WHIPPLE SUPERCHARGER INSTALLATION MANUAL

2006-2023 CHRYSLER/DODGE 5.7/6.1/6.4L ENGINES

***WHIPPLE PART NUMBERS**: WK-3000-30, WK-3000-32, WK-3001-30, WK-3001-32, WK-3002-30, WK-3002-32, WK-3003-30, WK-3003-32, WK-3010-30, WK-3010-32, WK-3010-30, WK-3010-32, WK-3015-30, WK-3015-32, WK-3020-30, WK-3020-32, WK-3021-30, WK-3021-32, WK-3022-30, WK-3022-32, WK-3023-30, WK-3023-32*
***-CA FOR COLD AIR OPTION, -NFT for No Flash Tool version*

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

CALIFORNIA AIR RESCOURCE BOARD EXECUTIVE ORDER #D-231-85 (21) AND #D-231-92 (06-18)

INTRODUCTION

Before beginning installation, we encourage you to read this manual thoroughly before you begin any portion of the installation:

1. A quick parts check to make certain your kit is complete (see shipper parts list in packing paperwork). If you discover shipping damage or shortage, please call our office immediately.
2. Early model 300 and Chargers require subframe spacers to lower motor for hood clearance.
3. 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!**
4. Review our limited warranty with care.

5. 2015 and up model vehicles require unlocked PCMs for PCM Calibration.
6. 2018 and up require gateway unlock tool (included with complete kits).

7. Always wear eye protection during installation. Avoid spills, if one occurs, clean up and dispose of towels properly.
8. Never work on a hot engine.
9. Obey all traffic laws when testing the vehicle.
10. Supply your calibration to Whipple ahead of time so your unique PCM calibration can be built prior to the SC installation to minimize any down time. **NOTE:** Whipple does not support long tube headers, cat removal or any custom modifications. Whipple does not offer custom tuning in anyway.
11. Having the latest OEM PCM and TCM calibration is highly recommended to eliminate potential OEM issues in calibration.

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

Extra Components

Competition kits require new spark plugs, Whipple recommends NGK 5107 (LZTR7AIX) with **.028" gap**, distilled water (1.5gal) (NEVER USE TAP WATER), Mopar approved coolant (1.5gal), 4", 8" and 12" zip-ties.

Tools

Torque wrench (1/4", 3/8", ½") Safety glasses, metric wrench set, assorted drill set, electric or air drill, ¼", 3/8", ½" assorted metric socket set, 3/8" assorted metric allen socket set, 3/8" assorted torx socket set, 8mm hex allen wrench, flat head and phillips screw drivers, pinch clamp tool, 8mm nut driver and drain pan (for coolant).

Chemicals and Sealants

Blue Loctite™#243 or equivalent, Red Loctite™ #271 or equivalent, Green Loctite™ #648 or equivalent. All bolts that need Loctite™ are marked with: ☞**Loctite™ (#243 blue) threads,** ☞**Loctite™ (#271 red) threads,** ☞**Loctite™ (#648 green)**. Thread sealant such as pipe Teflon must be used on all pipe threads. 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.

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.**

3. **!! 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.**

4. Verify Fuel System: Supercharger systems should only be installed on vehicles that have new or clean fuel filters. **Never operate at wide open throttle when fuel level is below ¼ tank. Fuel flow cannot be maintained if the pump runs dry.**

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 you're 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.

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.

COMMON ABBREVIATIONS

ABBREVIATION	DESCRIPTION
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
IAT	Inlet Air Temperature
IC	Intercooler
ID	Internal Diameter
IN/LB	Inch pounds
LB/FT	Foot pounds
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

Make sure you have done the following:

1. ☐ Verified the Condition of the Vehicle.
2. ☐ Verified the fuel octane is 91 (RON + MON)/2 or higher. Do not mix low and high octane!
3. ☐ Verified that the fuel system is clean.
4. ☐ Assessed the cleanliness of the installation area.
5. ☐ Identified the supercharger kit components.
6. ☐ Read and understand the instruction manual.

➲ 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. (**Complete kits only**) **DO NOT START INSTALLATION UNTIL PCM IS UNLOCKED (2015 AND UP) AND CALIBRATION HAS BEEN SUPPLIED.** Follow the included flash tool, read/write Whipple instructions included. Note: Make sure your battery is fully charged before installing, if not, install a battery charger to maintain 14volts. Modified engines such as long tubes, camshafts or oversized throttle bodies are not supported. Calibrations take 24-48 hours to build, make sure to do this before installation. Flash the PCM prior to starting installation. In rare cases, a PCM strategy may not be supported.

2. 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.

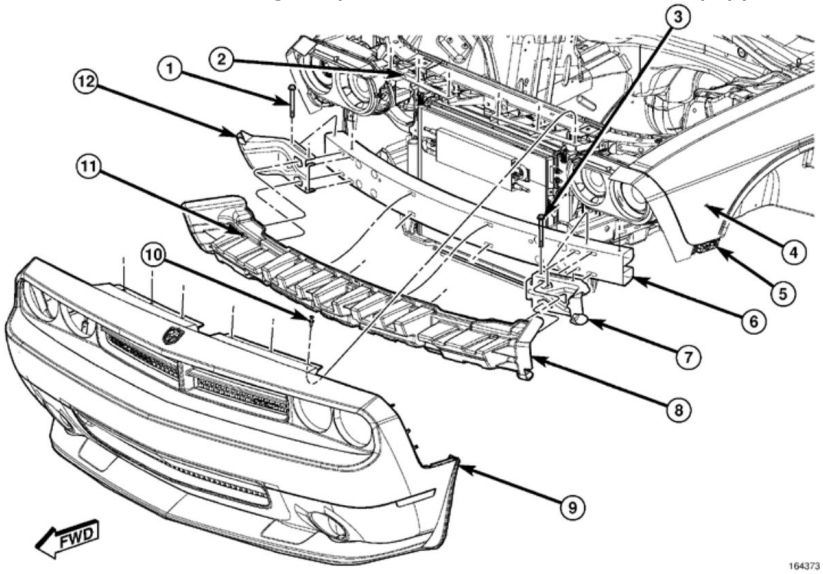
3. Slowly remove the factory gas cap to relieve any excess pressure.

4. Open the trunk and remove the lift up panel to gain access to the battery. With a 10mm 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. Using the factory mounting points, jack the vehicle up and install 4 jack stands at an ideal height of 18”.

6. Remove the factory hood liner by removing the push pins. This will not be used.

7. (Challenger) Remove the front fascia:
   - Remove the left and right splash shields.
   - Remove the belly pan.
   - Remove the mounting fasteners that secure the front fascia assembly (9) to the inside of the front fender.
   - Remove the push-pin retainers (10) that secure the front fascia assembly to the upper radiator support.
   - Carefully pull the left and front side of the front fascia out of the fender mounted fascia mounting brackets.
   - Carefully pull the front fascia assembly forward to disengage the push-pin retainer from the slot in each side of the fascia and disconnect the fog lamp wire harness connectors if equipped.

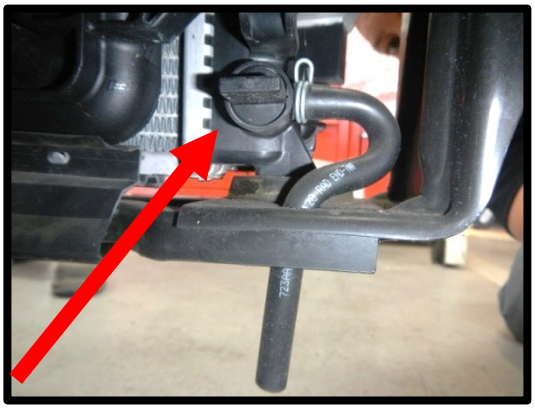


1. BOLT, RIGHT FRONT BUMPER EXTENSION	7. EXTENSION, LEFT BUMPER
2. HARNESS, WIRING	8. ENERGY ABSORBER, FRONT BUMPER
3. BOLT, LEFT FRONT BUMPER EXTENSION	9. FASCIA, FRONT
4. FENDER	10. FASTNER, PUSH PIN
5. BRACKET, FASCIA SUPPORT	11. CLIP, ENERGY ABSORBER
6. BEAM ASSEMBLY, FRONT BUMPER	12. EXTENSION, RIGHT BUMPER

8. (300) Remove the front fascia.

