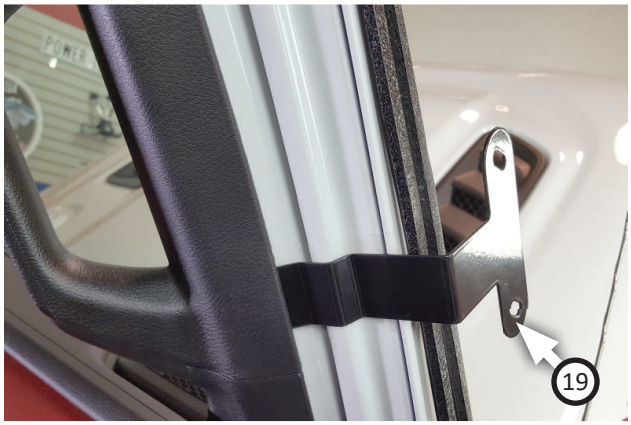


24. Remove bolts (x2) securing grab handle to A pillar, and set parts aside for later use.





25. 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.



26. Place **bracket 3 (19)** over gasket and reinstall all grab handle components (removed step 23).

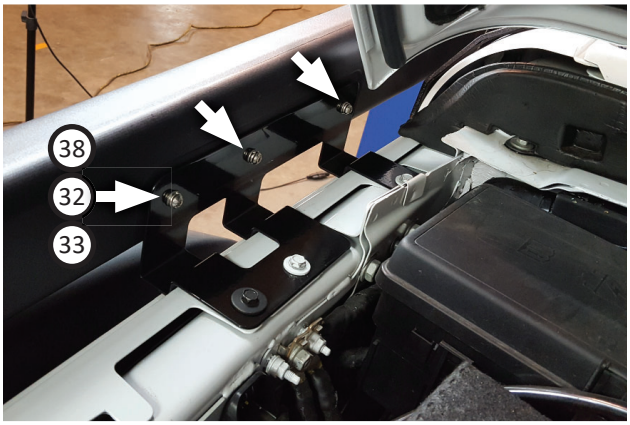




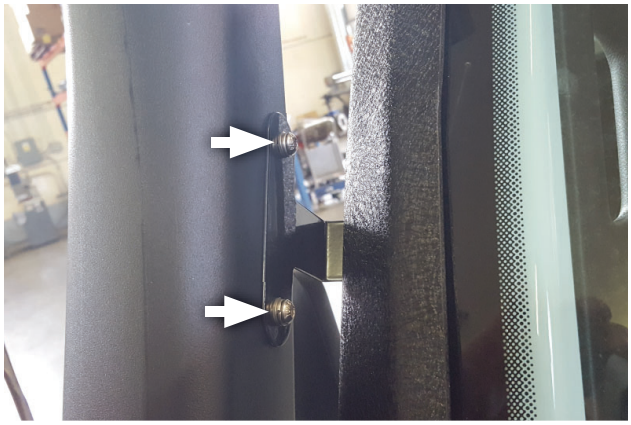
27. Carefully close passenger door, align **door gasket (14)** on outside so it protects door from rubbing against bracket 3 then apply it to front/inside.



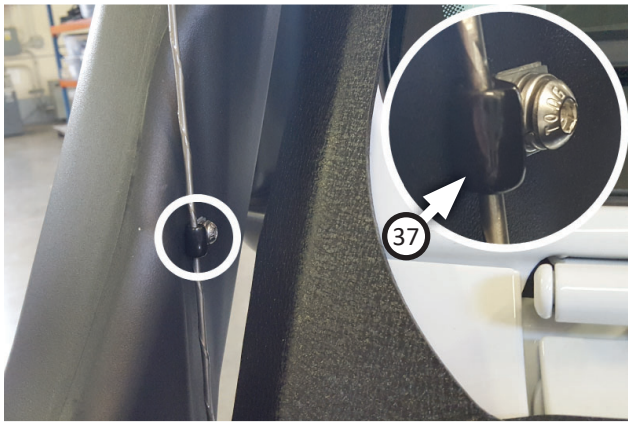
28. Place assembled airbox snorkel unit onto vehicle. Align air box into factory rubber grommets so it sets down in place.



29. Secure snorkel to bracket 2 by inserting (x3 ea.) **screws (38)**, **lock washers (32)** and **flat washers (33)**. Leave screws finger tight for now.



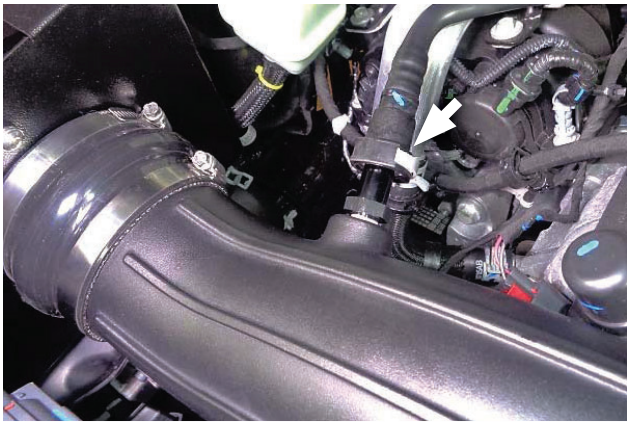
30. Secure bracket 3 to snorkel tube using (x2 ea.) **screws (38)**, **lock washers (32)** and **flat washers (33)**.



