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2015-19 Corvette ZO6 Big Gulp Series Cold Air Intake Installation Instructions

For part #

10161087

10161088

2015-19 Corvette ZO6 Big Gulp Series CAI Parts List

IMPORTANT- Due to increased air flow, this system requires a custom tune. Do not attempt to operate vehicle without proper tuning.



1) Air box assembly	1
2) MAF sensor housing	1
3) Inlet elbow	1
4) Air filter	1
5) 5" Hump hose	1
6) 5" to 4 1/4" step hose	1
7) 120-140 MM hose clamp	3
8) 100-120 MM hose clamp	1
9) 1/2" NPT x 3/8" hose 90	1
10) 1/2" NPT x 1/2" hose 90	1
11) 3/8" ID hose, 1 5/8" long	1
12) Breather adapter fitting	1
13) M4x7x8mm philips MAF screw	2
14) M6x1x25mm flange bolt	2
15) 1/4"x20x3/8" long buttonhead bolt	1
16) 3/8" ID loom holder	1
17) 3/8" ID convoluted loom, 2 7/8" long	1
18) Hood seal, 16 1/4" long	1
19) 3/4"x7/16" foam seal, 12 5/8" long	1
20) 3/4"x7/16" foam seal, 2 3/4" long	1

*Some components may be pre-assembled
This product has not been CARB tested*

Tools/items needed

7 MM socket
8 MM socket
10 MM deep socket
Ratchet
Pliers or sidecuts
small flat screwdriver
#2 Philips screwdriver
5/32" allen wrench
Pry tool
Windex
Shop rags
Alcohol wipes (supplied)

MAF sensor disconnect options Option 1. To avoid a check engine light (CEL), leave the MAF sensor connector plugged in and remove/install the MAF sensor without disengaging the electrical connector. For both the removal and the install, this step needs done at the point you can tilt the air box assembly to gain good screw access. **DO NOT REUSE THE STOCK MAF SCREWS**

Option 2. Unplug the MAF sensor connector allowing the sensor removal and installation outside the vehicle. This will most likely set a CEL which must be cleared after the install is complete. This is a much easier approach and is the method we will carry out for these instructions. In any case, **DO NOT REUSE THE STOCK MAF SCREWS!**

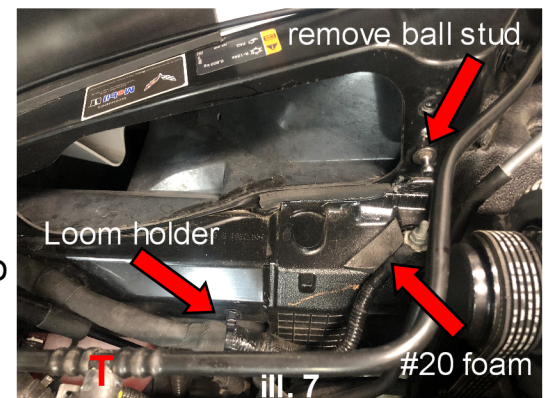
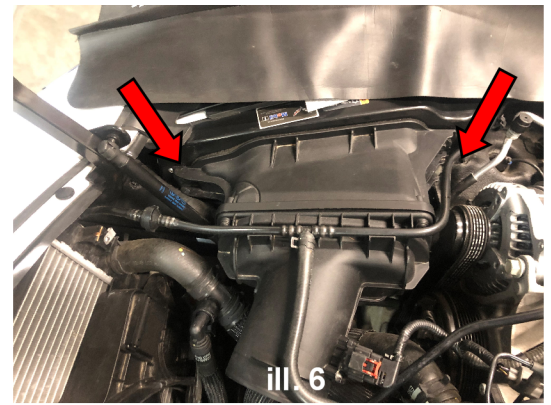
On the MAF sensor, pull the red retainer rearward to expose the push tab on the connector. Fully depress the push tab to disengage the connector.

Remove stock air box Using a 10 mm socket, remove the two bolts retaining the stock air box. (see ill. 6) Remove the air box being careful not to put excessive stress on the coolant line assembly.

Preassembly steps Use a 10 mm socket to remove the ball stud from the chassis. (see ill. 7)

Locate the #20 foam seal 2 3/4" long with 45 degree cuts and one alcohol pad. Clean the area shown and install the foam against the ground wire and flush with the turn down on the frame as shown in ill. 7.

7. Loom holder modification Locate the large loom holder pointed out in ill. 7. Use a pry tool to disengage the loom holder from the frame. Spin the loom holder around to gain access to the release tab. (see ill. 8) Use a screwdriver to depress the tab to disengage the loom holder. Remove the loom holder and flip it over. Reinstall it on the loom so the barbed portion is now higher than the loom itself. (see ill. 9) Reinstall the loom holder in it's original mounting hole.