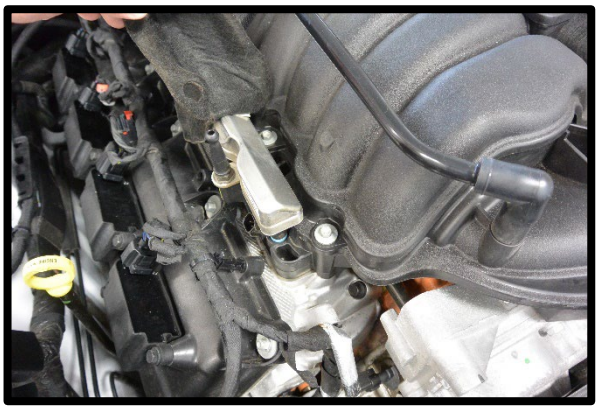
9. (Charger) Remove the front fascia.

10. With a cool engine, drain the coolant into a clean drain pan for reuse later. Remove the radiator cap to vent the system. (Be careful not to remove the radiator cap if the engine is still hot). The drain spigot is located on the passenger, bottom side of radiator. Loosen spigot and let it drain into pan.

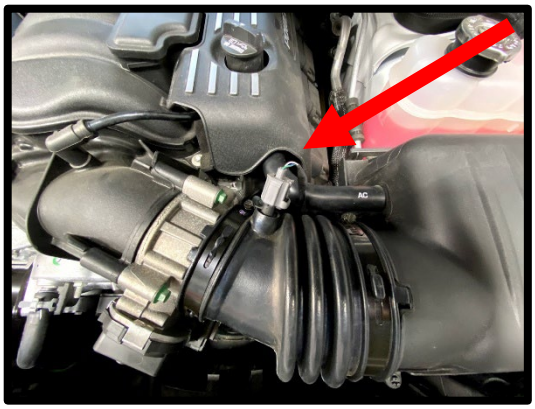


11. Remove the factory coil covers by carefully pulling up. This kit is designed to not run these, but they can be cut/modified to clear the supercharger system.

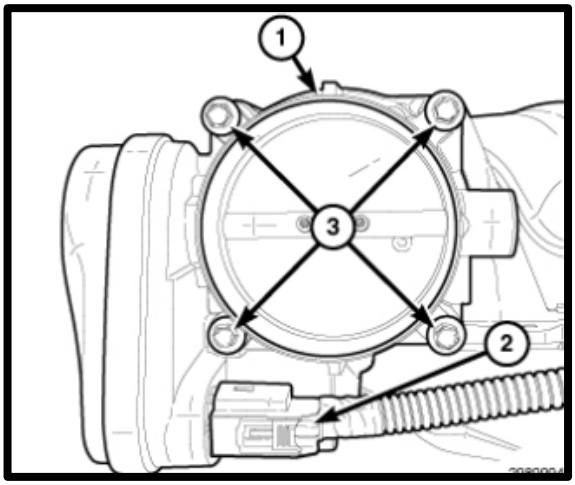
12. Remove the stock foam fuel rail covers (when applicable). These will not be reused.



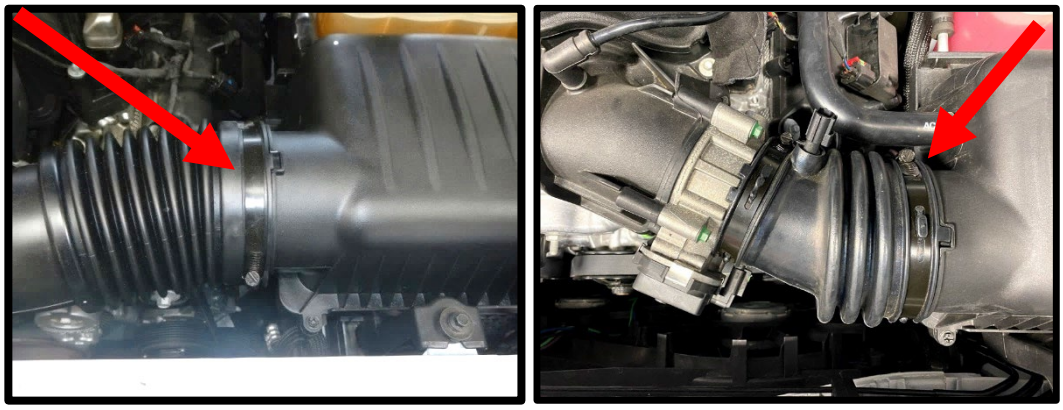
13. Disconnect the factory air temp sensor located in the factory air intake tube by squeezing the electrical connector and pulling from sensor.



14. Disconnect the electronic throttle electrical connector by pulling the locking tab back and then squeezing the connector to release.

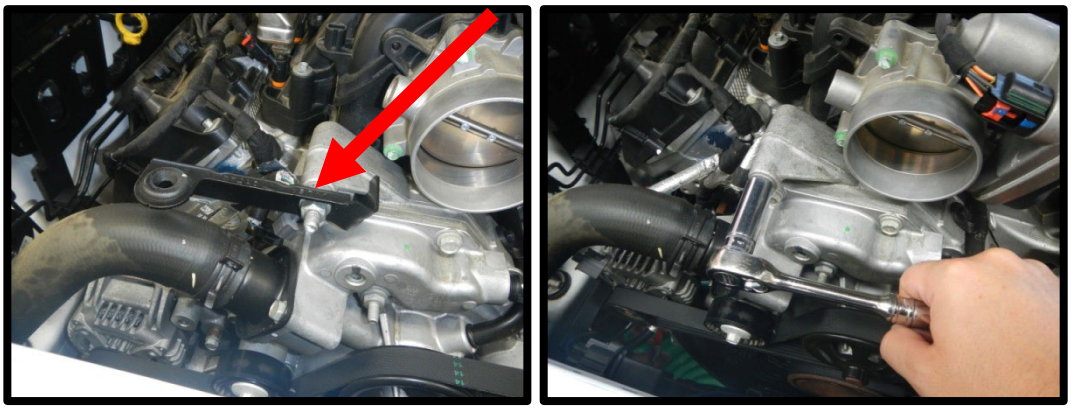


15. Remove the factory air inlet tube hose clamps using an 8mm nut driver. Lift air tube away from engine. Note: keep the black hose clamp from the filter box to the air tube for later use.



