SUPERCHARGER INSTALLATION MANUAL

2014 AND UP CHEVROLET SS
6.2L ENGINE

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

CALIFORNIA AIR RESCOURCE BOARD EXECUTIVE ORDER #D231-48

COMPETITION BASED PRODUCT MAY BE USED SOLELY ON VEHICLES USED IN SANCTIONED COMPETITION WHICH MAY NEVER BE USED UPON A PUBLIC ROAD OR HIGHWAY

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.
- Operating your engine without the Whipple PCM recalibration can result in engine damage or failure and will void your warranty.
- Stock airboxes are required for Whipple tuning. Aftermarket airboxes are not supported.
- Supply your stock calibration (along with gear ratio, transmission type, throttle body type and any changes to vehicle) to Whipple ahead of time so your unique PCM calibration can be built prior to the PCM being shipped or calibration emailed to minimize any down time.

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.

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:

Extra Components
2 gallons distilled water, 2 gallons GM approved coolant, 4", 8" and 12" zip-ties. Competition kits: Fuel system, MAP sensor, calibration, spark plugs.

Tools
Torque wrench (1/4", 3/8", ½") Safety glasses, standard and metric wrench set, 1 ½" hole saw, ¼", 3/8", ½" assorted metric socket set, 3/8" assorted metric allen socket set, 3/8" assorted torx socket set, 8mm nut driver, screw driver set, pinch clamp tool, wire cutters and drain pan (for coolant).

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.

Sealants
Blue Loctite™#242 or equivalent, Red Loctite™ #271 or equivalent, Green Loctite™ #648 or equivalent. All bolts that need Loctite™ are marked with: **☛Loctite™ (#242 blue) threads, ☛Loctite™ (#271 red) threads, ☛Loctite™ (#648 green)**. Thread sealant such as pipe Teflon must be used on all pipe threads.

Chemicals and lubricants
You will need some cleaner/degreaser such as carb cleaner. Motor oil and clear automotive-type grease will be useful as a lubricant and should be readily available during installation.

Clean Shop Towels
Use these to keep the installation area clean.

Symbol Key

Throughout this installation guide you will see the following symbols used:

➲ NOTE

Used to indicate tips and information to aid in installation, maintenance, or use of the supercharger.

!! CAUTION !!

Used to indicate precautions that must be taken to avoid damage to the supercharger and associated components.

⚠ WARNING!!

Used to indicate precautions that must be taken to avoid bodily injury as well as damage to the supercharger and associated components.

GLOSSARY OF TERMS

ABBREVIATION	DESCRIPTION
ACT	Air Charger Temperature
BHCS	Button Head Cap Screw
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

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 or modified engine is not recommended without factory computer and fuel system modifications. Custom engine configurations could require custom tuning and other supporting modifications. Whipple does not offer custom calibration services.**

3. Verify Fuel System: Supercharger systems should only be installed on vehicles that have new or clean fuel filters. High mileage vehicles may require a fuel pump change if fuel PSI cannot be properly maintained under high flow demand.

4. Proper Octane: Use only 91 octane fuel or higher, 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.

5. 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.

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

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

8. **!! 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.

➲ NOTE

***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.

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

ILLUSTRATED INSTALLATION GUIDE

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.

1. 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.

2. Using the SCT flash tool, connect to the factory OBDII connector.

➲**NOTE:** To insure compatibility It may be necessary to have the ECM/TCM updated by a GM Dealer to the most current stock calibration before the SCT programmer can be installed. It is recommended to do this before installing the supercharger kit.

☐ Your computer must have a stock unaltered file or programmer will not load.

☐ If your car has been tuned you will need to return it to stock before proceeding.

☐ If you're unable to return it to stock you will need to take it to a GM dealer and have them update the computer.

☐ Using the flash tool, install the Whipple supplied tune to the ECM/TCM before you continue. If you have any problems with your HP Tuners MPVI tool, contact HP Tuners, support@hptuners.com. Calibrations are built from your stock uploads, there are no pre-loaded calibrations.

3. Slowly remove the factory gas cap to relieve any excess pressure.

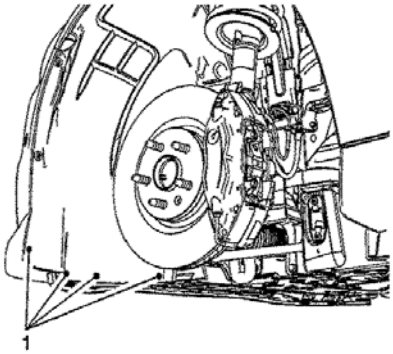
4. Open the trunk and remove the driver side access panel to access the battery.

5. Disconnect the NEGATIVE battery connector with a 10mm wrench. The battery cable MUST remain off for the remainder of the install.

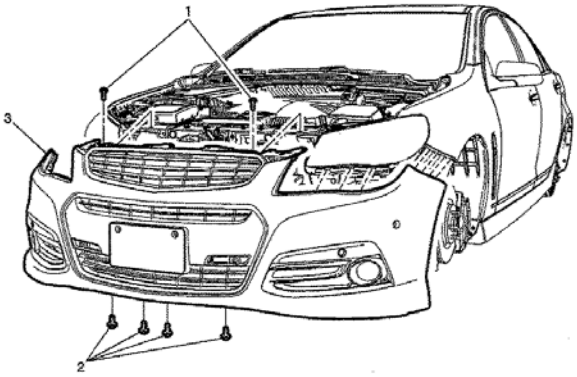
6. Jack up the vehicle and carefully set the vehicle on properly rated jack stands, on the factory positions. Remove both front tires.

7. Drain the coolant from the radiator drain fitting. Remove the radiator cap then drain the radiator from the petcock into a clean drain pan.

8. Remove the front wheelhouse liner screws to the fascia on both driver and passenger side front fender wells.

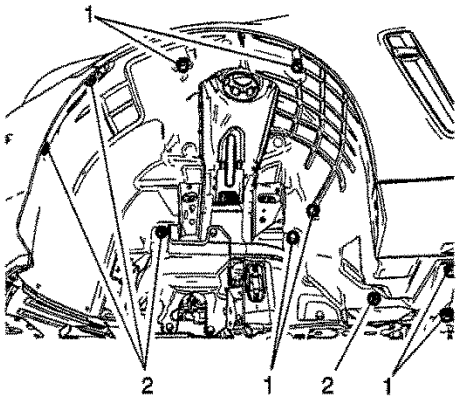


9. Remove the front bumper fascia upper bolts (2) and the lower bolts (4).



10. Remove the fascia by carefully pushing a small nylon wedge between the fascia and the front fascia guide. Insert a small flat-bladed tool into the fascia slot and depress the snaps one at a time and pull on the fascia at the same time to gradually remove the fascia from the front fascia guide. Disconnect the electrical connectors as you pull forward.

11. Remove the driver side front wheelhouse liner from inner fender by removing retaining screws and scrivets.

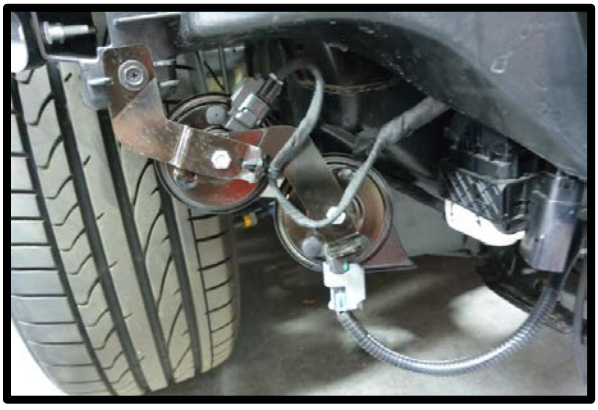


12. Remove the windshield wiper reservoir from the front reinforcement bar.

13. Remove the windshield wiper electric pump from the wiper fluid reservoir.

14. Remove bumper reinforcement bar from the front of the engine.

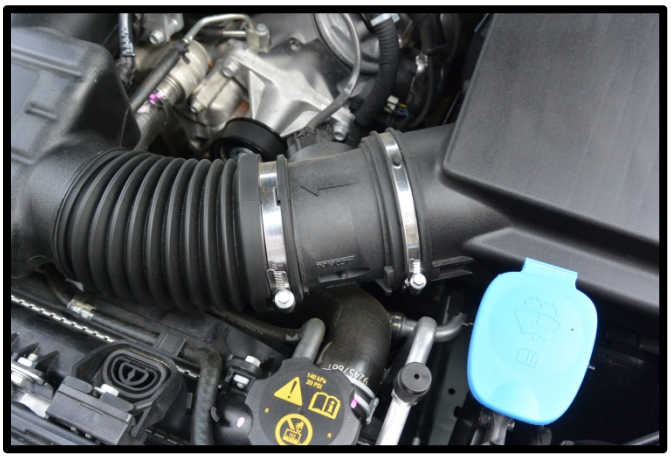
15. Remove the driver side horn and relocate to passenger side.



16. Unplug the PCV vent tube from the air duct. Pull straight out on the tube.

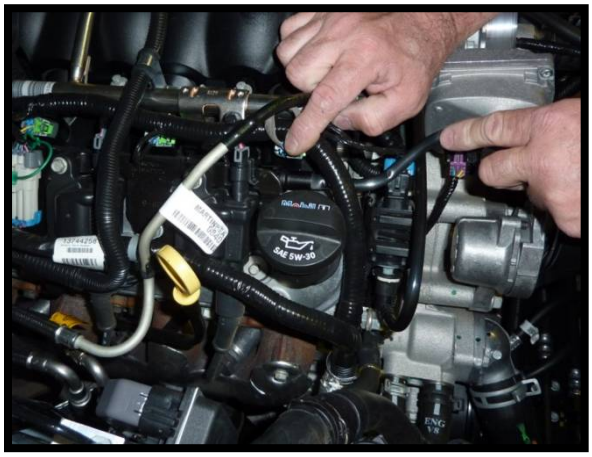
17. Disconnect the factory MAF sensor electrical connector.

18. Remove the plastic duct by loosening the 2-5/16 hose clamps from the outlet side of the MAF tube and the air inlet to throttle body. This will NOT be reused.

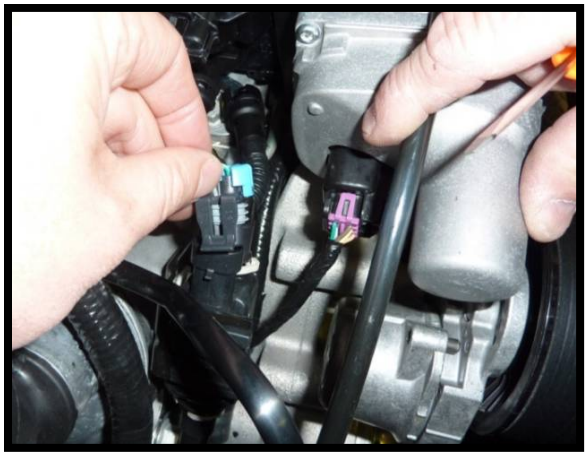


19. Remove the upper air box. By unsnapping the 2 plastic tabs. Remove the air filter, it will be replaced with a high flow element. Remove the lower air box by removing the (2) 10mm nut and pulling the box up. NOTE: Be careful not to tear the foam around the inlet.

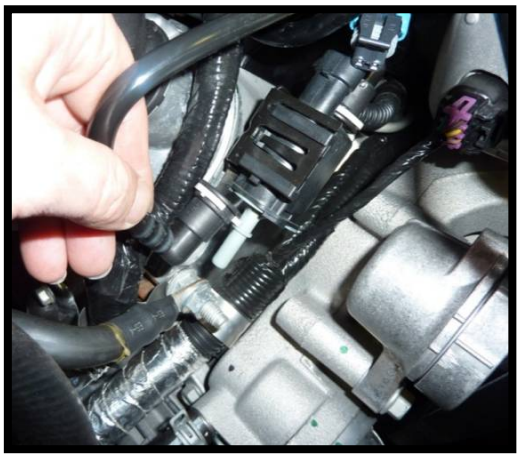
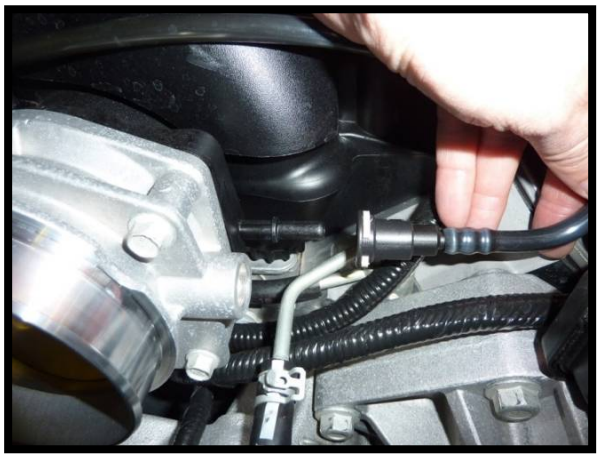
20. Remove the PCV vent tube by unclipping the release tab. This tube will NOT be reused. Pull the release tab down to allow the connector to release.