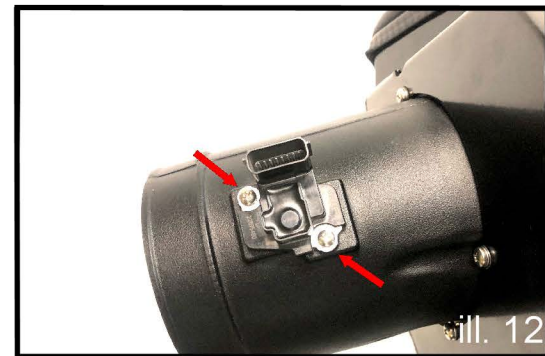
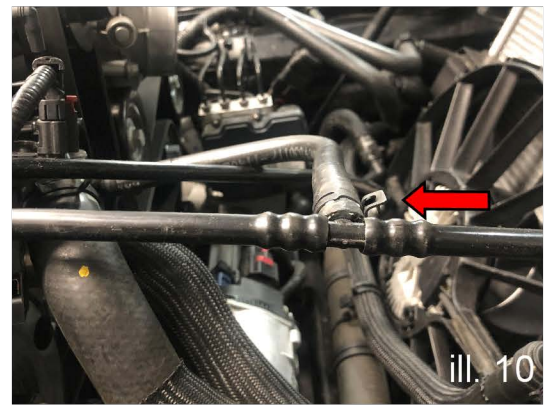
Preassembly cont'd. Using plyers, squeeze and rotate the clamp on the "T" in the 3/8" ID coolant line assembly so the ear is the same level as the top of the hose. It is the junction marked with a red "T" in illustration 7. (also see ill. 10)

Locate the #3 inlet elbow and the breather adapter consisting of # 9, 11 and 12. Install the breather adapter assembly into the bung on the inlet elbow. tighten until hand tight, then tighten at least one more full revolution. Stop when the assembly is aligned between the black lines on the elbow boss as shown. (see ill. 11) Note this fitting is a tapered pipe thread and isn't designed to "bottom out" the threads.

MAF sensor installation Locate the #1 air box assembly and the two #13 M4 MAF screws. **DO NOT REUSE THE STOCK MAF SCREWS!** Insert the MAF sensor into the rectangular hole in the MAF sensor housing such that the mounting holes align with the brass inserts. Start both of the screws, then tighten both securely. (See ill. 12)

Air box installation During installation of the air box, leave the foam protective wrap on the filter. Avoid excessive stress on the coolant lines and avoid any impact on the filter media.

Lift the coolant line assembly just enough to bring the air box in under it from the rear with the air box angled as shown. (see ill. 13) The flange with the two mounting holes will be generally upward while the front mounting flange will go downward on the *outboard* side of the hood strut towards the front mounting hole. Keep the rear section pointed upward to clear the alternator pulley while starting the filter into the large opening in the inner fender. *The filter should not come in hard contact with the edges of the opening.* Once the rear of the air box clears the alternator pulley, the air box will drop into position. Locate the two #14 M6 mounting bolts and one of the OEM air box mounting bolts. By hand, start one of the #14 bolts in the upper rear mounting hole. Start the other #14 bolt in the lower rear mounting hole. While pushing downward on the front area of the air box, start the OEM bolt in the front mounting hole. Snug all 3 bolts, then tighten. **Remove the piece of tape and pull the foam protective wrap off of the filter.**



Reconnect the MAF sensor harness. You should feel it snap into place, seat the red retainer.

Reconnect the coolant line at the reservoir. Push the line firmly to connect. Once *fully* engaged on the coolant tank nipple, push the blue retainer downward to the closed position. Double check the connection. Engage the line into stock routing retainers.

Reconnect the rubber coolant line. Route under breather line. Fully engage the rubber coolant line onto the nipple on the motor side. Using plyers, squeeze the clamp ears to move the clamp. Position the clamp fully on the clamping surface but do not position all the way to the edge of the hose. (see ill. 14)

Install convoluted loom and 3/8" loom holder.

Locate the # 17 convoluted loom. Spread open one end to slip it over the coolant line and locate as shown. (see ill. 15) Locate the #16 loom holder and the #15 stainless steel buttonhead bolt. Position the loom holder on the line as shown in ill. 15 and squeeze the ears back together. Insert the #15 bolt through the hole and start the bolt in the threaded insert on the air box. With the clamp perpendicular to the line, push the clamp towards the inside corner of the air box as much as possible and tighten with a 5/32" allen wrench.

