# *SUPERCHARGER INSTALLATION MANUAL*

## *2016 AND UP CAMARO 6.2L LT1*

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*PREMIUM FUEL ONLY (91 OCTANE OR BETTER ALWAYS) RON+MON/2*

## *CALIFORNIA AIR RESCOURCE BOARD EXECUTIVE ORDER# D-231-78*

**COMPETITION BASED PRODUCT MAY BE USED SOLELY ON VEHICLES USED IN SANCTIONED COMPETITION WHICH MAY NEVER BE USED UPON A PUBLIC ROAD OR HIGHWAY, UNLESS PERMITTED BY SPECIFIC REGULATORY EXEMPTION (VISIT THE "EMISSIONS" PAGE AT HTTP://WWW.SEMASAN.COM/EMISSIONS FOR STATE BY STATE DETAILS.**

**COMPETITION BASED PRODUCT IS LEGAL IN CALIFORNIA ONLY FOR RACING VEHICLES WHICH MAY NEVER BE USED, OR REGISTERED OR LICENSED FOR USE, UPON A HIGHWAY.**

**IT IS THE RESPONSIBILITY OF THE INSTALLER AND/OR USER OF THIS PRODUCT TO ENSURE THAT IT IS USED IN COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.**

# *INTRODUCTION*

Before beginning installation, please read this manual and important notes:

- Please read the installation manual and verify that all items are present. If you are missing hardware or have any questions, please contact your dealer or Whipple Superchargers.
- Premium fuel (US 91 octane) is required to prevent spark-knock/detonation under certain operating conditions. Other countries must meet US 91 octane standards, RON+MON/2. **If fuel of less than 91-octane is present in the vehicle fuel tank, the tank must be completely drained and refilled with 91 or higher octane to 1/8th of a tank. The fuel system is returnless, therefore, initial fuel in the system will be low octane. Drain all fuel and run at least 1 tank of 91 through the system prior to installation!**
- Operating your engine without the Whipple PCM recalibration can result in engine damage or failure and will void your warranty.
- Supply your VIN number (along with gear ratio, transmission type, throttle body type and any changes to vehicle) to Whipple ahead of SC installation so your PCM calibration can be built prior to the SC installation to minimize any down time. **NOTE:** Whipple does not support long tube headers or cat removal. While the vehicle may run correctly, it will no longer be emissions legal and therefore not supported.
- Instructions reference **LH** (Left Hand) and **RH** (Right Hand) side of vehicle. This is if you're sitting in driver's seat facing forward.
- This system was designed for stock vehicles. Alterations or modifications of the fuel system, drive train, engine and/or supercharger outside of stock parameters in any way can result in engine damage or failure. Whipple Superchargers is NOT responsible and this will void your Whipple Superchargers warranty and CARB certification. Use of non-Whipple Superchargers approved programming will void all warranties. If you have any questions, contact us.
- *NEVER MANUALLY MOVE THE BYPASS ACTUATOR, YOU CAN RUPTURE THE INTERNAL DIAGHRAM.*
- *FOLLOW SUBFRAME SPACER INSTALLATION PRIOR TO SC INSTALLATION*

# *RECOMMENDED TOOLS AND SUPPLIES*

The following items are not included in this supercharger kit and it is strongly recommended that they're used for ease of installation or maximum performance:

**Tools**

3/8" and ½" torque wrench, Safety glasses, metric wrench set, ½" impact, ¼", 3/8", ½" assorted metric socket set, 5mm head allen, 3/8" assorted metric allen socket set, 3/8" assorted torx socket set, 8mm hex allen wrench, ½" breaker bar, flat head screw driver and drain pan (for coolant). Crankshaft pulley puller and installer. Harmonic balancer holder kit. Trim pad tool (for pushpin removal).

**Tie Straps**

These will be useful for securing the wiring harness away from the installation area as directed in the instruction manual. They are inexpensive and will be very handy during installation. You will need an assortment of 4", 8" and 12".

**Sealants, Chemicals and Lubricants**

Anti-seize for bolt and spark plug threads (use only when stated, otherwise the torque value must be reduced). Assembly lubricant (white lithium grease or petroleum jelly). Cleaner/degreaser such as carb cleaner. **Blue Loctite #242** and **Green Loctite #680** or equivalent.

You'll be required to fill your intercooler system with approximately 2 gallons of distilled water and OEM rated engine coolant. This is not supplied in the system, you can find the coolant at any local auto parts store, any OEM rated coolant will work. **NEVER USE TAP WATER**, as it can corrode and create poor performance.

## *PRE-INSTALLATION CHECKLIST*

Before installing your Whipple Supercharger Kit, complete the following checklist.

1. Verify Condition of Vehicle: Before the supercharger kit is installed, ensure the engine runs smoothly and that the factory malfunction indicator light (MIL) is off. Only install the supercharger kit if the engine runs smoothly *and* the MIL is off.

2. **!! CAUTION !! This product is intended for use only on STOCK, UNMODIFIED, WELL-MAINTAINED engines. Installation on a worn-out engines or modified vehicles is not recommended. Custom configurations can greatly affect the operation of the vehicle.**

3. **Modifications to your stock vehicle including, but not limited to engine, flywheel, clutch, torque converter, transmission, wheels, tires, axles, gears, driveshafts, air intake systems, exhaust system, additional weight and aftermarket electronics can have a significant impact on your vehicles operation. It is impossible for us to develop all possible variations and combinations. All vehicle and supplemental warranties are based off stock vehicle configurations. It is the sole responsibility of the customer making a warranty claim to prove that any vehicle modifications were within warranty. It is also the sole responsibility of the customer to determine if the modifications comply with all local, state and federal emission standards.**

4. **!! CAUTION !! Use only 91 octane fuel or higher. If fuel of less than 91-octane is present in the vehicle fuel tank, the tank must be completely drained and refilled with 91 or higher octane to 1/8th of a tank.**

5. Verify Fuel System: Supercharger systems should only be installed on vehicles that have new or clean fuel filters.

6. Assess Cleanliness of Installation Area: Make sure your work area and the under-hood area are free from debris. This supercharger is a high-quality, close-tolerance compressor and must not be subjected to contamination by dirt or any type of foreign material. If necessary, vacuum around engine to remove any foreign material.

7. **!! CAUTION !! DO NOT remove the protective seal on the supercharger prior to installation. Foreign material entering the supercharger will automatically void all warranties.**

8. Identify Supercharger Kit Components: Before beginning installation, identify all the components of your Whipple Supercharger Kit and ensure all items are present and undamaged.

9. **!! CAUTION !! Do not attempt to start the engine before adding the supplied Supercharger Oil to the supercharger!**

## *SAFETY PRECAUTIONS*


**CAREFULLY READ THE IMPORTANT SAFETY PRECAUTIONS AND WARNINGS BEFORE PROCEEDING WITH THE INSTALLATION!**

Appropriate disassembly, assembly methods and procedures are essential to ensure the personal safety of the individual performing the kit installation. Improper installation due to the failure to correctly follow these instructions could cause personally injury or death. Read each step of the installation manual carefully before starting the installation.

- Always wear safety glasses for eye protection.
- Place the ignition switch in the off position.
- Always apply the parking brake when working on vehicle.
- Block the front and rear tire surfaces to prevent unexpected vehicle movement.
- Operate the engine only in well-ventilated areas to avoid exposure to carbon monoxide.
- Do not smoke or use flammable items near or around fuel system.
- Use chemicals and cleaners only in well-ventilated areas.
- Batteries can produce explosive hydrogen gas which can cause personal injury. Do not allow flames, sparks or flammable sources to come near the battery.
- Keep hands and any other objects away from the radiator fan blades.
- Keep yourself and your clothing away from moving parts when the engine is running.
- Do not wear loose clothing or jewelry that can be caught in rotating or moving parts.

# *GLOSSARY OF TERMS*

| ABBREVIATION | DESCRIPTION |
|---|---|
| ACT | Air Charger Temperature |
| DTC | Diagnostic Trouble Code |
| ECT | Engine Coolant Temperature |
| EGR | Exhaust Gas Recirculation |
| ETC | Electronic Throttle Control |
| EVAP | Evaporative emissions system |
| FHSCS | Flat Head Socket Cap Screw |
| HHFCS | Hex Head Flanged Cap Screw |
| IAT | Inlet Air Temperature |
| IC | Intercooler |
| ID | Internal Diameter |
| LB-IN | Pound-force inch |
| LB-FT | Pound-force foot |
| LTR | Low temp radiator |
| MAF | Mass Air Flow |
| MAP | Manifold Absolute Pressure |
| MY | Model Year |
| OBD | On Board Diagnostics |
| OD | Outside Diameter |
| PCV | Positive Crankcase Ventilation |
| PSI | Pound per Square Inch |
| SC | Supercharger |
| SHCS | Socket Head Cap Screw |
| TPS | Throttle Pressure Sensor |
| TRQ | Torque |

## *WARNING*

***NOTICE**: Installation of Whipple Supercharger products signifies that you have read this document and have agreed to the terms stated within.*

*It's the purchaser's responsibility to follow all installation instruction guidelines and safety procedures supplied with the product as it's received by the purchaser to determine the compatibility of the product with the vehicle or the device the purchaser intends to install the product on.*

*Whipple Superchargers assumes no responsibility for damages occurring from accident, misuse, abuse, improper installation, improper operation, lack of reasonable care or all previously stated reasons resulting from incompatibility with other manufacturer's products.*

*There are no warranties expressed or implied for engine failure or damage to the vehicle in any way, loss of use or inconvenience or labor reimbursement. This includes merchantability and fitness.*

*The information contained in this publication was accurate and in effect at the time the publication was approved for printing and is subject to change without notice or liability. Whipple Superchargers reserves the right to revise the information presented herein or to discontinue the production of parts described at any time.*

# *SUPERCHARGER INSTALLATION INSTRUCTIONS*

It is strongly recommended that you read through this guide before you begin installing the Whipple Supercharger.

**⚠ WARNING!! Batteries normally produce explosive gases. Therefore, do not allow flames, sparks or lighted substances to come near the battery. When charging or working near a battery, always shield your face and protect your eyes. Always provide ventilation. Failure to follow these instructions may result in personal injury.**

**⚠ WARNING!! Keep out of the reach of children. Batteries contain sulfuric acid. Avoid contact with skin, eyes or clothing. Also, shield your eyes when working near the battery to protect against possible splashing of the acid solution. In case of acid contact with the skin or eyes, flush immediately with water for a minimum of 15 minutes and get prompt medical attention. If acid is swallowed, call a physician immediately. Failure to follow these instructions may result in personal injury.**

**🚭 NEVER SMOKE DURING THE INSTALLATION OF THE SC, THERE WILL BE FLAMMABLE FUMES AND LIQUID AROUND THE VEHICLE**

1. Follow the step-by-step calibration process instruction sheet. Software based issues need to be handled through HP Tuners, support@hptuners.com. **Note: Cals can take up to 48 business hours after request, this should always be done before installing the supercharger. Your computer must have a stock unaltered file. If you have a modified PCM, return it back to stock to avoid potential issues. If you do not have the stock file, you must take it to the dealership and have the PCM/TCM updated. Failure to do so may cause complications in the file build for your vehicle and cause running issues.**

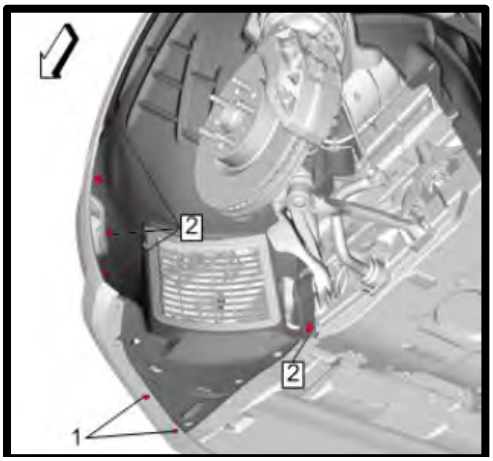
2. Disable fuel pump control module by removing fuel pump fuse located in fuse box. Start vehicle and allow engine to run until the engine stops. Attempt to restart vehicle to ensure pressure has dropped.

3. Using an air hose, blow off any loose dirt or debris from engine compartment. If really dirty, then steam clean the engine compartment before proceeding to the next step.

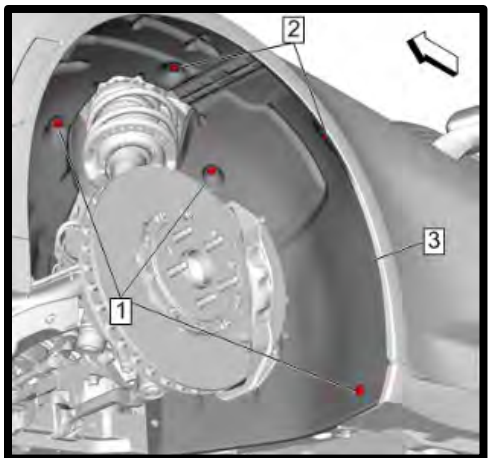
4. Locate the battery in the trunk by removing the access door on the passenger side. With an 8mm wrench disconnect the (-) negative battery cable. Make sure the cable is far enough away from the battery that it does not accidentally touch the battery and make connection during the installation.

5. Remove the front wheels for easy access to inner fenders (not required but simplifies the installation).

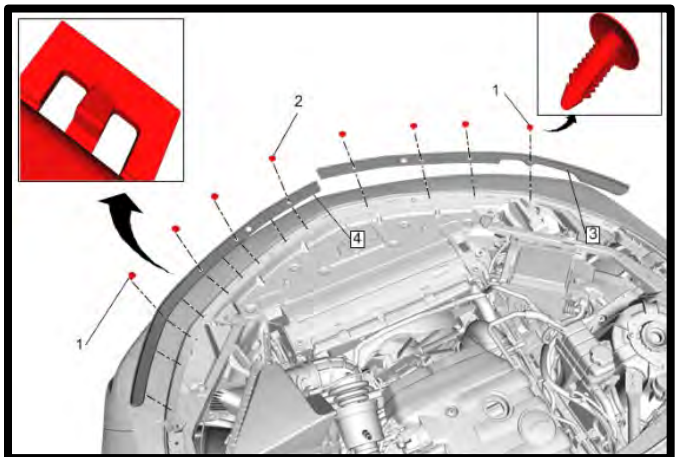
6. Remove the front bumper fascia bolt bolts (5x).



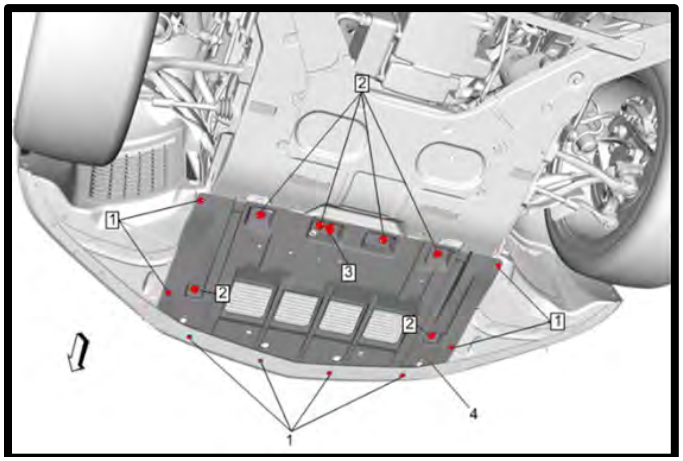
7. Remove the front wheelhouse liners by removing the (5) fasteners.



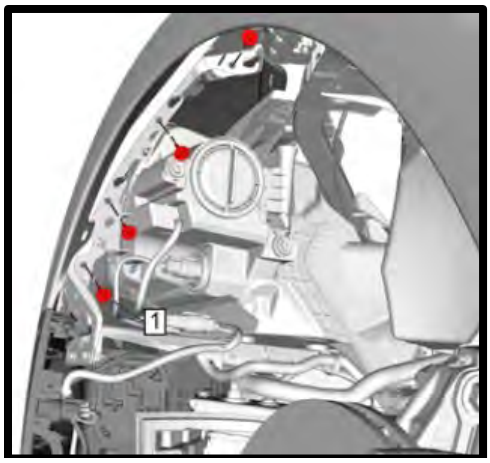

8. Remove the right and left front bumper fascia upper moldings.



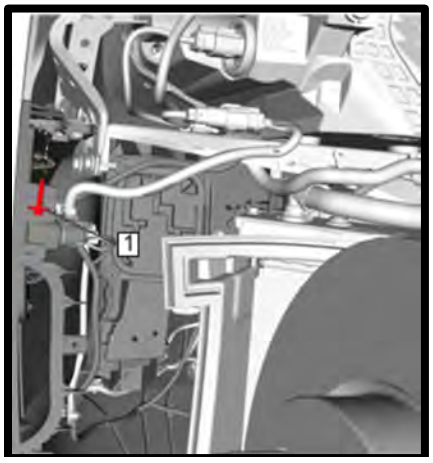

9. Remove the front bumper fascia lower stiffener.



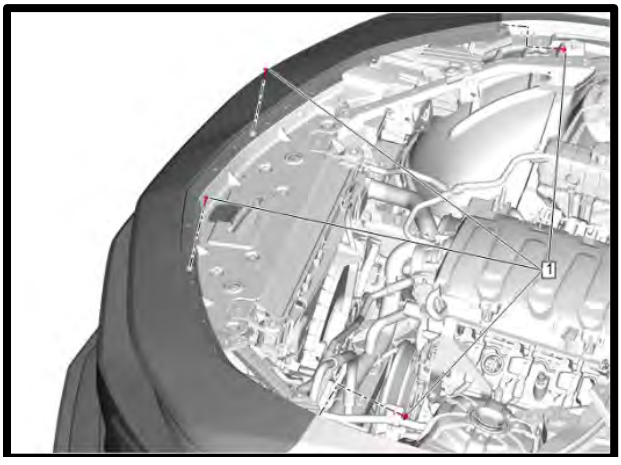
10. Remove the (4) bolts per side from the front bumper fascia outer bracket (inner fender area).




11. Remove the front bumper fascia bolt from both sides.

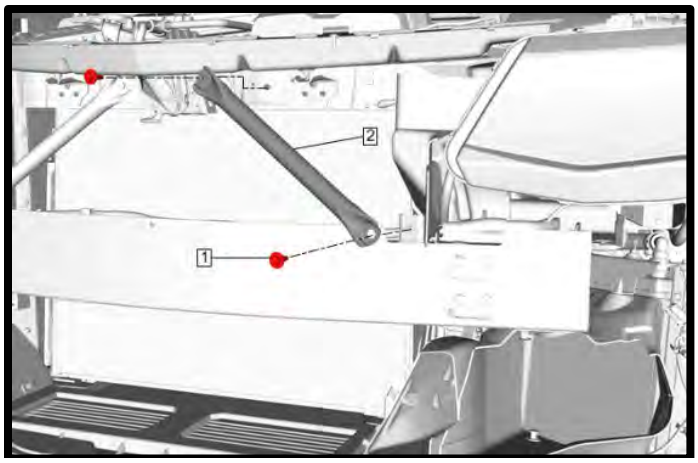



12. Remove the (4) bolts from the upper fascia.

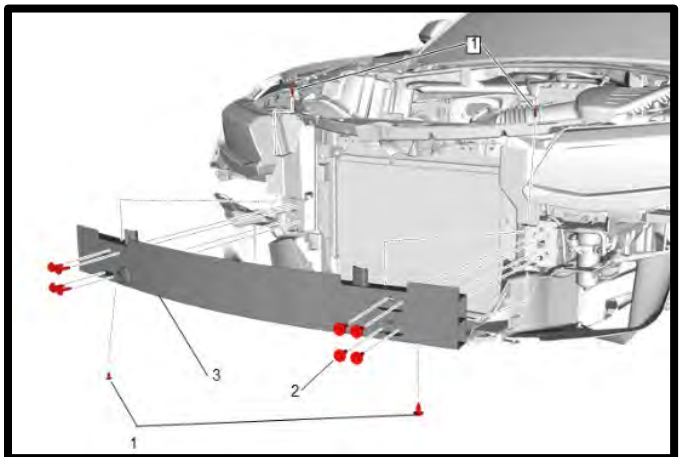



13. Disconnect any necessary lamp and sensor harnesses and carefully remove the fascia.

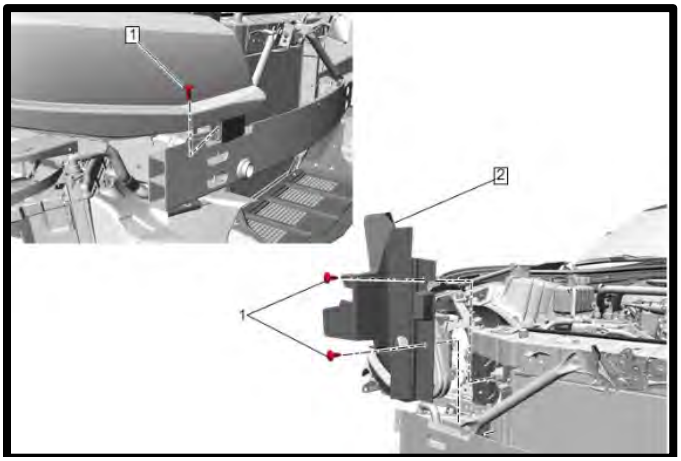
14. Remove the (2) front support braces.