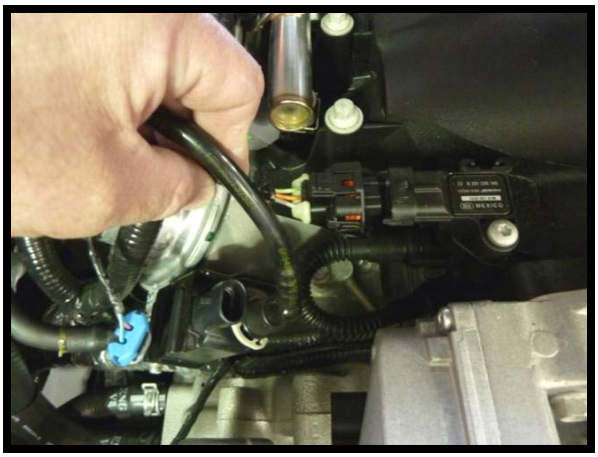
21. Unplug the purge solenoid, MAP sensor and the Electronic Throttle Control connectors.



22. Unplug the purge vacuum hose. Push in the lock tab to release the connector and then unplug the other side of the vacuum hose from the intake manifold. This hose will be reused.

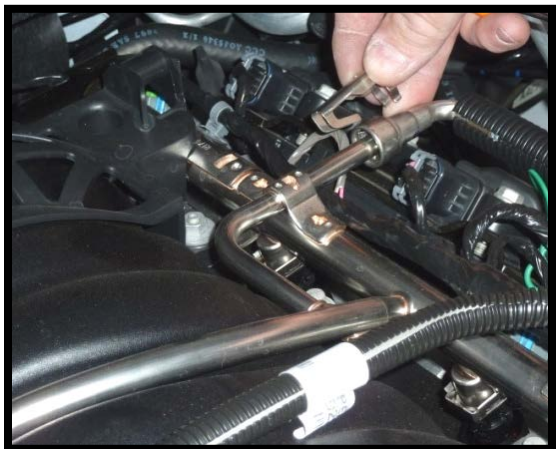
23. Unplug the purge tank vacuum hose assembly. Put this vacuum hose over by the Antilock Brake Module for now.



24. Remove the factory heater hoses from the quick connect fittings.

25. Remove the 10mm nut that retains the fuel line.

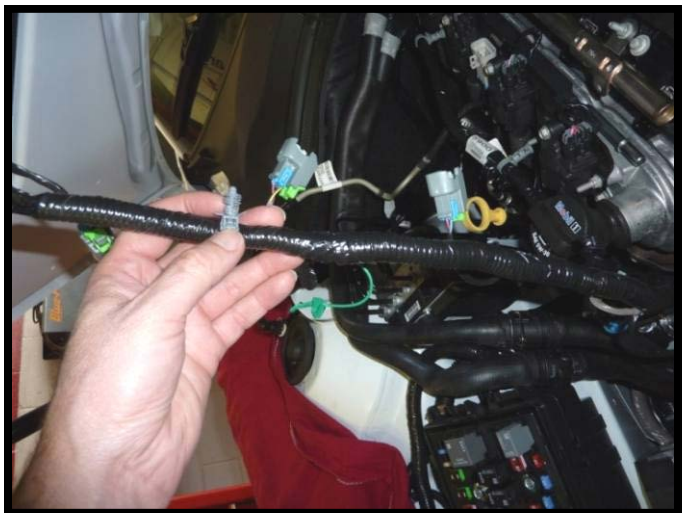
26. Remove the plastic retainers from the fuel line. Remove the secondary lock retainer.



27. Install the 3/8 plastic rail tool on the fuel line.

28. With a rag to retain the spilled fuel, push the fuel release tool into the connector and release the connector. **NOTE:** This fuel is UNDER PRESSURE BE VERY CAREFULL.

29. Remove the injector harness retainers from the fuel rails then unplug all the fuel injector connectors by pulling up on the secondary lock then depress the middle tab. swing the harness out of the way for now.



30. Remove the brake hose vacuum check valve from the brake booster.

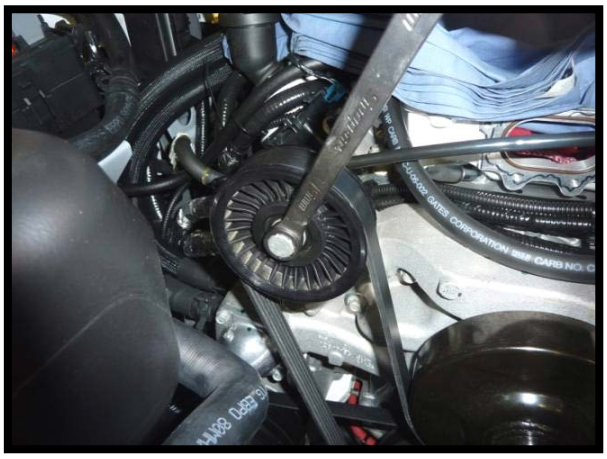
31. Remove all (10) of the intake manifold retaining bolts. (8mm socket)

32. Remove the 10mm retaining nut from the engine cover mounting bracket and remove the bracket.

33. Remove the lower vacuum hose by releasing the tab on the hose connector. It's on the BOTTOM of the hose.

34. Remove the intake manifold by swinging the manifold to the driver's side and holding the brake vacuum hose. NOTE: DO NOT allow the hose to get caught on the oil pressure sensor in the rear of the engine.

35. Remove the stock drive belt & belt tensioner by removing the (2) 15mm bolts. The bolts will be reused. The stock tensioner & belt will not be reused.

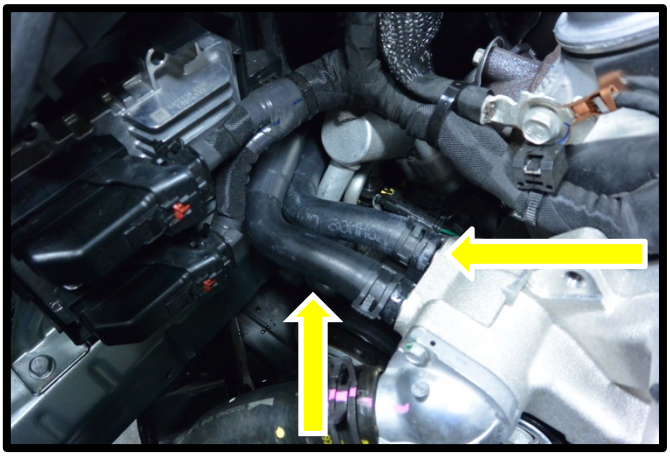
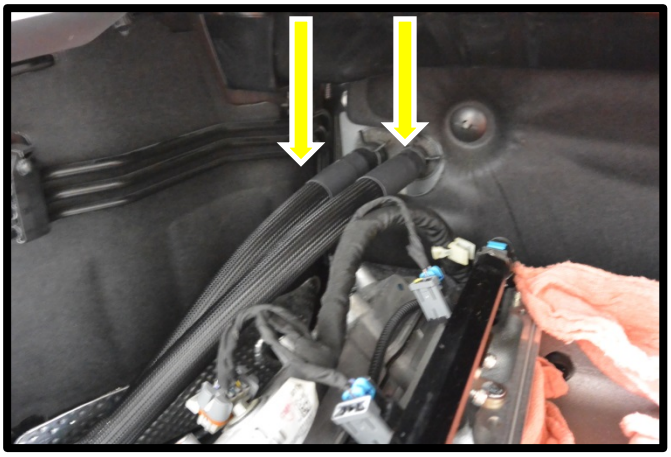



36. Remove the valley vacuum hose and tape up all the intake ports.

37. Install the supplied NGK Iridium IX TR7IX. Gap the sparkplug at .035". Torque the sparkplug to 11-foot pounds as per GM manual. NOTE: Apply a small amount of anti-seize on the threads.

38. Compress the lower radiator hose clamp and remove the hose. The clamp is glued to the hose.

39. Install the supplied heater hoses with the 90deg bends to the factory barbs on the water pump and firewall barbs. Secure ends with factory pinch clamps.

40. Remove the factory bolt from the harmonic balancer (24mm socket). This bolt is VERY tight. You may need to HEAT the area AROUND the head of the bolt (NOT the head of the bolt) with a propane torch. NOTE: BE VERY CAREFULL OF AN OPEN FLAME AROUND THE ENGINE AND THE CHASSIS.


41. After removing the bolt clean the area with a solvent and blow dry with air.

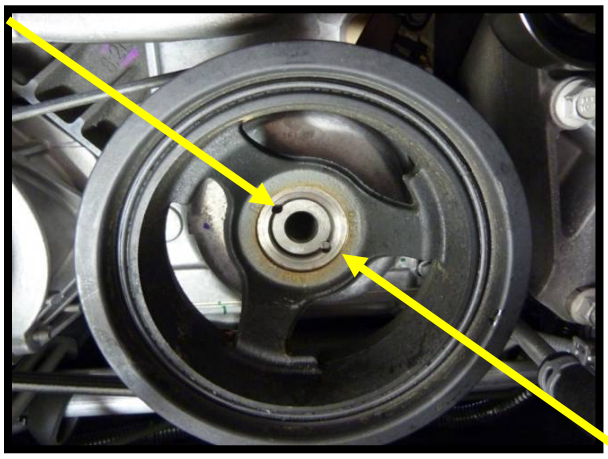
42. In the supercharger kit you will find a Harmonic Balancer Pin Kit. Install the 14mm x 50mm SHCS bolt into the drill guide and tighten the bolt hand tight.

43. With the provided 14mm x 50mm SHCS, use a 14mm ½" drive socket and torque to 35 ft/lbs.

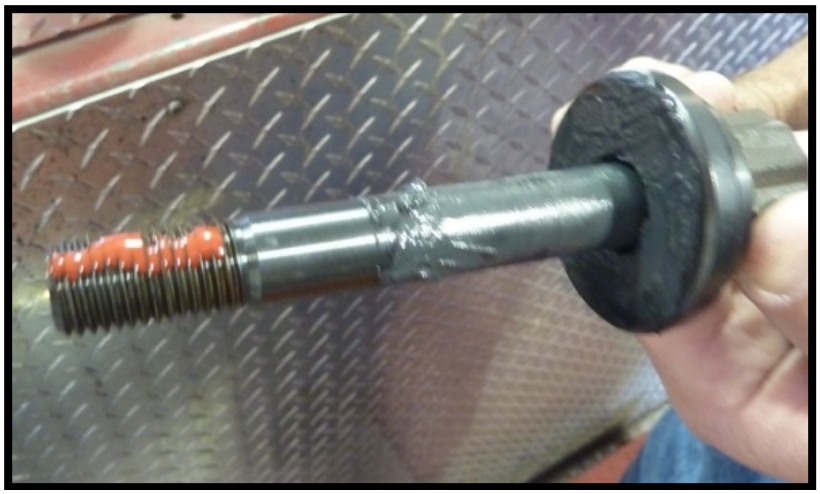
44. Using the provided .250" drill bit, drill the hole until the collar touches the drill guide. **NOTE:** Clear the chips when drilling the hole, after drilling both holes blow all the chips out of the holes. **NOTE:** USE EYE PROTECTION.

45. Remove the drill guide and again blow away any loose chips then clean the area with solvent and blow dry.

46. Install both .251" dowels into the holes. NOTE: Make sure that when the dowel is installed it is lower than the harmonic balancer. The dowel should not touch the harmonic balancer when installed.



47. Install new ARP balance bolt Lube the washer and under the head of the bolt with APR assembly lube. Apply lube to both sides of the washer. Apply a .020" bead of RED Loctite to the clean threads.



48. Install the M16-20 ARP bolt using a 1 1/16" 12-point socket. Torque to 240-foot pounds. **NOTE:** On the 6-speed car apply parking brake, shift car into 4th gear and have a assistant apply the brakes to torque the bolt. On the automatic transmission car unbolt the starter and install GM Kent-Moore #J42386-A Flywheel Holding Tool to torque bolt.

49. Reinstall factory upper radiator hose.

50. Remove the Brake vacuum check valve from the stock vacuum hose. This will be reused.

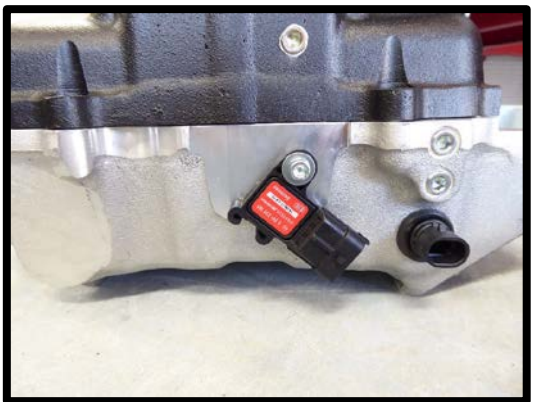
51. Remove the stock throttle body from the factory intake manifold. **NOTE:** Clean the throttle body on both the inlet and outlet sides using carb cleaner.

52. Connect the electronic throttle control extension cable to the factory connector and route along wires over water pump towards driver's side.

