

INSTALL INSTRUCTIONS

Part #s 42799, 42799-PC, 42799-B

Monster-Ram® Air Intake
2019+ Dodge/Ram 6.7L



Note:
Does Not Fit
Cab and Chassis



Note:
Dipstick Relocation
Bracket Only Used
With Heater Coil

Dipstick relocation bracket is needed when using the Banks High-Flow heater and Billet Plate.



Important!
Do Not Remove
Lower Nut

If installing with the Banks High-Flow heater and Billet Plate, the lower locking nut must not be removed from the heater coil. Take care when installing OEM heater wire ring terminal, it must be sandwiched between lower and upper nut.

The threaded terminal is insulated, if the OEM heater wire touches other metal components, an open short will occur.

Item	Description	2019+ Part #	Qty.
1	Monster-Ram Intake Manifold	42781	1
2	Gasket, Intake Manifold	93063	1
3	Fuel Line, #1 Injector	43218	1
4	Flanged Socket Head Cap Screw M8-1.25 x 35mm	91559	2
5	Socket Head Cap Screw, M8-1.25 x 150mm	91560	2
6	Socket Head Cap Screw, M8-1.25 x 50mm	91561	2
7	Washer, M8	91697	4
8	Plug 1/8 NPT	13251	4
9	Plug, M12-1.25 12mm	92351	1
10	Gasket, Throttle Body	93004	1
11	Plug, M22	13277	1
12	Gasket, EGR	93006	2
13	Heat Shield, EGR Valve	53401	1
14	Bolt M6-1.00	91763	1
15	Spacer, EGR Valve Heat Shield	24333	1
16	Heater Element	62213	1
17	Flange Nut, M5	91585	1
18	Bracket, Dipstick	72305	1
19	Flanged Hex Bolt, M8-1.25	91584	1
20	Harness Extension - EGR Valve	62215	1
21	Harness Extension - Thermocouple	62212	1
22	High Flow Billet Heater Plate	42713	1
23	Gasket, Heater Plate	93062	1
24	Fuel Rail Spacers	42713-05	4
25	Bolt, Heater Wire Adapter	91754	1
26	Heater Wire Adapter	62558	1
27	Heat Shrink, Heater Wire Adapter	90200	1

RECOMMENDED TOOLS

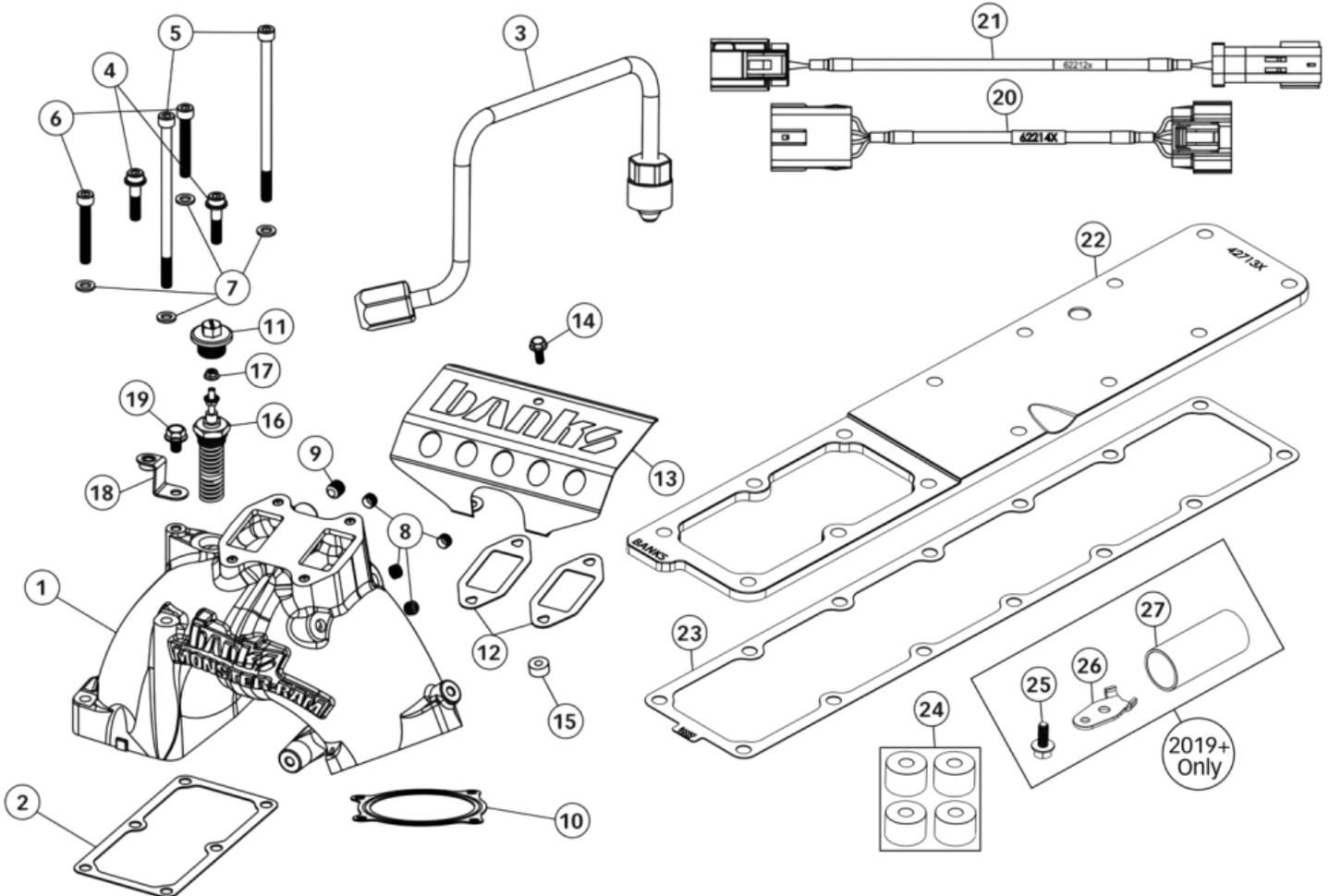
Metal panel popper tool
Telescoping magnet
Rubber mallet