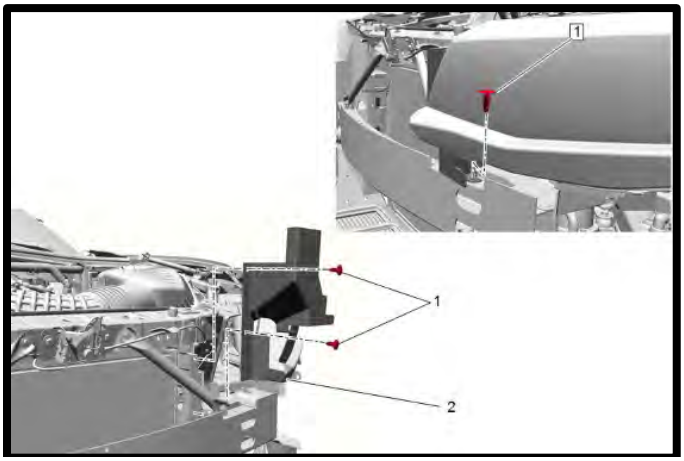



15. Remove the front bumper impact bar.

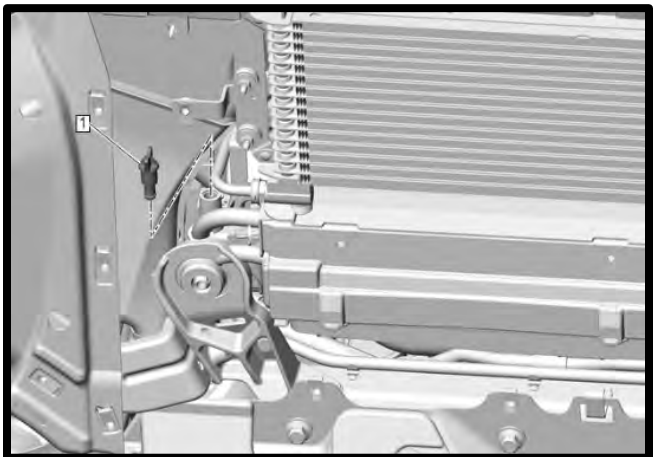



16. Remove the left and right air side baffles. These will have to be cut to fit later.

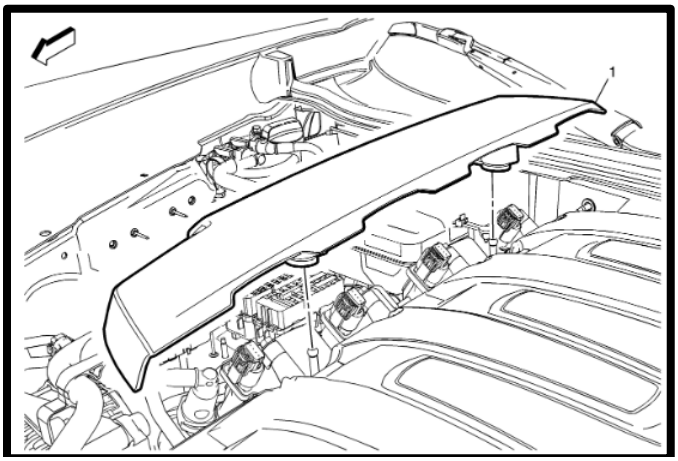


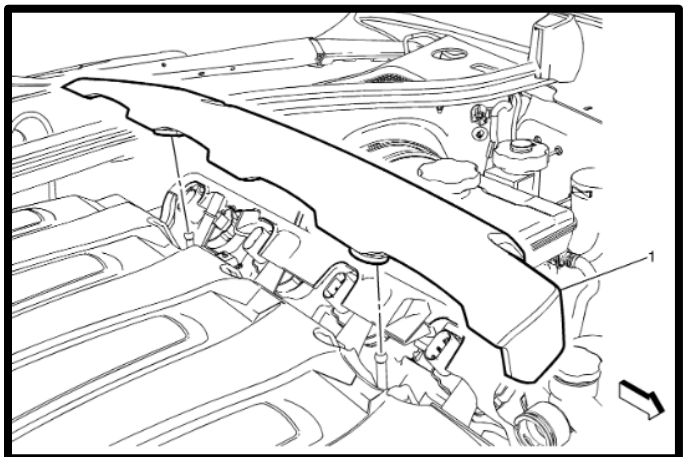



17. Drain the coolant by removing the petcock on the lower passenger side of the radiator. Remove the radiator cap to vent the system.

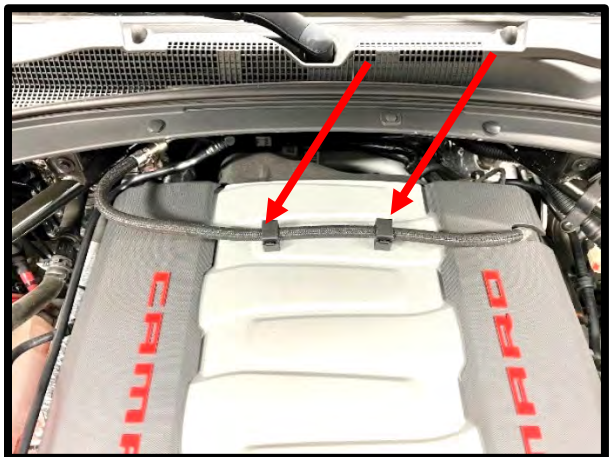



18. Remove the (2) factory side manifold covers by lifting straight up.

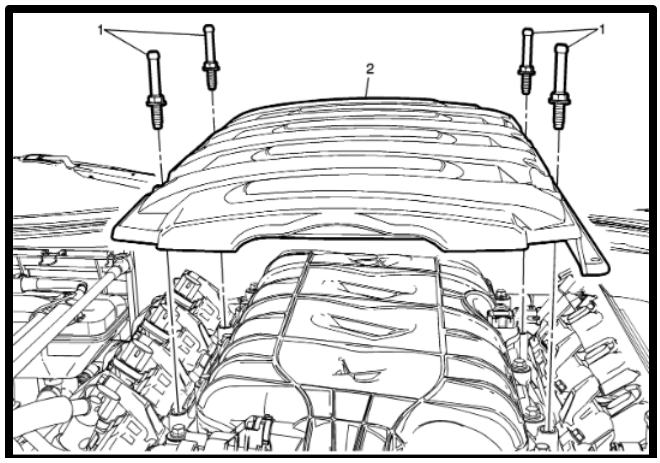


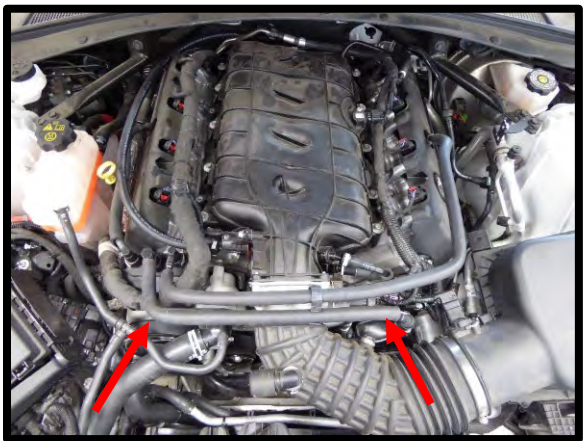

19. Unclip the stock fuel line from the top of the intake manifold plastic cover.



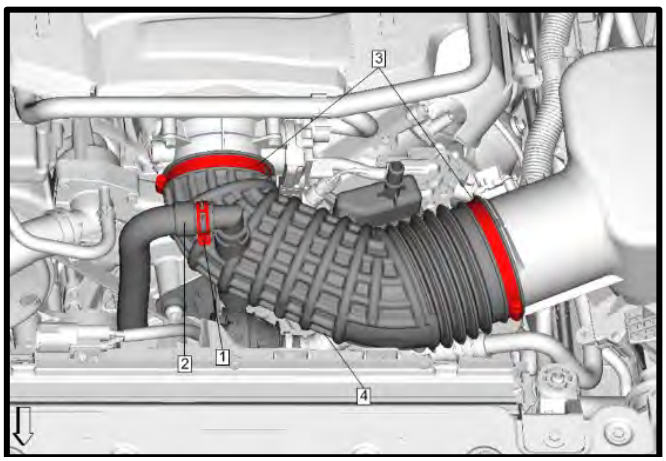
20. Remove the upper manifold cover by removing the (4) bolts.

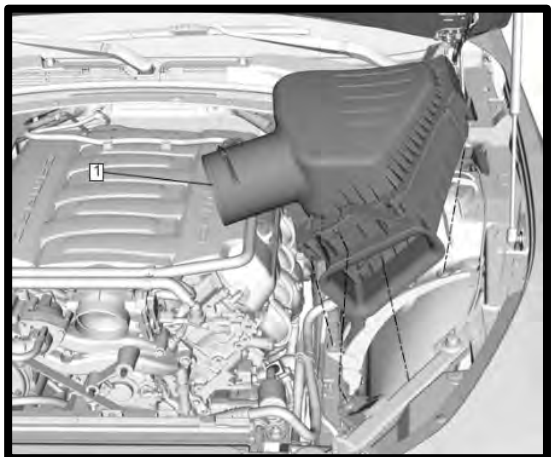



21. Remove the fresh air PCV hose that connects catch can to the factory inlet elbow. Carefully remove the 90deg fitting from this hose as it will be reused.

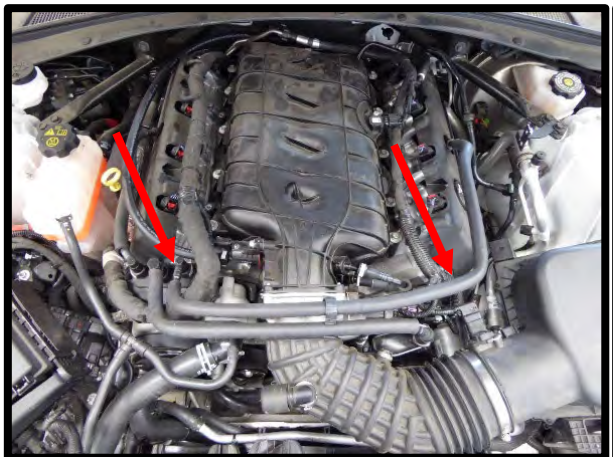


22. Using a clamp tool, remove the sound tube from the inlet elbow. Use a 5/16" to remove the (2) hose clamps and remove inlet air tube. Lift airbox up and out of vehicle.



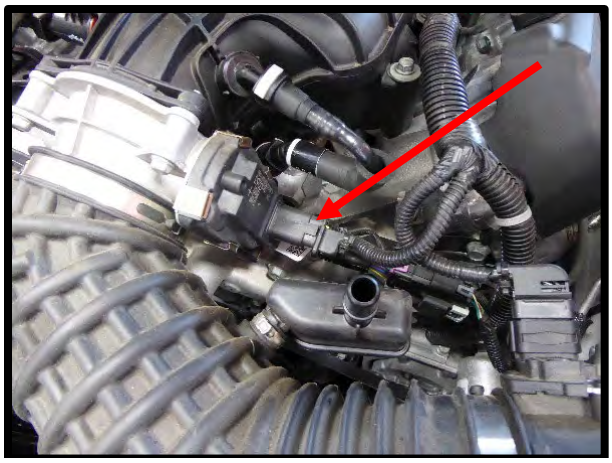
23. Remove the driver side vent hose from the driver side valve cover and oil catch can. Remove the factory fittings from the tube for later installation (do not damage the fitting orings). ***Note:*** *These fittings will be reused.*



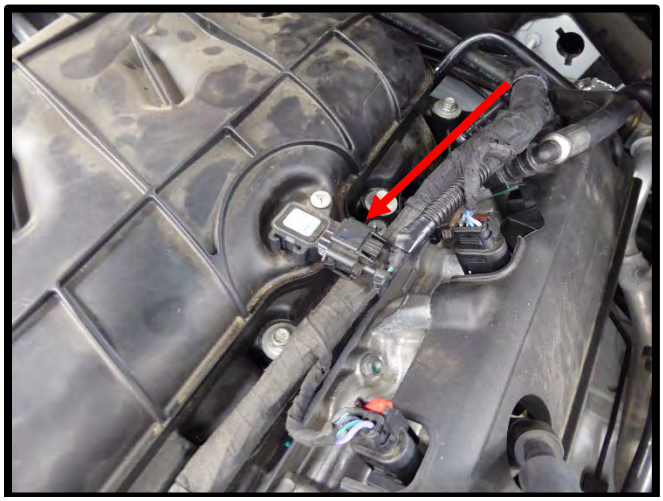

24. Using a 10mm socket, remove the factory nut that secures the sound tube to the firewall.

25. Using an T47 Torx, remove the (2) fasteners securing the sound tube to the water pump. Remove sound tube from engine, this will not be reused.

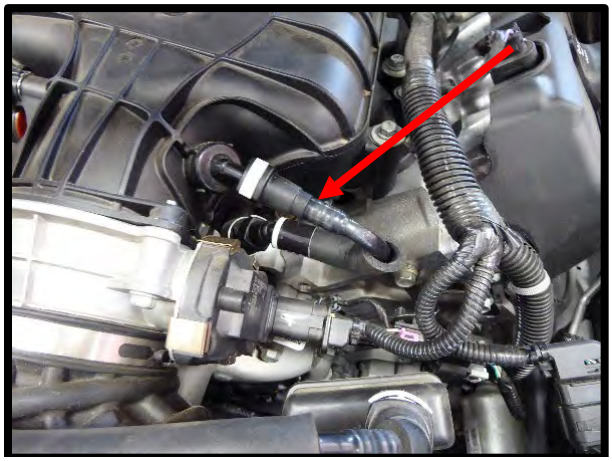
26. Disconnect the electronic throttle body 6-way connector from the TB.



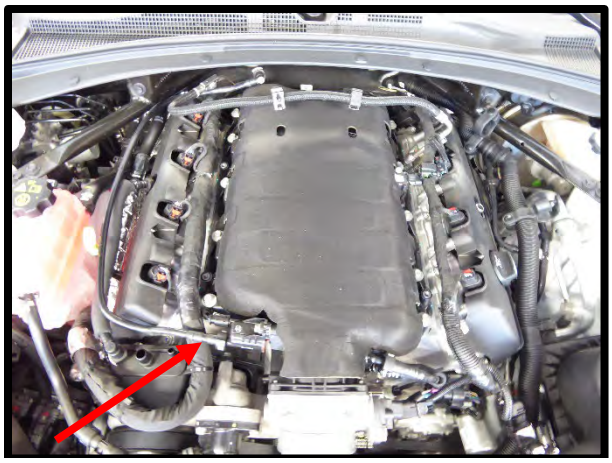
27. Unplug the MAP connector from the MAP sensor.



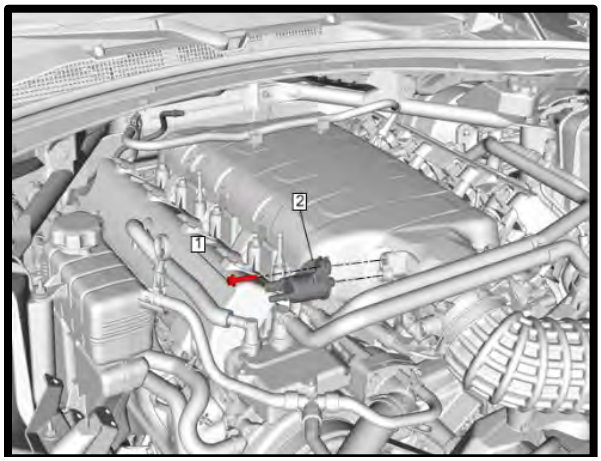
28. Remove the stock PCV hose from the valley tray and inlet.



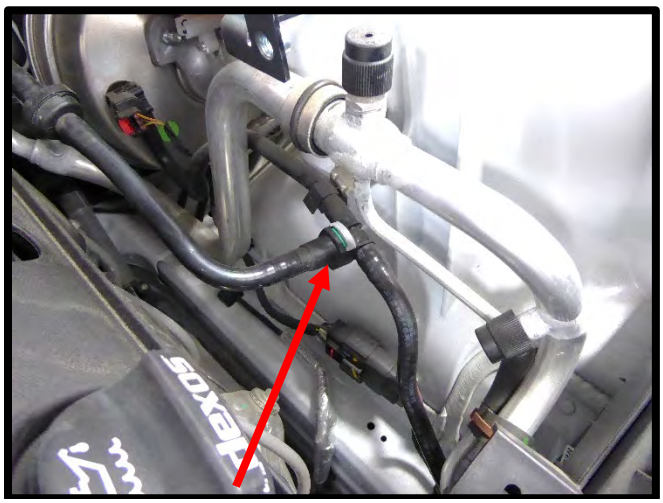
29. Remove the stock EVAP line from the hardline located near firewall and from the EVAP solenoid.



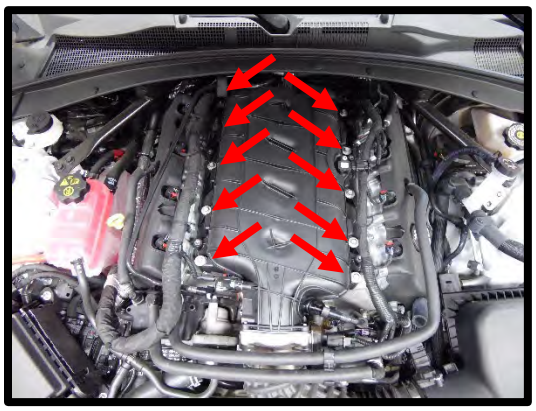
30. Remove the EVAP solenoid from the factory intake manifold (10mm socket), the EVAP solenoid and fastener will be reused.