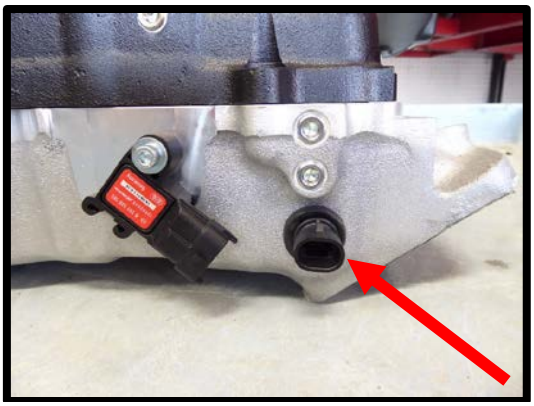
53. Oil pressure sensor needs to be oriented so the connector release tab is facing the back of the motor to clear the lower manifold. Using a 1 1/6" open ended wrench, remove the oil psi sensor from the back of the engine. Install 1 or 2 of the supplied copper washers under the sensor to index it to the correct position.

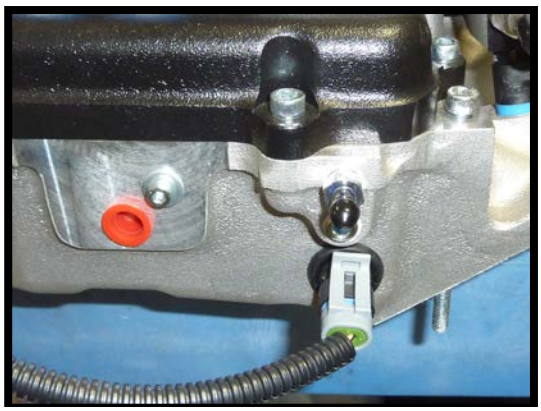
54. **NOTE:** The supercharger assembly is shipped to the customer assembled for freight. Disassemble the supercharger from the lower manifold. The bypass actuator is left loose so the lower 2 front mounting socket head cap screws (allen) can be installed.

55. Install supplied 3-Bar MAP sensor (**PN# 12592525**) too back of manifold using the supplied (1) 10-32 x 7/8" SHCS bolt, apply light amount of blue Loctite to threads. Pre-install MAP pigtail to sensor. **NOTE:** Competition based kits are not supplied with MAP sensors, contact your tuner for properly sensor recommendation.



56. Install the supplied air temp sensor into Whipple manifold using the supplied rubber grommet. Connect the supplied IAT pigtail to IAT sensor.



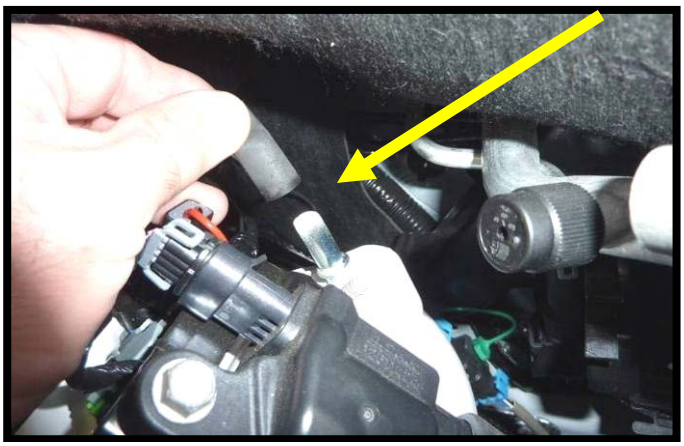


57. Install the lower intake port orings, when the oring is installed correctly it will lay flat in the groove. Note: if you twist the oring it will cause a vacuum leak. (DTC P0171 OR DTC P0174 or both).


58. Remove the tape from the ports, clean the ports with a clean cloth and spray the cylinder head intake surface with silicone or soapy water. It will allow the lower intake manifold to slide around. Place the lower intake manifold on the cylinder heads. Do not install the bolts.

59. Due to the placement of the PCV orifice tube in the valley cover plate the lower intake relief sometimes comes in contact. Insert a cross point (Phillips) screwdriver into the tube and very carefully move the tube away from the contacting point on the lower manifold.

60. Remove the vacuum plug from the bank 1 (driver side) valve cover (in the rear). Install it on the tube.



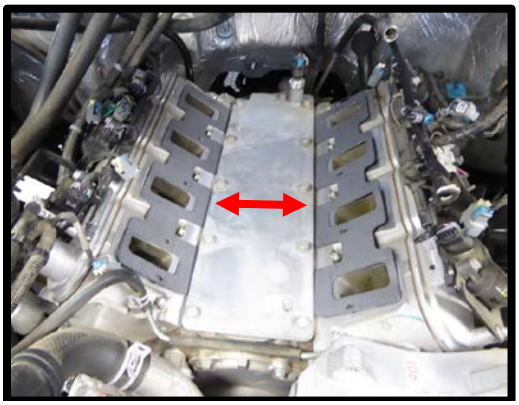

61. Install the (4) fuel fittings and oring to the fuel rails. Torque to 25 lb-ft.

62. Install the billet fuel feed adapter to the fuel rail using the supplied (2) 6mm x 20mm SHCS. Torque to 50 lb-in.

63. Install the fuel feed fitting to the fuel feed billet adapter. Torque to 25 lb-ft.

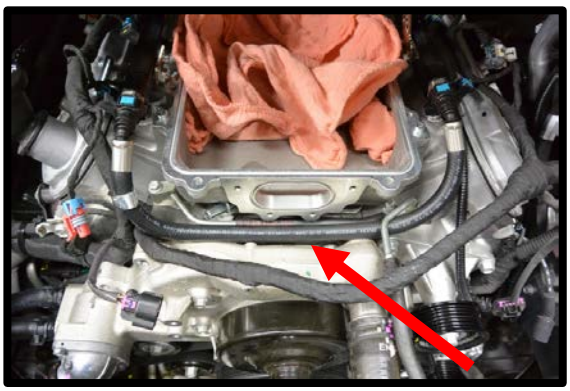
64. Apply generous amount of grease to injector orings. Install the fuel injectors into the intake manifold. Install the fuel rails to the injectors. The fuel feed fitting must be on the passenger side.

65. Install the supplied intake gaskets to cylinder heads.



66. Install the lower retaining bolts (4) M6 x 90mm FHSCS through fuel rail brackets and (6) M6 X 90mm SHCS in the lower manifold and torque first pass in sequence to 44-inch pound, second and final pass to 89-inch pound. **NOTE:** Torque bolts from side to side, starting from the middle bolts. Cover the intake with a clean drop cloth.

67. Install the supplied front (dual 45 deg fittings) quick connect fuel line to the front of the intake manifold. Route below front of intake manifold and behind the circulating water pump.



68. Install the supplied PCV vent line from the passenger side valve cover quick connect fitting and route along the fuel line to the driver side for later installation to the air inlet tube.

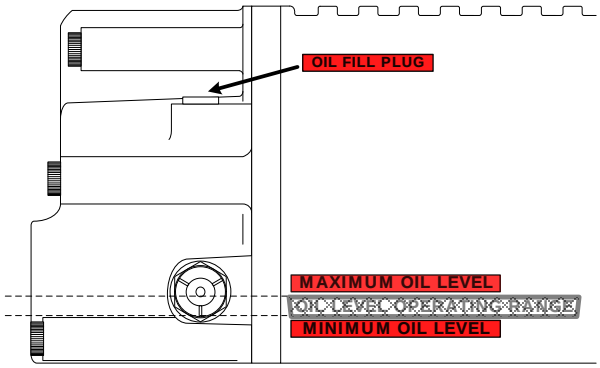
69. The supercharger must be filled with oil prior to use. This supercharger is shipped without oil inside. The oil is in a separate bottle supplied with your kit.

70. Plug in fuel injectors to supplied high flow injectors. Press until they click and lock.

71. The supercharger must be filled with oil prior to use. This supercharger is shipped without oil inside. The oil is in a separate bottle supplied with your kit.

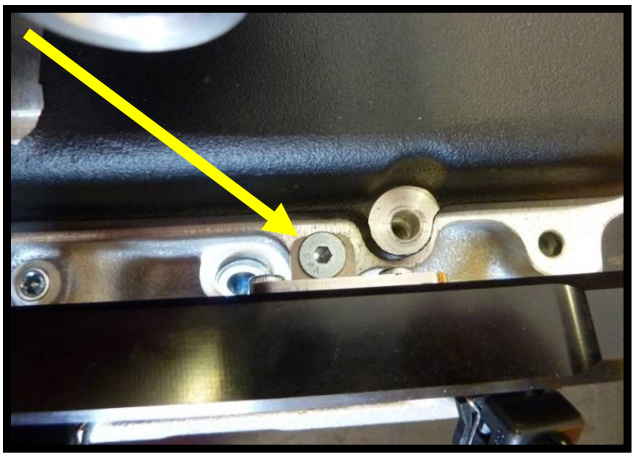
Severe damage to the compressor will occur if you overfill the supercharger rear gear case.

- ☐ Make sure the SC is sitting on a flat surface.
- ☐ Remove -6AN allen plug (1/4" allen wrench) and fill SC with **WHIPPLE SC OIL ONLY!!**
- ☐ Fill to the middle of the sight glass. Tip from side to side then with flat check oil again add as necessary. NOTE: The W175FF compressor takes a maximum of 8 fl/oz and a minimum of 7.5 fl/oz.
- ☐ Reinstall -6AN allen plug.
- ☐ NOTE: After running the SC, the oil level will lower due to oil filling the bearings. The proper level while **not running** should be between the bottom of the sight glass and the middle and will vary when running and not running.
- ☐ Change SC oil every 100,000 miles and only use **WHIPPLE SC OIL ONLY!!**

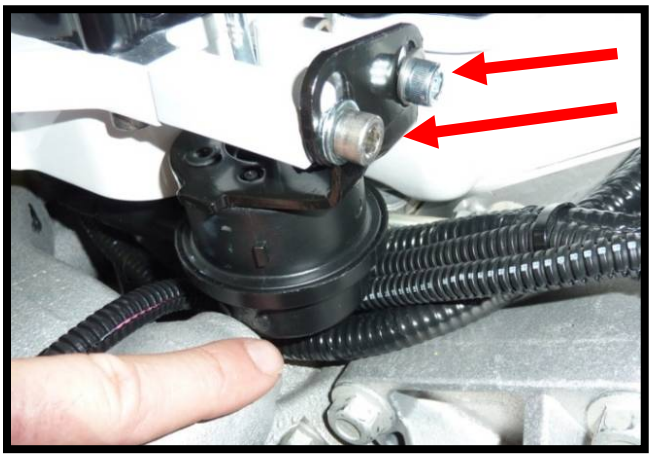


72. Carefully set blower in position, paying close attention to not damaging the orings.

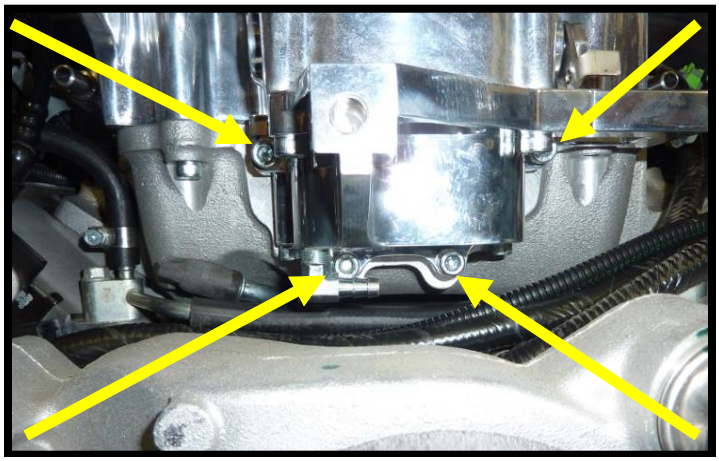
73. Once S/C assembly is down slide back until bypass is against front of lower manifold (Note if S/C won't slide back all the way you may need to lift rear up slightly while you slide it back to get it over the rear fuel rail bolts.



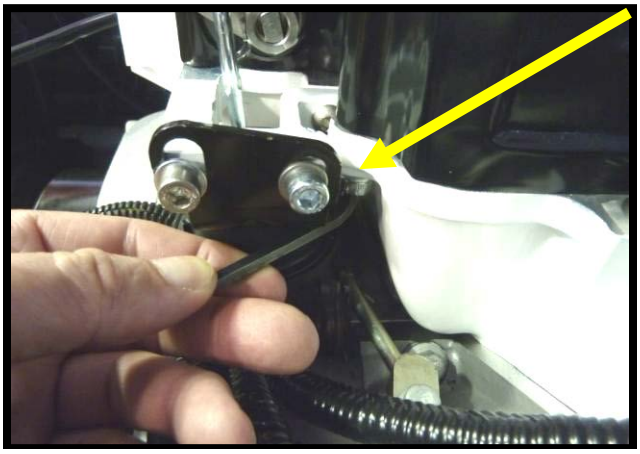
74. **NOTE:** Make sure that the vacuum actuator does not contact the water pump when you install the supercharger. Remove the (2) M6 SHCS from the actuator bracket & loosen clamp on vacuum line. This is to gain access to the (2) attaching bolts from the bottom of the lower manifold.



75. Install front bypass bolts (2) M6 x 25mm SHCS bolts top position and (2) M6 x 22mm SHCS bolts in the lower position. Torque to 106-inch pounds.