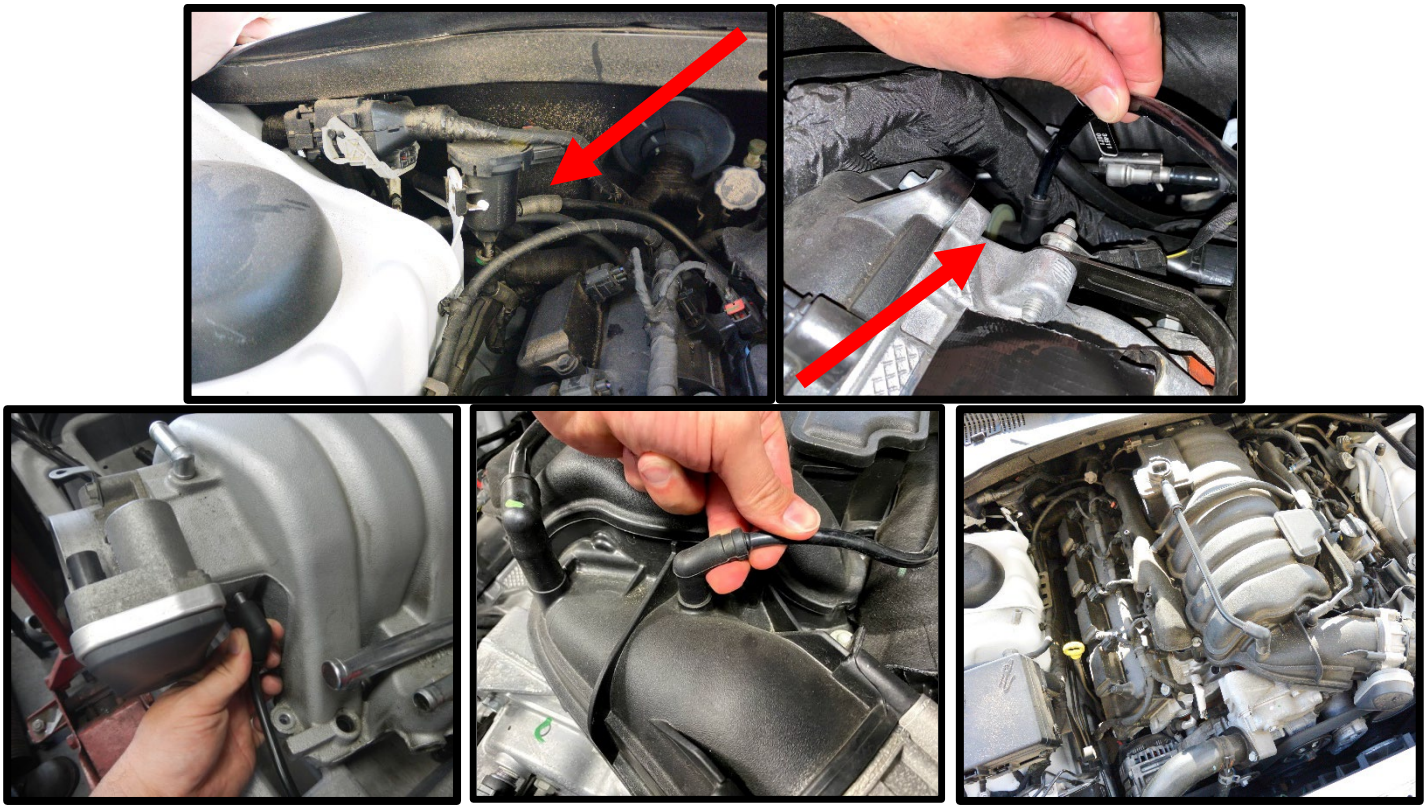
16. Remove the factory air box by using an 8mm nut driver on the (1) air box mounting bolt. Remove the rubber breather line from the air box. Lift the airbox straight up and away.

17. Remove the factory steel air inlet tube support bracket from the engine using a 16mm deep socket and ratchet (when applicable). Remove the factory bolt that the steel support inlet was bolted too using a 15mm deep well socket and ratchet.

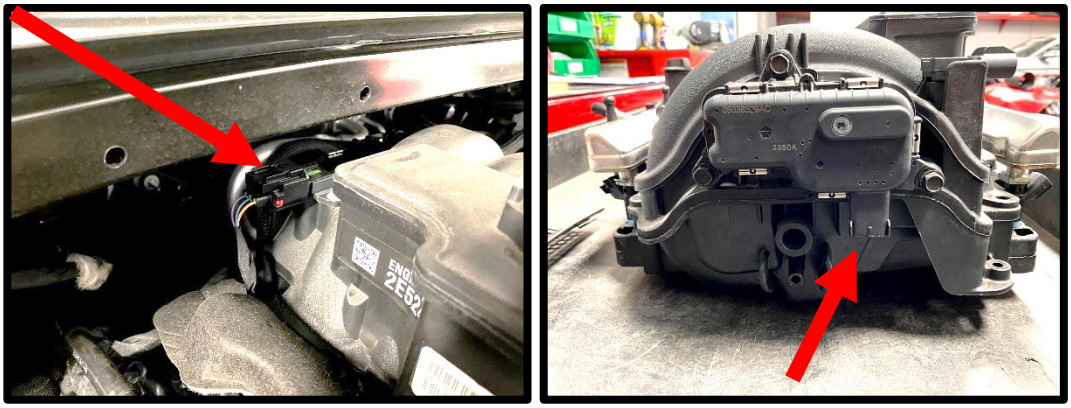


18. Remove the throttle body from the engine by removing the (4) mounting bolts, use an 8mm socket and ratchet.

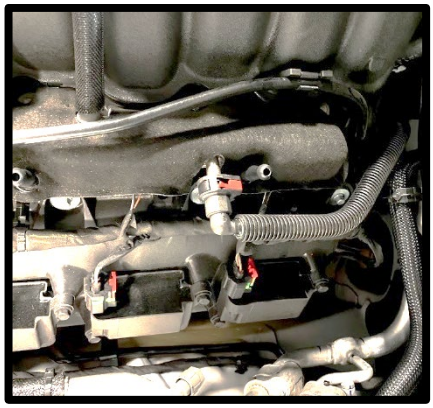
19. Remove the factory EVAP tube from the factory intake manifold and EVAP canister. Both the 5.7 and 6.1/6.4 have locking tabs that you must remove when pulling line off. Later model 5.7L may have EVAP located on intake manifold. Disconnect from manifold for later reinstallation.



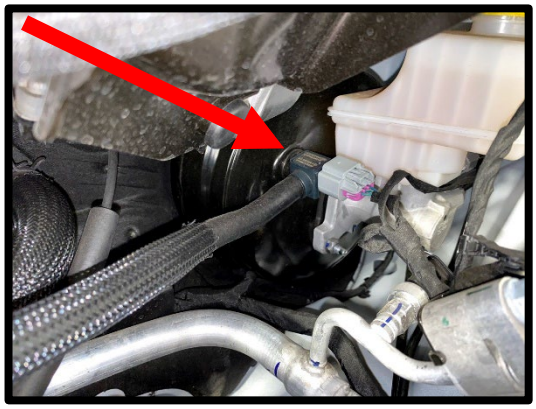
20. Disconnect the factory MAP sensor on the back of the intake manifold by pulling the locking tab back and then squeezing the connector to release. When applicable, unplug the active runner control connector from the back of the manifold (not all vehicles are equipped with this). There is a supporting tab connecting the wire harness to the intake manifold, remove this so the intake manifold can be removed with ease.



21. Remove the factory fuel supply line by squeezing the connector and pulling back or use a 3/8" fuel line removal tool (varies by year/application). It's a good idea to wrap a shop rag around this before you pull to catch any fuel that may drip. Disconnect the fuel injector connectors (8) by pulling the locking tab back and then squeezing the connector to release.



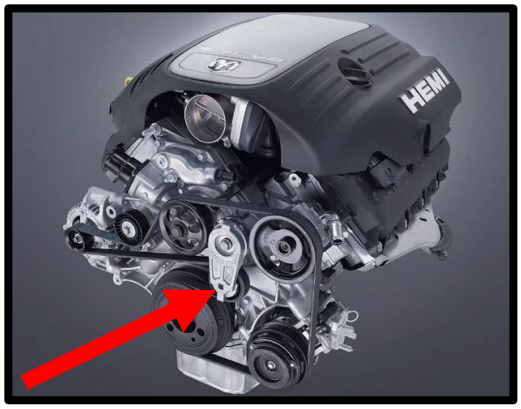
22. Remove the factory brake booster line from the back of the intake manifold and the brake booster. It's easier to remove from the brake booster and then snaking through when you're removing the intake manifold. Remove the factory 90deg plastic adapter from the brake booster hose end for later use. Note: 11-14 models must disconnect electrical connector at the brake booster by squeezing the connector to release.



23. Using compressed air, remove all foreign debris from intake manifold and surround areas. Remove the factory (10) intake manifold bolts using an 8mm socket, 8" extension and ratchet. Carefully lift the intake manifold from the engine, be cautious that nothing falls into the open ports. Remove the factory foam insulation from valley of block, this will not fit with new manifold.