Install couplers and inlet elbow. Note the throttle body coupler has a 4 1/4" ID as it's intended for a 103 mm throttle body. (If you are using a stock throttle body, you will need our stock throttle body adapter part# 10132004). Locate the #6 silicone coupler and the # 8 100-120 mm hose clamp. With the clamp on the coupler, fully engage the coupler onto the throttle body. Tighten in the position shown. Do not overtighten. (see ill. 14) Locate the # 5 hump hose coupler and a # 7 120-140 mm clamp. Position the clamp on the hump hose, then fully engage the hump hose onto the MAF sensor housing. Tighten with the clamp positioned as shown. Do not overtighten.

Locate the remaining two #7 120-140 mm hose clamps. Slide one completely over the throttle body coupler so it is out of the way and the other over the open end of the hump hose. Be sure the clamp hex heads are oriented the same as the installed clamps. You may want to apply a small amount of windex to a paper towel and apply a thin coat to the inside of both hose couplers to act as a lubricant. Route the long end of the #3 inlet elbow *under* the breather line and into the hump hose with the opening of the throttle body end (short end) facing upwards. Once fully engaged in the hump hose, roll the inlet elbow inwards to engage the step coupler.



Engage the elbow in the bottom of the step hose, then engage the top. Push the elbow firmly and fully into the step hose. Rotate the inlet elbow as necessary to achieve optimum alignment. Center each hose clamp on the clamping surface and tighten. Do not overtighten. (see ill. 16)

Engage breather line. With one hand, support the bottom of the breather assembly on the inlet elbow while engaging the breather line onto the breather fitting. You should feel the fitting snap into place when fully engaged. Pull upward to verify engagement. Confirm adequate clearance with the cooling fan.

Double check.

- Have both coolant line joints been reconnected?
- Are all four large hose clamps tight?
- Is the breather hose reconnected?
- Is the MAF sensor connector fully engaged?
- Is the foam protective wrap removed from filter?

Reinstall the air extractor. Place the air extractor in it's original location, start all four bolts, then tighten.

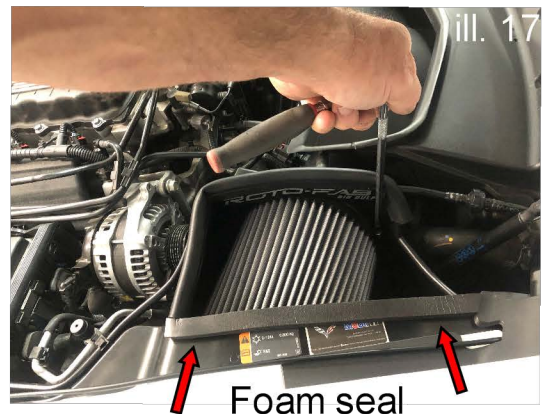
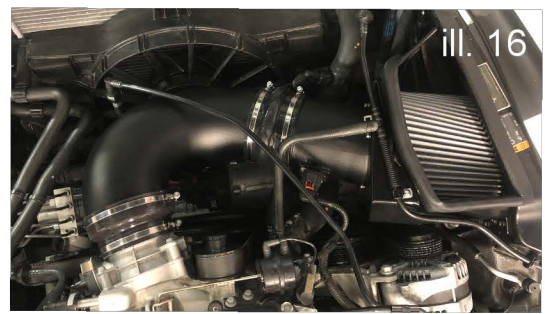
Install #19 foam seal. Use the remaining alcohol wipe to clean the surface before installing the foam seal.

Install the foam seal by first aligning the front angle cut, then following the edge of the radius towards the rear. Seal to the flat surface along the radius without overlapping the radius of the fiberglass corner. Don't stretch the foam while installing. (see ill. 17)

Filter adjustment (if necessary) Check gap between the filter media and the upper edge of the fenderwell opening. (see ill. 18) If the gap exceeds $5/16"$, use an 8 mm socket (ill. 17) to loosen the filter clamp, gently rock the filter upwards until the gap is $1/4"$ to $5/16"$ and tighten the clamp. *Do not rotate the filter.* For reference, the horizontal flat area of the filter should remain parallel to the upper fiberglass edge of the opening.

Reconnect battery. Note it may be necessary to clear a CEL which is typically set when unplugging the MAF sensor. Installation is complete!

Future Filter removal/replacement. (see ill. 19) . With air box removed, use the lines molded in the filter end cap to align with the top of the rear mounting hole (most accurate) For reference only, the front line should be approx. $1/8"$ up from the lower corner of the front mounting tab. Once installed on the vehicle, adjust for the $1/4"$ to $5/16"$ gap from fiberglass edge as previously explained. (if necessary)



Lines on filter shown in gray for clarity