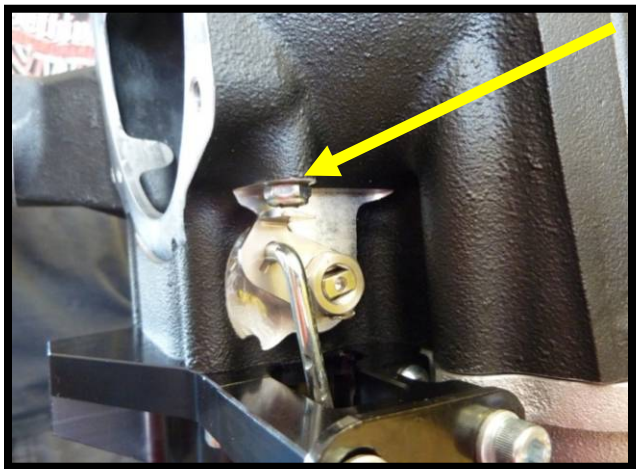


76. Install (2) M6 x 25mm SCHS bolts on both sides tighten with a 5mm Allen wrench.



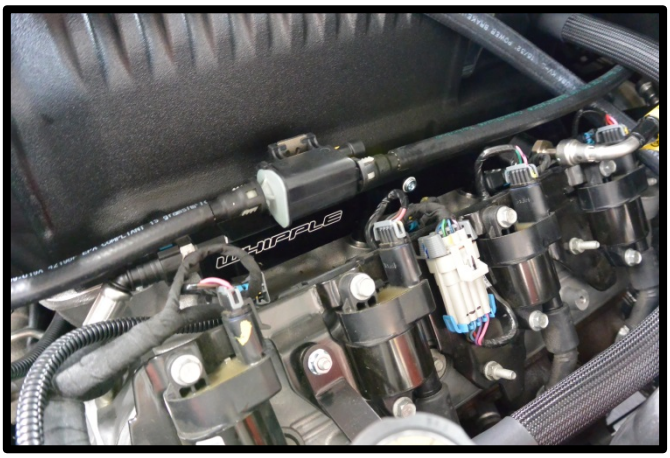
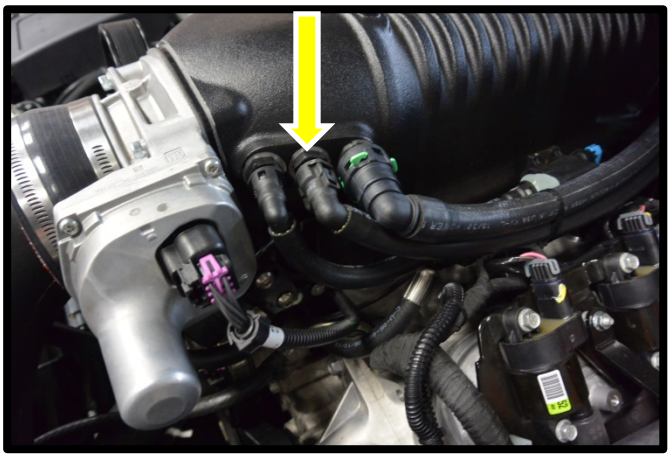
77. Install the (10) M6 x 20mm bolts to secure SC to the intake manifold. Install the attaching bolt that is under the gear case housing with mechanical fingers. Tighten with a 5mm ball allen. Torque to 106-inch pounds. Torque all perimeter bolts to 106-inch pounds.

78. Adjust the actuator by pulling up on the bottom so that the lever is against the stop. Torque the bolts to 106-inch pounds. NOTE: After adjusting, open the bypass with your finger by pulling the bypass lever down. If the lever is stuck bend the lever up slightly, just enough to not stick. If you bend it too much it will bleed off boost. This is not common so notify Whipple if this is found.

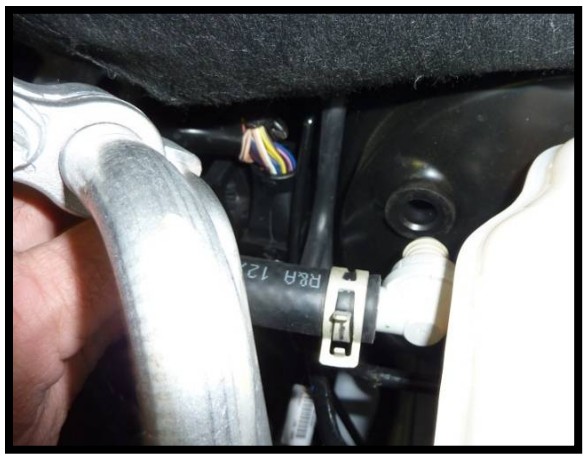


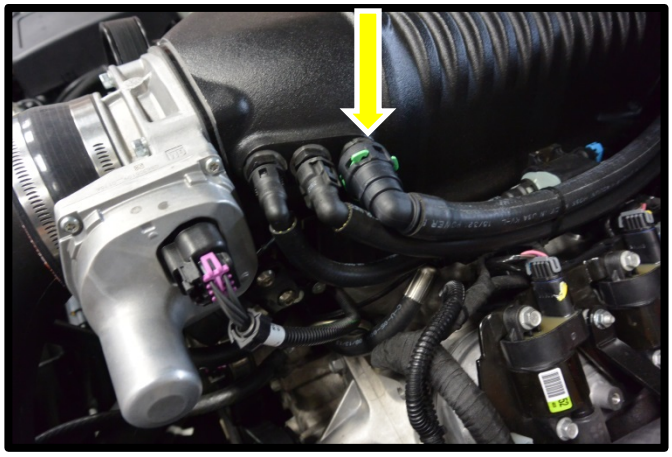
79. Reinstall the factory fuel feed between chassis and engine. Press together until it locks in place. Connect the secondary lock to secure line.

80. Relocate the OE purge solenoid from the passenger side cylinder head to the driver side bracket above the fuel rail. Attach the OE purge hose from purge solenoid to the 5/16" quick disconnect fittings.

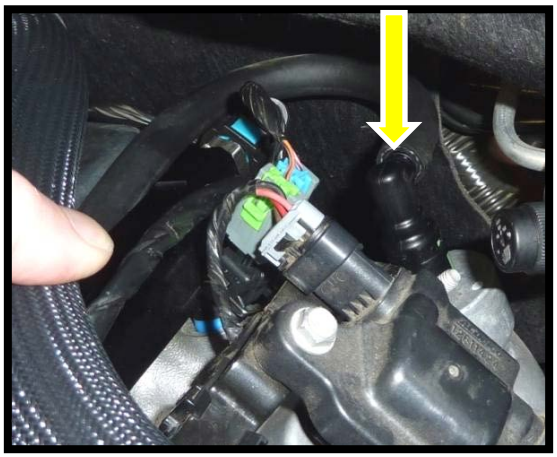
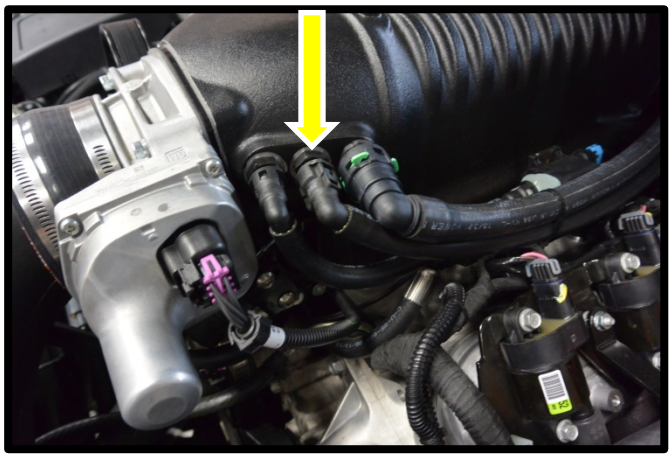



81. Install the Brake vacuum check valve and clamp in the 11/32" hose with the quick disconnect fitting. Plug into the brake booster and route line to supercharger inlet and connect quick connect fitting on the SC.

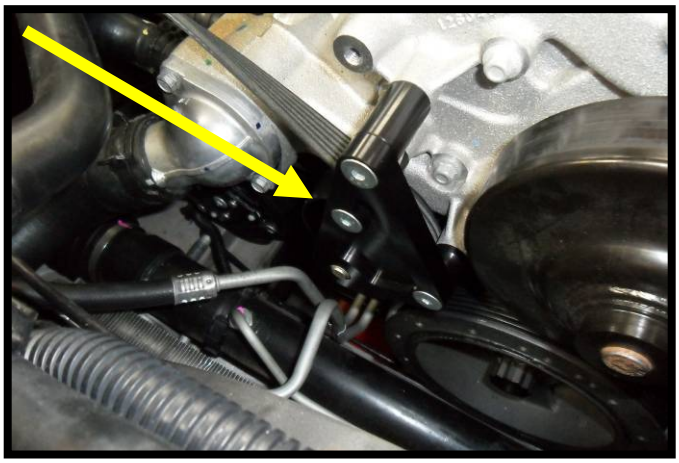


82. Install the 3/8" PCV quick disconnect fitting on the rear of the driver side valve cover, install the other connector at the supercharger inlet on the middle port.

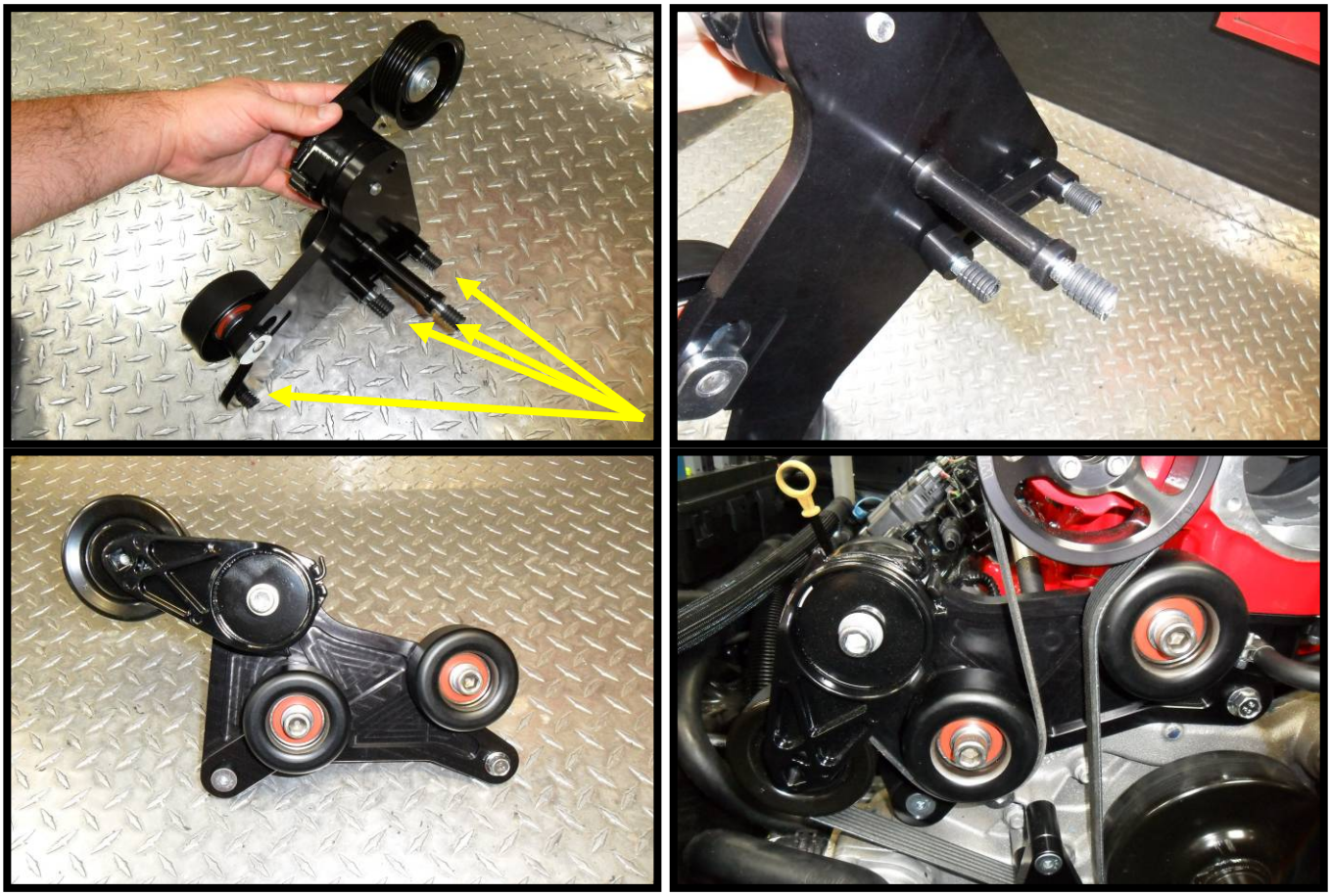



83. Install the supercharger pulley using the (4) 6mm x 12mm SHCS. Using a 5mm allen socket, torque to 119in/lb. Use the 6-rib belt to help hold the SC pulley from rotating during torqueing

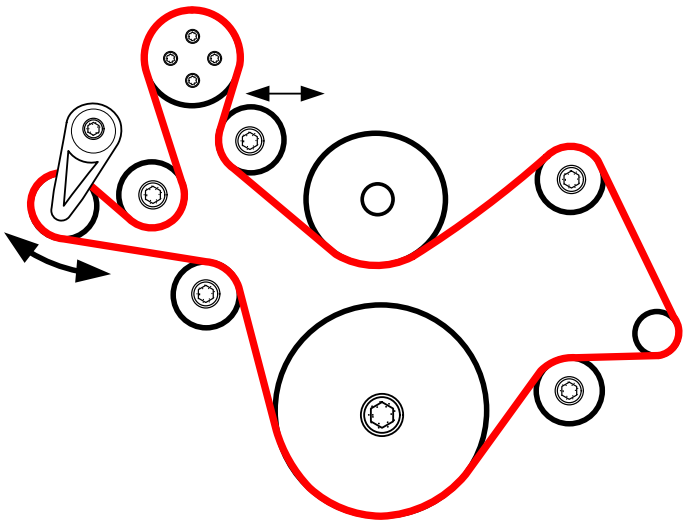
84. Install SC belt system by first installing the fixed idler bracket. Use the supplied (3) 8mm counter sunk allens to secure to circulating pump bolt holes. Make sure to pre-route the belt with the smooth side on top of the idler pulley, but below the top support. Torque to 25 ft/lbs and apply light amount of ☞**Loctite™ (#242 blue)** to threads.