Torque wrench
Socket wrench
Socket wrench extensions
Wobble sockets or universal joint adapter
8mm socket
10mm socket
11mm deep wall socket
13mm deep wall socket

8mm open end wrench
10mm open end wrench
13mm open end wrench
17mm open end wrench
19mm open end wrench
1" or 26mm open end wrench
19mm crow's foot

T-30 Torx bit

Aero Tac LV, 3M Super 77 or other
spray adhesive



OEM Harness & Sensor Removal



1. Disconnect Batteries

Place a rag around each of the negative battery cable ends; this will prevent them from touching the battery again and arcing during the install as you work.



2. Remove Engine Cover

Remove engine beauty cover. Use an 8mm deep socket to remove the four bolts holding the cover down.



3. Remove Dipstick

The dipstick needs to be removed for the cover to come off.



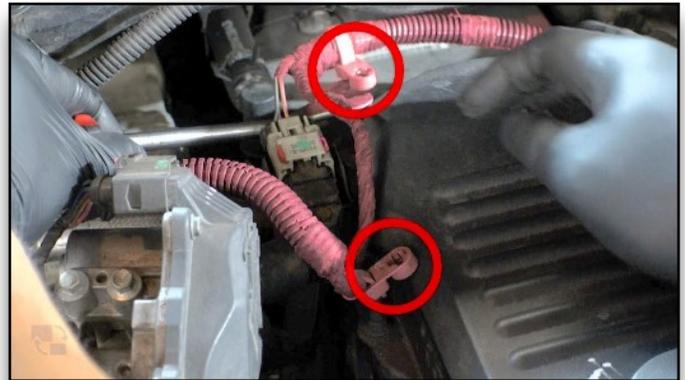
4. Remove Engine cover, Reinsert Dipstick



5. Remove Cable Tie Downs

Use a panel popper tool or pliers

Note: The 2 bolts with studs extending up past the head are to be located on the left rear of the cover.



6. Remove Cable Tie Downs



7. Remove Engine Cover Bolts

There are 8 bolts holding on the cover. A wobble extension and placing the socket on the bolts first helps.



8. Remove Oil Fill Cap



9. Place Rag Over Filler Neck



10. Remove Bolts Holding Crossover Bracket

This bracket will not be reused.



11. Remove Rag, Set Down Cover



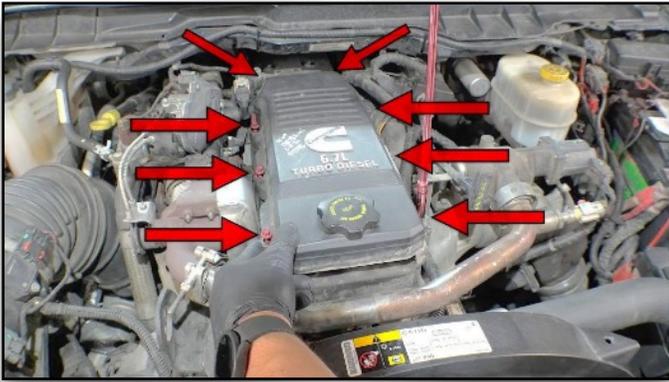
12. Install Oil Filler Cap



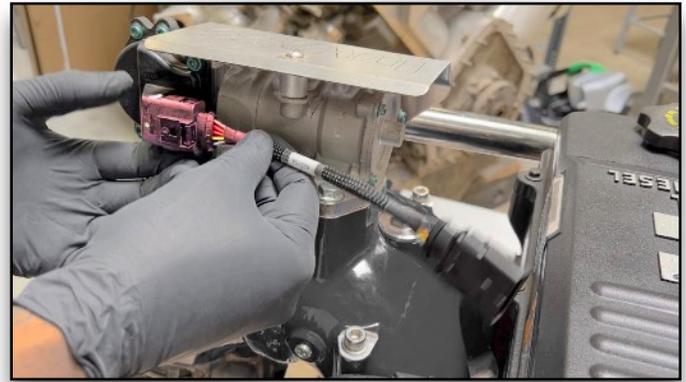
13. Remove Bolt Under Center of EGR Crossover Tube



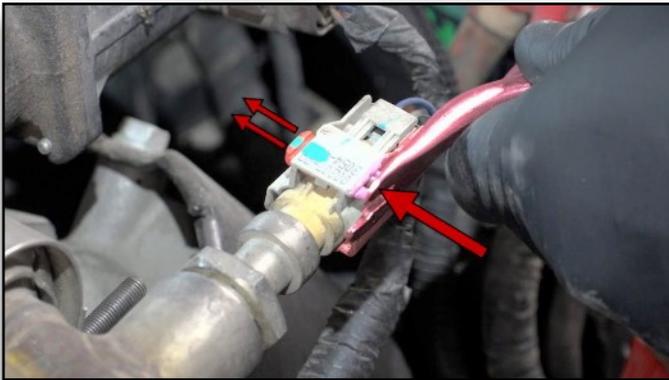
14. Remove and Dispose EGR Tube P-Clamp



15. Reinstall 8 Engine Cover Bolts – Studs in Rear Passenger Side



18. Remove EGR Valve Plug
Press the locking tab, press the plug forward to release tension, then pull back to remove.



16. Unlock Temp Sensor Plug From EGR Crossover

Use a flat-blade screwdriver or pry tool to push the slide-lock



17. Remove Temp Sensor by Pinching It
Unclip this wire clip for extra clearance.

EGR Tube Removal



19. Loosen EGR Clamp Driver's Side

Use a small flat blade to release the clip.



