2018 intake manifold Installation Instructions for 2015 Mustang GT.

Parts Required:

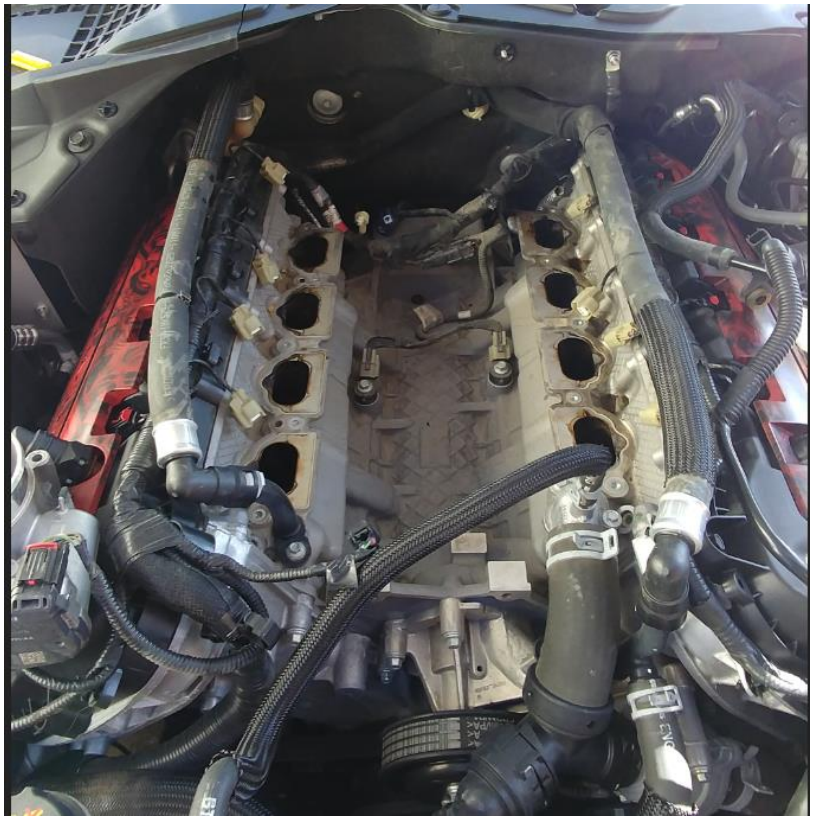
- 2018 Intake manifold Part #JR3Z-9424- A
- IMRC actuator pigtails Part #WPT1492 or plug and play harnesses (3)
    - True plug and play harness(s) available from EODTech97 on the mustang 6g forum
        - https://www.mustang6g.com/forums/member.php?u=33796
- 2-3 feet of 3/8 vacuum or fuel line
- 5/8 hose clamps x 6
- Lund racing tune revision.
- Heat Shrink
- Wire loom
- Electrical Tape

Tools Required:

- Electrical pliers
- Needle nose pliers
- Small flathead screwdriver
- Deep well 10mm socket
- 8mm socket
- Soldering iron and solder
- Knife
- Trim panel clip removal tool
- Heat gun

First step is to remove the factory intake manifold; this is fairly straight forward but here are a few key items.

1. Remove pressure to fuel rails – Remove fuse for the fuel pump and start vehicle. Once it dies the pressure should be relieved.
2. Remove air box/cold air intake.
3. Disconnect all throttle body electrical connectors and vacuum lines.
4. Move coolant hoses that are over the fuel rail (do not disconnect).
5. Disconnect fuel rail (4- 10MM bolts) and fuel line.
    a. Pull straight up to remove.
6. Remove bolts holding manifold to engine block (6 – 8mm Bolts)
7. Disconnect the 4 electrical connections on the back of the manifold.
    a. This is probably the most difficult part of the removal, there isn't much room back there.
    b. There are two white connectors and two blue connectors. The blue disconnect fairly easily, the white (lower) connectors have a red locking tab that needs to be released before you can remove them. A small flathead screwdriver or trim panel removal tool can aid in releasing this tab.



At this stage I HIGHLY recommend taking some blue painters tape and taping the intake runners closed. Dropping a socket into your engine would really fuck up your day. (don't forget to remove it before you put the new manifold on you dummies)

Physical installation of the new intake is the reverse of this process and does not need to be documented, take pictures as you go if you are unsure of the order everything needs to go back. Below we will cover the changes that are needed to retain the CMCV controls on the car as well as vacuum hose rerouting. If you are hard wiring new pigtails onto the car it is easiest to do this with the manifold removed. Important Note: *The proper torque spec should be 106 INCH-pounds followed by a 35 degree turn on each bolt.*

CMCV/IMRC Intake runner control wiring.