31. Disconnect the factory brake booster line quick connect fitting. The line will come off with the intake manifold.



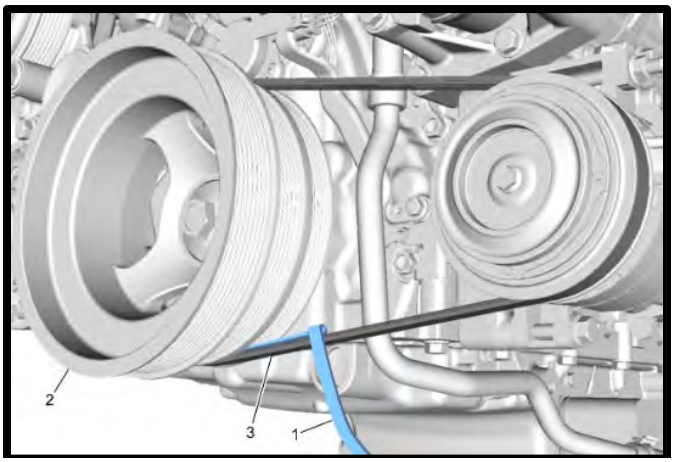
32. Using a 10mm socket, remove the (10) bolts securing the intake manifold to the cylinder heads. Carefully remove the intake manifold assembly and foam valley insulator.



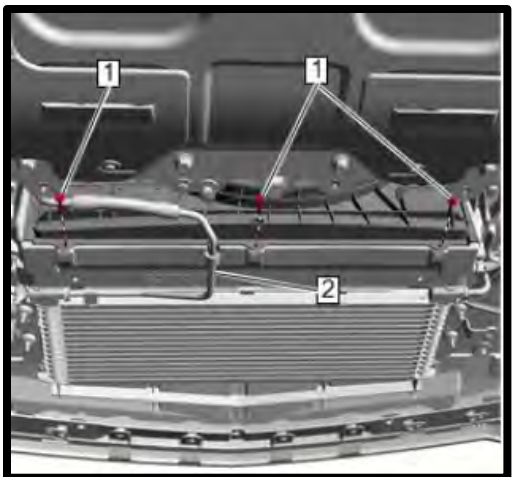
33. Clean the intake manifold surface using carb cleaner or other like chemicals. Cover intake ports with masking tape or duct tape.

34. Separate the brake booster line at the check valve, the end with the quick connect fitting and check valve will be reused.

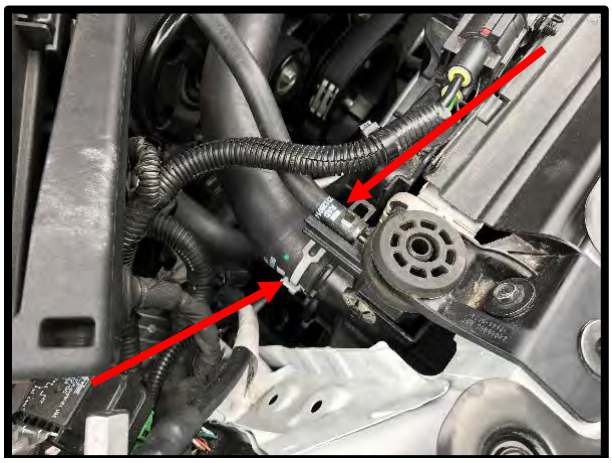
35. Using a stretchy belt removal/installer tool, remove the belt from the A/C compressor and the damper.



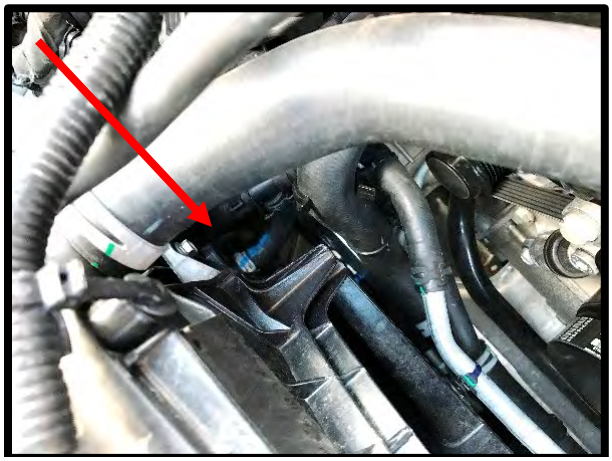
36. (Auto transmission) Use a 10mm socket to remove the (3) bolts securing the bottom of the fan shroud.



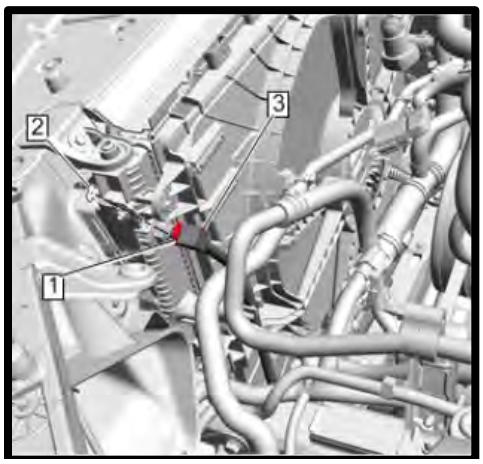

37. (Auto transmission) Remove the upper radiator hose and overflow hose from the passenger side of radiator.



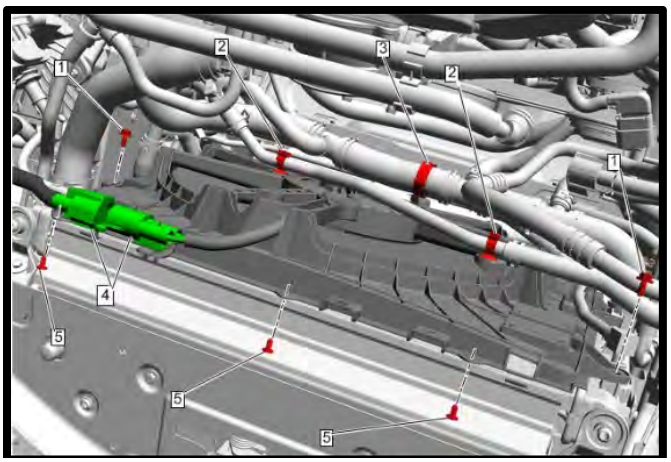
38. (Auto transmission) Remove the lower passenger side radiator hose from radiator. Note: Due to adhesive on the clamp, compressor clamp and pull hose at the same time to remove.



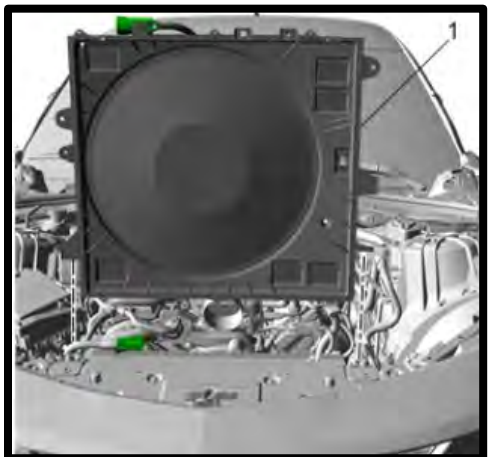
39. (Auto transmission) Remove the retaining clip securing the transmission cooler line to the radiator and remove the transmission cooler line from shroud. Note: Be careful not to drop or lose this clip, it will be reinstalled at a later step.



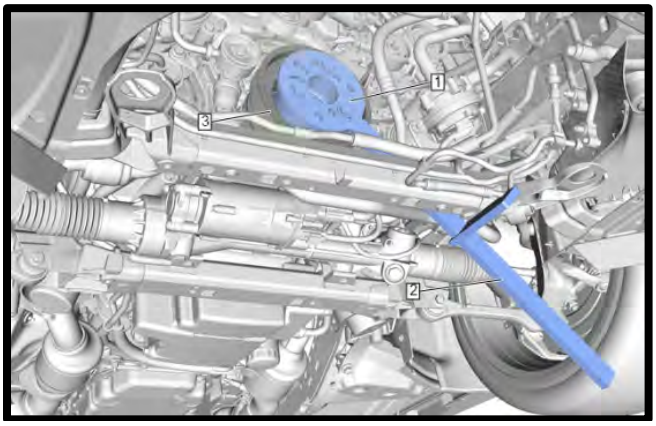

40. (Auto transmission) Disconnect the electric fan connector. Use a panel puller to detach the harness tree-clip from the fan shroud. Using a panel puller tool, remove the coolant lines from the fan shroud.



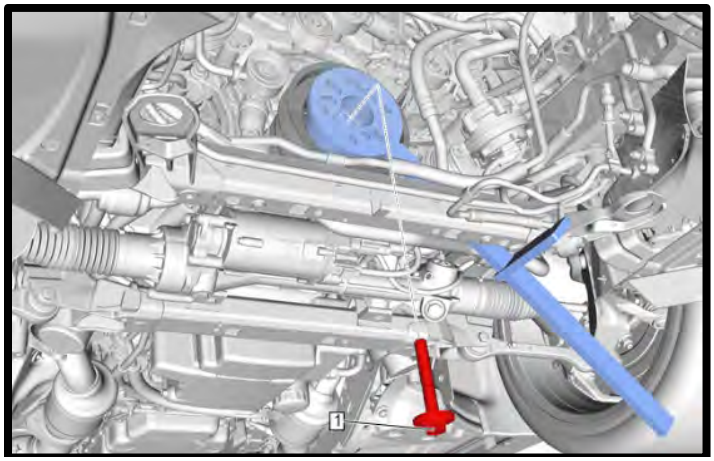

41. (Auto transmission) Remove (4) bolts securing the electric fan to the radiator using a 10mm socket. Carefully remove the fan assembly.



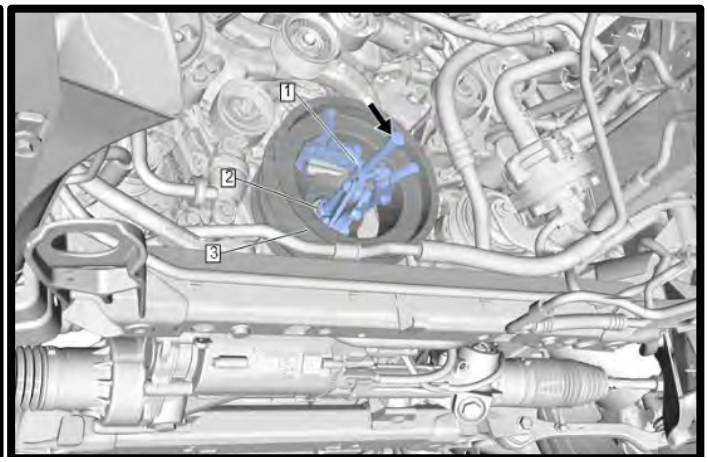
42. (Manual transmission) Remove the starter and heat shield to install a GM flywheel holding tool or use balancer holding kit #EN-52287 and EN-956-1 extension bar.



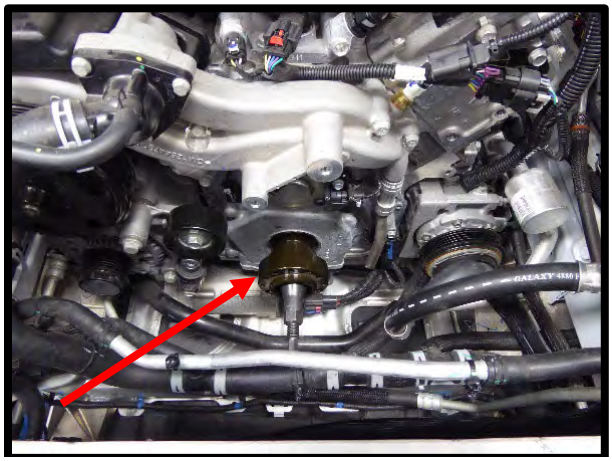

43. Using a 24mm socket and ½" air ratchet, remove the factory harmonic balancer bolt. **NOTE**: You may need to add heat to bolt using heat gun or torch to soften the locking chemicals on stock bolt.



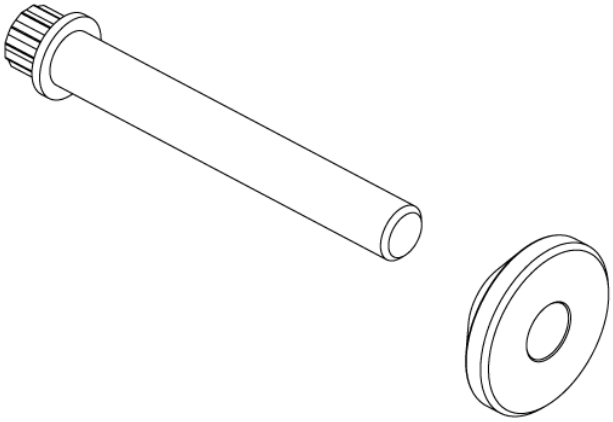

44. Remove the stock harmonic balancer using a claw-type damper puller. It is recommended to use a GM type puller. **NOTE**: Inspect the seal, clean or replace if necessary.



45. Review the ATI balancer instructions. In some cases, the ATI supplied hub may need to be honed to allow proper fitment. Apply anti-seize to the ID of the hub and use supplied molly lube to the installer threads. Install the supplied balancer hub to the stock crankshaft.

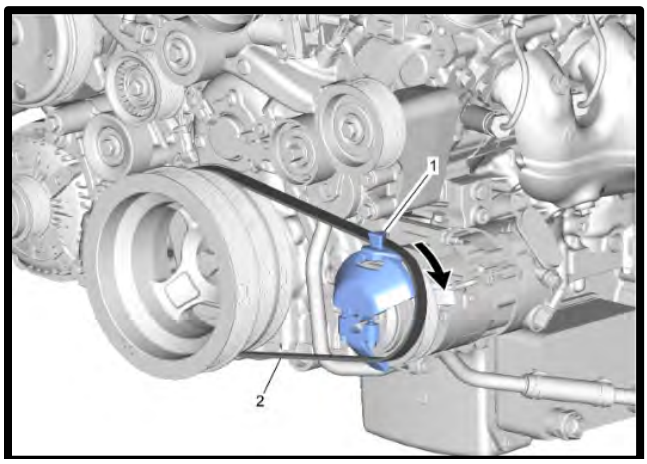


46. Use the supplied 16mm x 120mm crank hub bolt and washer. Apply molly lube to the threads and torque to 238 ft-lbs using a ¾" socket.



47. Locate the dots/markers on the hub and balancer, slide balancer on hub lining up the dots/markers. Secure balancer to hub by installing the (6) counter sunk bolts using a T40 torx. Torque to 16 ft-lbs. Using a 3/8" 12-point socket, remove the (3) 12-point bolts securing balancer to hub.

48. Using a stretchy belt installation tool and install factory stretchy belt onto new damper and A/C compressor. NOTE: Be careful not to damage belt. Inspect the belt for any damage after the installation.

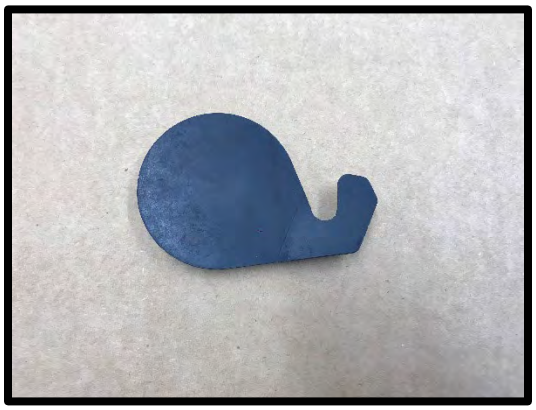



49. Install the Whipple crank-pulley to the supplied balancer. Apply light amount of anti-seize to the (3) 3/8" 12-point bolts supplied with harmonic balancer, torque to 28 ft-lbs.

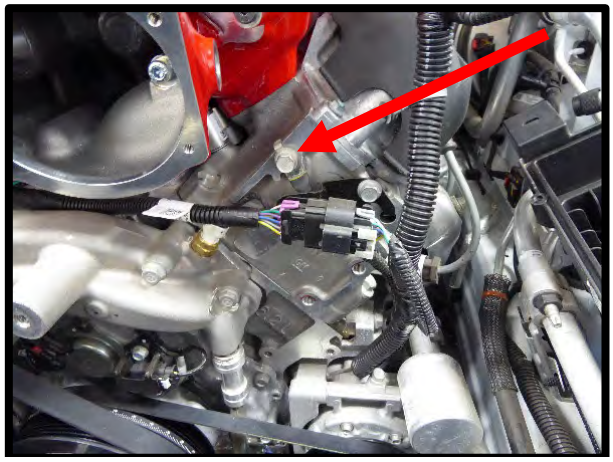
50. (Auto transmission) Reinstall fan, hoses and lines in reverse order of removal.

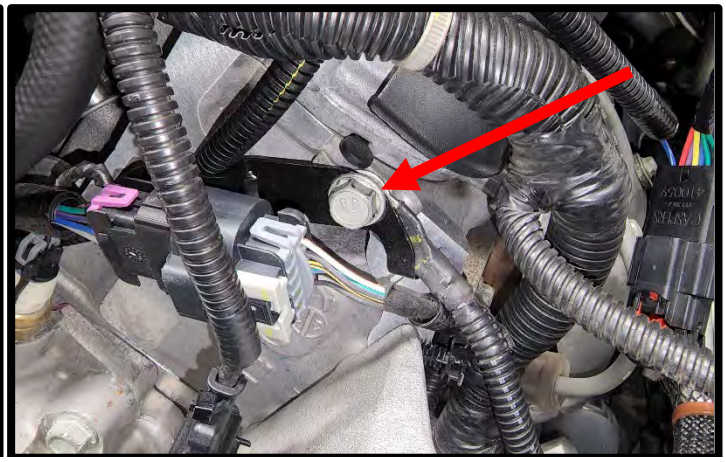
51. **HIGHLY RECOMMENDED**. Replace stock spark plugs with new OEM replacement or GM LT4 stock plugs, #12642722 **gapped at .038"**. Apply a small amount of anti-seize on the threads. Torque to 11 ft-lbs.

52. Install the supplied sound tube block off on the firewall using the factory nut.

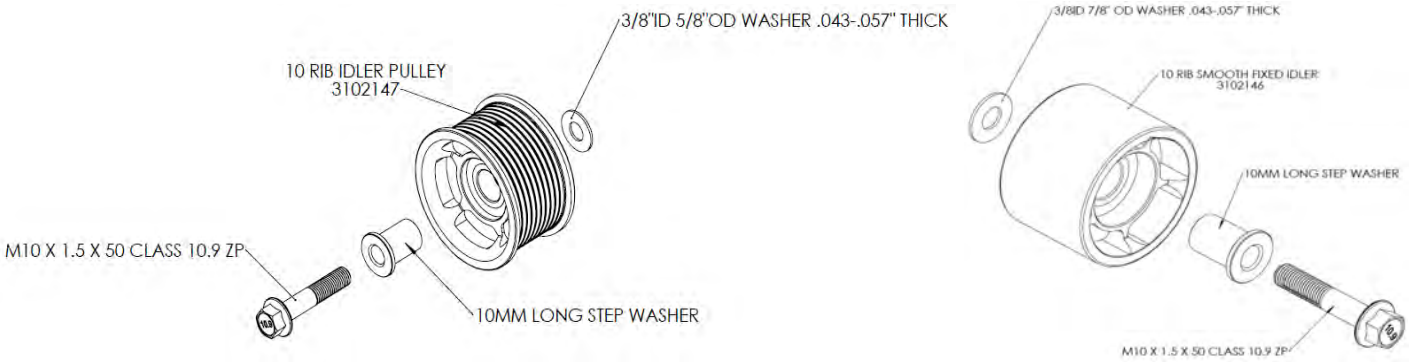


53. Locate the factory ground on the LH cylinder, using a 15mm socket, remove bolt and ground wire and relocate behind wire harness support bracket. Torque to 15 ft-lbs.