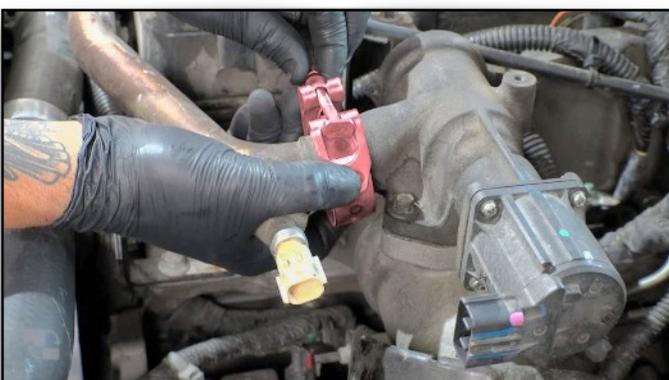
20. Flip EGR Clamp Upside Down

Do not remove the clamp yet.



21. Loosen EGR Clamp Passenger Side

Do not remove this clamp yet (A gasket will slip out and fall if you do)



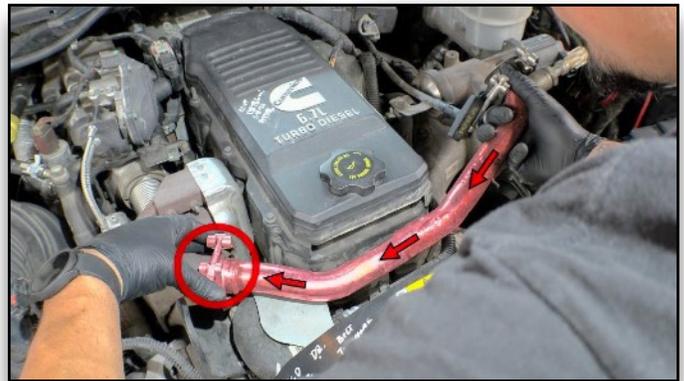
22. Release Driver side EGR Clamp

Keep a hand under the clamp in case the gasket comes loose.



23. Release Clamp and Remove Gasket

Catch the gasket and put it aside for later, this will be reused.



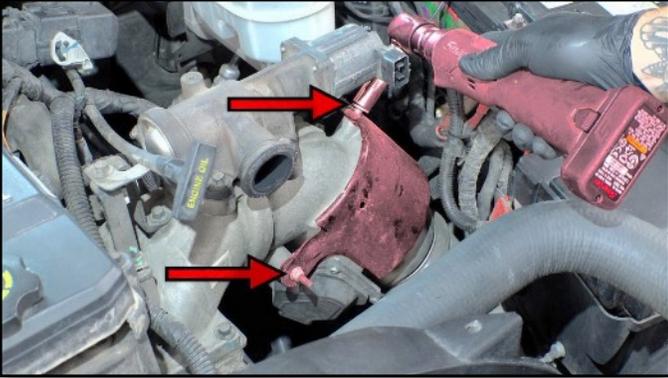
24. Release Passenger Side EGR Clamp

Apply pressure to keep the gasket in place and keep your hand under the passenger side clamp to prevent the flat EGR gasket from falling into the engine bay.



25. Catch EGR Gasket From Falling

Intake Elbow Removal



26. Remove Throttle Heat Shield



27. Cut Dipstick Tube Zip Ties

Free up the thick 12V wire for the grid heater.



28. Remove 12V Harness P-Clamp



29. Remove Heater cable from Terminal

Relocate the wire out of the way once the free.

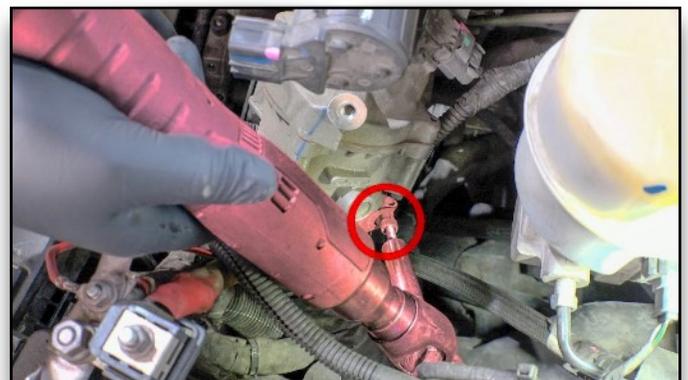


30. Remove Dipstick Tube Bracket



31. Bend Tube Up Slightly

The Monster-Ram is slightly taller than the factory Intake Elbow; you'll fine-tune this bend after the Monster-Ram is installed.