Note: if you are deleting/locking out the CMCV solenoids you can skip this section. It is recommended to seal the connectors so you do not have them dangling loose in the atmosphere. A tune revision will be required for anyone locking out the CMCV to prevent a check engine light.

This is probably the area where there has been the most confusion online and the place where we see most people run into trouble. There is information floating around about plug and play harnesses that do not alleviate all wiring needed. While others are more complete.

On the 2015-17 Cars there are FOUR connections, two on each bank of the engine. 1 white and 1 blue per side. On the 2018 cars there are only THREE plugs, one blue and two white. As we refer to the 2015 harness. The two white plugs remain side specific with the new manifold however the two blue plugs need to be summed or wired together into a single plug. So if you purchase only the 'plug and play' harness for the white plugs, the two blue plugs still need to be hardwired together. This is the step most people miss.

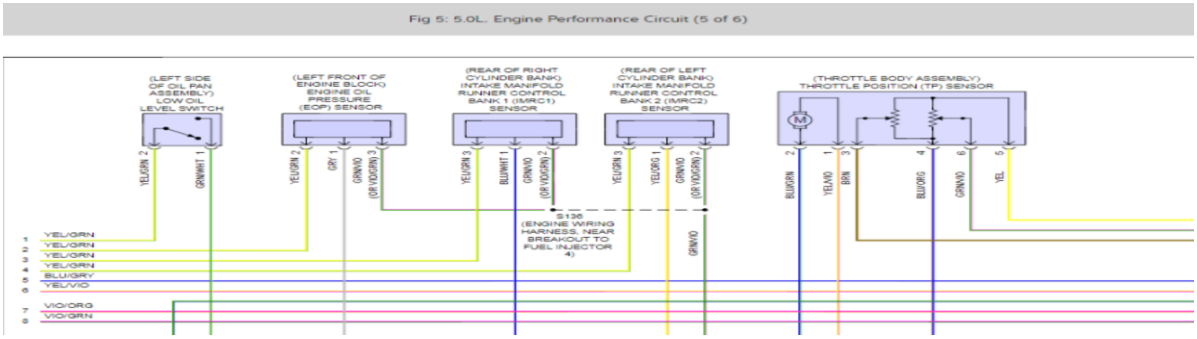
There is one true plug and play set of harnesses we have seen that are available from a member of the mustang6g forum. The link to his contact information is above. Lund Racing has no affiliation with Jason however his harnesses did work for our test vehicle. This will remove some of the stress of cutting the harness on a relatively new car for those not comfortable. If you are not sure of your splicing skills, buy the harness and save yourself a headache.

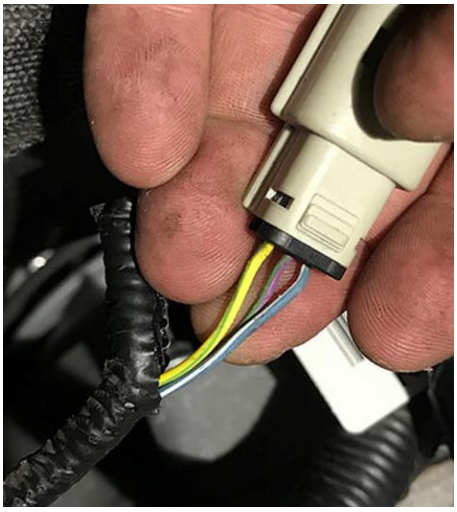
Pictured below is the harnesses provided.

If you do not elect to purchase a plug and play adaptor you would need TWO wiring pigtails from Ford.. Part number is wpt1492 and you would need two of them. These are harnesses to lengthen the 'white' plugs that remain side specific and then you would need to tie the two blue plugs together.

Hardwiring of the pigtails.

Beginning with the white plugs, each side has a different colored wiring.