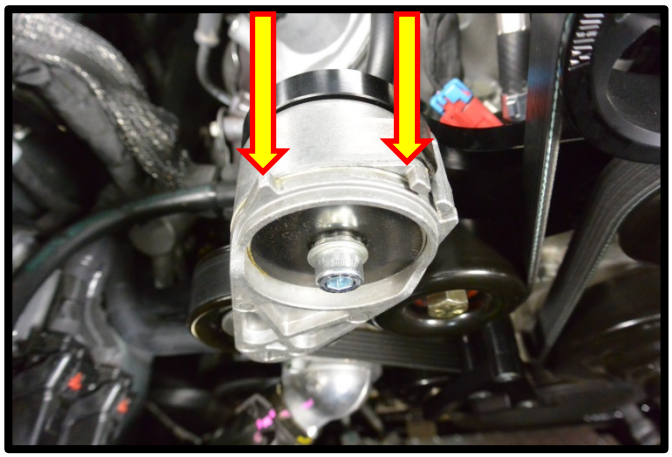
85. Install the front spring loaded tensioner plate to the motor by sliding the assembly into the proper location. Use the (3) 8mm counter sunk allen bolts and the (1) 8mm x 25mm socket head allen bolt (to bypass assembly) to secure plate to engine. Torque to 25 ft/lbs and apply light amount of ☞**Loctite™ (#242 blue)** to threads.

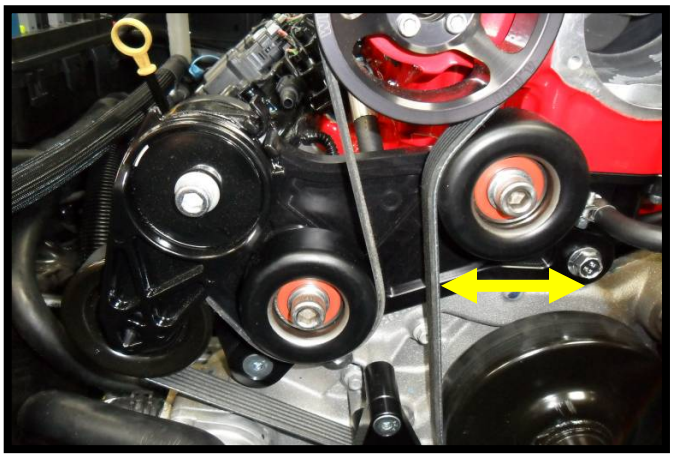


86. Install belt wrap belt per illustration on next page hold back spring loaded tensioner and slip belt onto water pump pulley.



87. Install the supplied 6-rib belt to the engine using the following belt routing. Use the sliding smooth idler pulley to remove slack from belt. To get the proper adjustment, measure the minimum and maximum stops, you should have a minimum of 2.0" and maximum of 2.5" of distance between stops. Failure to get enough tensioner travel will result in tensioner failure.



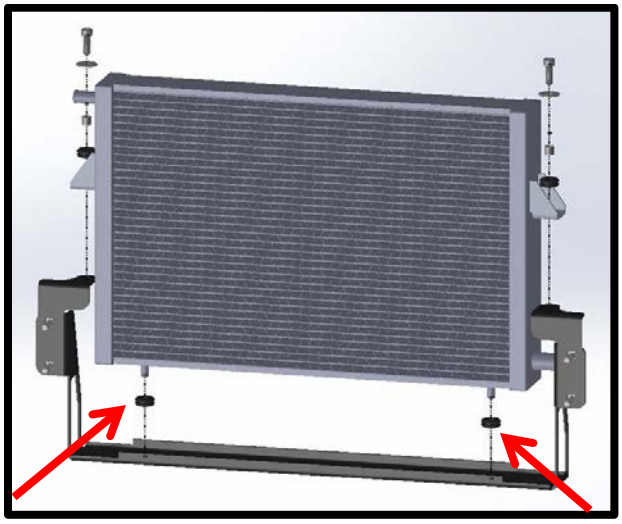


88. Install the throttle body (with billet venturi and gaskets) with the provided (4) M6 X 50MM SHCS bolts and torque to 89-inch pounds.

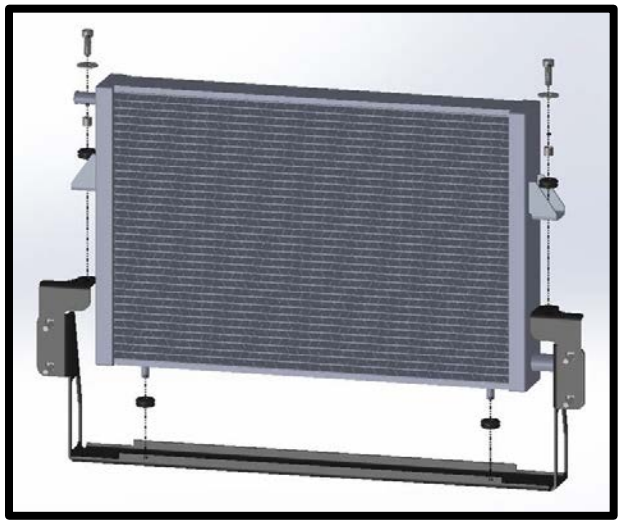
89. Plug in Electronic Throttle Control (ETC) extension connector.

90. Install the supplied IC filler neck and bracket to the front coil on the driver side factory stud.

91. Install the supplied rubber grommets into the heat exchanger saddle. Apply a light amount of grease to the inner ID of the rubber grommet to allow the heat exchanger to easily slide in.

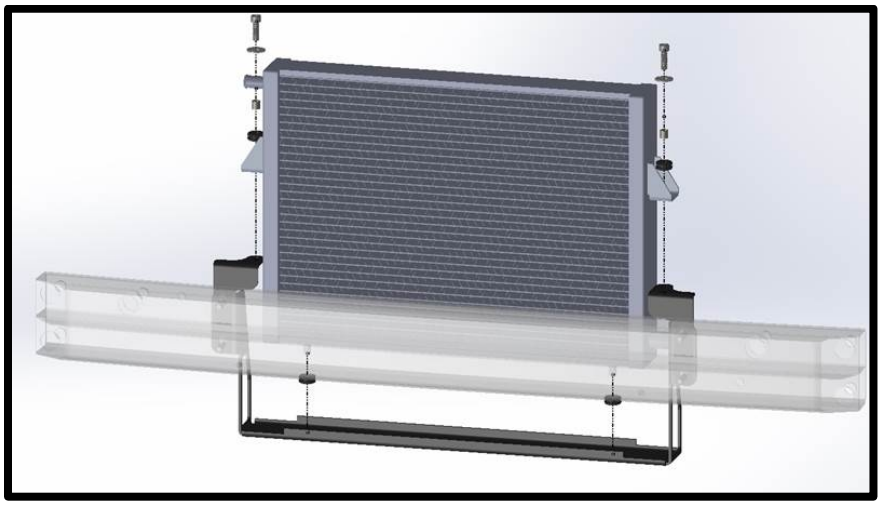


92. Install the upper heat exchanger support bracket rubber grommet (2) to the heat exchanger. Install the upper heat exchanger support brackets to the rubber grommet and secure with the supplied 8mm x 25mm SHCS, 8mm washer and bushing (inside the ID of grommet).

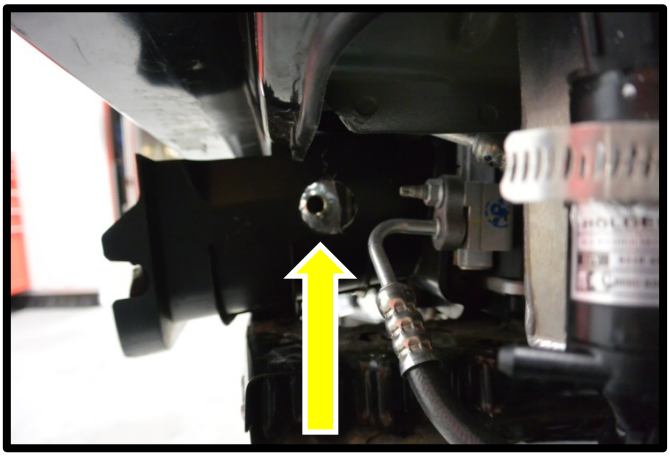


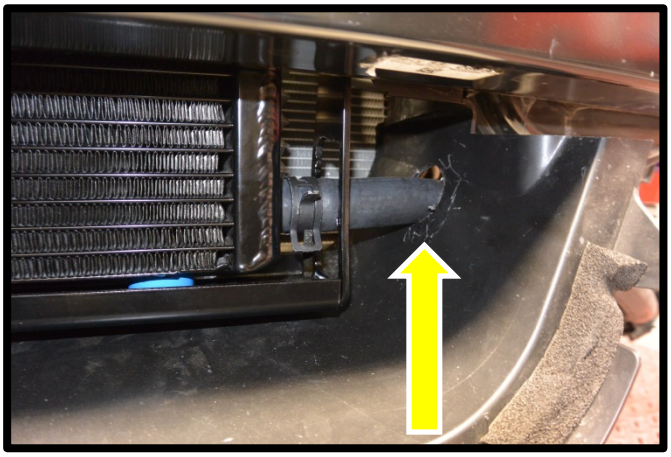
93. Install the heat exchanger saddle bracket to the vehicle (do not fasten yet).

94. Install the heat exchanger saddle bracket to factory mounts using the factory windshield reservoir fasteners. Sandwich the upper heat exchanger support brackets to the front side of the heat exchanger saddle bracket (against front bumper support).

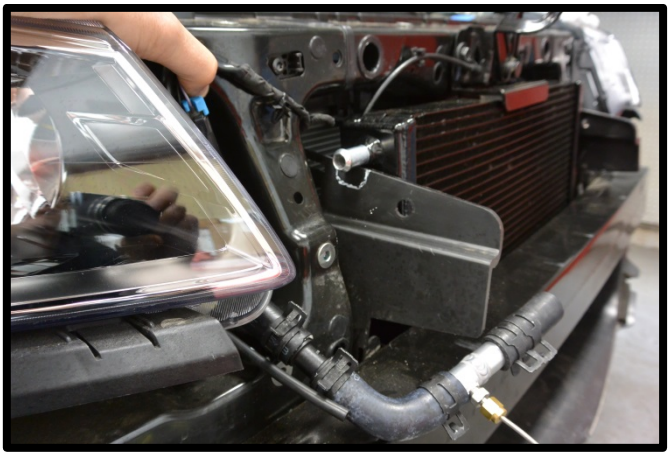


95. Note the position for the intercooler hose on the driver side. Use a 1 ½" hole saw to make a passage for the hose.

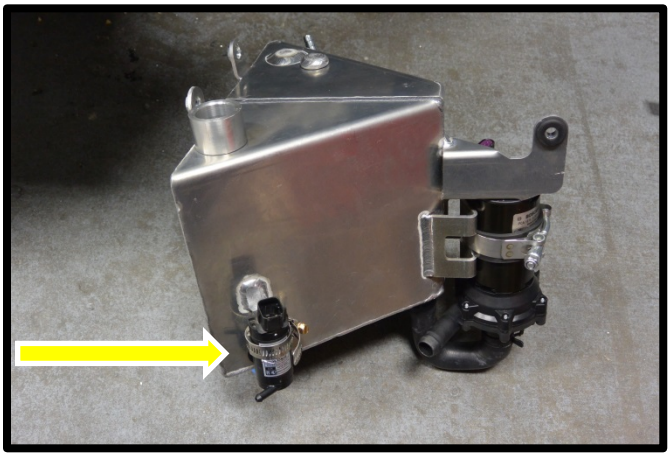




96. For the passenger side, the factory plastic must be notched to clear the heat exchanger port.

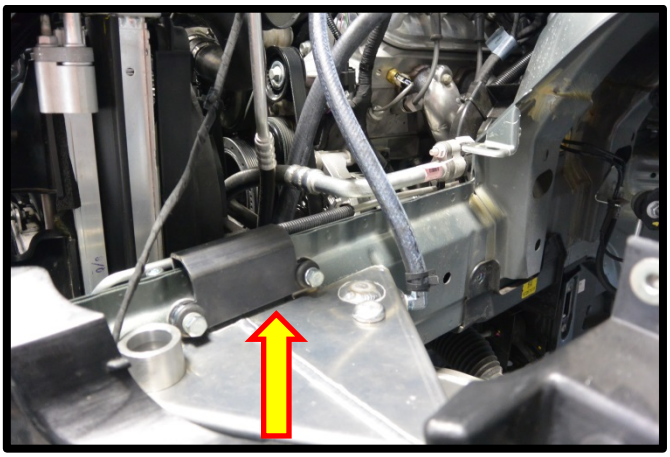
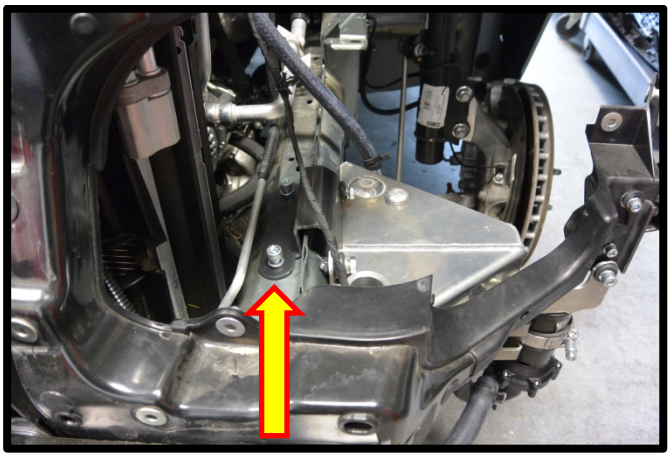


97. Prep the intercooler/washer fluid reservoir by installing the supplied rubber grommet into the washer pump reservoir. Install the factory windshield fluid pump into grommet and secure to reservoir with the supplied #20 hose clamp.