32. Loosen Boost Tube Clamp

This does not have to be fully removed, just release tension on the hose



33. Pry Boost Tube Hose Off Throttle Body

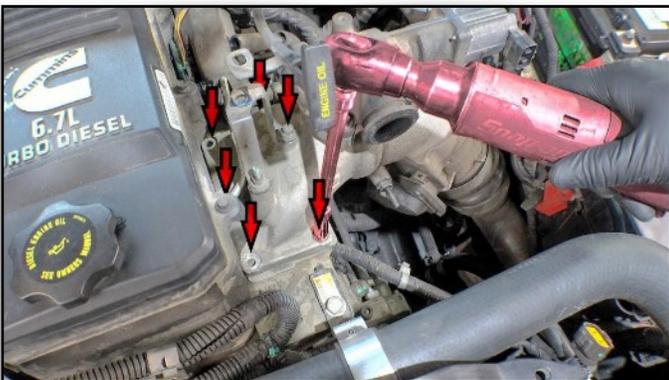
The hose may feel stuck or glued to the throttle body; carefully walk a panel popper tool around the tube to loosen its grip on the throttle body. This will make removal later on easier.



34. Remove Cable Tie Back of Elbow & Unplug MAP sensor



35. Remove Forward PCV Hose



36. Remove 6 Bolts on Elbow

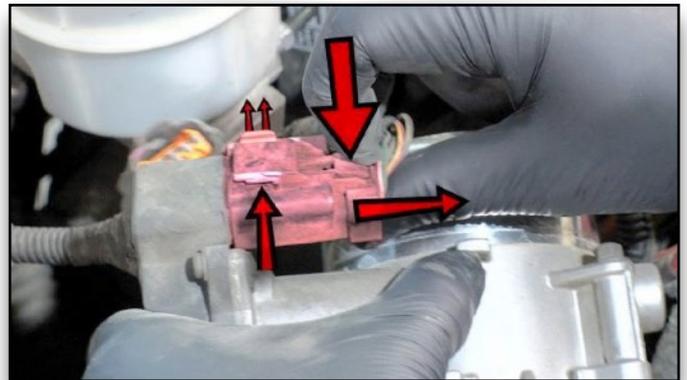


37. Lean Elbow Toward You & Dislodge Boost Tube

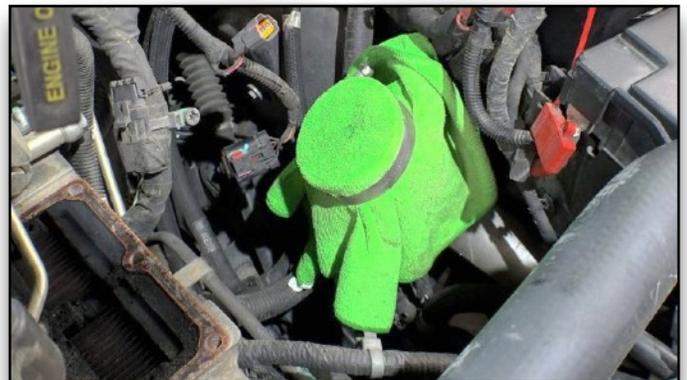


38. Remove Throttle Control Plug

Now that the elbow has been leaned forward, you can easily reach this plug.



Slide tab over and depress the end to remove the plug.



39. Place Rag & Clamp Over Boost Tube

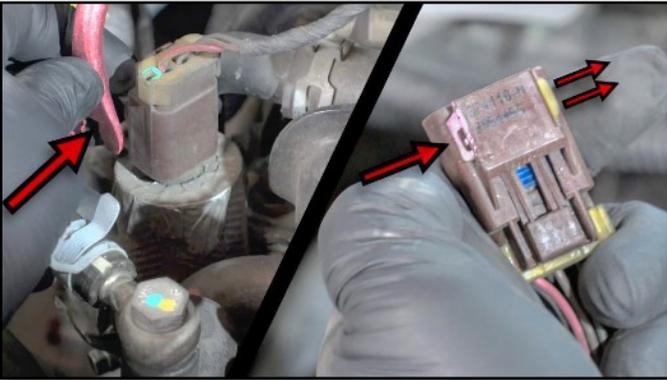
Factory Heater Plate Removal



40. Locate First Passenger Side Plug



Depress button to release clip



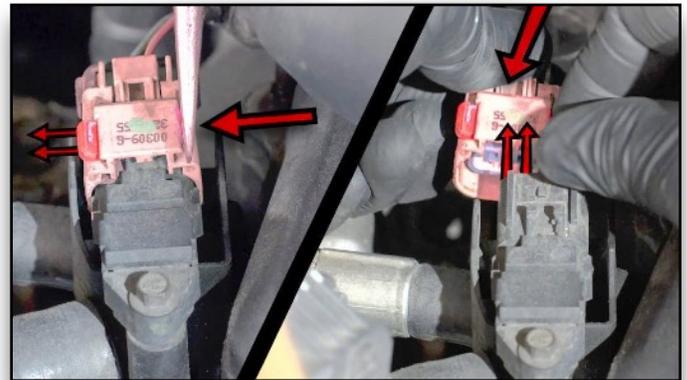
40a. Slide the pink locking tab over, then pull to release