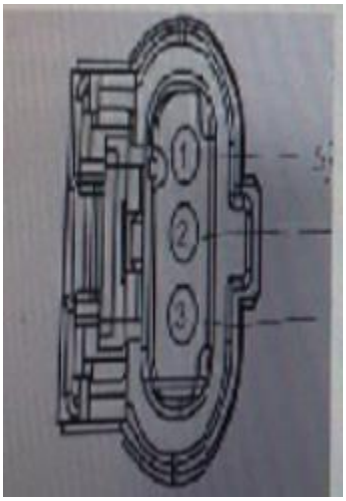




Passenger side

Drivers Side

The pigtails (part WPT1492) need to be wired as follows. With the pigtail facing as shown.

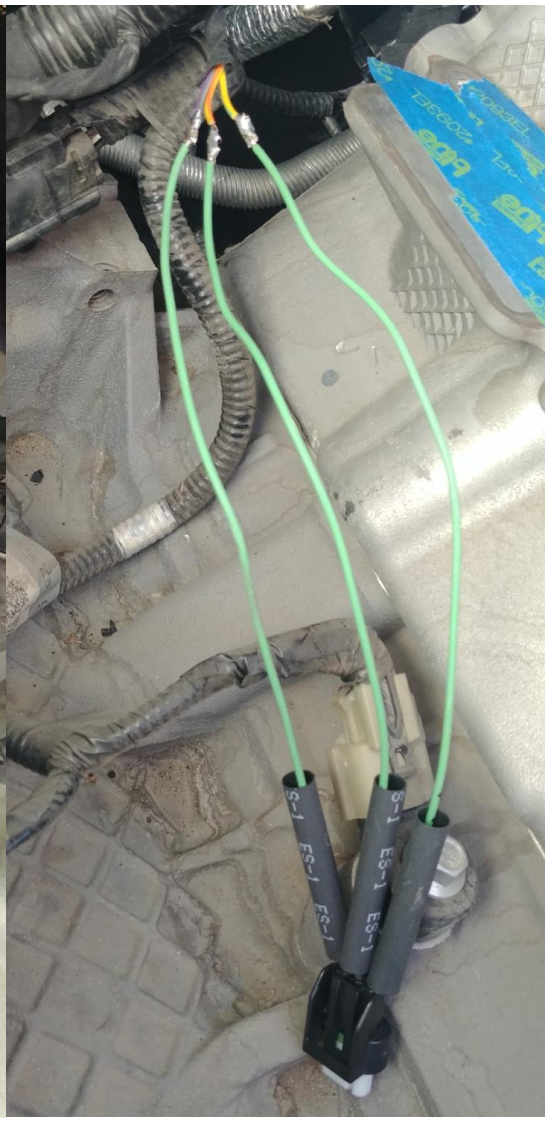


	Passenger Side:	Drivers Side:
1.	Yellow/Green	1. Yellow/Green
2.	Blue/White	2. Yellow/Orange
3.	Violet/Green	3. Violet/Green

Cut/Solder/Splice the connections and use the heat shrink provided by ford to protect your connections. Using butt splice connectors is not recommended. Once the connections are made it is advisable to use some wire loom or electrical tape to tidy up the harness and protect the wiring.

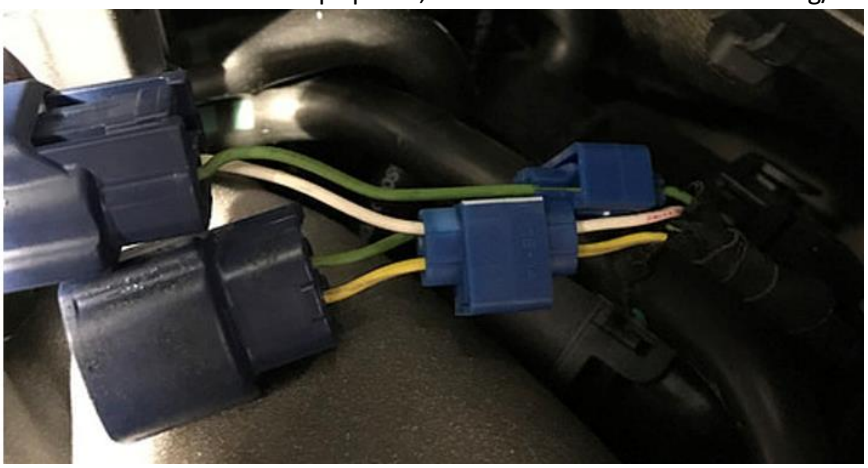
Passenger Side

Drivers Side



The second set of pigtails are the blue set. These need to be combined from 2 pigtails into one. The easiest way to do this is to cut off one of the two (it does not matter which one) and leave the other connected while striping back some of the wiring insulation. From there you can solder the cut harness onto the one that is still connected. This will give you the most secure connection with the least amount of cutting.