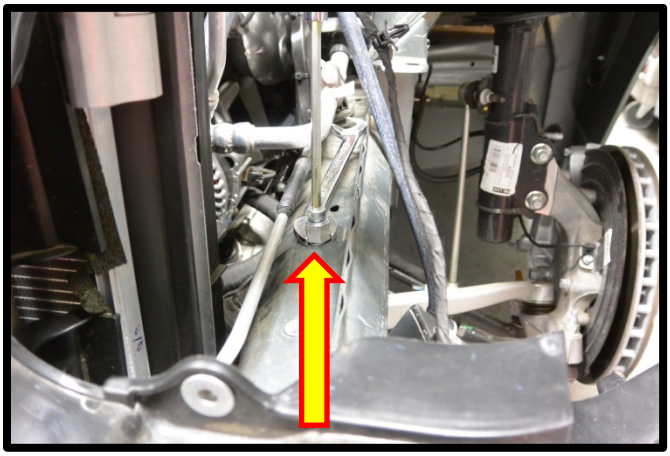


98. Install the IC pump to the IC/windshield fluid reservoir using the supplied T-bolt clamp and rubber strip.

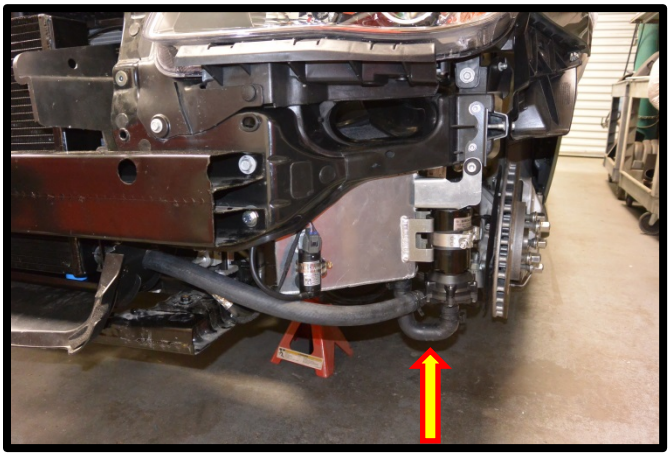
99. Install the grommets and bushings into the reservoir hanger bracket. Temporarily install the reservoir and factory air intake tube ducting to insure proper clearance. Trim the tab for proper clearance for the outer support bracket. Mark hole locations on the frame for the installation of the rivet nuts and verify no existing frame holes will encroach in these new holes. **IT'S IMPORTANT TO MOCK THIS UP 100% TO VERIFY FITMENT BEFORE MAKING FINAL HOLES!**

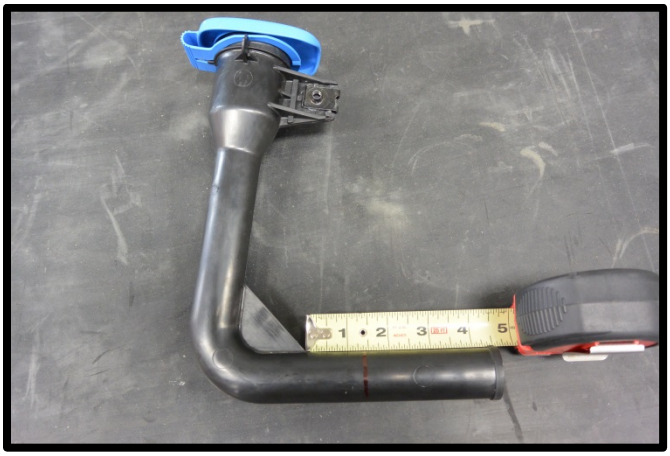
100. Drill marked hole locations with a ½" drill bit. Install the rivet nut inserts. Make sure the rivet nut insert is fully seated and use the provided insert tool, M8-1.25 socket head bolt and flat washer as shown. Take caution to insure the rivet nut does not spin during installation.



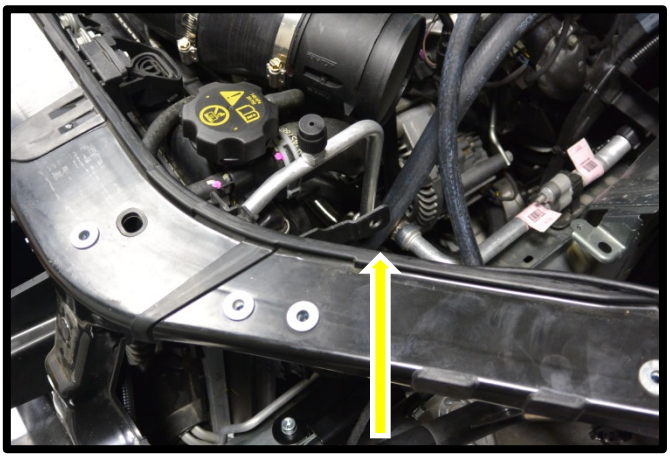
101. Install the supplied U-bend hose for the IC pump feed from IC reservoir. Secure both ends with the supplied pinch clamps.

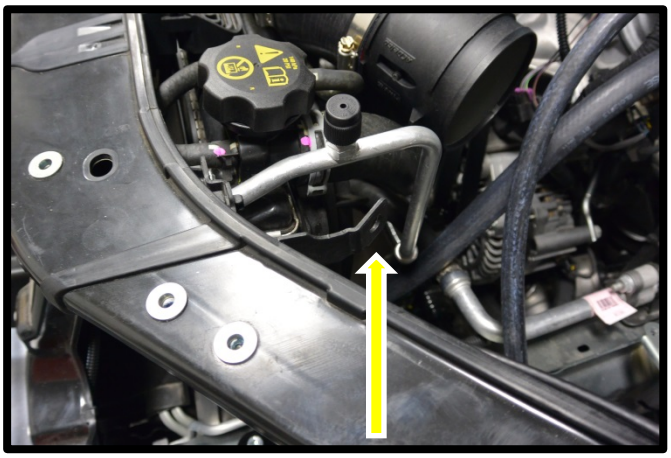


102. Mark the windshield wiper reservoir fill tube approximately 1 ½" from triangular gusset and cut the tube.

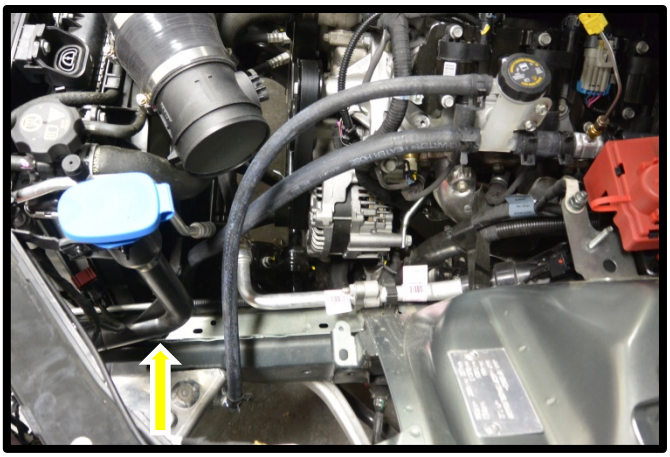
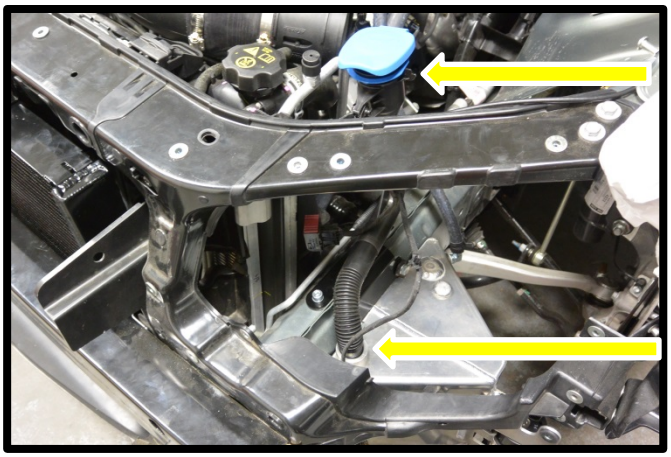


103. Adjust the existing washer fill tube bracket as shown.

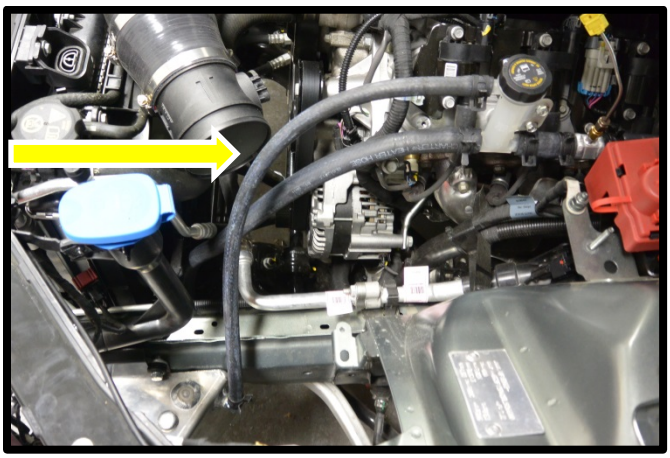




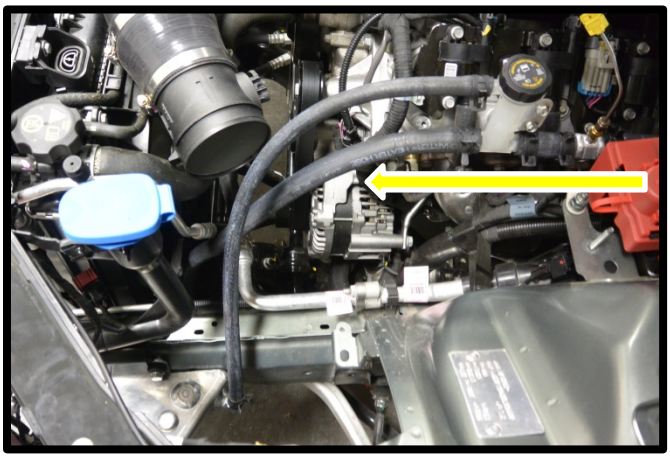
104. Install the modified fill tube and factory flexible tubing as shown.

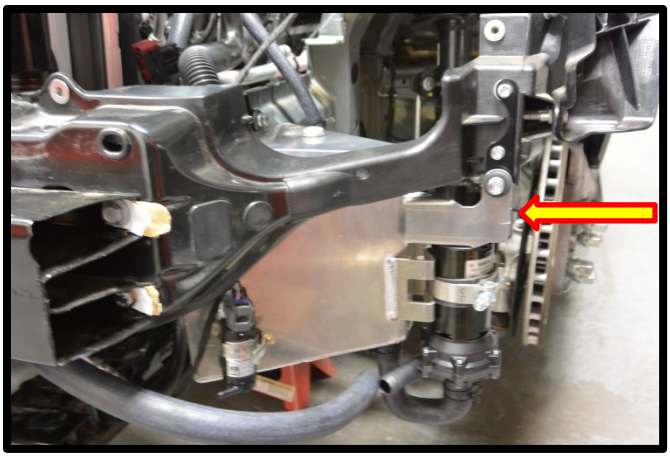
105. Install the 3/8" ID rubber IC reservoir vent line from the IC filler neck to the 3/8" barb fitting on the IC reservoir tank. Secure with supplied pinch clamps.



106. Install the ¾" ID rubber IC hose from the filler neck to the ¾" bottom barb on the IC reservoir. Secure with supplied pinch clamps.