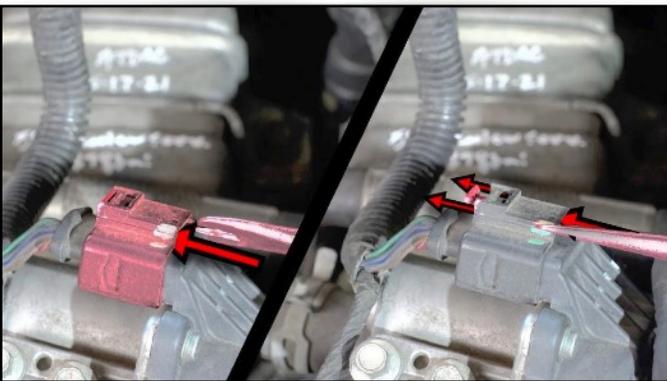
42. Locate Third Passenger Side Plug



41. Locate Second Passenger Side Plug



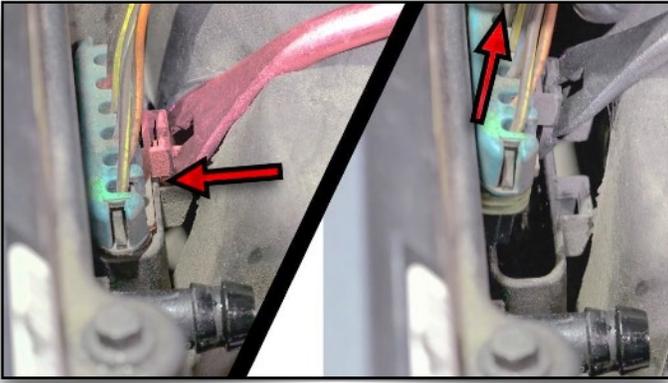
42a. Disconnect Third Passenger Side Plug



Slide Lock In



43. Locate Flat Blue Driver Side Plug

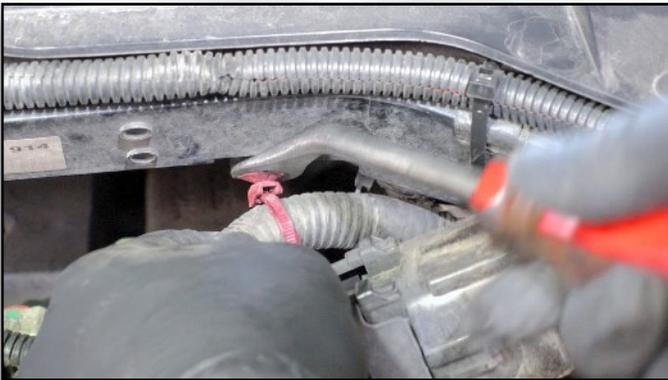


43a. Press in the clip with a flat tool, & pull up.



44. Disconnect Large Driver Side Engine Harness

Depress clip and fully rotate the white lock, then pull to disengage. May need some force due to dust, grime, etc.



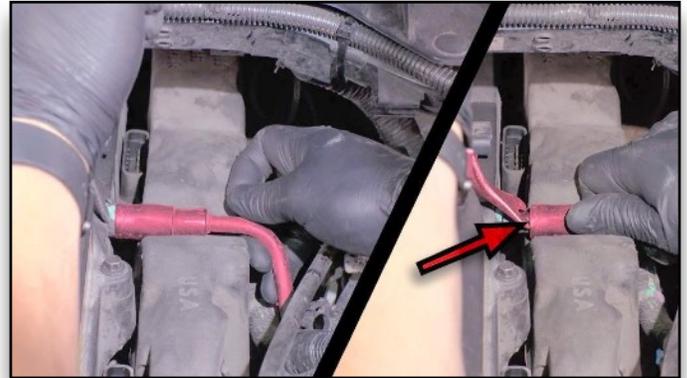
Release cable tie



45. Remove Rear Driver Side Plug



46. Remove Rear Driver Side Flat Blue Plug



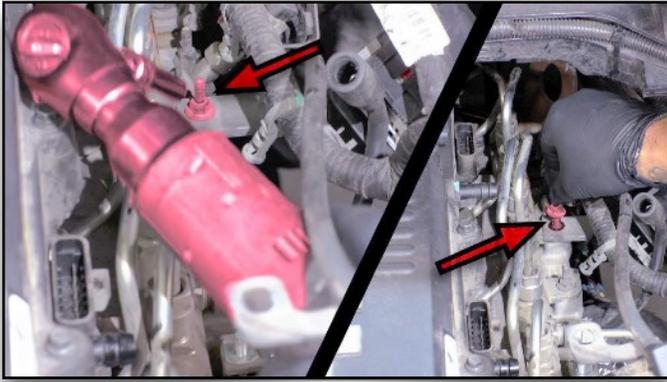
47. Remove Rear PCV Hose



48. Remove Rubber Isolator



49. Remove Cable Ties from Driver Side Studs



50. Remove Dipstick Tube Stud



51. Bungee Cord Dipstick Tube

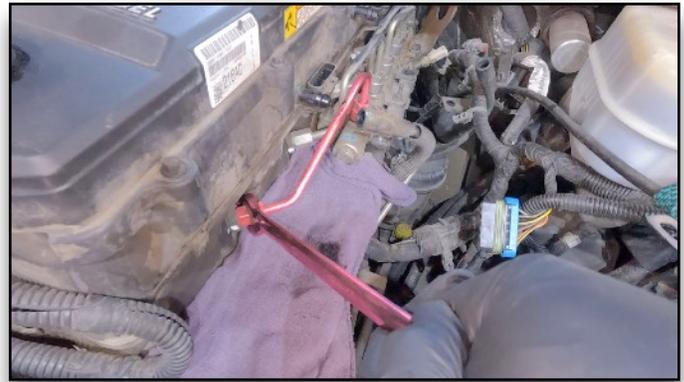


52. Place Rag Over Intake



53. Paint Marker Line Across Threaded Insert & Cylinder head

This will allow you to see if the threaded inserts into the head start to turn when loosening the fuel lines. You do not want the insert to spin loose, as this will cause a fuel leak.