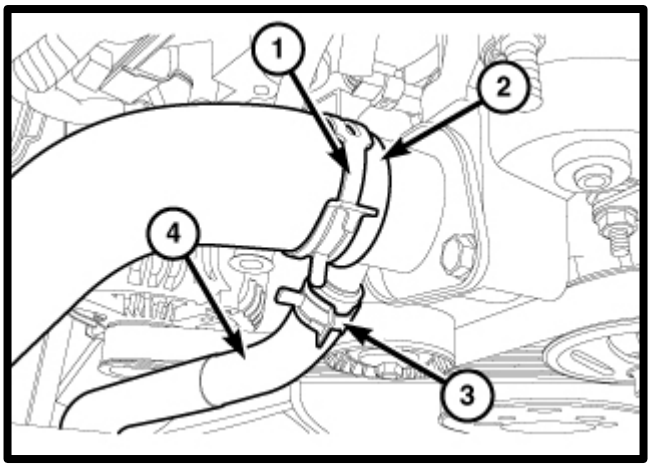
24. Use a clean shop rag and a cleaner such as acetone or carb cleaner to clean the cylinder head to intake manifold surface. Apply duct tape or masking tape to cover the ports until you're ready for the intake manifold installation.

25. Using a 3/8" ratchet or breaker bar, release the tension from the spring-loaded tensioner by rotating clockwise. Remove the 6-rib belt from the engine. Using 16mm socket, remove spring loaded tensioner from engine (needed for belt system installation).

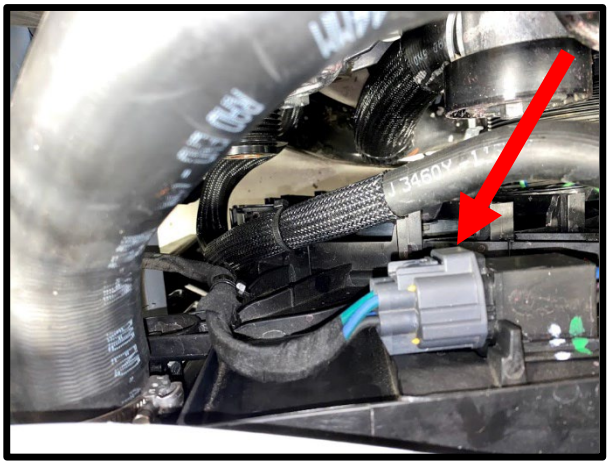


26. Remove the (8) coil electrical connectors. Remove the coils using a 10mm socket and ratchet (2 bolts per coil). Lift the coil out and use a 5/8" spark plug socket and ratchet to remove the stock spark plugs (16). Apply light amount of anti-seize to the new spark plugs, torque to 7.5 -15 ft-lbs. Reinstall stock ignition coils in same locations as they were originally removed. **IMPORTANT! Gap plugs to .028".**

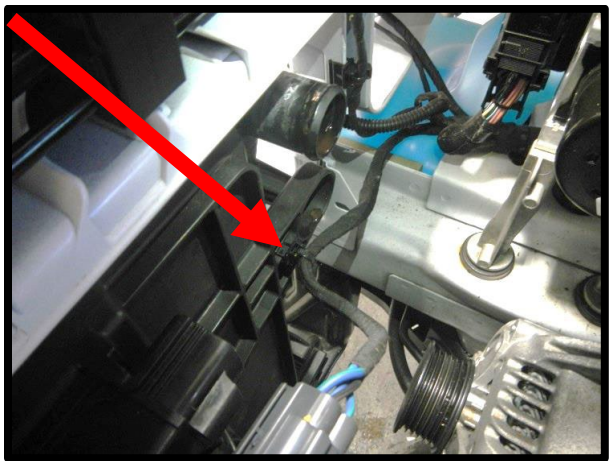
27. Remove the upper radiator hose (2) from water neck by removing the pinch clamp (1) and pushing hose away from engine. NOTE: Some vehicles will be equipped with oil cooler hose (3/4), temporarily remove pinch clamp and hose for the fan removal.



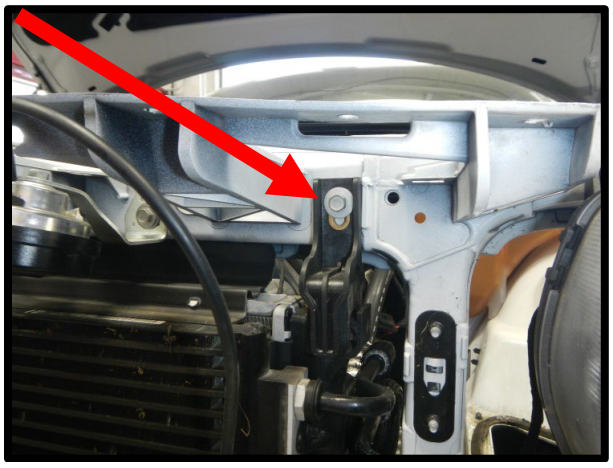
28. Disconnect the fan electrical connector by squeezing the electrical connector to release.



29. Remove the edge clip that secures the fan wiring harness to the fan by using a small flat head screw driver. This will be reused.



30. Remove the (2) electric fan mounting bolts (driver and passenger side) using an 8mm socket and ratchet. Save these bolts, they will be reused.

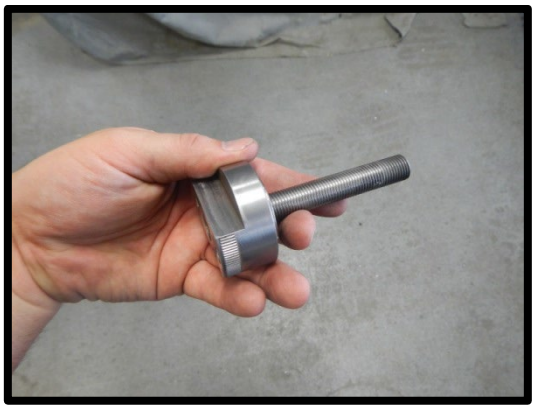


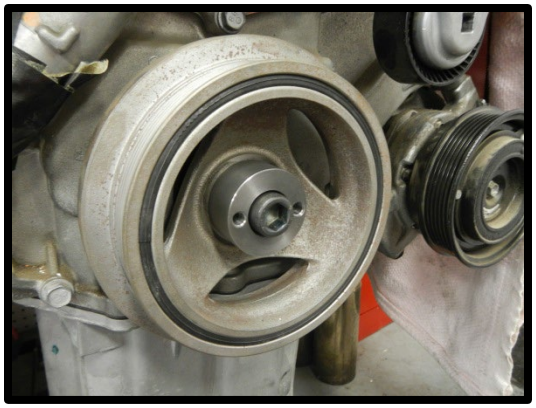
31. Remove the upper radiator mounts (2) using a 10mm socket and ratchet. Remove the lower mount bolts (4) using a 13mm socket/8" extension and ratchet. Carefully lower the radiator assembly to remove the electric fan assembly. If the vehicle is on jack stands, it will come out easily from the bottom.

32. Using a ½" impact gun and a 21mm socket, remove the factory damper pulley center bolt.

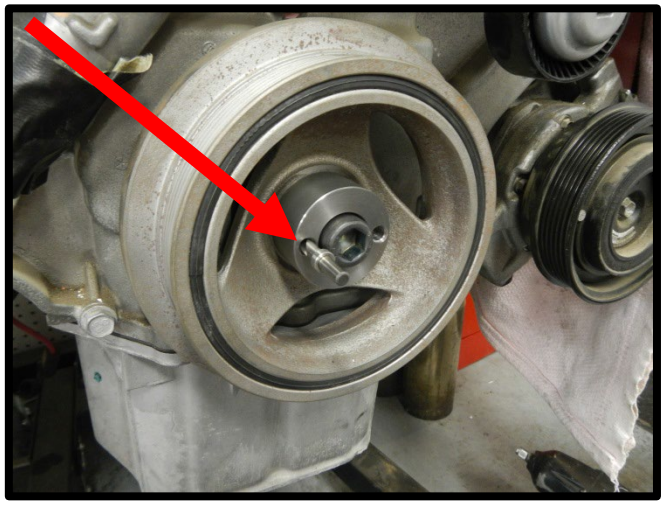
33. Carefully blow off any debris from the damper. It's a good idea to place some rags, blanket or tape over the radiator so debris does not get stuck inside the fins.