The blue connections both have a common green wire that need to be tied together. The other two wires are white on one side and yellow on the other. They need to be spliced together as well. Below is an illustration of how this was done with tap splices, however we recommend cutting/soldering instead.

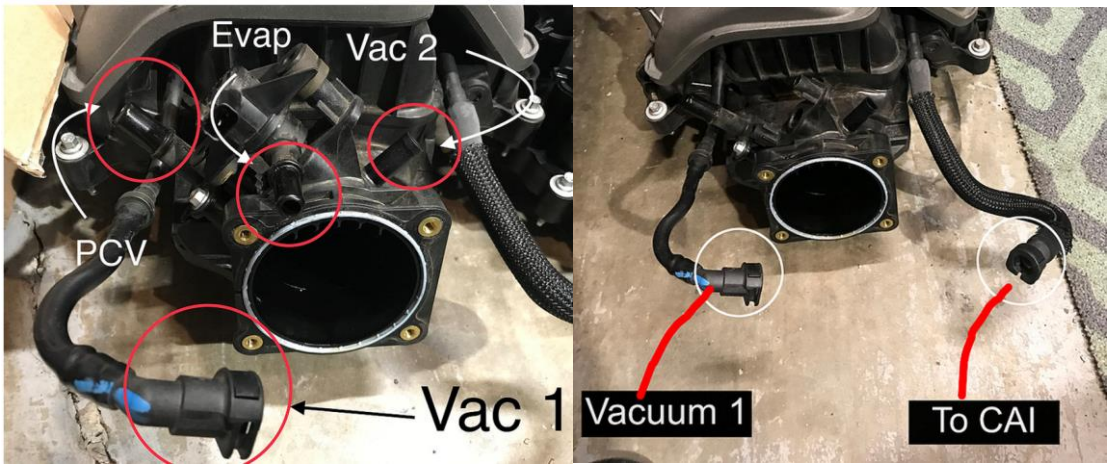


Vacuum Line routing.

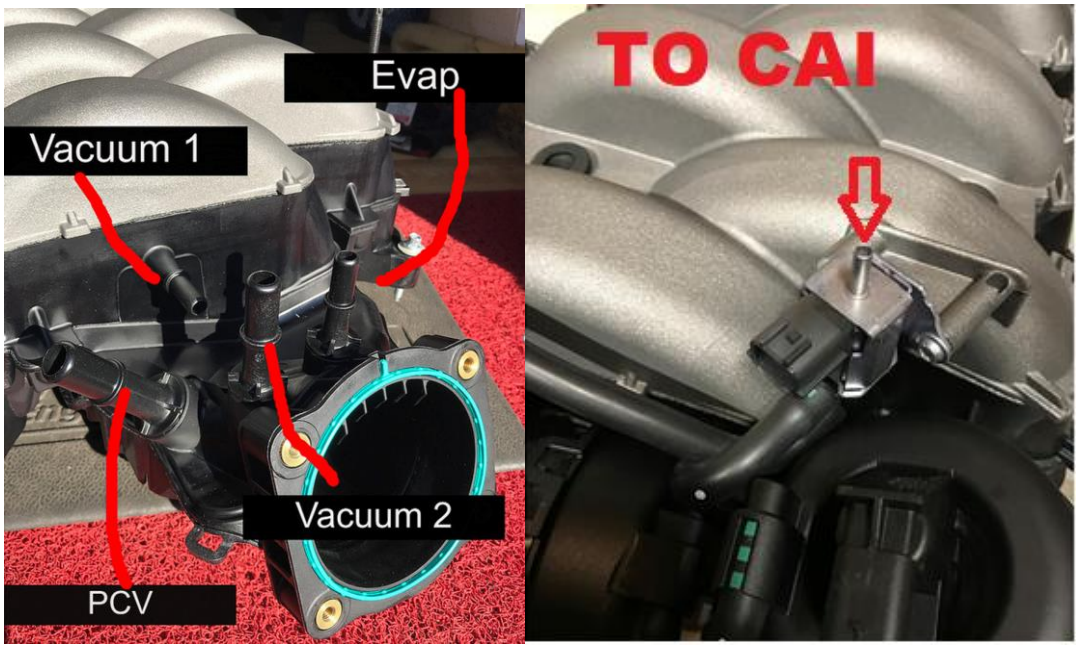
There are a few differences between the manifolds when it comes to the vacuum hoses as well. Each manifold has one PCV connection, one evap connection, and two vacuum connections. The the stock manifold has two vacuum connections for the IMRC solenoids while the 18' manifold only has one. The 18 manifold does not have a port to bolt the evap line so instead of sitting ‘in’ the manifold it is just connected with a few inches of vac line. “Vacuum 1” is moved to the front of the manifold on the 2018 instead of being a pass through to the rear. The line running from the CAI to the solenoids will have to