54. Remove Fuel Lines

If the inserts in the head start to move, use an open ended wrench to hold them in place.



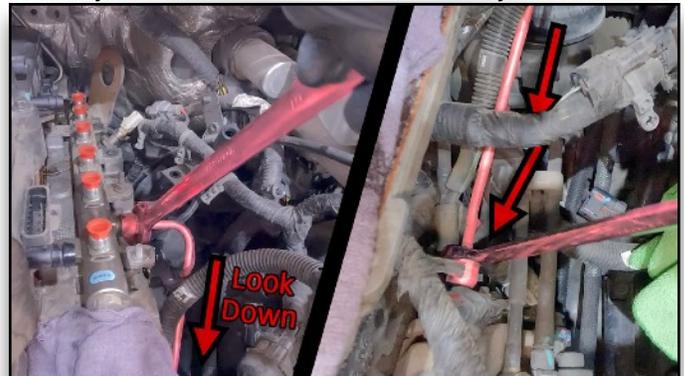
55. Install Dust Covers

Insert the covers, open end facing out. The caps should fit (inside) each blocked port.



56. Loosen #6 Fuel Line, Rotate Out of Way

Do not fully remove the rear fuel rail. It is difficult to reach and only needs to be moved out of the way as shown.



57. Loosen High Pressure Fuel Feed Line

Both the upper and lower ends



58. Swivel Back High Pressure Fuel Feed Line



59. Rear Sensor Removal

Locate the rear thermocouple. Remove its black plastic cover by prying up & away from the sensor body.



Once the cap is removed, press the small red locking tab in, then unplug the sensor.

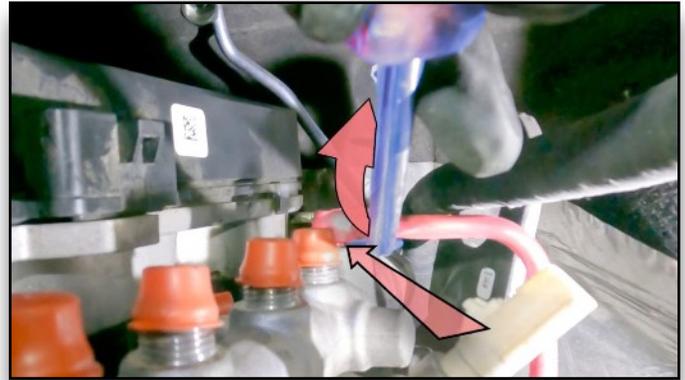


60. Loosen Rear Fuel Line

Note: There is a washer between the fuel rail and fuel line. Take care not to lose it when removing the banjo bolt.



Carefully remove the banjo bolt from the fitting.



The hard line does not have to be fully removed. Carefully pry the fuel line up just a hair, and slide the washer out with a screw driver.



Don't lose this washer.



61a. Remove Fuel Rail Bolts



61b. Place Rag At Rear of Fuel Rail

There will still be fuel in the rail, and it'll leak out in the next step if you don't do this.



62. Bungee Fuel Rail

Be sure that rag stays at the rear of the fuel rail, it will leak when you tilt it back.



63. Remove Factory Grid Heater



64. Clean Manifold Surface

Take care not to scratch the surface, and vacuum out any debris that fall into the manifold.
A rag with some solvent can clean up the finer material.



65. Spray Adhesive to Gasket (Banks Side)



Side that says Banks, should be the side with the adhesive. Let it sit for about 3 min for the glue to tack up.



66. Align Gasket & Stick On

Line up all of the bolt holes, and stick the gasket to the flat side of the billet plate.



67. Transfer Temp Sensor to Banks Plate

Take care when removing the sensor and give it a clean with some scotch brite. Don't over tighten the sensor.

Installation of Monster-Ram



68. Remove EGR Valve & Throttle



69. Remove Throttle Body

The throttle will be stuck onto the gasket, so use a rubber mallet to help tap it free from the elbow.



70. Remove & Transfer MAP Sensor



71. Remove & Transfer Elbow Stud



72. Clean EGR Gasket Surface

Take care not to nick the surface. Do the same for the throttle body gasket mating surface.



73. Place New EGR Gasket On Monster-Ram



74. Fasten EGR Bolts

Apply a small amount of medium strength thread locker.



75. Align Throttle Body Gasket



76. Fasten Throttle Body to Monster-Ram



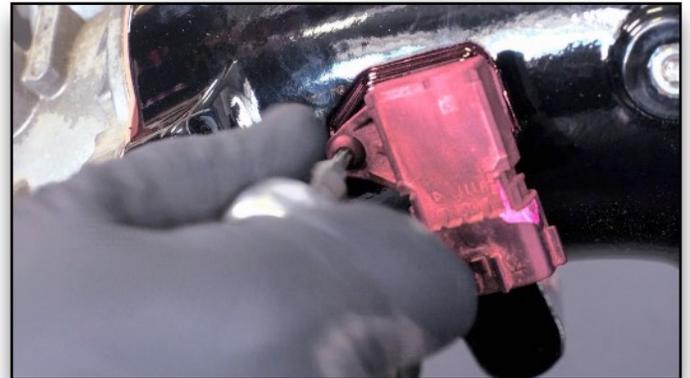
78. Install Rear Thermocouple Plug

IMPORTANT NOTICE:

The 1/8" NPT ports shall only be used for installing sensors for measuring air temperature, pressure, or flow.