34. Install the supplied 14mm stud into the crank pinning adapter about halfway up the threads. Install stud and crank pin adapter into damper until snug (apply light amount of anti-seize to threads). Use a 1" wrench or a crescent wrench to tighten so it does not move while drilling. **NOTE:** There's multiple OEM versions of balancers, the crank pin kit works on all versions.

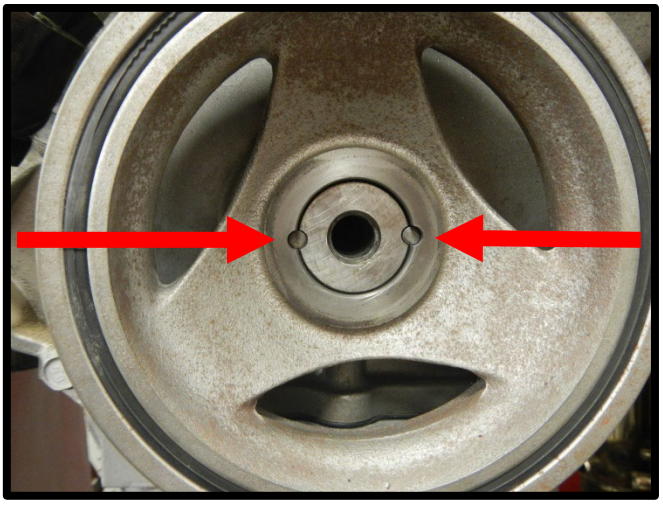
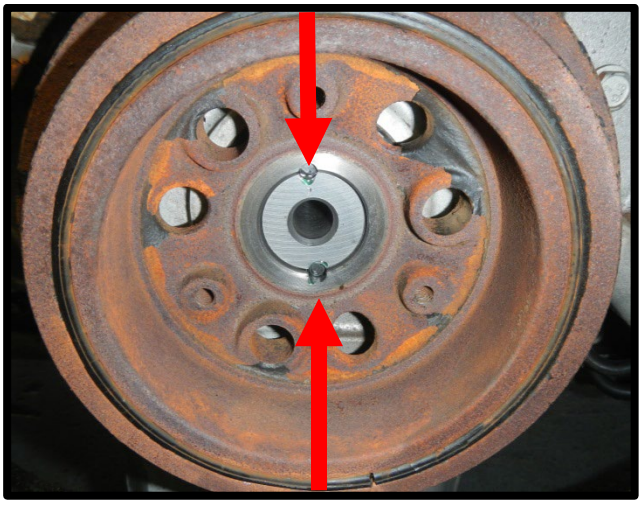




35. Use the supplied ¼" drill bit (it has a stop at roughly 2.875" from drill bit tip), drill 2 holes into the crankshaft thru the (2) holes in the pin adapter. Blow off debris when done drilling. Remove the pin adapter using an adjustable wrench.

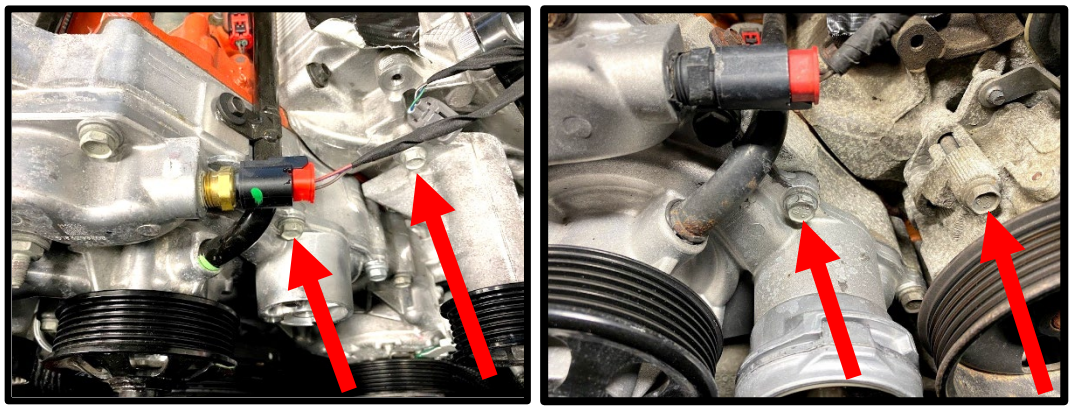



36. Install the supplied ¼" dowel pins with a generous amount of green Loctite #648. Use a hammer and punch or drift pin to tap in so they are flush.

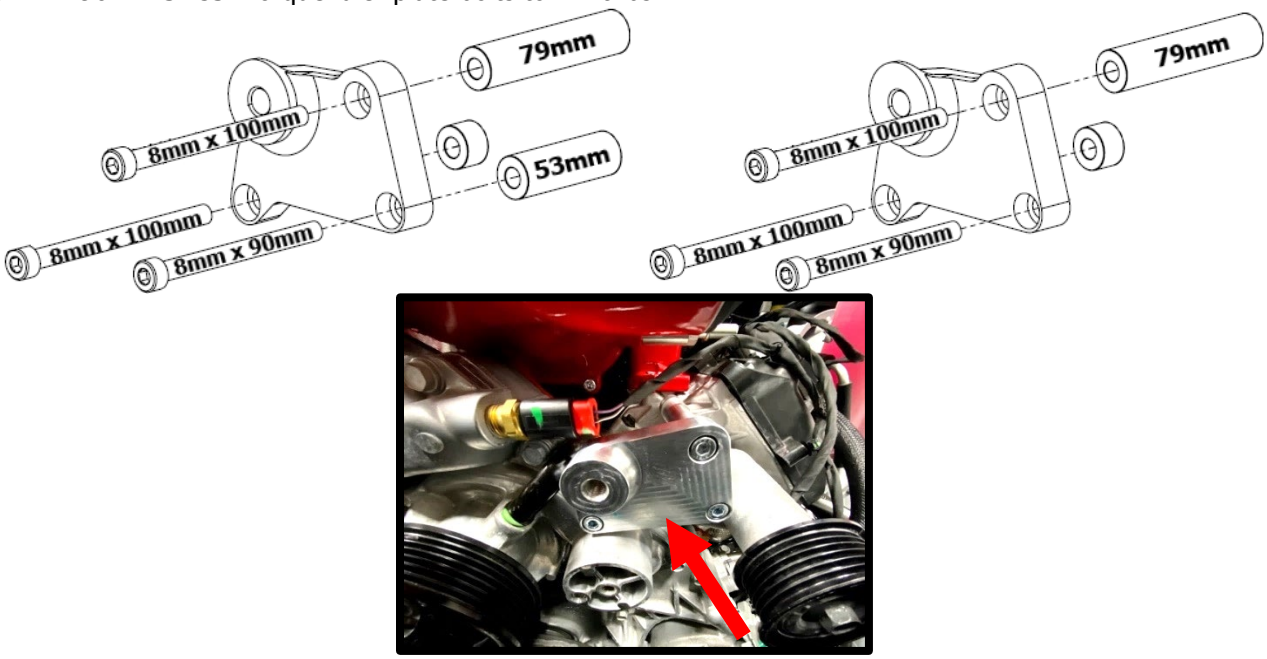



37. Apply light amount of anti-seize to threads of the factory damper pulley. Use a 21mm socket and torque to 129 ft/lbs. **WARNING** **NEVER LET BALANCER ROTATE WHILE TORQUING.