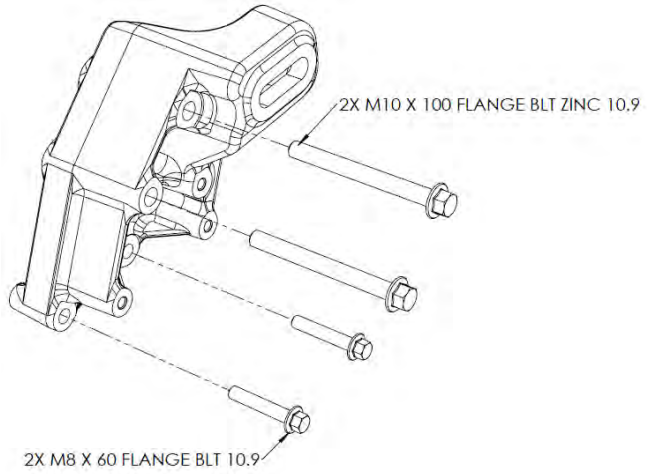




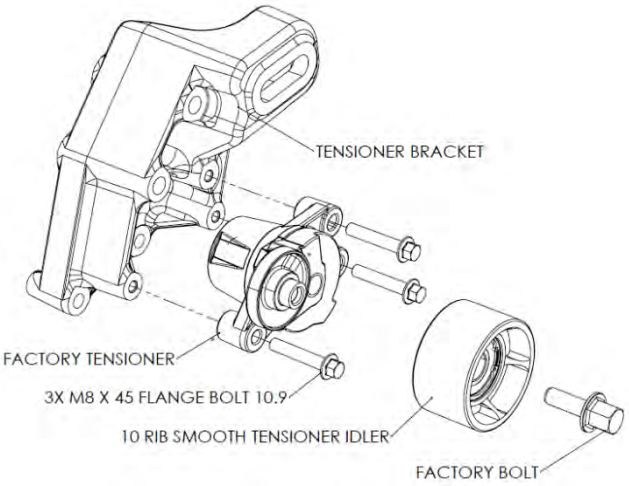
54. Install the supplied smooth and grooved 10-rib idler pulleys to the factory water pump with the snap ring facing the engine/water pump. Use the (2) 10mm x 50mm SHCS to secure with (1) 10mm step washer per pulley. Mount the supplied smooth idler pulley to the factory water pump upper location and grooved to the lower water pump location. Torque to 22 ft-lbs (15mm socket).



55. Install the supplied tensioner bracket to factory odd cylinder side block and cylinder head using the supplied (2) 10mm x 100mm HHFCS and (2) 8mm x 60mm HHFCS. Torque M10 bolts (15mm socket) to 32 ft-lbs and M8 to 22 ft-lbs (12mm socket).

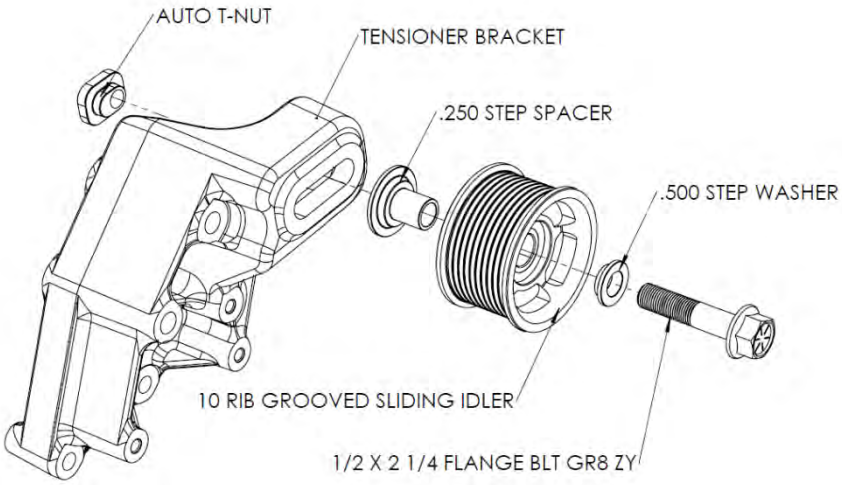


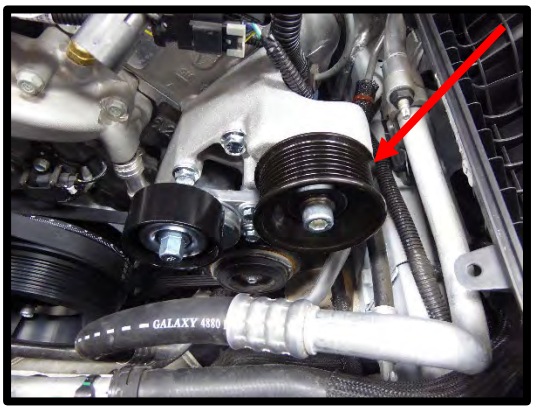

56. Install the supplied factory CTS-V tensioner onto the tensioner bracket using the (3) 8mm x 45mm HHFCS bolts. Torque to 22 ft-lbs with a 12mm socket.





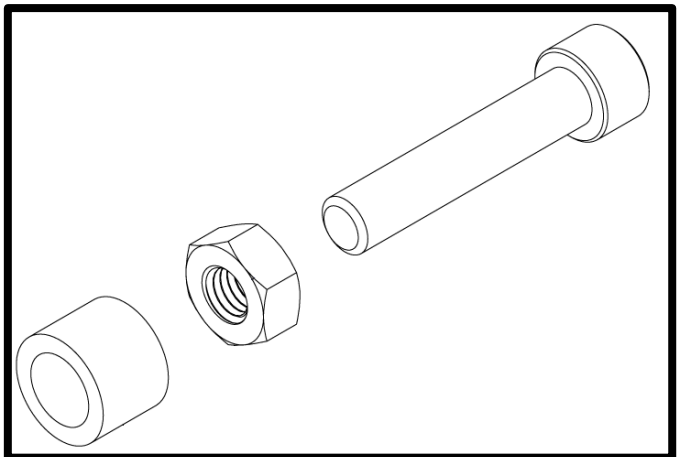
57. Install the grooved idler pulley with the 10mm step spacer through the front of the pulley, .250" step spacer on the back, then the 10mm sliding tee-nut at the back of the tensioner bracket. Use the (1) supplied ½ x 2 ¼" HHFCS to secure assembly. Leave loose now for proper belt installation.

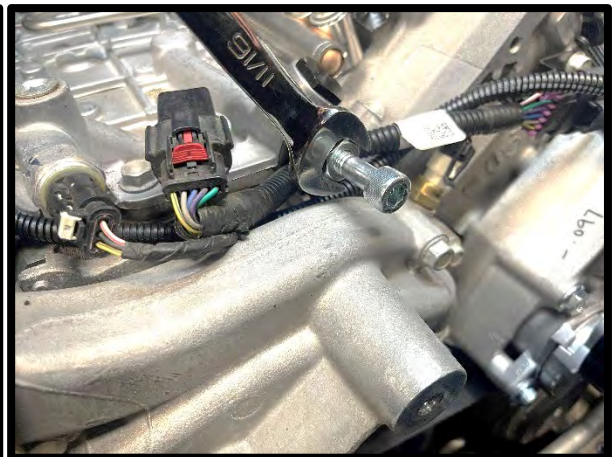


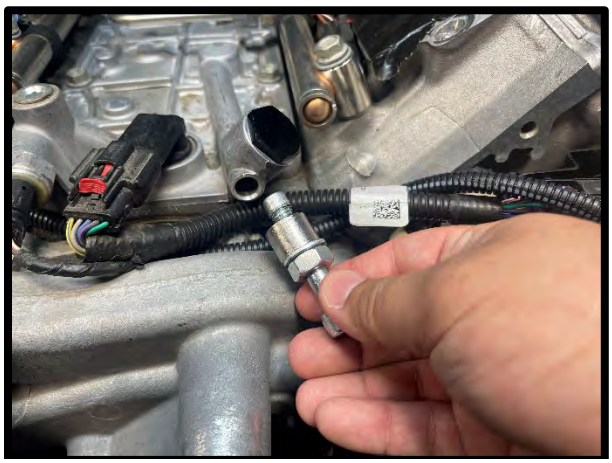



58. Using a 24mm deep well socket, remove the PCV from valley tray.

59. Install the 10mm nut to the 10mm x 50mm SHCS. Slide the ¾" OD x 9/16" spacer over the threads of the bolt. Line up the bolt end to the PCV freeze plug. Tighten the bolt clockwise until you get three threads or about ¼" of engagement from the bolt into the plug. Using a heat gun, apply heat around the plug to break Loctite loose. Use open ended 11/16" wrench to pull plug from bore.

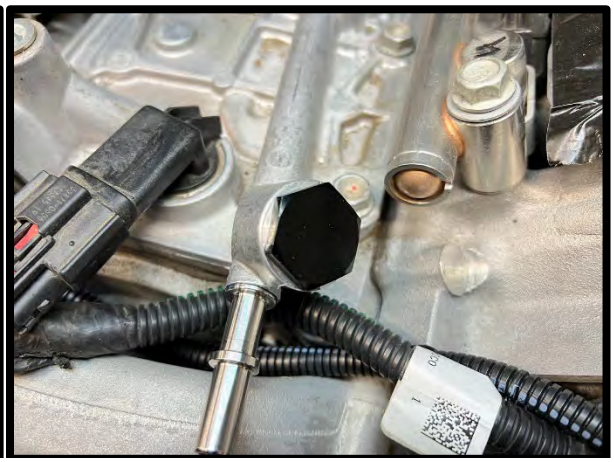




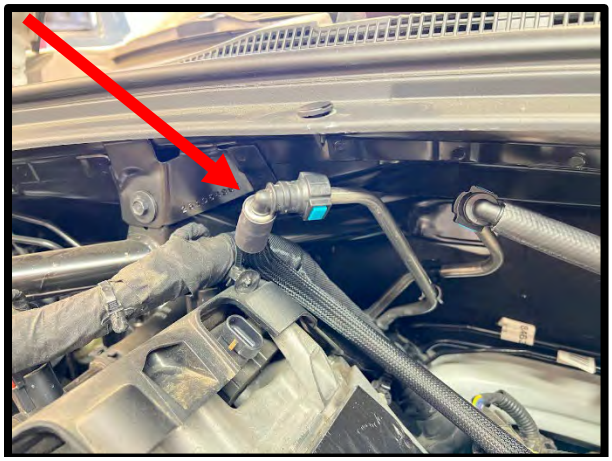


60. Clean the bore area where the plug was with a cotton swab. After the larger particles have been cleaned out, use denatured alcohol or acetone to clean out bore thoroughly. Apply a thin bead of **Loctite #680** on the outside of the supplied quick connect air tube. Install supplied air tube in the end of the bore, install 9.89mm install too into fitting. Use supplied install tool to end of fitting, lightly tap end until fitting until fitting is sitting flush.


61. Install supplied #2-115-V75BR oring to fitting PCV port plug. Apply light amount of grease to oring. Install plug to OEM PCV port.

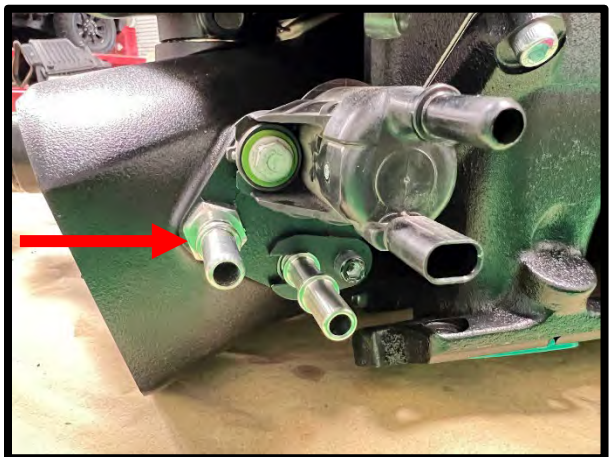



62. Install the supplied fuel line to the factory hard line. Route to back of engine, LH side for later connection to stock DI feed.

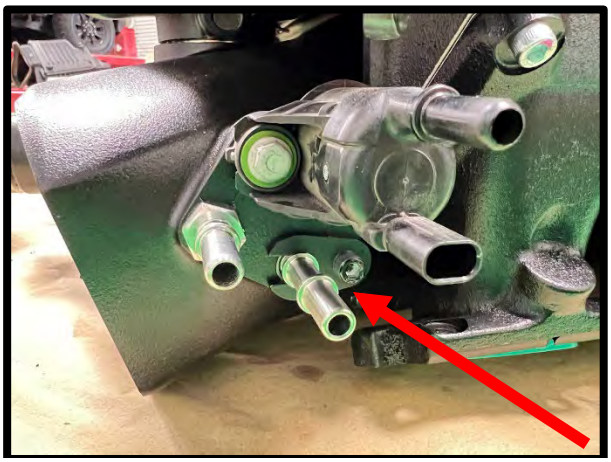


63. Preinstall the supplied 3/8" x 31 ½" EVAP hose to EVAP OEM connection. Route to back of engine, LH side for later connection to EVAP solenoid.

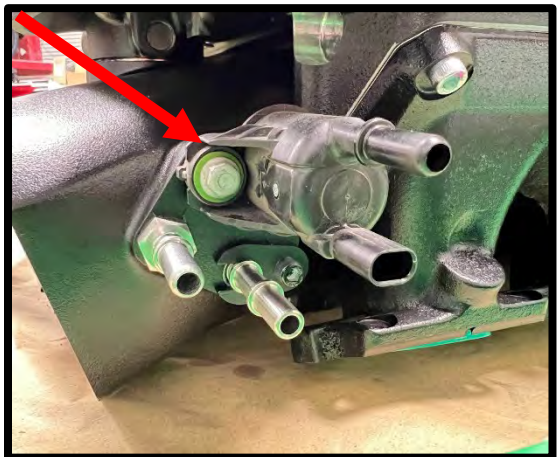
64. Install the supplied 9.89 to 6 ORB fitting with oring to the inlet casting.



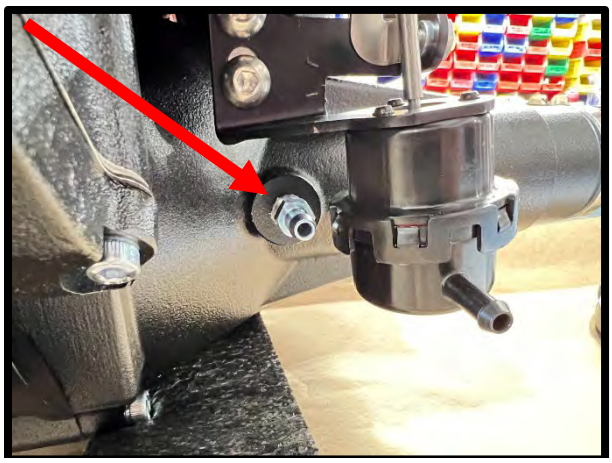
65. Install the supplied #2-012-V75BR oring to the 9.49 fitting. Install fitting to bottom port of SC inlet with oring, secure using the C bracket and (1) 6mm x 20mm SHCS. Torque to 96 in-lbs.



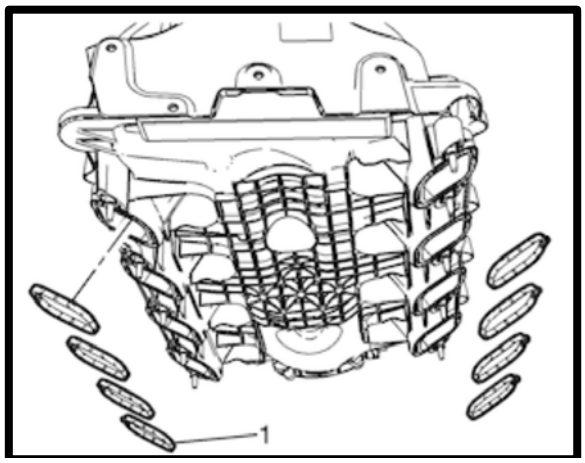
66. Install the factory EVAP solenoid to the inlet casting. Secure using the factory hex head bolt, torque to 96 in-lbs (10mm socket).

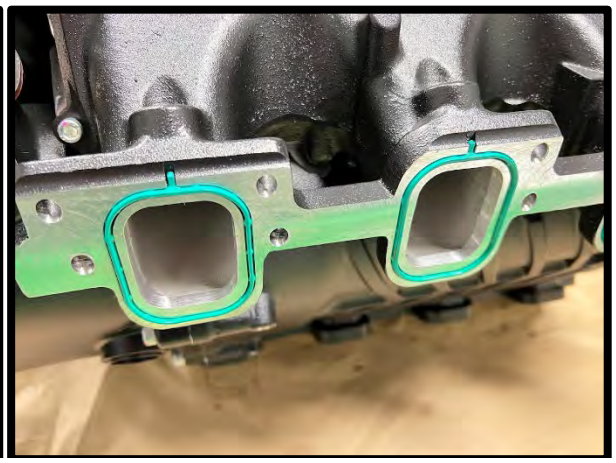


67. Apply light amount of pipe Teflon to threads of supplied 1/8" NPT to ¼" barb fitting. Install fitting to RH 1/8" NPT port on SC inlet.



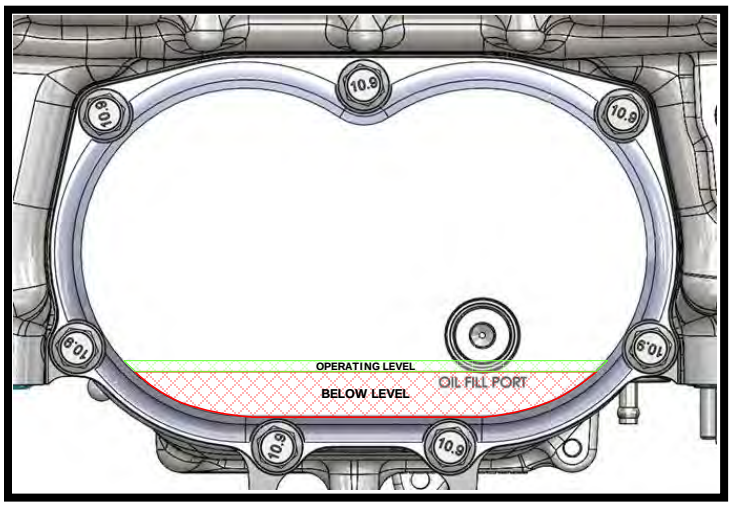
68. Remove the factory orings from the intake manifold (8). Clean and inspect orings, replace torn or damaged orings as needed. Install into the new runners. Apply light amount of grease to oring for ease of installation.



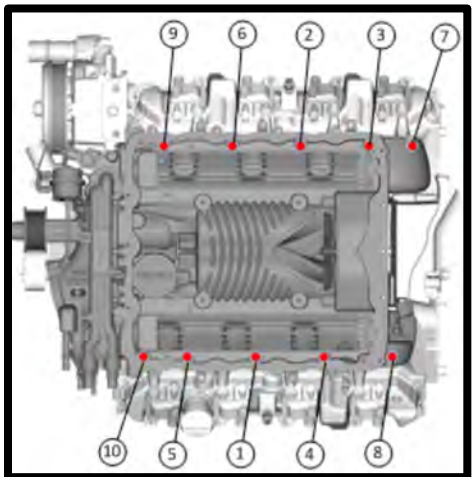
69. Install the supplied LT4 3-bar TMAP sensor (PN# 12644807) to the intake manifold. Apply light amount of grease to oring before installing. Secure to manifold using the supplied 6mm x 20mm SHCS using a 5mm allen. Torque to 89 in-lbs.