run on top of the intake manifold instead of under the runners, laying it alongside the coolant lines is the easiest.

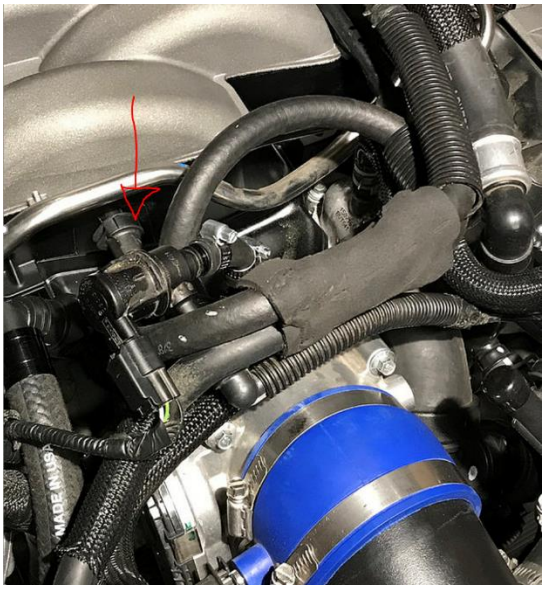
2015 Manifold

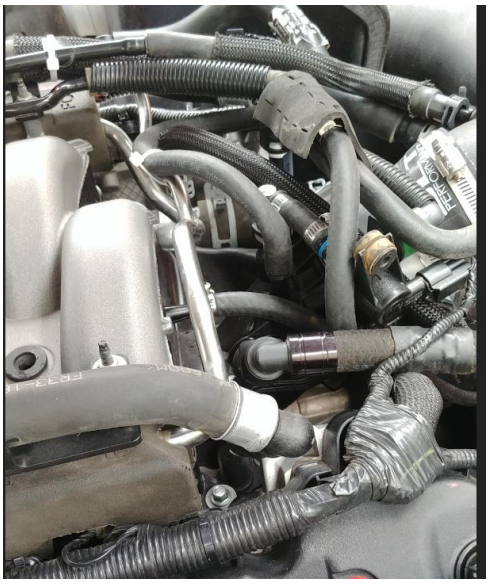


2018 Manifold



People on the forums seem to be over complicating this part quite a bit, find a place for the EVAP solenoid to sit that the connection will reach. You can trim the bolt holes off as this picture from the forums shows to allow it to fit more snugly. Cap the remaining line that ran to the 2nd solenoid line as well.





Other than the evap move, everything is quite straight forward, connect the PCV back to your pass side catch can or cover and the lines to your CAI. Here is a larger pic to show the overall routing.

Possible codes:

1. P2004/2005/2006/2007: IMRC Actuator Stuck open/closed bank1/bank2
   Causes:
   The 2015 PCM is expecting the IMRC Sensors to be putting out approximately 1.16v when they are closed and 4.00v when they are opened. The 2018 IM sensors are putting out 1.45v when they are closed and 3.39v when they are opened. If you do not have a tune revision for the 2018 IM the PCM will incorrectly believe that the manifolds runners are not operating correctly. If you do have a tune revision from Lund Racing, then check the wiring on the white plugs on the back of the intake to ensure the connections are correct and solid. This can also be caused by the non hard wired (PNP) harnesses if the connection is not solid. Splicing the wiring is preferential to avoid these codes.

2. P2008/2011: Open electrical connection on bank 1 / Bank 2
   a. Cause: This is common when someone does not splice the blue connections and leaves one unplugged. The PCM sees that the connection is open and throws these codes. Ensure the blue connections are properly spliced or that the T harness is correctly plugged in.