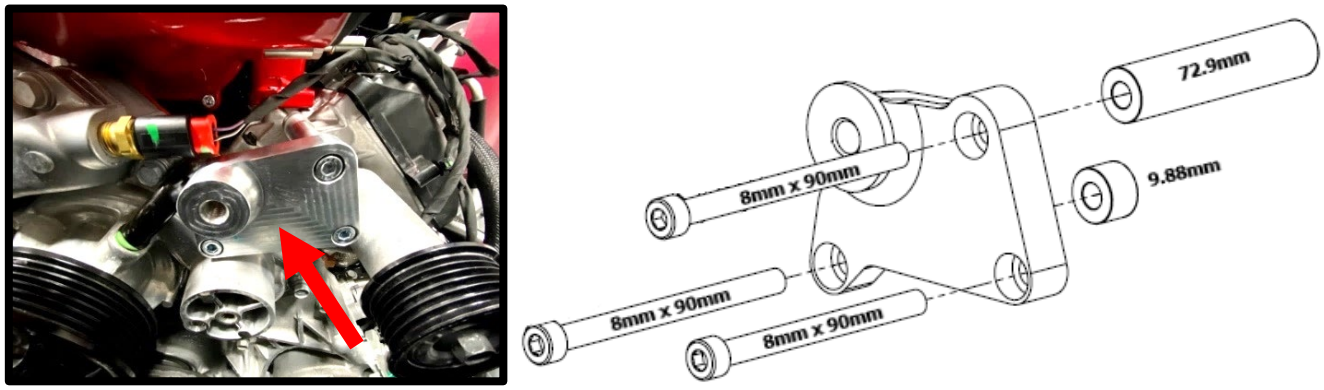
38. Using a 13mm socket, remove the upper left bolt form the idler pulley (or PS pump) assembly and the water pump bolt directly above the belt tensioner.



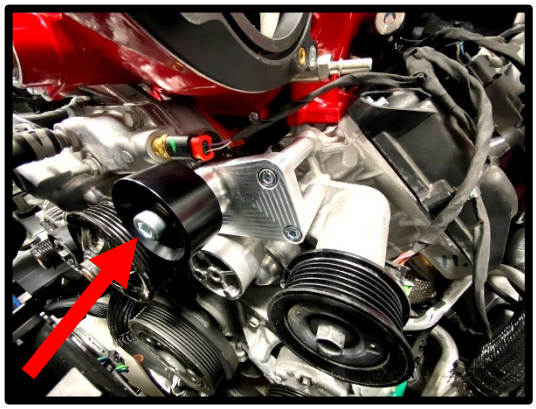
39. (**MY2011+**) Install idler plate to engine using the (3) support stands and supplied bolts as shown below (11.7mm, 79mm, 53mm). ***NOTE:** Mechanical power steering equipped vehicles, discard the 53mm spacer, use the same 8mm x 90mm SHCS. Torque idler plate bolts to 21 ft-lbs.

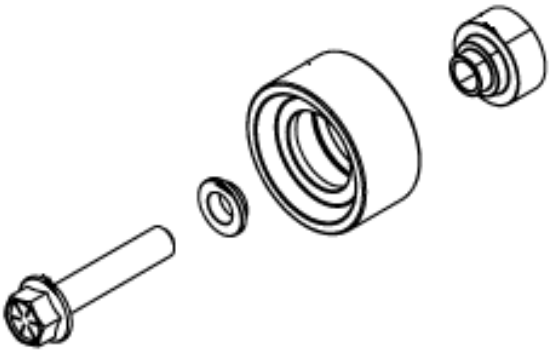


40. (**MY2006-2010**) Install idler plate to engine using the (2) support stands (9.88mm/.389") and (72.9mm/2.871"). Secure using (3) 8mm x 90mm SHCS bolts. Torque idler plate bolts to 21 ft-lbs.

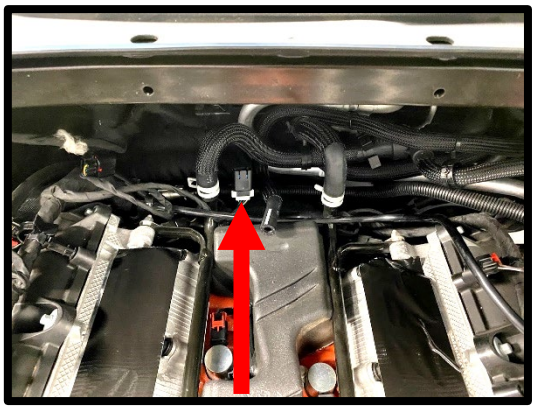


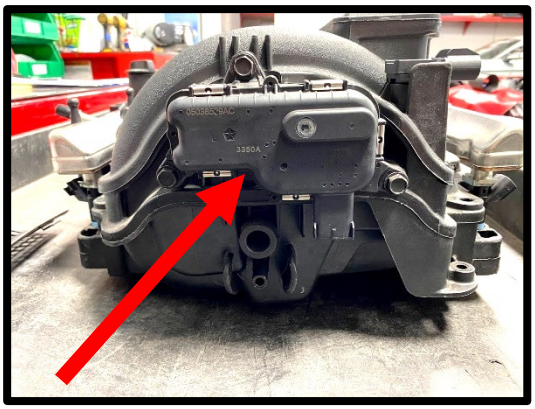
41. Install the supplied 3.0" smooth idler pulley to bracket using the supplied step spacer, ½" step washer and ½" HHFCS bolt. Torque to 18 ft-lbs using a ¾" socket.
    - MY06-10: Use the .390" step spacer and (1) ½" x 2" HHFCS bolt.
    - MY2011+: Use the .776" step spacer and (1) ½" x 2 ½" HHFCS bolt.





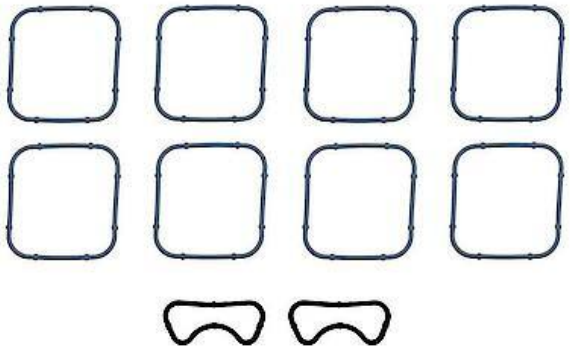
42. Remove the Active Runner Control (when applicable) motor from the intake manifold. Connect to factory connector behind engine. Zip tie this in the back, away from the engine. **NOTE:** Failure to do so will set codes.



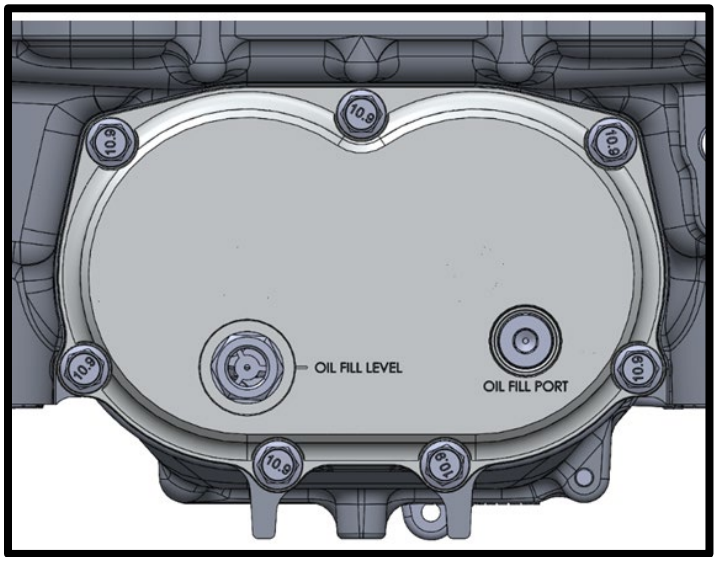


43. Install the supplied TMAP sensor to supercharger, apply light amount of grease to oring to ease installation. Secure to SC using supplied 6mm x 14mm FSHCS. Torque to 88 in-lbs using 10mm socket.