70. Make sure the supercharger is on a flat surface. Remove the oil fill plug using an 8mm allen socket.
    - Fill the compressor to the **BOTTOM** of the fill plug (**4.0 FL/OZ**). Rock compressor back and forth. Then spin the compressor/rotors by the pulley so the oil fills the bearings. **NEVER OVER FILL THE SUPERCHARGER!**
    - Apply light amount of grease to oil fill plug oring, reinstall. Torque to 140 lbs-in.

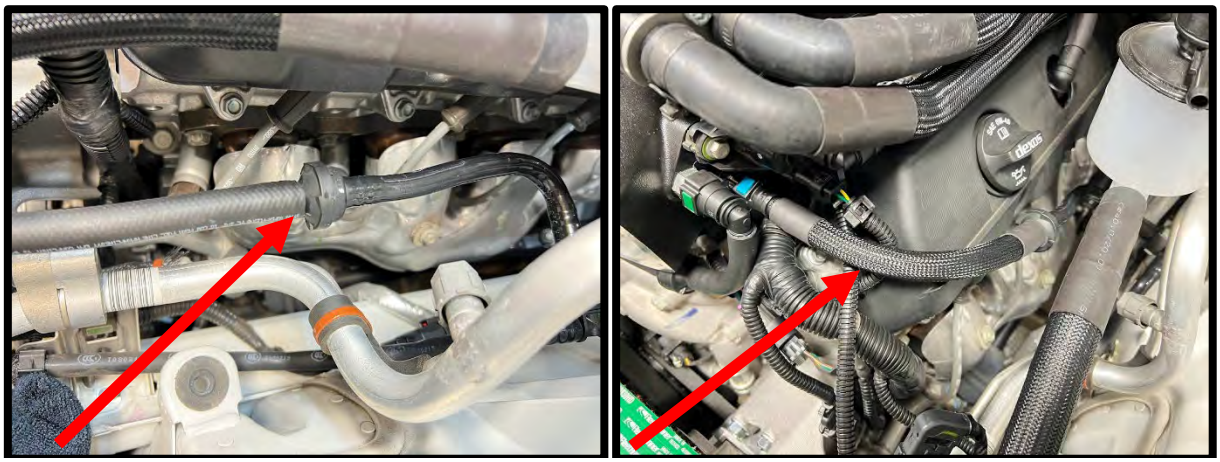



71. Carefully set the supercharger assembly onto manifold. Be cautious of manifold orings while setting on engine. The wiring harness will need to be pulled back to allow SC to drop down.

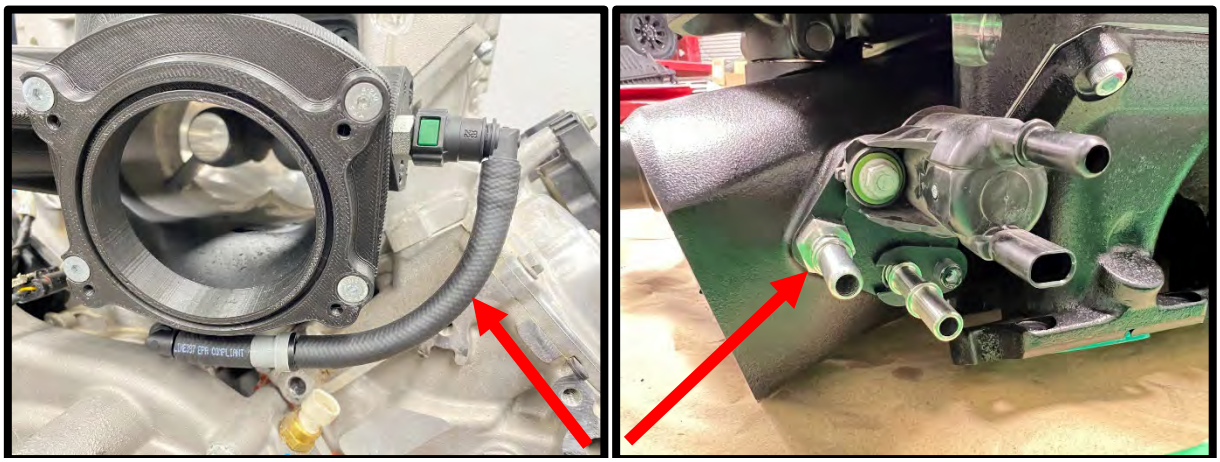
72. Apply light amount of ☞**Loctite #242** to the (10) 6mm x 30mm HHFCS bolts. Install bolts to runners, using 10mm socket. Hand tighten all bolts. Torque to 44 in-lbs on first pass. For second pass, torque to 89 in-lbs. For final torque sequence, torque to 96 in-lbs.



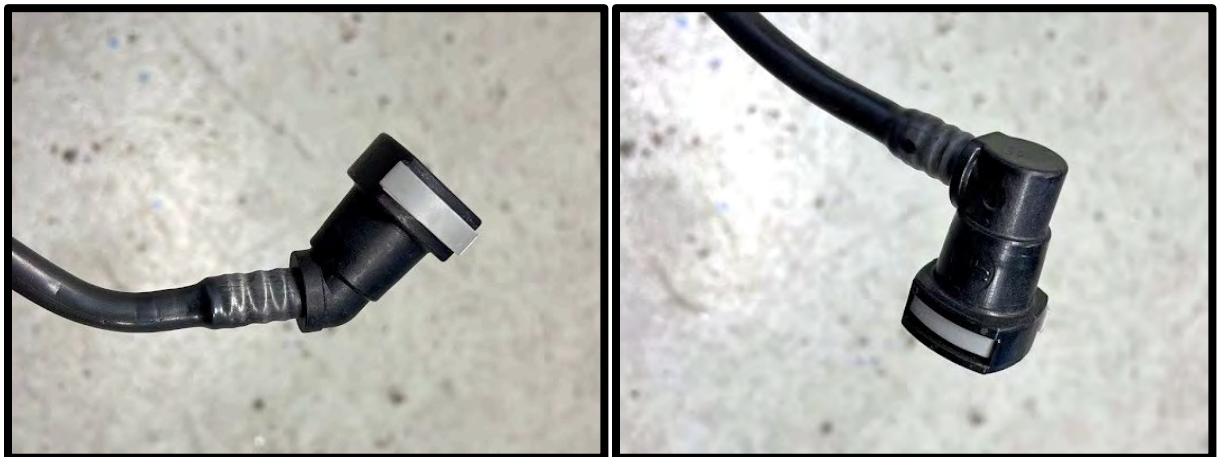

73. Install the supplied brake booster hose with the 90deg 9.49mm quick connect fitting (3/8" x 7 1/2" hose) to the stock brake booster check valve fitting, route to 9.49mm to 6 ORB fitting previously installed in inlet.



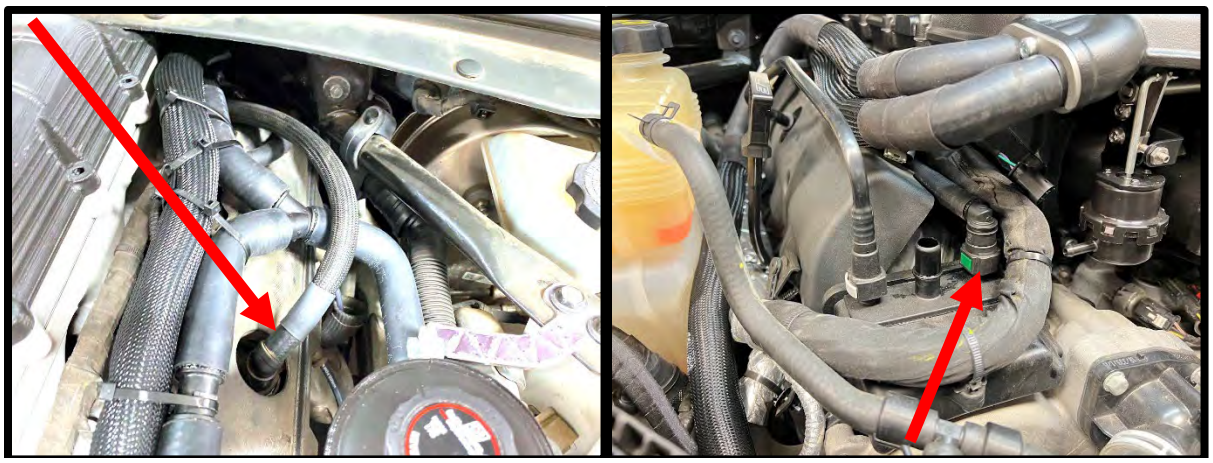
74. Install the supplied PCV hose 90deg 9.89mm quick connect fitting to PCV valve, PCV valve to front SC 9.89mm fitting previously installed.



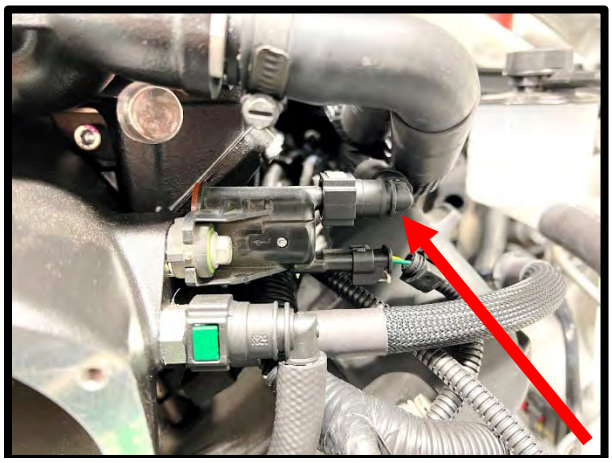
75. Install the previously removed 90deg and 45deg fittings from LH valve cover vent to the supplied 3/8" x 45" vent hose. Use light amount of grease to oring to help ease of installation.



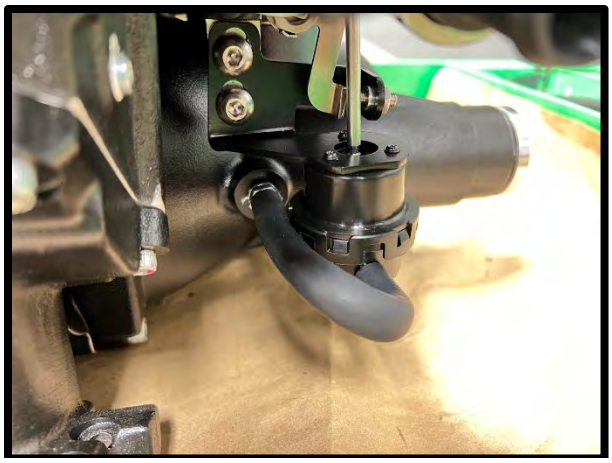
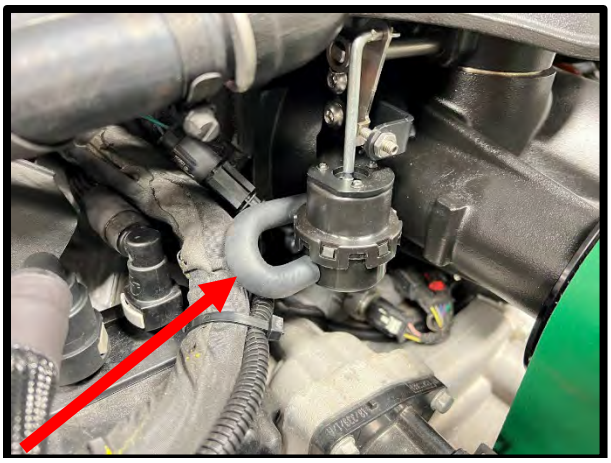
76. Install the 3/8" x 45" vent hose 45deg fitting in driver side valve cover. Route hose around the back and then around to the RH side of engine. Connect other end to OEM catch can, center most fitting as shown.



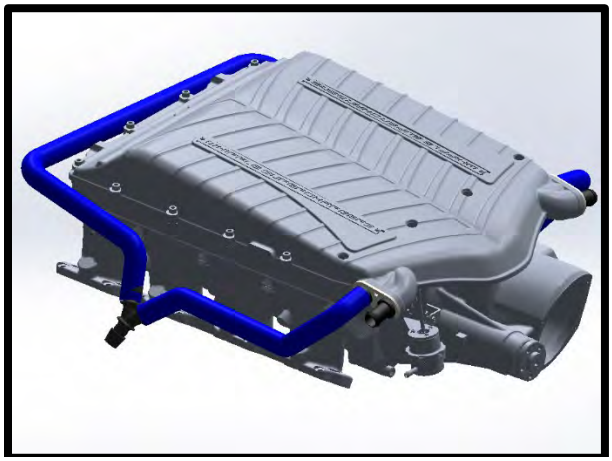
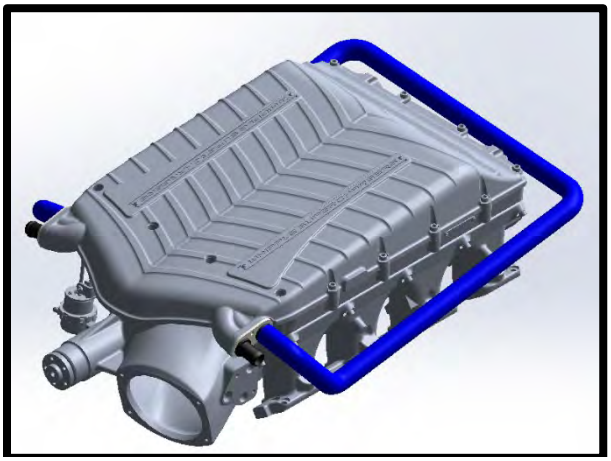
77. Connect the 3/8" x 45" EVAP hose previously routed to the EVAP solenoid.



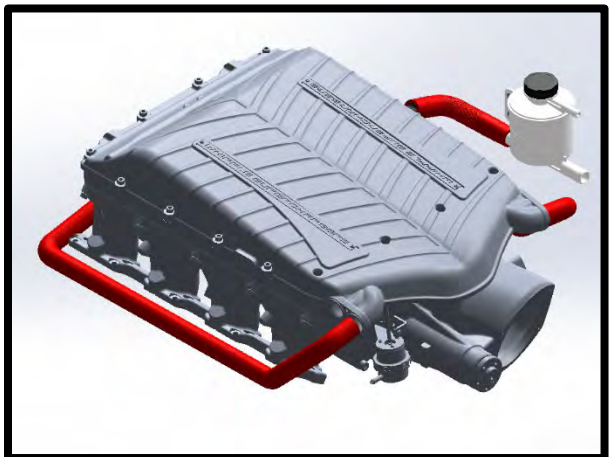
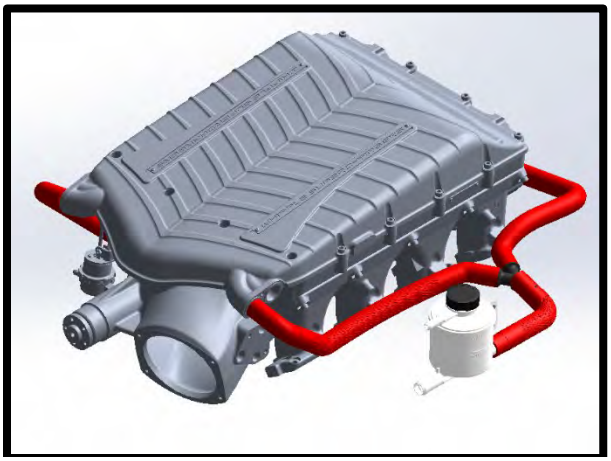
78. Install supplied u-bend ¼" bypass vacuum hose from bypass to SC inlet 1/8" NPT to ¼" barb fitting.

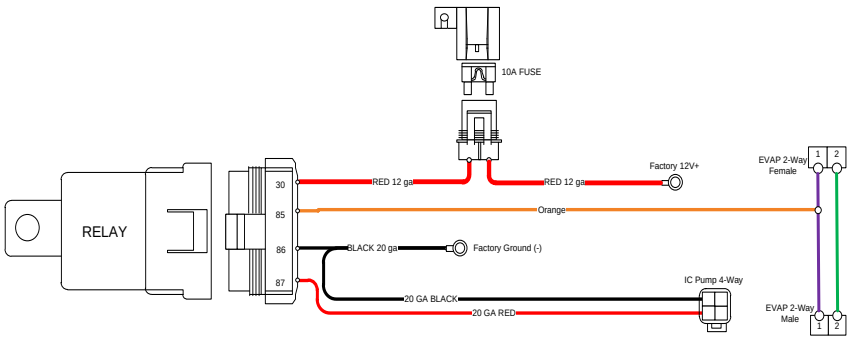
79. Install the supplied preformed IC inlet hose #3103144 to the LH rear fitting. Route around the back of the SC to RH side of engine. Install supplied Y fitting to end of this hose. Install supplied hose #3103145 to RH side, rear IC inlet fitting. Route other end to the Y fitting. Secure hose to the IC inlet fittings with supplied black 16mm-27mm black worm clamps. Secure other ends with supplied #16 pinch clamps. **NOTE**: **DO NOT MIX UP!**

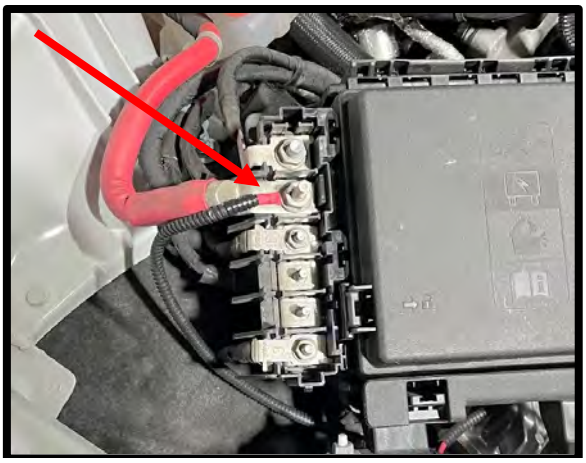



80. Install the supplied preformed IC outlet hose #3103146 to the RH front fitting. Route around the back of the SC to LH side of engine. Install supplied Y fitting to end of this hose. Install supplied hose #3103265 to LH side, front IC inlet fitting. Route other end to the Y fitting. Secure hose to the IC inlet fittings with supplied black 16mm-27mm black worm clamps. Secure other ends with supplied #16 pinch clamps. **NOTE**: **DO NOT MIX UP!**

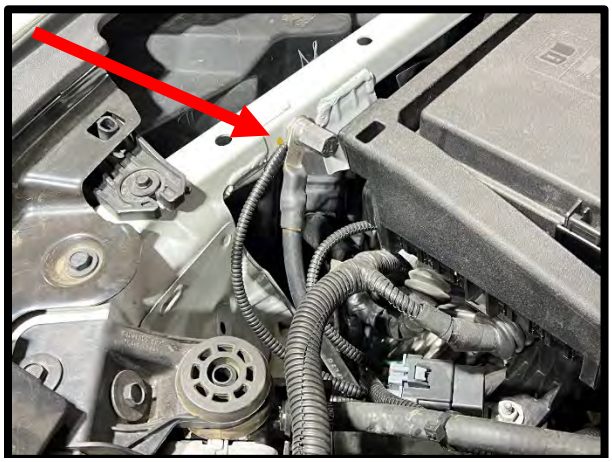



81. Install the supplied intercooler pump harness red 12v power eyelet to the factory power wire stud. Use a 13mm deep socket.