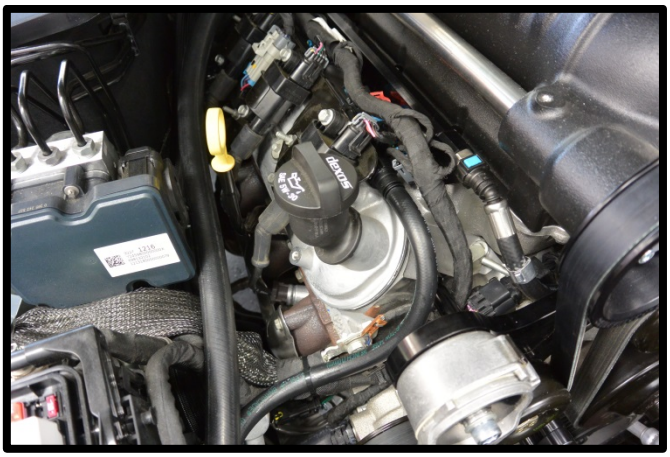


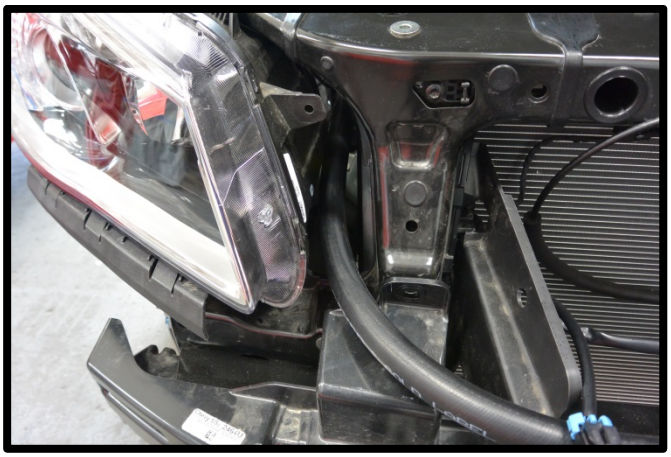
107. Install the outer reservoir support bracket as shown.



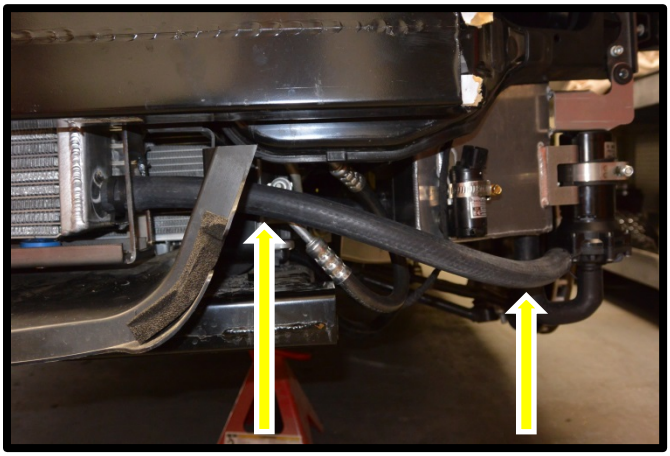
108. Install the 90 deg IC intercooler fitting and hose on the driver side IC fitting and route to the IC filler neck. Secure end with supplied pinch clamp.

109. Install the 90 deg IC intercooler fitting and hose to the passenger side IC fitting and route to the passenger side top heat exchanger barb fitting. For best routing, route along previously installed heater hoses and between the factory head light and core support. Secure end with supplied pinch clamp. Note: Make sure hose does not kink during the bend.

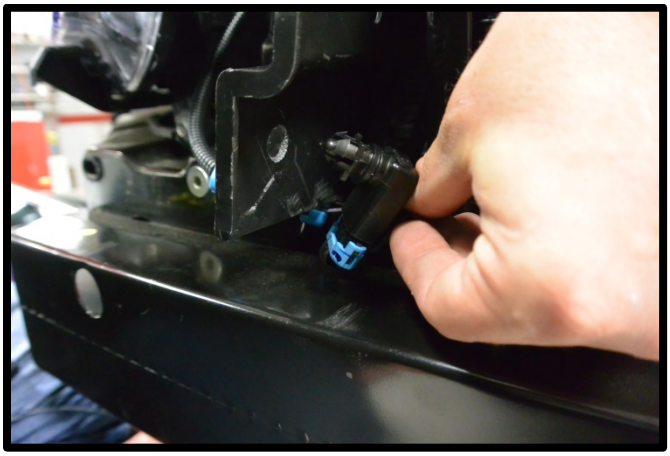




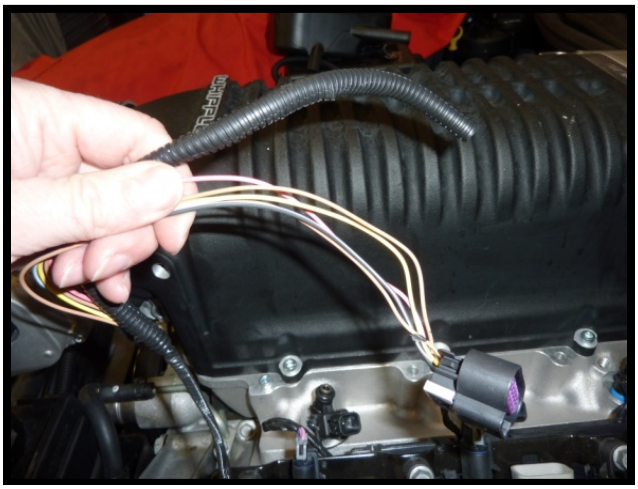
110. Install the supplied IC hose from the heat exchanger driver side barb fitting to the IC pump out;et. Secure with the supplied pinch clamp.



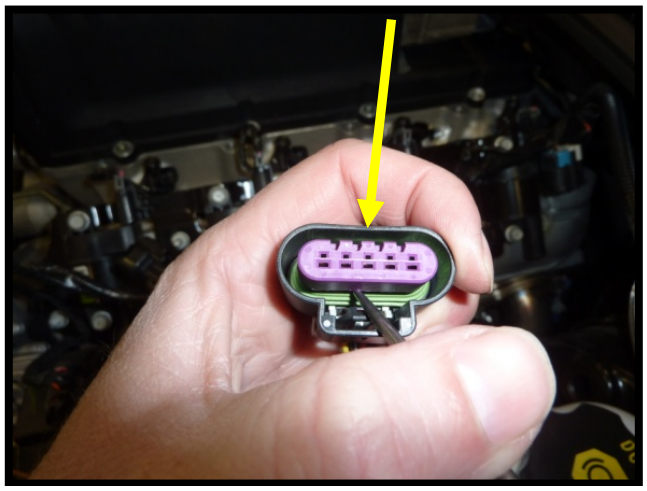
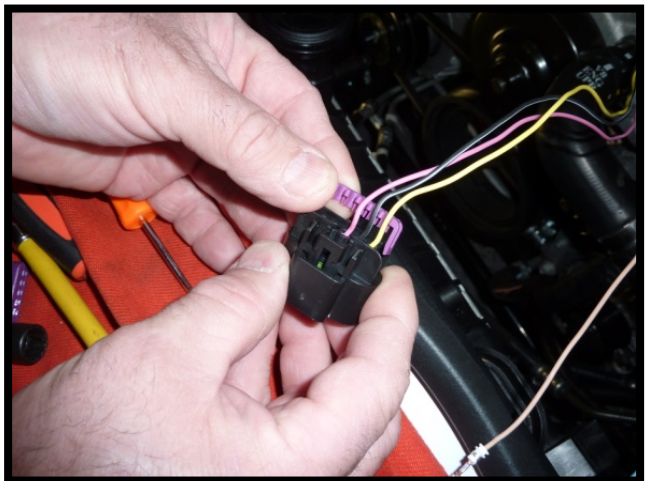
111. Relocate the factory air temp sensor to clear the heat exchanger.



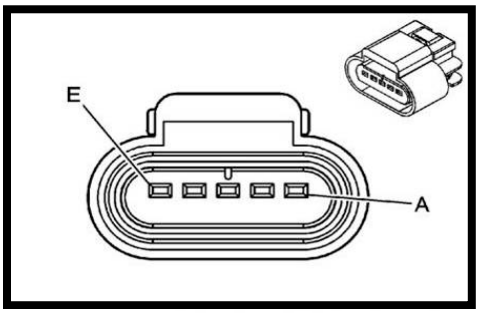
112. Find MAF sensor main plug, remove tape and pull back conduit to expose about 10” of wire.

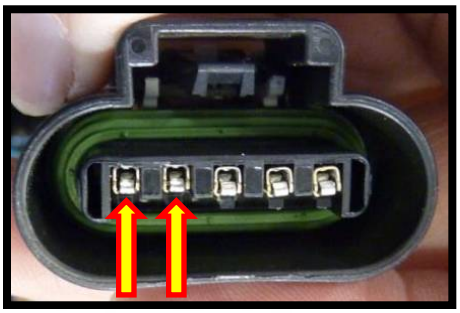


113. Remove pin retainer on front and back of plug.

114. Pull IAT sensor pins D & E out back of plug, Use a pick to pull tab away from terminal to release and push terminal out the back.

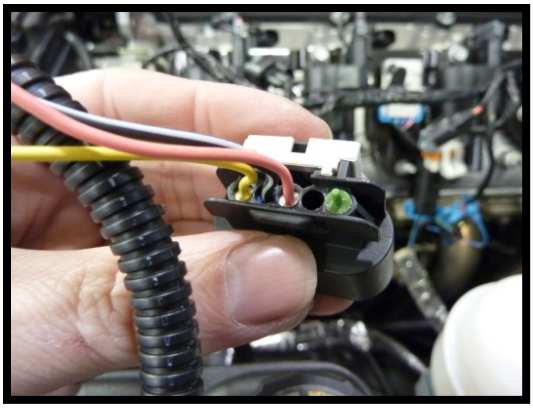




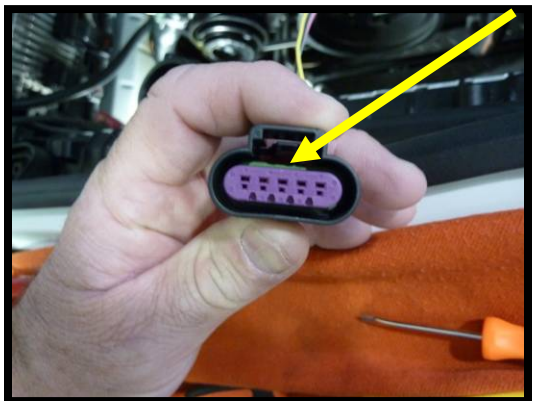
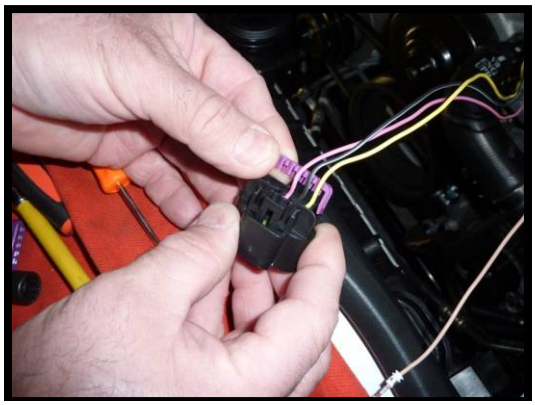
B75B Mass Air Flow/Intake Air Temperature Sensor (L99 or LS3)

Pin	Wire	Circuit	Function
A	0.5 YE	492	MAF Sensor Signal
B	0.5 BK/WH	451	Ground
C	0.5 PK	239	Ignition Voltage
D	0.5 TN	2760	Low Reference
E	0.5 L-BU	6289	Intake Air Temperature Sensor Signal

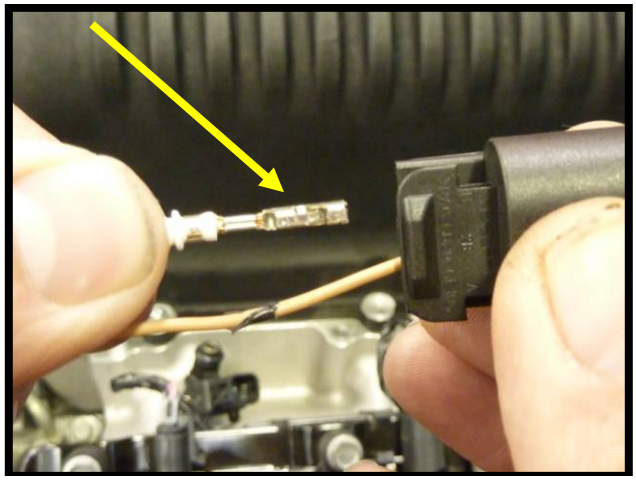
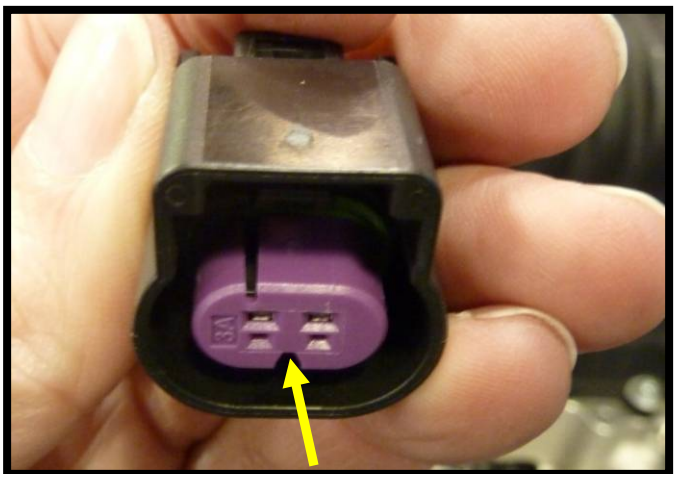
115. Insert green cavity plugs provided into empty holes (D and E).