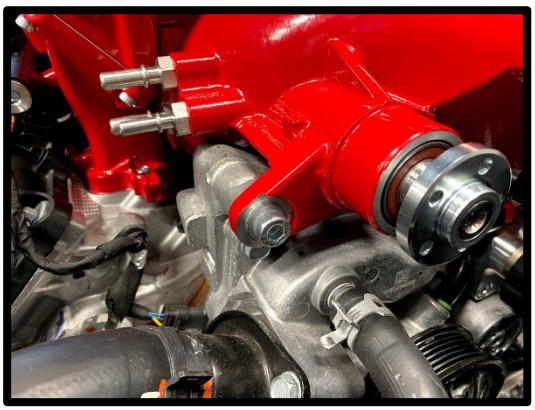
44. Remove the tape from the supercharger runners. Install the (10) factory manifold orings to the supercharger runners. Apply light amount of grease for ease of installation. Remove the tape covering the intake runners.



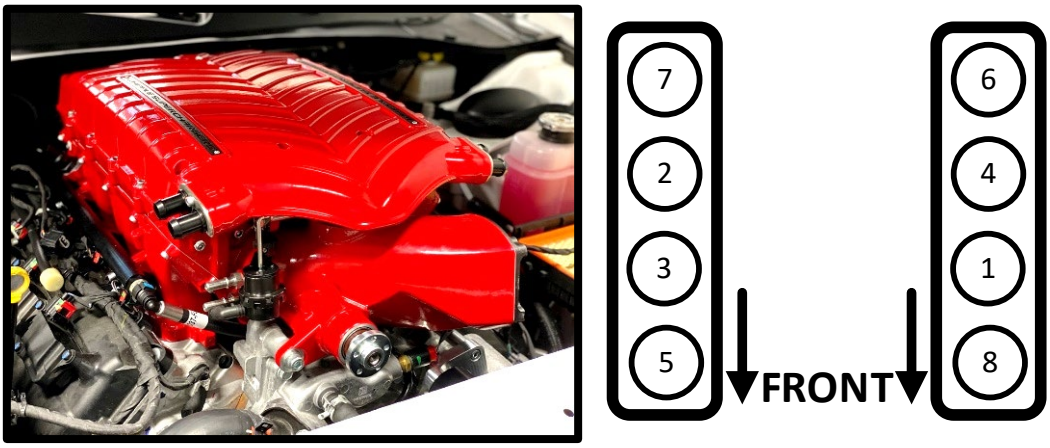
45. Make sure the supercharger is on a flat surface. Remove the oil fill plug using an 8mm allen socket.
    - Fill the compressor to the **BOTTOM** of the fill plug (**4.0 FL/OZ**). Rock compressor back and forth. Then spin the compressor/rotors by the pulley so the oil fills the bearings. **NEVER OVER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



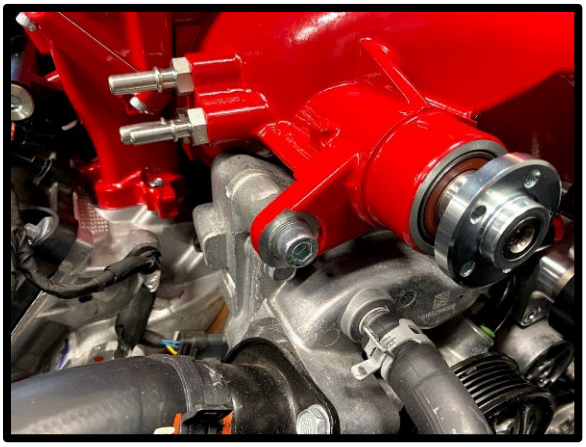
46. Install the supercharger assembly to engine. Use the intake bolts and injector bores to achieve the best alignment possible between engine and supercharger. Install the (8) M6 x 25mm intake manifold bolts hand tight (**DO NOT TORQUE**). Install the front support bolt, using the (1) 10mm x 30mm HHFCS bolt, hand tight.



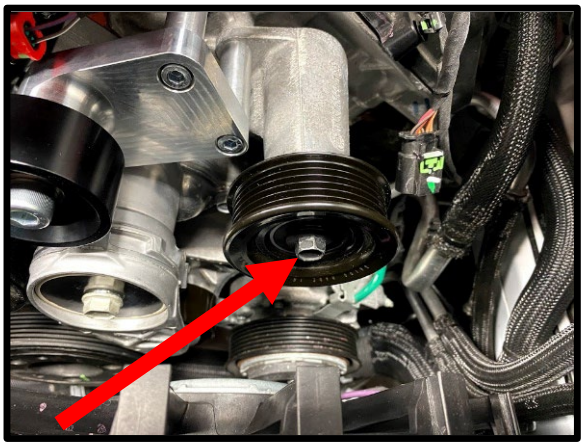
47. With the supercharger mounting bolts hand tight and supercharger best aligned, use a 10mm socket, install the (8) M6 x 25mm intake manifold bolts in the sequence shown below.
    - First pass, using the sequence, 60 in-lbs.
    - Second pass, using the sequence, 72 in-lbs.
    - Third pass, using the sequence, 88 in-lbs.



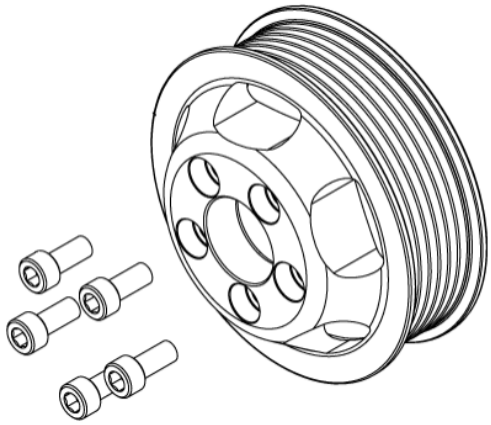
48. Torque the (1) 10mm x 30mm HHFCS to 30 ft-lbs using 16mm socket.



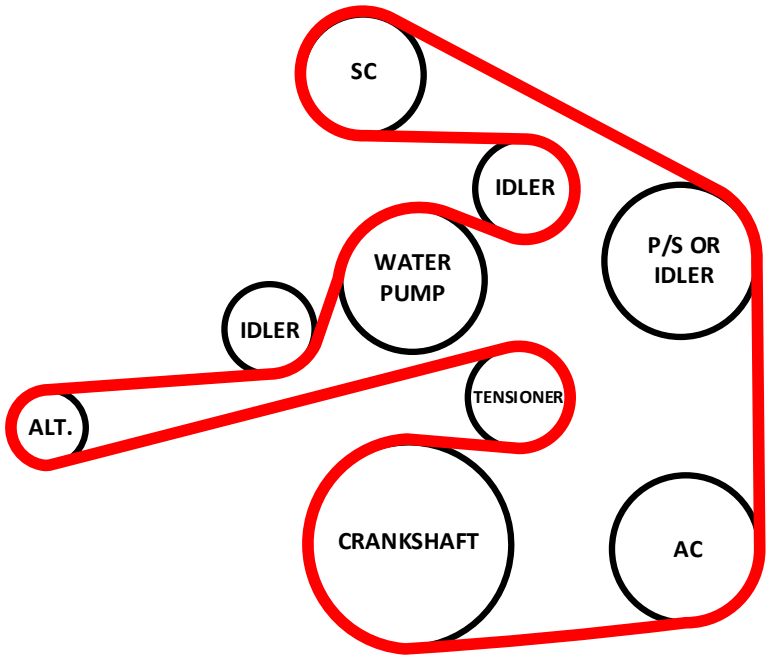
49. (**Electric power steering-based vehicles**) Remove the stock idler pulley from factory mount using 13mm socket. Replace with supplied 90mm idler pulley. Use factory hardware to secure in place. Torque to 18 ft-lbs using 13mm socket.