Sensors installed to these ports shall have a fitting of 1/8" NPT and shall not be connected to the vehicle's electronic control units. In addition, factory sensors that come equipped on the vehicle shall not be disconnected and shall not be relocated to the ports.

The ports, when not used, shall be closed off with the supplied plugs.



79. Install MAP Sensor

Now is a good time to clean the sensor with some MAF/MAP cleaner spray.



80. Spray Gasket With Adhesive



77. Install Sensor Plugs

Inspect the threaded holes, and be sure there is no powder coat in the holes.



81. Place Washers On Hex Cap Crews. Apple Some Blue Thread-locker As You Install Them



81. Hold Billet Plate In Place w/ Stock Bolt



82. Place Fuel Rail Standoffs



83. Release Bungee Cord. Place Fuel Rail & Studs in Place



84. Tighten Fuel Rail



Torque Bolts to 18-20 ft/lbs



85. Re-Install Temp Sensor. Hand Tighten Washer & Banjo Bolt



86. Tighten Fuel Lines to 30 ft/lbs



87. Tighten Fuel Feed Line to 30 ft/lb



88. Connect Temp Sensor Extension Harness
Be sure to lock the plug once connected.



91. Put Rubber Isolator Back Into Place



89. Remove Middle Right Stud For Dipstick Tube



92. Run Rear RCV Hose Under Dipstick Tube



Slide Dipstick Bracket Over & Reinstall Stud



93. Connect Rear PCV Hose Back To Valve Cover



**90. Push Engine Harness Cable Ties Back
Onto Studs**

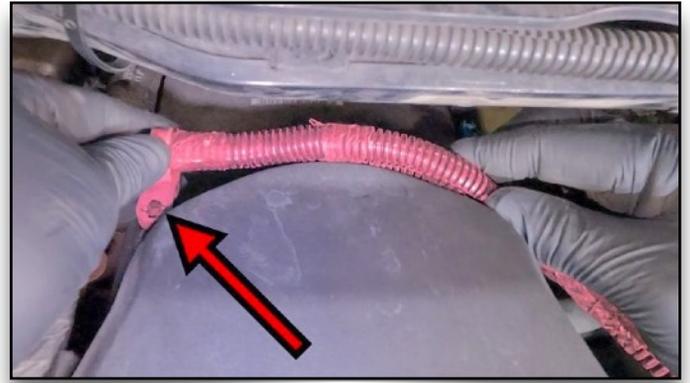


94. Connect Rear Flat Blue Injector Plug



95. Connect Rear White Plug

Be sure to slide the pink lock back into position.



97. Push Cable Ties Onto Studs

Use the supplied extension to reconnect the EGR pipe and tube sensor.



96. Route Engine Harness Under Dipstick & Around Valve Cover



98. Reconnect Engine Harness Connector



96a. Plug In 3 Remaining Plugs



99. Do Not Connect Front Blue Injector Plug Yet



100. Remove Rag From Boost Tube, Put Clamp Back On



101. Insert Monster-Ram Into Boost Tube



Use Hex Key Extension to Tighten Bolt



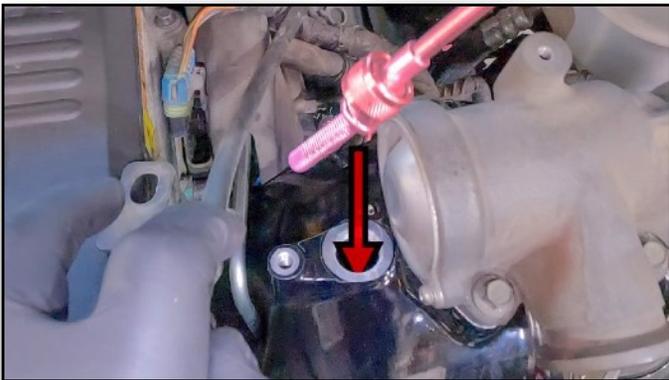
102. Put Long Bolt Into Front Corner by Hand

This will help hold the Monster-Ram in place. Then do the same for the long bolt on the backside. Followed by the two smaller bolts.



Tighten All Bolts to 18-20 ft/lbs

Start with the bolt that's inside the Monster-Ram, then work in a cross pattern to torque to spec.



103. Use Telescoping Magnet to Start Bolts in the Middle of the Monster-Ram

This is useful for the small bolt in the middle where it is hard to reach., and **mandatory** for the one that goes through the top coil heater hole. Be sure to use Medium strength thread locker.



104. Apply Sealant To Heater Coil

Start with the bolt that's inside the Monster-Ram, then work in a cross pattern to torque to spec.

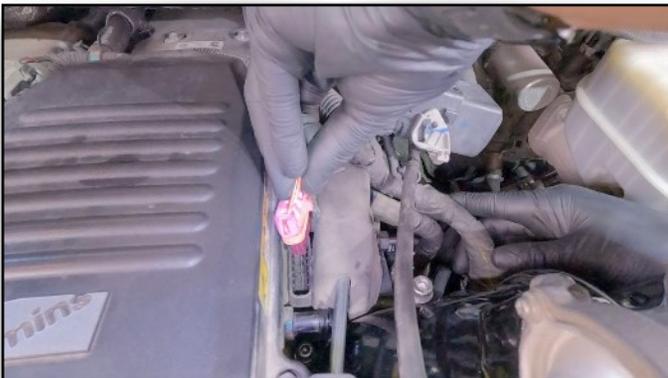


105. Tighten Coil Heater By Hand

Should be right, but don't over do it.