31. Place **loom clamp (37)** onto antennae, pinch it closed then secure it to snorkel using **screw (38)**, **lock washer (32)** and **flat washer (33).**

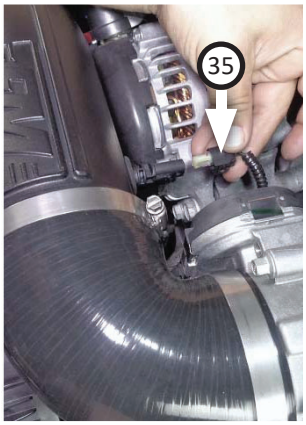


32. Set assembled intake tube into place in engine compartment and connect couplers to airbox and throttle body. Center intake tube between couplers before tightening all clamps.



33. Connect PCV line to quick connect fitting, then make sure all connections are secure.

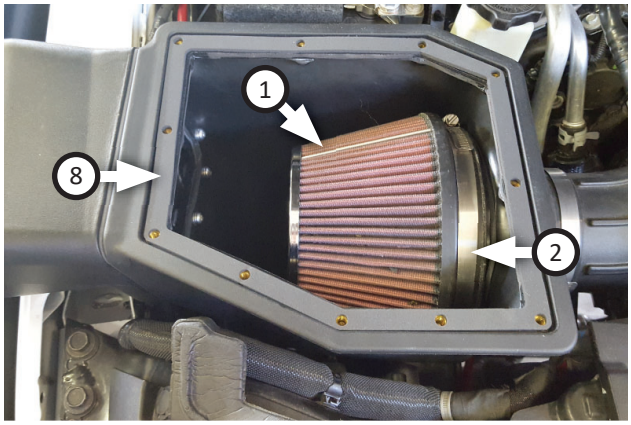




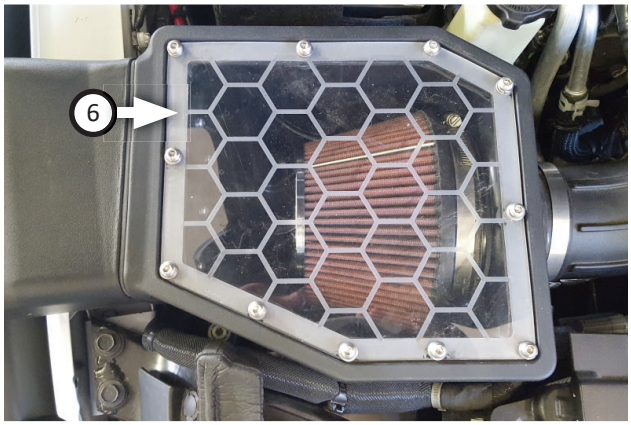
34. Connect air temp sensor **extension harness (35)** to vehicle's temp sensor plug. Route lead under coupler, connect other end to air temp sensor, then make sure all connections are secure.



35. Use zip ties to secure temp sensor lead to nearby wiring or plumbing. Tighten all fasteners in bracket 2, 3 and snorkel completely.

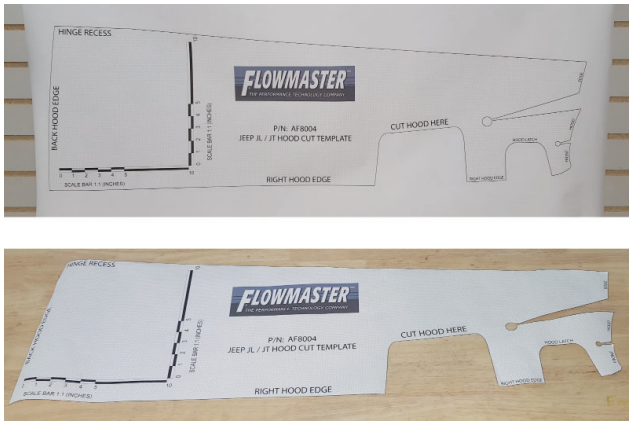


36. Place **air filter (1)** into air box, securing it over air filter adapter with **#104 screw clamp (2)**. Then place **air box lid gasket (8)** onto air box.



37. Place **air box cover (6)** onto air box using (x11 ea.) **screws (31)**, **lock washers (32)** and **flat washers (33)**. Adjust and secure all installed components.

MODIFY HOOD FOR SNORKEL FITMENT:



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



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



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



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



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



43. 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.



44. 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.



45. 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.