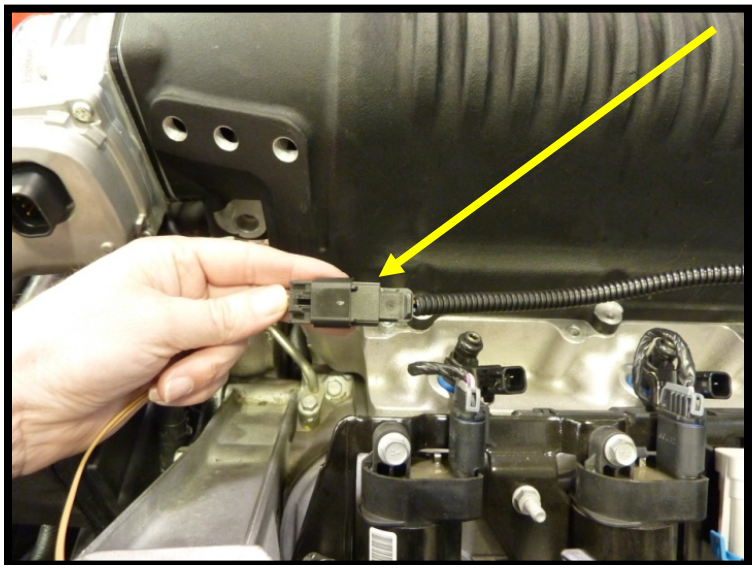
116. Reinstall pin retainers on front and back of MAF plug.

117. Insert IAT pins into the back of new 2 pin plug that came with IAT extension harness (they should click in), then push purple pin retainer clip down to lock pins in.

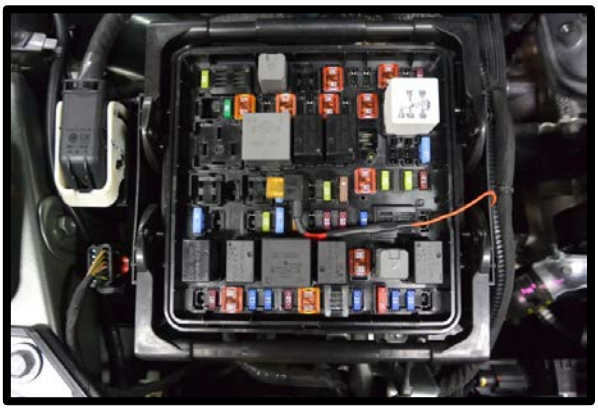
118. Fold IAT wires over and run back towards the IAT extension then recover wire harness with conduit. Plug in IAT extension.



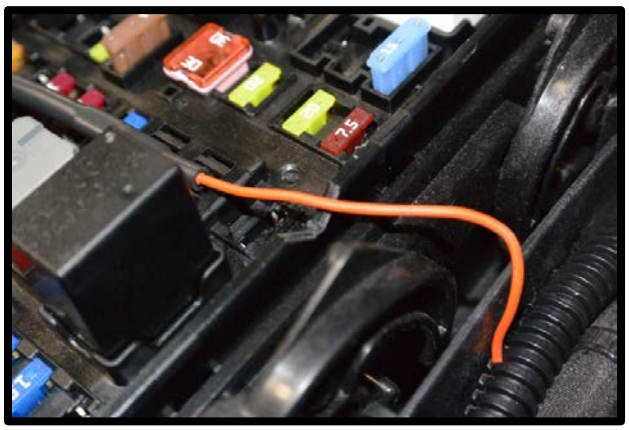
119. Install the supplied intercooler harness relay and fuse holder to the front/passenger side of the factory fuse box with the self-tapping screw provided.

120. Connect red power lead to stud at the rear of the fuse box.

121. Remove fuse from position F28 (ignition/injectors) and insert it into fuse tap then Insert fuse tap into position F28.



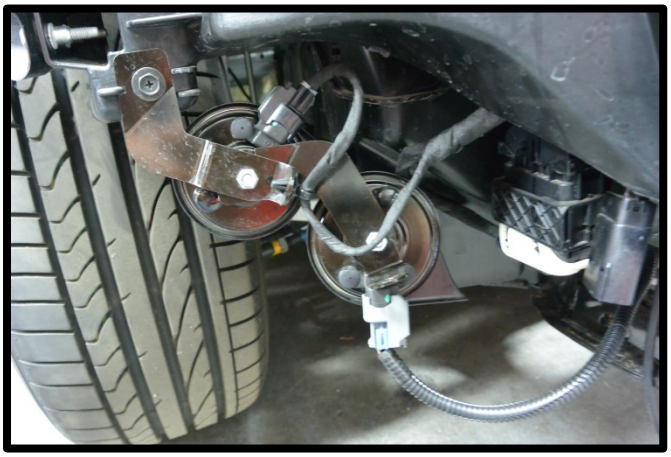
122. Put a small notch in the fuse box to allow the wire to rest in. Failure to do this could cause the wire to be severed during multiple lid open/closing.



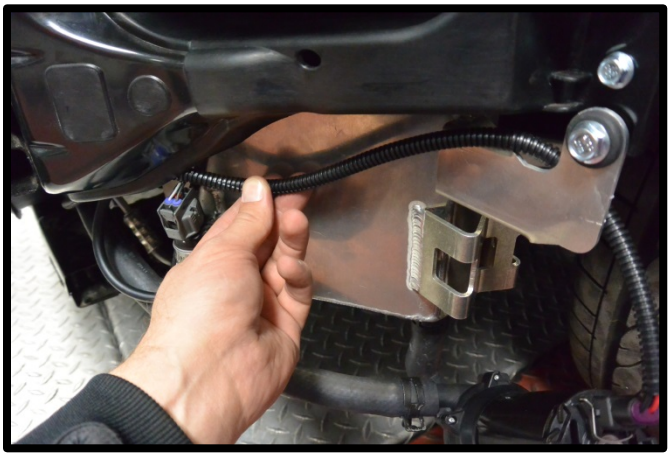
123. Route ground lead to the factory ground position next to the fuse panel. Remove the factory fastener, install the ground eyelet above the factory ground and secure using the factory fastener.

124. Using the supplied pigtail, cut the factory washer pump plug connector and install the pigtail using the (2) salmon butt connectors. Apply heat to butt connector after crimping to shrink the tubing and seal. Route under the heat exchanger to the passenger side. Connect to the washer pump you previously installed.

125. Install the horn extension harness and route from the driver side to the passenger side. Route below heat exchanger. Press together until it locks in place.



126. Route the 2-way intercooler pump connector to the driver side, below the factory headlight. The best routing for this is just below the heat exchanger, up over the IC reservoir mount, then connect to IC pump until it clicks and locks into place.



127. Reinstall the factory lower airbox using the factory fasteners.

128. Install the supplied high flow filter element to the factory location.

129. Reinstall the factory airbox lid to the factory airbox using factory fasteners.

130. Install the supplied Whipple air inlet tube with the reducer hose to the factory MAF housing and secure with the supplied clamp. Install other end of inlet to the supplied silicone hose to the factory throttle body using supplied clamp.

131. Route the 23" passenger side valve cover vent line from the valve cover, underneath the SC and under the air inlet tube. Connect to the fitting to the air inlet tube. Secure line with zip-tie.

132. Install the plastic jackshaft cover by using the supplied (4) 5mm BHCS, 4 rubber grommets and 4 stainless steel bushings, use a 3mm allen socket

133. 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!! DO NOT USE TAP WATER OR ANY NON GM APPROVED ENGINE COOLANT, THIS WILL CAUSE CORRISION IN THE SYSTEM.** Start engine to completely fill system.

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.

134. Using a Lisle 24680 Spill-Free Funnel, or equivalent, secure the appropriate filler neck adapter to the filler neck/surge tank.

135. 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.

136. Turn the ignition to the ON position and listen for the pumps electric motor to cycle. Air bubbles will begin to purge from the system as the coolant level drops. Add coolant to the funnel as necessary. Note: Do NOT let the coolant level in the funnel run empty as this may introduce air into the system.

137. To build more pressure in the intercooler system, try squeezing the intercooler hoses while the pump is cycling. Building pressure in the system will help purge the trapped air from the intercooler system. It can also help to lift the filler neck 4”-8” higher than its mount to help purge the air.

138. Cycle the ignition OFF and wait a few seconds for the pump to stop.

139. Cycle the ignition to the ON position again and repeat until the sound of the electric pump is continuous without any pulsation. Hold the start button down for 10 seconds for diagnostic mode, this will run the pump constant for help filling. ***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. Pulsations mean air bubbles, relieve the system of air before driving. Hot temps can destroy an engine.***

140. Periodically inspect the water pump flow after a few drive cycles and re-fill the intercooler system as necessary.

141. 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 gradually bleed out of the surge tank when the cap is removed. Use a rag when removing in case there is excess pressure. **Do not go WOT or dyno test until the system is properly relieved of air. Note: The pump will cavitate when there’s air, this is a sign that it needs to be bled more.**

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.***

142. Attach the negative cable to the battery and tighten.

143. Turn the Ignition key on do not start the engine (this will turn on the fuel pump for 2 seconds) Inspect for leaks such as fuel, coolant, and intercooler coolant, correct as required.

144. Start the engine and let it idle. The engine should idle normally between 600-800 rpm. Inspect for leaks. After running for 2 minutes turn off engine and inspect the level in the engine radiator and the Intercooler tank. With the key in the on position, engine off, inspect the coolant in the intercooler tank, the coolant should flow in the tank. If it does not the coolant circuit has an air pocket trapped in it. To remove the air pocket, insert an air blow nozzle in the top of intercooler tank and wrap a clean cloth around the end of the nozzle and around the top of the tank and slightly pressurize the tank, this will force the trapped air out of the system. Add coolant to fill the system.

145. 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. Do not use octane boosters in the fuel.

146. Do not use aftermarket air filters with the supplied Whipple calibration. The Whipple calibration is designed to work with the factory air box, factory MAF and Whipple air inlet duct and nothing else. Changes to the air inlet system will require a custom tune which Whipple does not provide.

147. Attach the "Use Premium Fuel Only" decal to the gas tank fill cap or door.

148. Install the supplied 50-state legal sticker to factory radiator shroud. Clean surface with acetone to remove any unwanted oil.

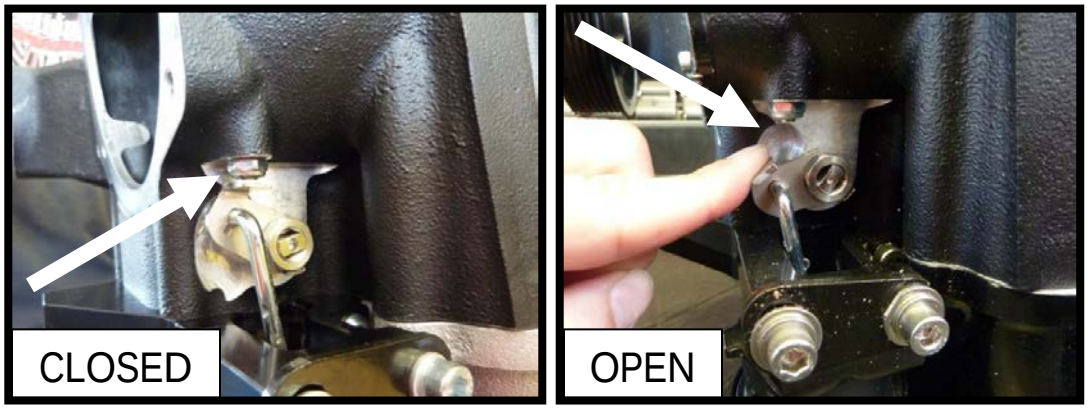
149. Test drive vehicle for the first few miles under normal driving conditions. Listen for any noises, vibrations, engine misfire or anything that does not seem normal. The supercharger does have a slight whining noise under boost conditions, which is normal.

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

151. After the initial test drive, go through the belt tensioner process again. When next you start driving, 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.

152. 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 1" of vacuum (boost) and will be open when there is more than 1" of engine vacuum.



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:

1. Use only premium grade fuel (91-octane or higher). (RON+MON)/2. Euro should use 95 or higher RON.
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. 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 7,500 miles.
8. Inspect and replace spark plugs every 20,000 miles. Only run specified plugs such as NGK TR7IX.
9. Follow your factory service intervals for oil changes and other typical maintenance items.
10. Check the supercharger/accessory drive belt. Adjust or replace as required.
11. Never alter your vehicles PCM calibration, serious engine/transmission damage may occur.

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