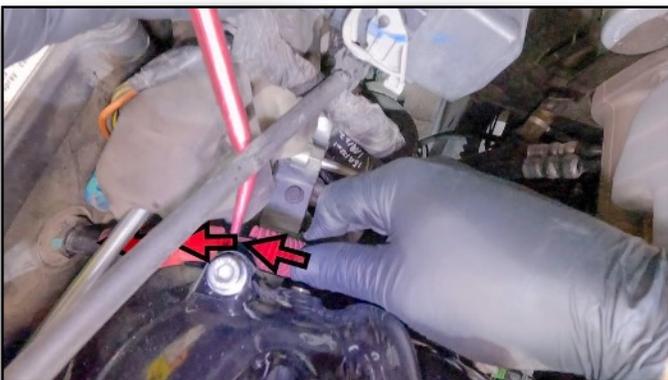


106. Install Dipstick Tube Bracket



107. Now Install Forward Flat Blue Injector Plug

Be sure it clicks.



108. Connect Forward PCV Hose to Valve Cover

This is a tight fit, but doable. Wiggle the rubber hose on the nipple a quarter inch, then use a pry tool as a lever to help slide it on.



109. Plug In MAP Sensor (Rear of Monster-Ram)

Secure the slide lock back into position.



110. Plug In Throttle Plug



111. Tighten Boost Tubes Clamp



112. Remove & Discard 12V Heater Cable P-Clamp



113. Apply Red Thread Locker to Coil Heater



114. Assemble Heater Cable Extension Bracket

2019+ Rams have a permanently attached nut to the OEM heater harness.
Use the supplied adapter and M8 bolt to adapt your 2019+ OEM heater harness. The adapter should be oriented so the bolt is facing up with the nut on top. Use thread locker.



115. Apply Heat Shrink

The heat shrink must cover the bolted area to prevent any accidental metal-to-metal contact. Leave only the new bolt hole exposed.

This is to prevent the possibility of the 12V wire touching any part of the body and causing a short. The heat shrink is thick and will take a moment to start shrinking.



116. Place Heater Cable Onto Threaded Post

The head of the M6 Bolt you just covered needs to face down.



117. Use Two Wrenches & Hold Bottom Nut From Turning

Be sure to support the lower nut with an open head wrench. You don't want to break the stud off while tightening the top nut.

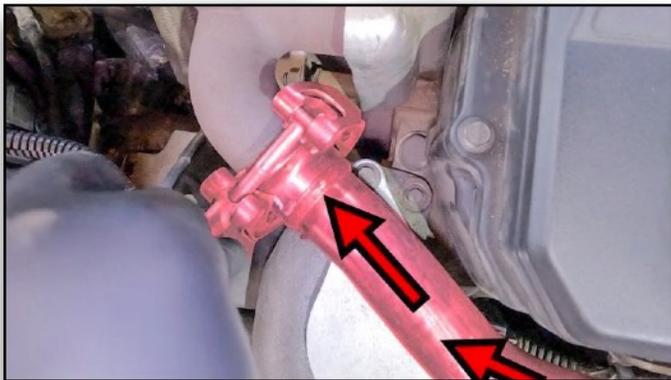


118. Be Sure Lower Bolts Away From Metal

No part of the 12V cable can touch the body of the coil heater. Otherwise it will arc, melt, and fail.



119. Flat Washer Goes on Passenger Side of EGR Tube



120. Put Clamp Over Union & Hand Tighten



121. Conical Gasket Goes On Driver Side of EGR Tube



122. Tighten Driver Side Clamp



123. Tighten Passenger Side Clamp



124. Loosen Front Bolts on EGR Cover



125. Install EGR Heat Shield & Tighten Bolts



126. Place Rear Heatshield Spacer & Screw
Use a drop of thread locker on the screw to prevent it from vibrating out.



127. Tighten Torx Head Screw



131. Reconnect Batteries



128. Install Throttle Heat Shield Bolt & Nuts



132. First Start May Take 1-2 Min Of Engine Turnover

This is normal. The fuel system, rail, and lines need to re-pressurize.

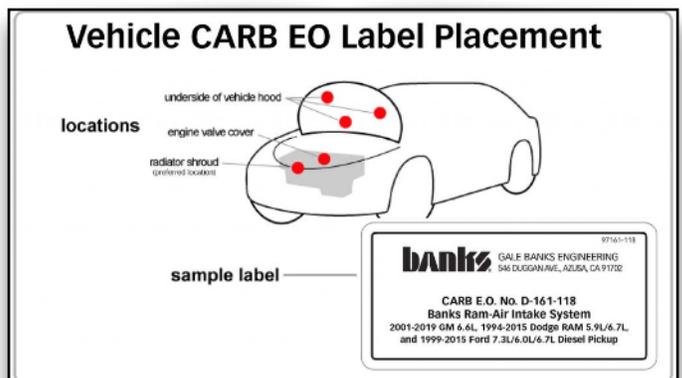


129. Connect Temp Sensor Extension



130. Connect Rear EGR Extension & Harness

Install Complete



CARB EO Label

For smog check purposes, affix the CARB E.O. Label on a visible location under the hood. Banks recommends using the radiator shroud location.