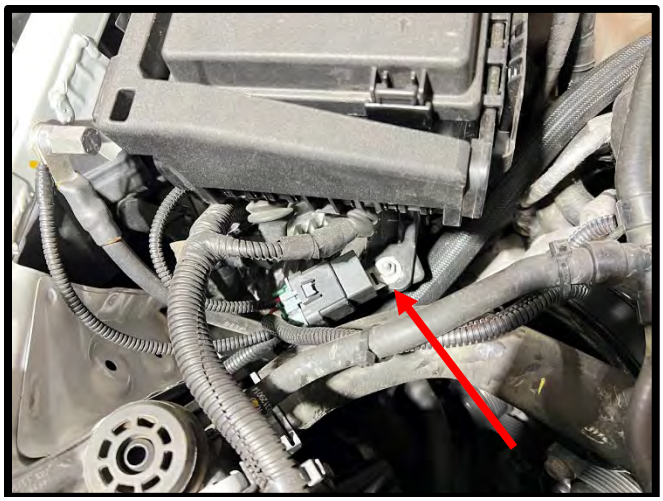


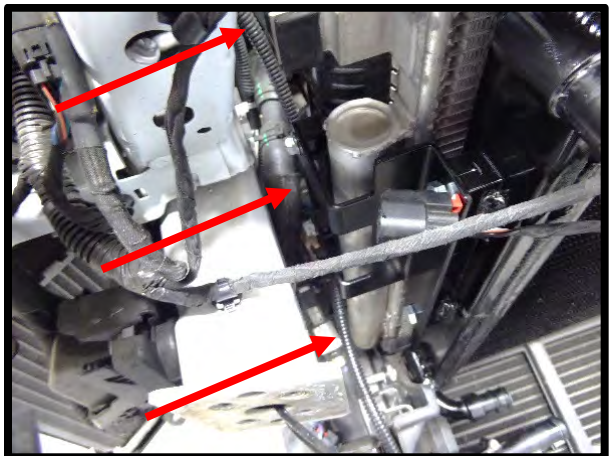
82. Install the intercooler pump black ground (-) eyelet to the factory ground stud on the passenger side of radiator core support.



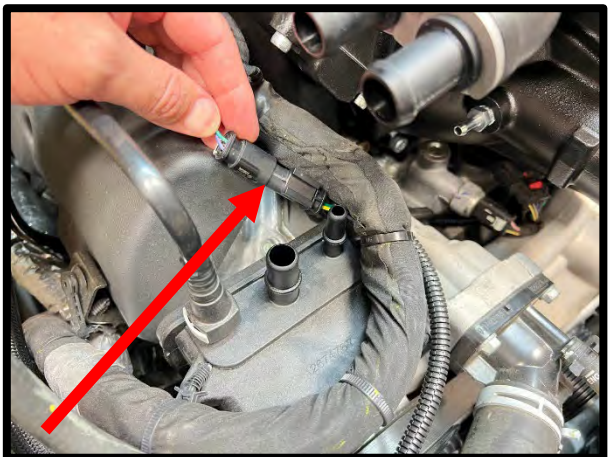
83. Mount the supplied relay and fuse holder just below the fuse box, to the stock nut and bolt as shown.



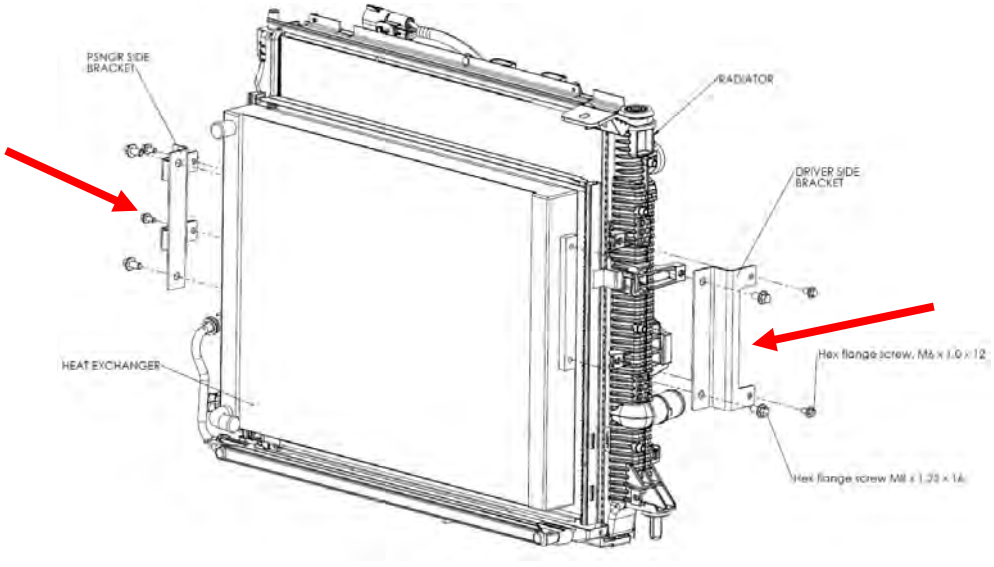
84. Route the 2-way EVAP connection towards the front passenger side of the engine for later connection. Route the intercooler pump connector between the radiator and frame for later installation to IC pump.



85. Route 2-way intercooler pump harness branch to stock EVAP connector, Plug in stock EVAP solenoid to IC harness female connector. Route harness under the front of the supercharger, then up to front to EVAP solenoid. Connect other end to EVAP solenoid. Zip-tie to stock wiring harness at both ends to keep away from belt system.



86. Install the driver and passenger side heat exchanger brackets using the supplied (4) 6mm x 12mm HHFCS. Torque to 106 in-lbs.

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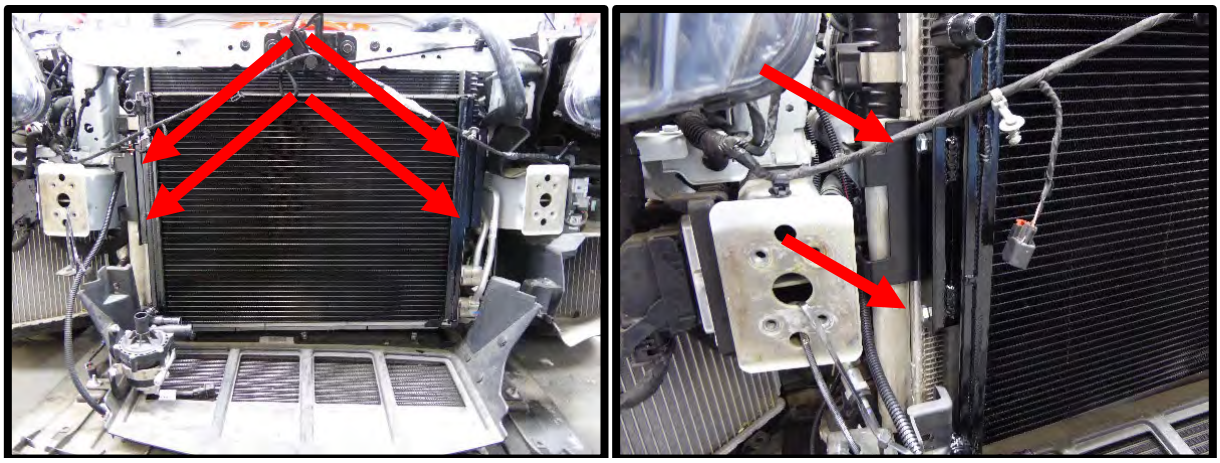
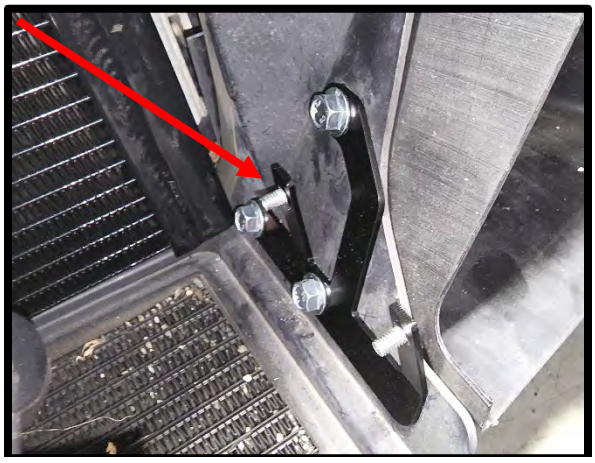
87. Mount the LTR to the previously mounted brackets using the (4) 8mm x 12mm HHFCS. Torque to 16 ft-lbs.

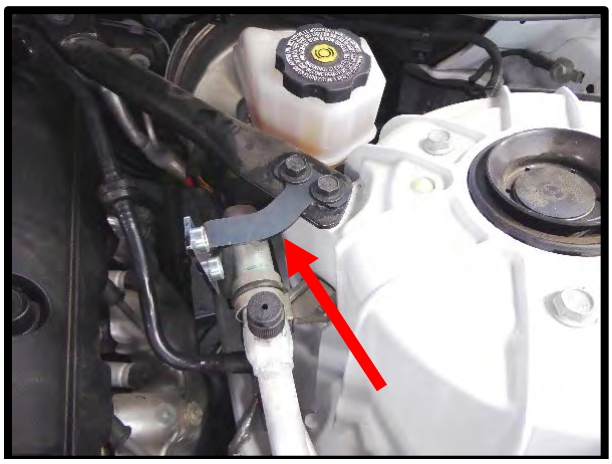


88. Mount the IC pump bracket to the LH side of plastic radiator closeout. Mount using the (3) 8mm x 16mm HHFCS and secure backside using the (3) 8mm flanged nuts. Torque to 106 lb-in.



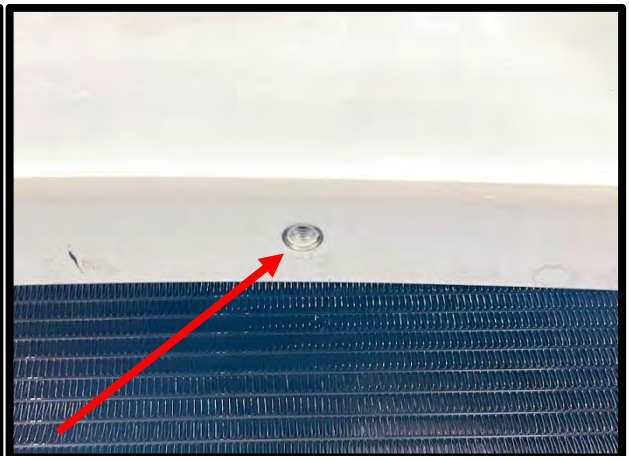
89. Connect the pump electrical connector to pump (will be zip-tied to LTR hose in later step. Install the IC pump into the clamp. Face the inlet barb up, electrical connector down and the outlet barb straight back towards the engine.

90. Install the filler neck bracket to the factory support bracket on driver side of vehicle. Remove the factory (2) fasteners, insert filler neck bracket and secure with factory fasteners (13mm socket), torque to 16 ft-lbs.



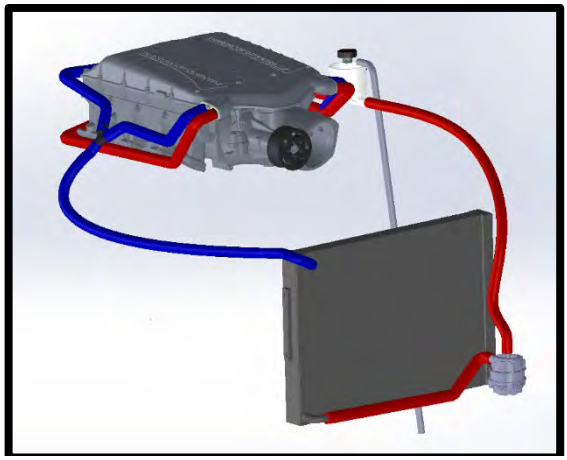
91. Install filler reservoir to filler bracket previously installed. 3/8" barb faces forward. Secure using supplied (2) 6mm x 12mm HHFCS.

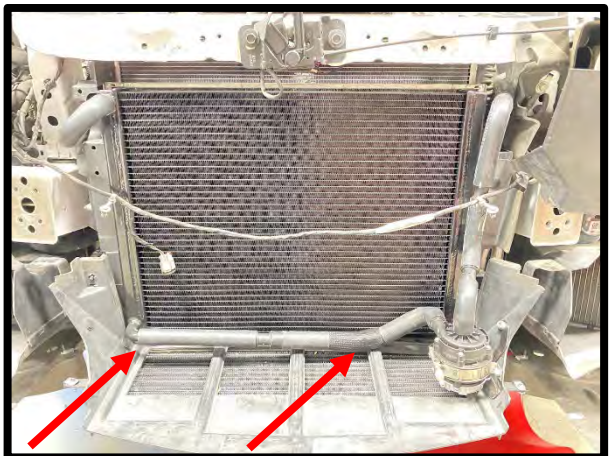
92. Flip the factory bumper support cross brace upside down. Install the supplied 8mm x 1.25 rivet nut for horn relocation. To install, press in rivet nut to ½" hole. Use the supplied threaded bolt to rivet nut. Tighten until nut is collapsed and tight, remove bolt from rivet nut.



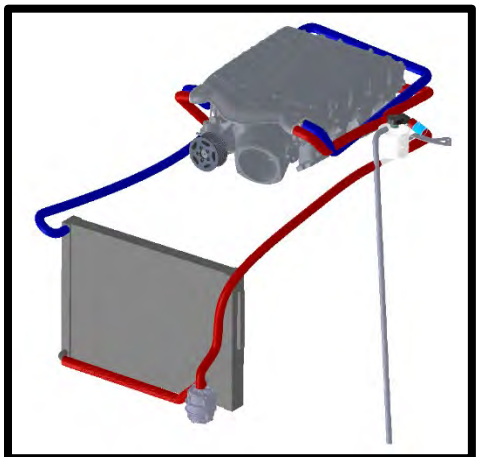
93. Remove the horns from the stock bracket. Using the factory fastener, mount to supplied bracket. Mount horn assembly to bumper support cross brace rivet nut using the supplied (1) 8mm x 25mm HHFCS bolt.

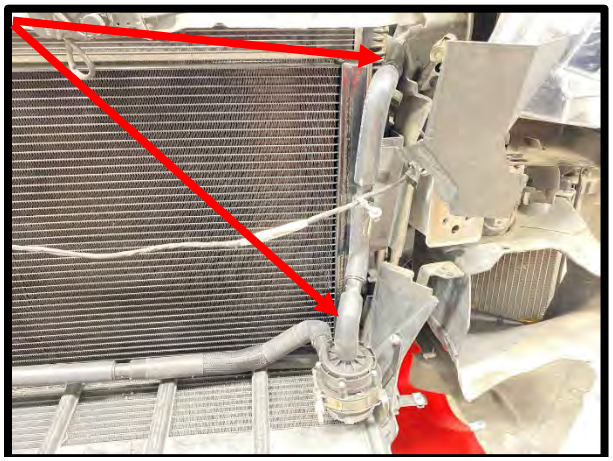
94. Install the supplied preformed hose #3103267 to IC pump outlet to LTR inlet fitting. Secure both ends with supplied #16 pinch clamps. Zip tie intercooler pump harness to this hose for clean installation.



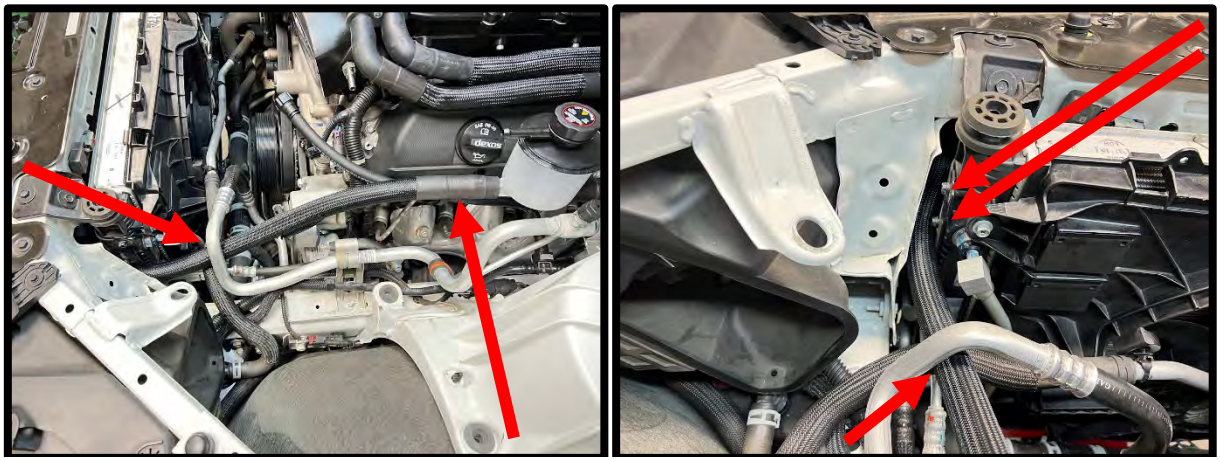


95. Install the supplied preformed IC pump feed hose #3103268 to the pump top fitting. Route through the small gap between radiator and radiator support. Secure both ends with supplied #16 pinch clamps.





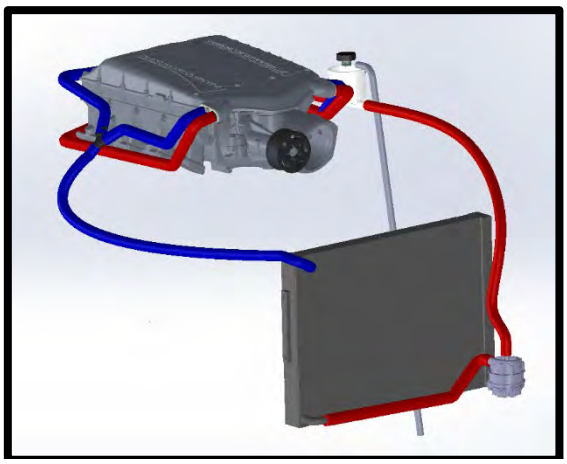
96. Route the IC pump feed hose #3103268 to the filler reservoir front fitting, make sure to go UNDER the AC line, over will cause the hose to kink overtime. Secure both ends with supplied #16 pinch clamps. **NOTE**: Using a Dremel tool or file, grind off the (2) tabs from the factory radiator driver side tank for proper hose clearance.

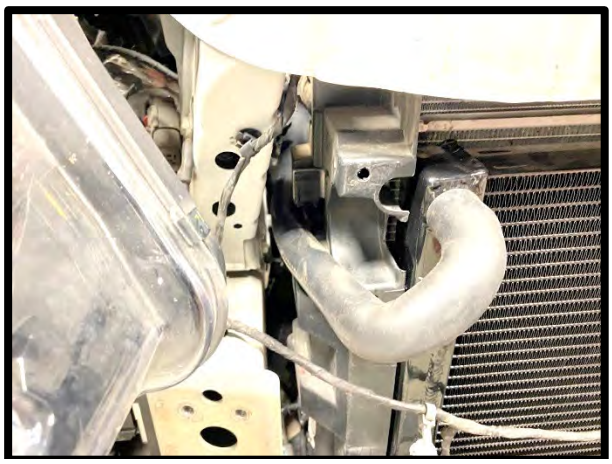


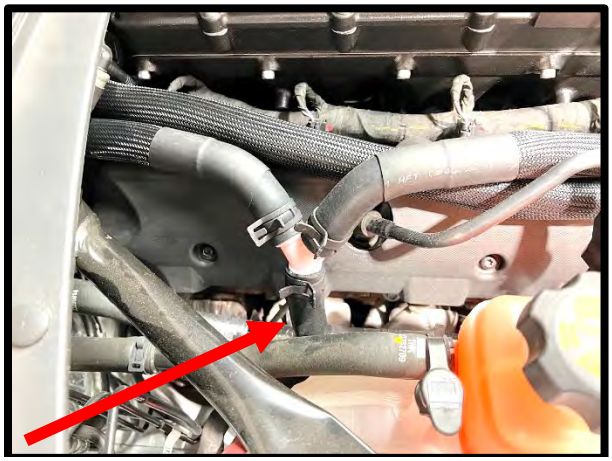
97. Install the 3/8" preformed hose to the filler reservoir 3/8" barb. Route along the IC feed hose, away from the belt, then down towards bottom of radiator. Secure with supplied #12 pinch clamp. **NOTE:** This is a 15psi system, this line can burp fluid in a IC system failure or improper filling, route down by radiator.