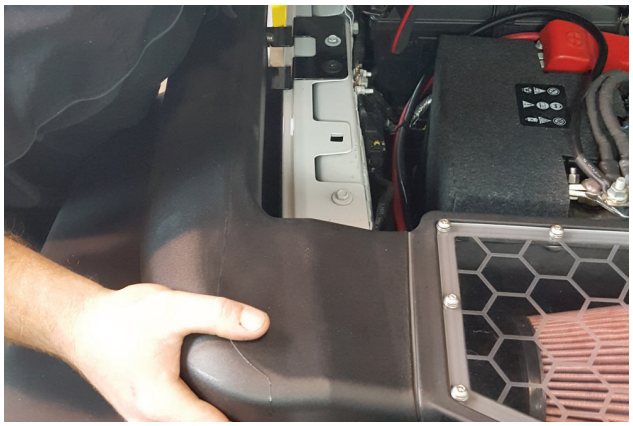
46. Make another cut up to your marks through top layer. Use a file to smooth your cutout so you can more accurately compare its location to tube.



47. 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.



48. 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.



49. 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.



50. 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).



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





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



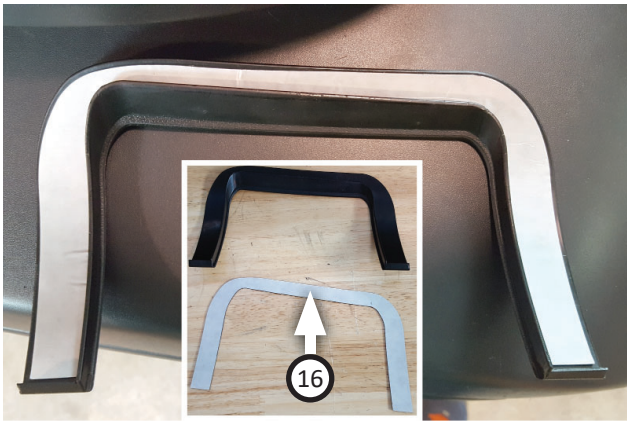
53. Cut out marked inner hood as necessary. Work slowly and carefully, checking cutout often until gasket fits exactly in place. Again, as you get close to fitment, work with a file to avoid excessive cuts.



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



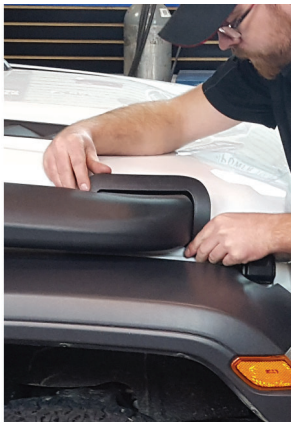
55. Remove gaskets and tape from hood. Blow all debris off vehicle and engine then wipe cutout with microfibre cloth, to remove any residue.



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

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



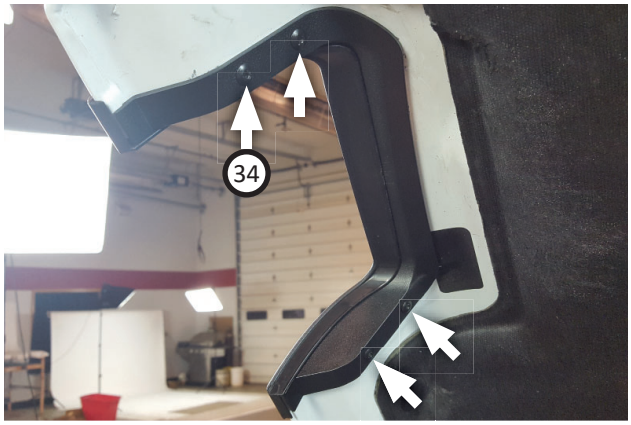


57. Peel remaining paper off of mounting tape, open hood partially and install gasket into cutout, hooking bottom portion on first then carefully pressing it down.

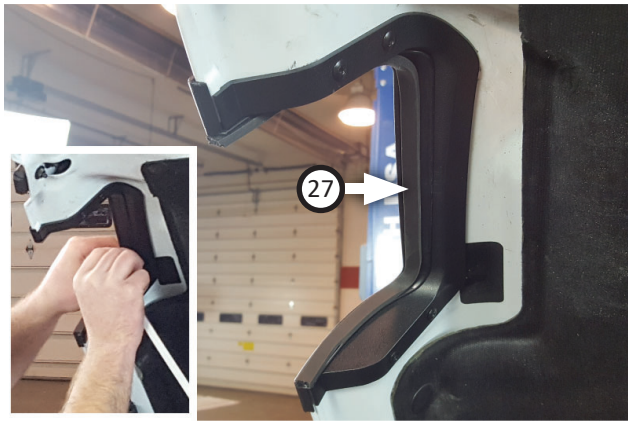


NOTE: Be careful not to drill through top layer of hood as you drill through inner gasket and hood.

58. 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.



59. Fasten inner hood gasket to hood using (x4) **blind rivets (34)** through holes drilled in previous step.



60. Apply **foam strip (27)** 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.



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



62. Affix CARB Exemption Order label to a clean, readily-visible location under your hood where an inspector can easily see it at emissions testing.



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

FLOWMASTER INC.
THE PERFORMANCE TECHNOLOGY COMPANY