98. Install the supplied 90deg hose #3103266 from the filler reservoir rear fitting to the LH outlet Y previously installed. Secure with supplied #16 pinch clamp.

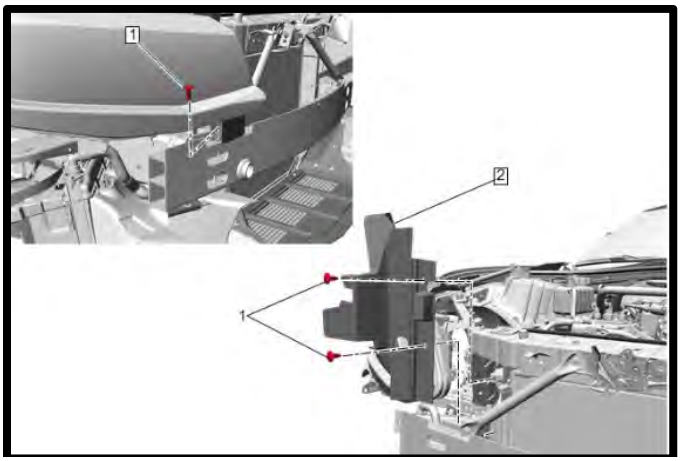
99. Install the supplied preformed LTR outlet, IC inlet hose #3103264 to the LTR top fitting. Route the hose through the gap between radiator and radiator support. Connect to RH Y fitting, secure with #16 pinch clamp.

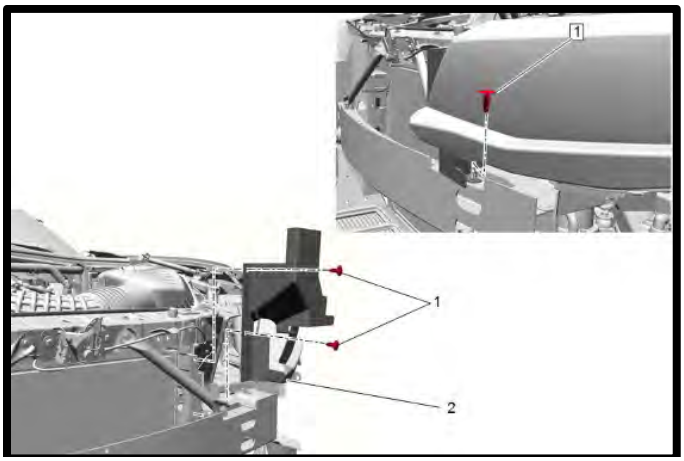




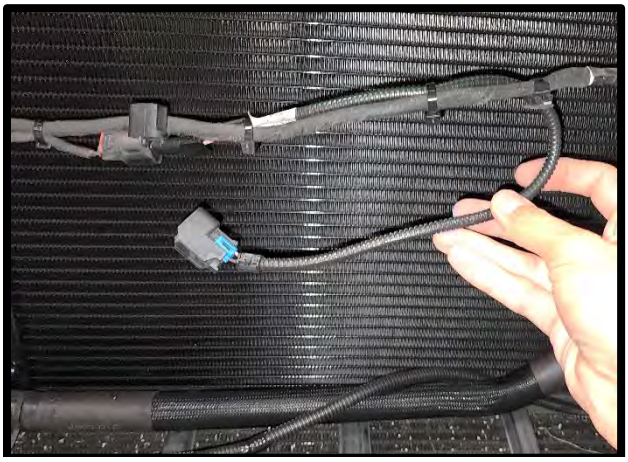


100. Reinstall the radiator closeout panels. Each needs to be trimmed to clear intercooler hoses. Reinstall bumper support bracket (24 ft-lbs) and (2) front cross braces (80 in-lbs). Connect the horn pigtail extension, zip-tie for clean installation.

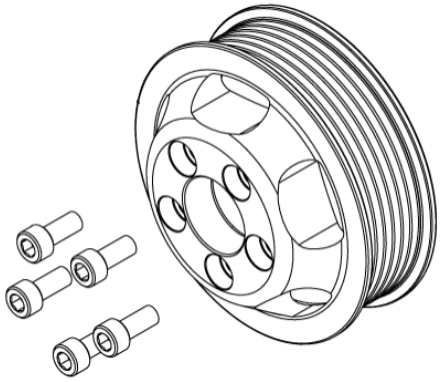


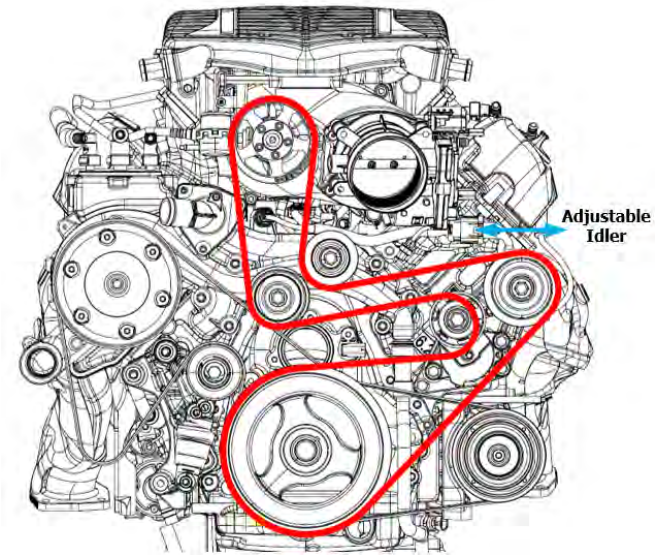
101. Reinstall bumper support bracket (24 ft-lbs) and (2) front cross braces (80 in-lbs). Connect the horn pigtail extension, zip-tie for clean installation.



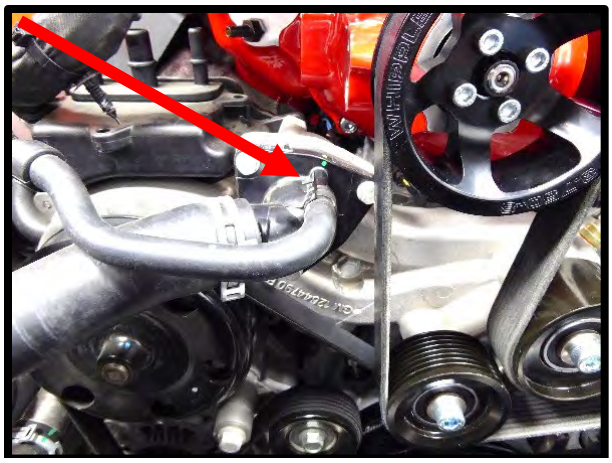

102. Install the supplied supercharger pulley using the supplied (5) 6mm x 14mm SHCS to secure. Torque to 119 in/lbs using a 5mm allen socket. Use the 6-rib belt to hold the pulley in place to torque. **NOTE:** Loctite or thread locker is not required or needed.



103. Using a breaker bar with 15mm socket, rotate the spring-loaded tensioner counter clockwise to its max open position. Route the supplied supercharger belt as shown in diagram. Use the sliding idler to remove all slack from the belt. Torque idler pulley to 22 ft-lbs and release tensioner. Tensioner must always be set at full to ¾ open with a new belt. Failure to set this correctly may result in belt failure.



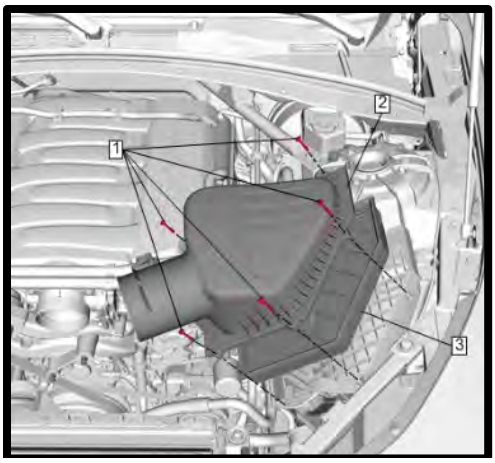
104. Verify that the factory thermostat housing vent line hose clamp is not facing the supercharger belt, if so, rotate out of the way.



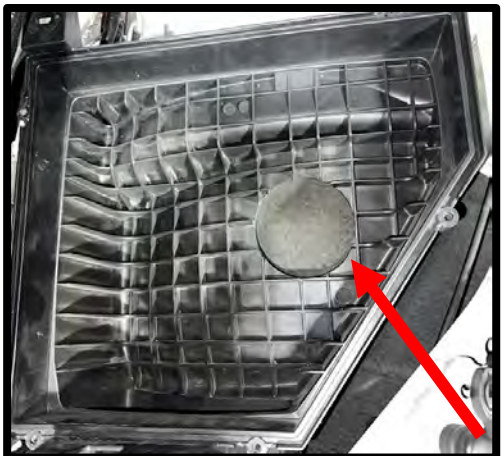
105. Install the throttle body adapter to SC inlet with 112mm gasket to SC. Secure using (4) 6mm x 25mm FHCS bolts. Install stock oring to throttle adapter. Mount TB to adapter using (4) 6mm x 40mm HHFCS bolts. Torque to 96 in-lbs (10 mm socket). Reconnect factory TB electrical connection.

106. Secure intercooler lines using zip-tie where necessary for a clean installation.

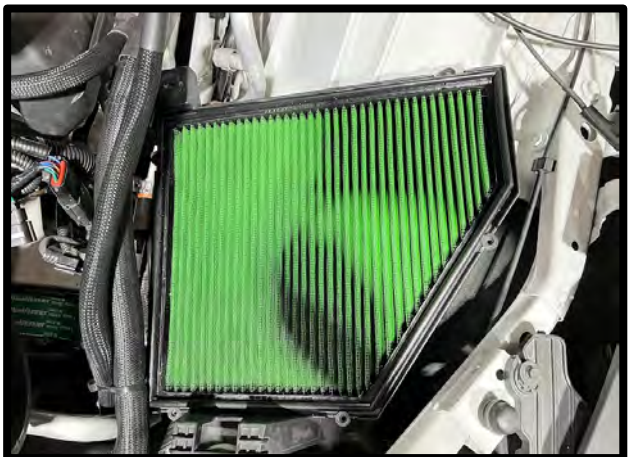
107. Remove airbox lids (5) fasteners. Remove airbox lower from vehicle for modification.



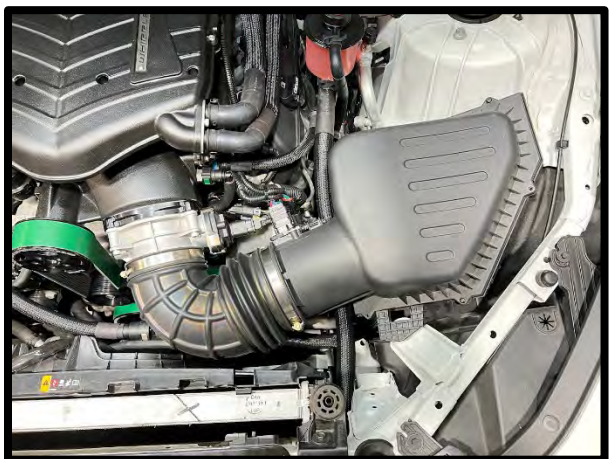

108. Using a 3” hole saw or similar, open the airbox in similar fashion as shown. Clean airbox lower using soap and water, then reinstall.



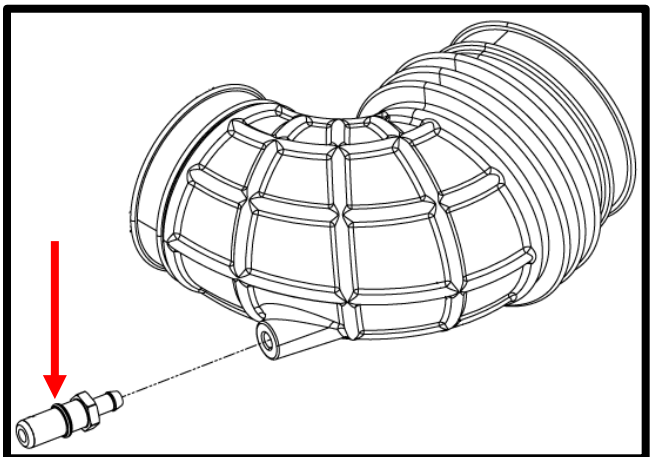
109. Exchange air filter with new high flow filter.



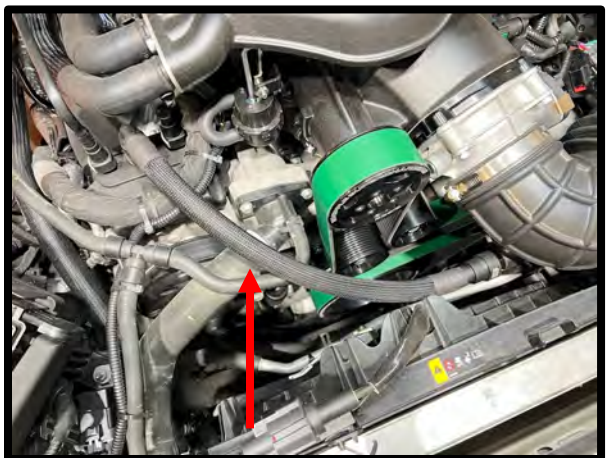
110. Install the supplied rubber 90deg inlet tube using the supplied hose clamps (#64 TB side, #72 airbox side) to throttle body and airbox. Install factory airbox lid, secure using factory fasteners.



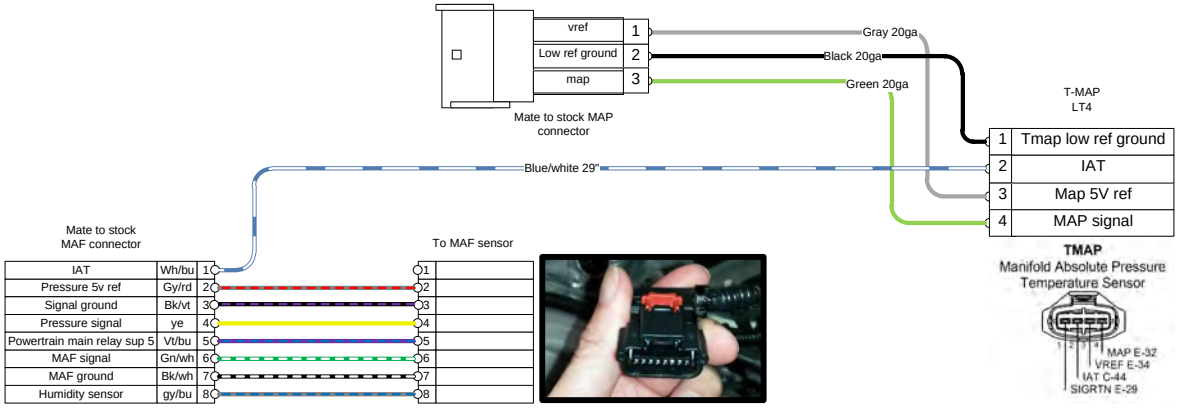
111. Install the supplied 9.89mm to 3/8" barb fitting to the supplied 90deg inlet tube.

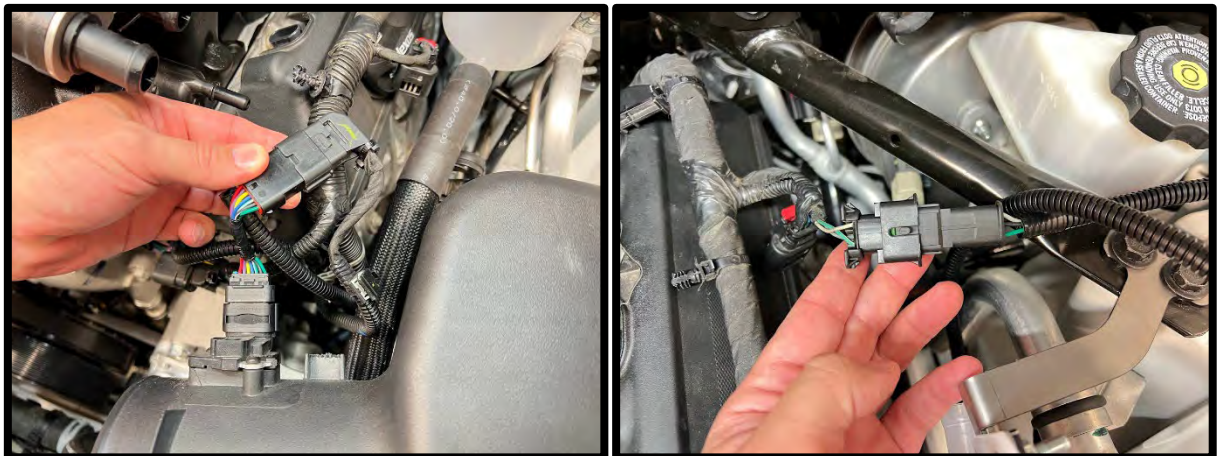


112. Install the 90deg quick connect fitting previously removed from catch can to inlet vent line to the supplied ½" x 15" hose. Install straight fitting to the inlet fitting and the 90deg to the catch can.



113. Install the MAP pigtail. Connect the 8-way MAF intercept pigtail to the factory MAF connector. Route the pigtail along the driver side valve cover. Connect the MAP pigtail to the factor 3-way TMAP connection. Route the 4-way new MAP sensor connector to the back of the engine to the previously installed TMAP.



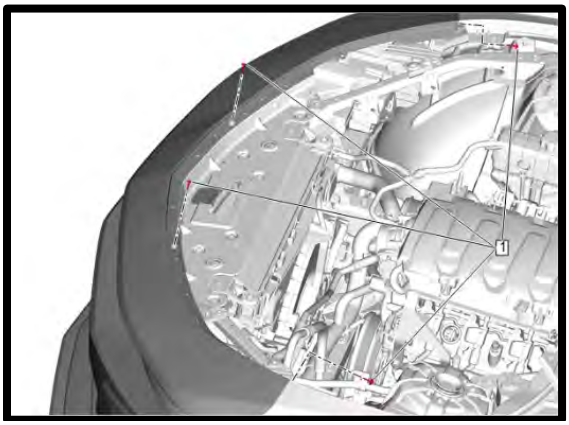



114. Refill the Engine coolant. Verify that your coolant drain is closed, and use a filter/strainer to pour the recycled coolant/water mixture that you drained from the radiator. If necessary top off with a **GM approved engine coolant**. Whipple also recommends running 2 bottles of Redline Water Wetter which can be found at most automotive parts stores. **⚠ WARNING!! NEVER USE TAP WATER, THIS WILL CAUSE CORRISION IN THE SYSTEM.** Start engine to completely fill system.

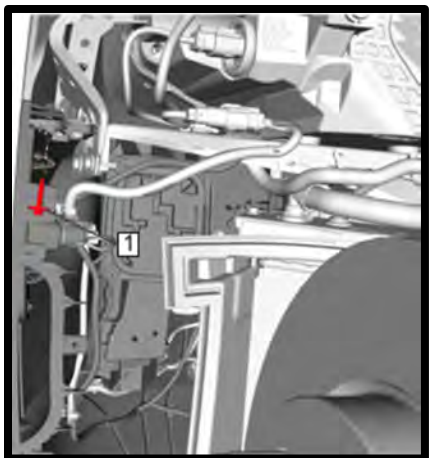
115. Attach the negative cable to the battery and tighten using an 8mm wrench.

116. Reconnect any necessary lamp and sensor harnesses to the fascia.

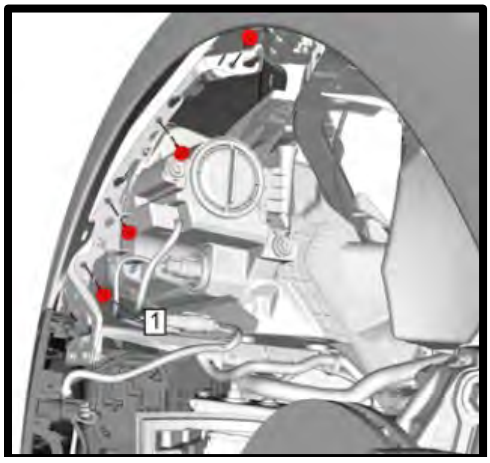
117. Reinstall the (4) bolts from the upper fascia. Torque to 22 ft-lbs.



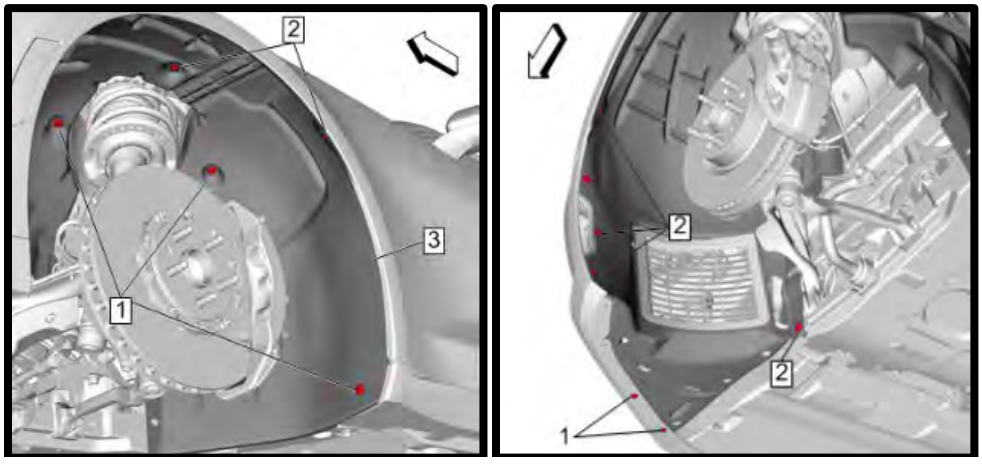
118. Reinstall the front bumper fascia bolt on both sides. Torque to 22 ft-lbs.



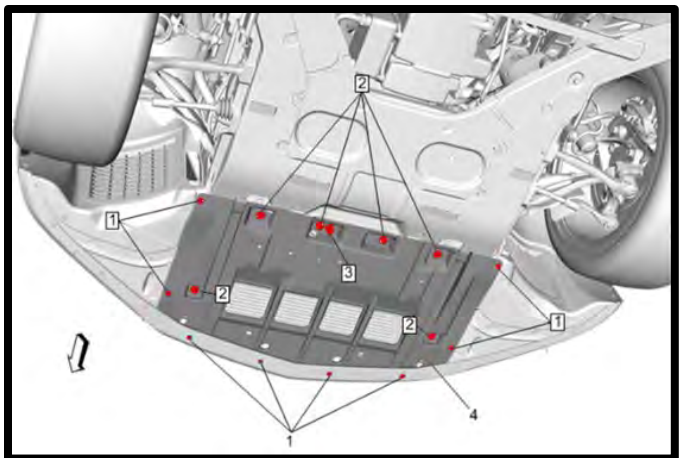

119. Reinstall (4) bolts per side from the front bumper fascia outer bracket (inner fender area). Torque to 22 ft-lbs.



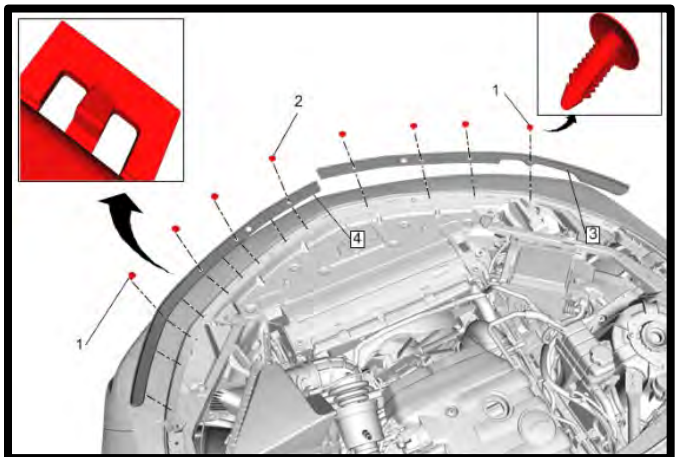

120. Reinstall the front inner liner, use factory bolts, torque to 22 in-lbs. Torque inner liner to fascia to 44 in-lbs.



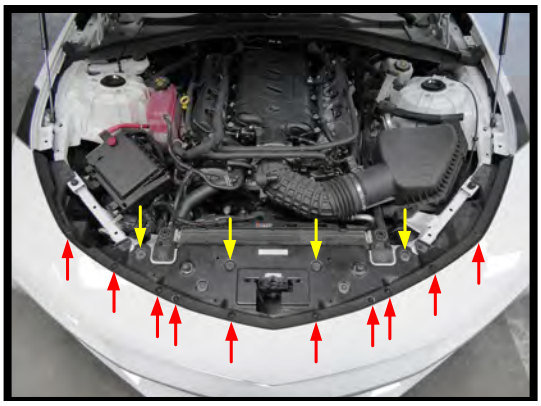
121. Reinstall the front bumper fascia lower stiffener. Torque to (1) 22 in-lbs and (2) 44 in-lbs.




122. Remove the right and left front bumper fascia upper moldings. Torque to 22 in-lbs.

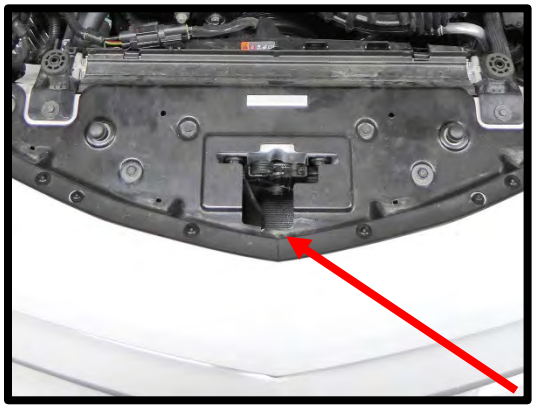



123. Using a T-15 Torx driver, remove (10) screws securing the top of the fascia. Using a 10mm socket, install four bolts to secure the radiator shroud.

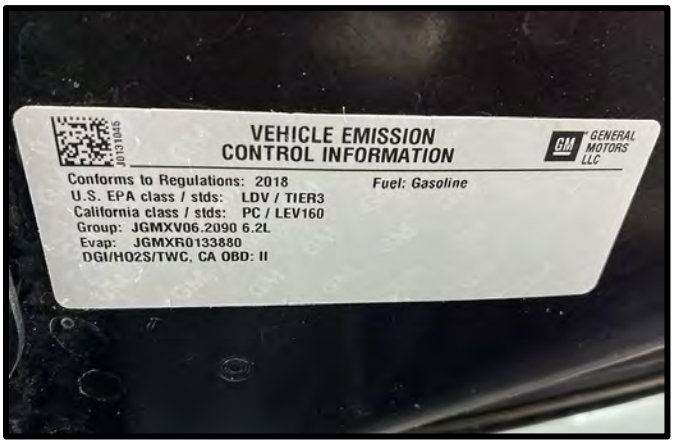


124. Install the radiator shroud cover using the factory push pins (8).

125. Using a ¼" socket, 10" extension and 13mm swivel socket, secure the intercooler reservoirs (2) 8mm bolts. Do not overtighten! The reservoir rest on the Fascia, therefore the bolts only need to be snug. Overtighten and you can crush the plastic tank.



126. Install the supplied 50-state legal sticker near the stock emissions decal or in visible location under the hood. Use light amount of acetone to clean surface before installing.




127. Install the "91 OCTANE OR HIGHER" decal to the gas tank fill cap or door.


**The electric water pump used on the Whipple SC system has a built-in micro-processor that will vary pump cycle speed when air bubbles are present in the system. If a significant amount of air is trapped in the system, the pump may cycle at a lower speed and pulsations are likely to occur resulting in poor cooling performance.**

**For the best result, it is highly recommended to use a Radiator Cooling System Vacuum Purge and Refill Kit to properly evacuate the air from the intercooler system before filling the 50/50 mixture of coolant and distilled water. If one is not available, the following procedure will be adequate.**

128. Using a Lisle 24680 Spill-Free Funnel, or equivalent, secure the appropriate filler neck adapter to the filler reservoir.

129. Attach the funnel and fill with a 50/50 mixture of coolant and distilled water until the funnel is half full. Whipple recommends Zerex G-05 to match the stock color. The Whipple IC system is compatible with all common types of antifreeze, it is customer preference. **Note:** Whipple also recommends 1 bottle of Red Line Water Wetter or equivalent. **NEVER** use tap water, this will cause corrosion and destroy the system.

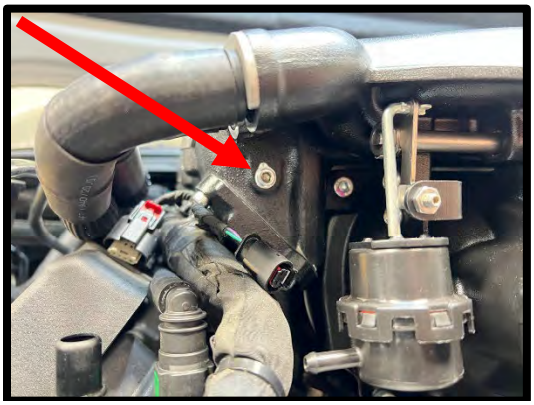
130. Start the engine to turn IC pump on, after a brief delay, the electric pump motor will cycle. Air bubbles will begin to rise to the filler reservoir as the coolant level drops, continue to fill while pump is running. Once it's done filling, turn the ignition key **OFF**, the level will drop, top off with fluid. Reinstall cap and restart engine, let run for 60-120 seconds. Turn key **OFF**, remove cap to release air. Repeat until the filler reservoir holds just above the **MIN** level with key **OFF**. To build more pressure in the intercooler system, try squeezing the in/out intercooler hoses while the pump is on. Building pressure in the system will help push the trapped air from the intercooler system to the filler reservoir. It also helps to lift the filler neck 4"-8" higher than its mount to help purge the air. **NOTE:** Do not let the coolant level in the funnel run empty as this may introduce more air into the system. **WARNING: DO NOT OVERFILL RESERVOIR**, use the min/max marks.

131. Cycle the ignition to the ON position again and repeat until the sound of the electric pump is continuous without any pulsation and the fluid level is met at the filler cap. ***NOTE: During water pump start-up, it is normal for a slight pulsation to occur. Once the pump has reached its maximum cycle speed, no pulsations should be present. If any pulsations occur, there is air in the system. NEVER GO WOT UNTIL AIR IS BLED OUT!***

132. Several drive cycles may be required to completely purge the air from the intercooler system. During a drive cycle, the intercooler system will build up pressure as the supercharger temperature increases. Any residual air trapped in the system will have to be bled out when the cap is removed. Use a rag when removing in case there is excess pressure. ***CAUTION: Never go WOT until air has been bleed from IC system, engine failure could occur if not bled properly.***

***WARNING: Always avoid removing the filler neck cap when the system is hot. The hot coolant is under pressure and may spray out causing burns.***

133. If adding a boost gauge, we've provided an extra 1/8" NPT port above the front RH cylinder, remove NPT plug with 3/16" allen and install boost gauge.



134. Before driving, make sure that you have 91 or higher-octane fuel in the system. Not ½ tank of 87 and ½ tank of 91, all 91 or better fuel in the system. Whipple does not recommend octane booster to bring lower octane to 91.

135. Do not use aftermarket air filter box or duct with the supplied Whipple calibration. The Whipple calibration is designed to work with the Whipple cold air intake system and nothing else. Changes to the air inlet system will require a custom tune which Whipple does not provide.

136. Test drive vehicle for the first few miles under normal driving conditions. Listen for any noises, vibrations, engine misfire or anything that does not seem normal. The supercharger does have a slight whining noise under boost conditions, which is normal. If you chose the aftermarket throttle body, idle may take a few minutes to learn.

137. Re-check the radiator and intercooler reservoir coolant level regularly over the first 1,000 miles, top off level as needed.

138. Inspect belt system and readjust. It's common for the belt to stretch after first heat cycle and may require adjustment.

139. After the initial test drive, go through the belt tensioner process again. On the next test drive, gradually work the vehicle to wide open throttle runs. Listen for any engine detonation (pinging). If engine detonation is present, let up on the throttle immediately. Most detonation causes are low octane gasoline still in the tank.

140. If you have questions about your vehicles performance, please check with your installation facility or call Whipple Superchargers at 559.442.1261, Monday through Friday from 8am to 5:00pm, pacific time or email questions to tech@whipplesuperchargers.com.

**⚠ WARNING!!** Verify the bypass actuator is working properly. To monitor, look at the bypass arm when the motor is not running. Start engine and verify that the actuator arm has opened. This arm will be extended when the engine is above 2" of vacuum (boost) and will be open when there is more than 3" of engine vacuum.

There is a great deal of misinformation about the function of supercharger bypass systems. The supercharger is a positive-displacement pump; that is, so long as it is rotating, it is always pumping air. During low demand or high vacuum operation (i.e. idle, deceleration, and light throttle cruise), the pumping action is undesirable as it creates unwanted heat and noise. The bypass circuit, when open, prevents any pressure buildup across the supercharger and allows air to circulate through the rotors, allowing the supercharger to "idle" freely during these conditions. This results in reduced noise, and by reducing heat buildup in the intake, significantly improves street and strip performance. As throttle demand increases, the bypass circuit is closed, resulting in full performance and strip performance. As throttle demand increases, the bypass circuit is closed, resulting in full performance from the supercharger. The bypass circuit is never used to limit or control boost during full-throttle operation and defeating or altering the bypass function will not result in improved performance in any condition and will result in poor drivability and possible supercharger damage.

# *INSTALLATION NOTES*

# *MAINTENANCE AND SERVICE*

Be sure to follow the maintenance and service recommendations below to optimize the life and performance of your Whipple Supercharged vehicle. For best performance and continued reliability, it is essential to adhere to the following guidelines:

1. Use only premium grade fuel (91-octane or higher).
2. Always listen for any sign of spark knock or pinging. If present, discontinue use immediately and consult your vehicle owner's manual.
3. Do not operate the vehicle at large throttle opening if the MIL lamp is on steadily. This indicates an electronic engine control malfunction: reduce throttle opening and consult your vehicle dealer.
4. Check the supercharger oil level at every engine oil change. Add Whipple SC oil to the supercharger if required. Do not overfill the supercharger rear gear case.
5. Change the oil in the supercharger every 100,000 miles, if changing the speed of the SC, change oil every 50,000 miles. Use Whipple SC oil only.

***Severe damage to the compressor will occur if you overfill the supercharger rear gear case.***

6. Do not operate the vehicle at large throttle opening if the MIL lamp is on steadily. This indicates an electronic engine control malfunction: reduce throttle opening and consult your vehicle dealer.
7. Inspect and clean your high-flow air filter element every **10,000 miles**. Replace as necessary.
8. Check intercooler fluid level every 7,500 miles.
9. **Replace spark plugs every 20,000 miles. Only run specified plugs, #12642722 (.038" gap).**
10. Follow your factory service intervals for oil changes and other typical maintenance items.
11. Check the supercharger/accessory drive belt. Adjust or replace as required.

***Any modification to your vehicle's new computer program may cause serious damage to the engine and/or drive train.***

# *CONGRATULATIONS*

Your new Whipple Supercharger is engineered to significantly increase your engines power across a broad range of RPM's. It is Whipple's goal to improve your driving experience for many miles and years to come.

Whipple Superchargers operate as an air pump and contain internal rotors that are driven by the engine's crankshaft and serpentine belts. The supercharger compresses outside air and channels it into the engine's intake ports. Because of their design, superchargers may generate some additional noise over the standard, normally aspirated induction system.

At idle, you may hear a medium-pitch rattle from the supercharger main housing. This will diminish at about 400-500 rpm above idle.

You may also experience a muffled high-pitched whine during acceleration. This is caused by the pumping action of the supercharger compressing air and only occurs during boost conditions. It is inaudible during part-throttle acceleration.

These are normal noises associated with any supercharger and have no effect on supercharger performance or engine durability.

Your supercharger is warranted by Whipple Superchargers, please see your terms and conditions on the back of your invoice for more information in regards to the limited warranty. NOTE: Whipple Superchargers will not authorize any warranty repair work or supercharger replacement for normal noise.

# *IMPORTANT INFORMATION*

DYNO INSTRUCTIONS
When testing on a chassis dyno, the 8-speed auto 6th gear is 1:1 which will show the highest torque value on inertia based dyno's but will run into the factory speed limiter, therefore **4th** gear is ideal for testing. Manual 6 speeds 4th gear is 1:1, this is the ideal gear to run in.

BOOST LEVELS
All Whipple kits are shipped with boost levels that Whipple feels achieves maximum power while maintaining reliability with stock engines (@ sea level). Additional pulleys are available for lower and higher boost levels, the supplied calibration (complete kits) for the original pulley or larger (lower boost).

EXHAUST
Cat-back exhaust systems help reduce heat and minimize exhaust back pressure. They do not affect the calibration and are always a good idea for added safety and performance. Long tube headers and/or high flow cats require custom calibrations and are not supported by Whipple.

AIR FUEL RATIO
Air fuel ratio is the measurement of the amount of air and fuel being burned during the combustion process. In order for you to monitor the air fuel ratio, you must have an 18mm bung welded into the exhaust or use OBD data logger to monitor the factory wide bands. The ideal placement is pre-catalytic converter as the catalytic converter can give false readings. While in some cases, it may not be possible to measure air fuel pre-cat, one must verify that post-cat that the motor is running at stoich at idle and should technically show .20 to .50 leaner air fuel ratio.

The Whipple supplied calibration is tuned for WOT 12.00:1 considering 91 octane fuel with 10% Ethanol measured before the cats. Post cat readings may show .25 to .50 leaner. Whipple maintains Catalytic saver mode which richens the target air fuel to maintain cat life. During this, the air fuel may lower up to one full point to maintain temps when cats overheat.

FUEL SYSTEM
The Whipple fuel system (FLOW) needs no additional changes for power levels supplied by Whipple. Any smaller pulley change or custom engines would require fuel system changes.

FUEL OCTANE
Never run a fuel octane that is below 91octane, (RON+MON)/2 and never run fuel with more volume than 10% Ethanol. It is recommended, when available, to run 92-94 octane. Never mix mid-level (below 91) with 91+, this is very dangerous and can cause severe engine damage. Do not attempt to increase octane ratings with generic octane boosters, these are very hard on spark plugs and many brands do very little to the actual octane rating (1 point is .1 octane). For emergency situations and racing applications, the best octane booster found to date is Boostane (#1 choice). Some other brands are hard on spark plugs so constant use will require increased spark plug maintenance.

ENGINE COOLANT
Whipple recommends running a 50/50 mix of distilled water and coolant. The engine coolant temp should run between 190-210deg F under normal driving conditions. We also recommend 1 bottles of Red Line Water Wetter coolant additive. This will reduce air bubble insulation, which increases overall engine temp.

FUEL LEVEL
Never operate at WOT when the vehicle fuel levels are below a 1/8 tank. Low fuel levels could cause the fuel pump to cavitate and you'll have fuel flow spikes resulting in lean conditions and consequently detonation.