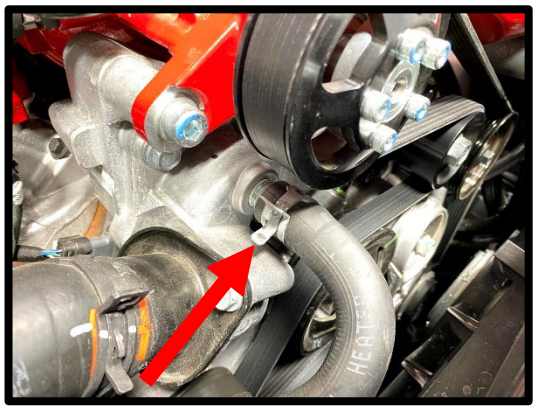
50. Install the supercharger pulley, with the (5) 6mm x 14mm SHCS bolts. Leave hand tight for now.



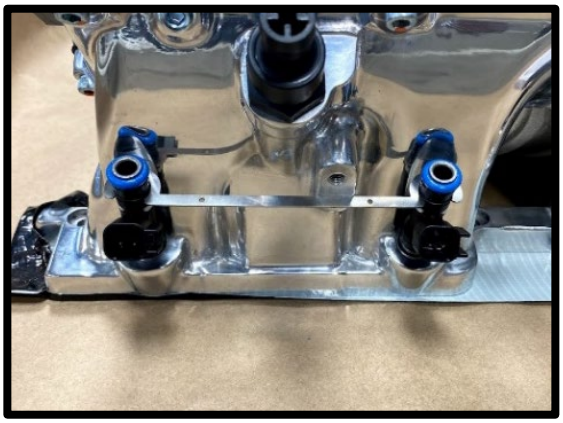
51. Install the supplied drive belt using the belt routing diagram below.



52. Verify (when applicable) proper clearance between the SC belt and the factory clamp just below it. Rotate clamp out of the way.

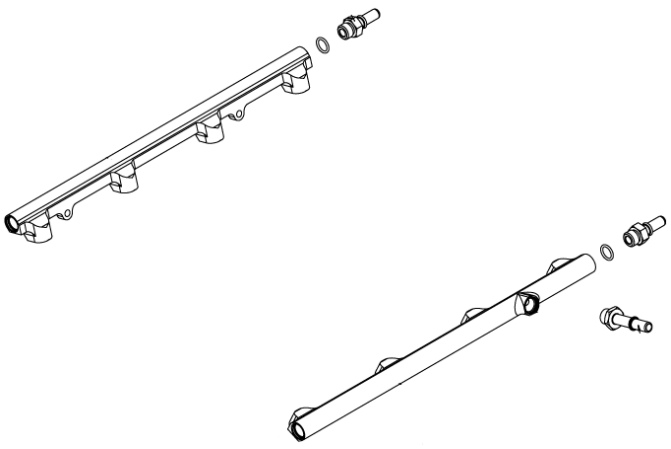
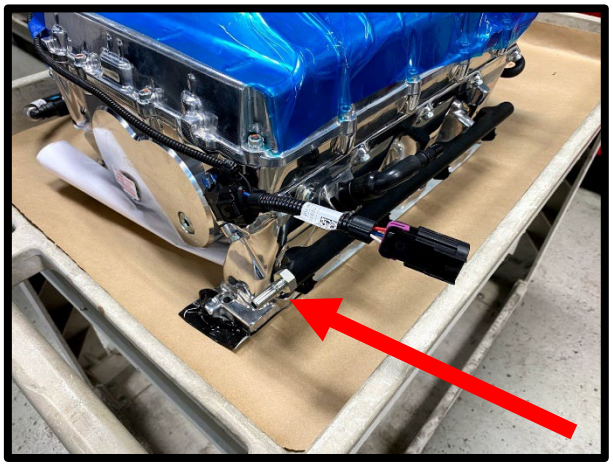


53. Apply light amount of grease to the supplied fuel injectors. Install injectors to supercharger assembly. Install the injector clocking brackets to each fuel injector. ***NOTE:** Failure to use brackets may cause running problems due to unique spray angle of the supplied fuel injectors.

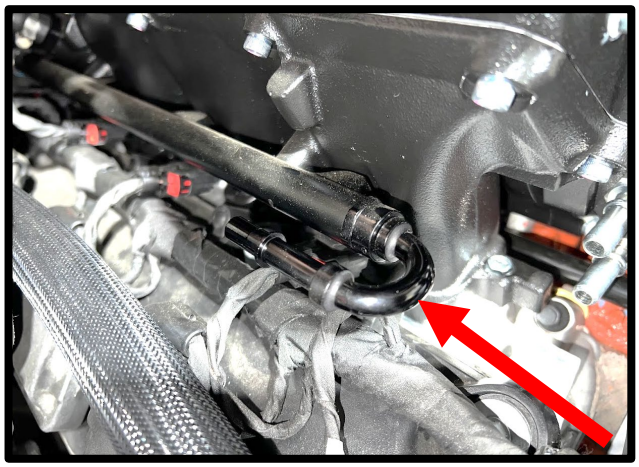



54. Secure rails to supercharger using the supplied (4) 6mm x 16mm SHCS. Use **Blue Loctite #243** on the threads of each bolt. Torque to 80 lbs-in.

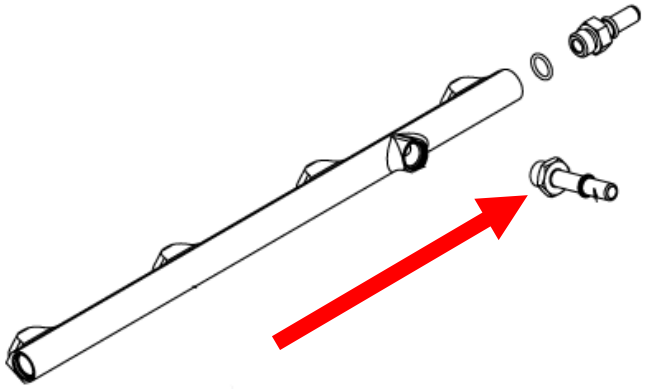
55. Install the (3) #2-906-V75BR orings to the (2) -6 ORB to 9.49mm and (1) -6 ORB to 9.49mm fittings. Apply light amount of grease to orings to ease installation. Install the 9.49mm fuel feed fitting on the LH/Driver side rail -6 port. Install the (2) 9.49mm fittings to the rear ports of each rail (fuel cross over).

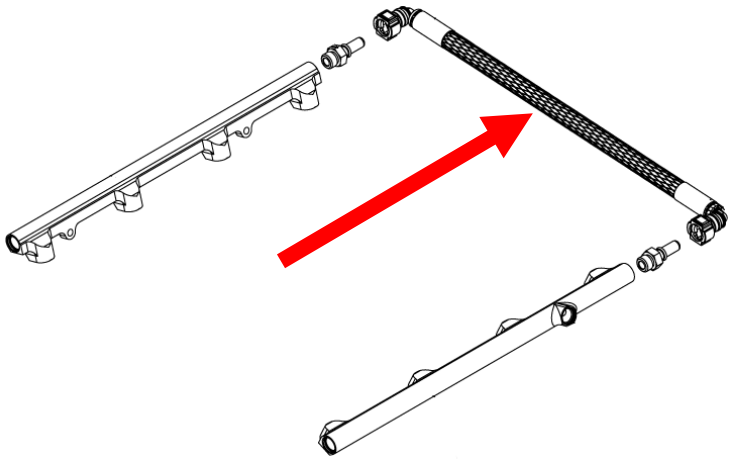
56. Install the (2) #2-906-V75BR orings to the (2) -6 180deg 9.49mm quick connect fittings, apply light amount of grease to orings to ease installation. Install these to the front of each fuel rail.



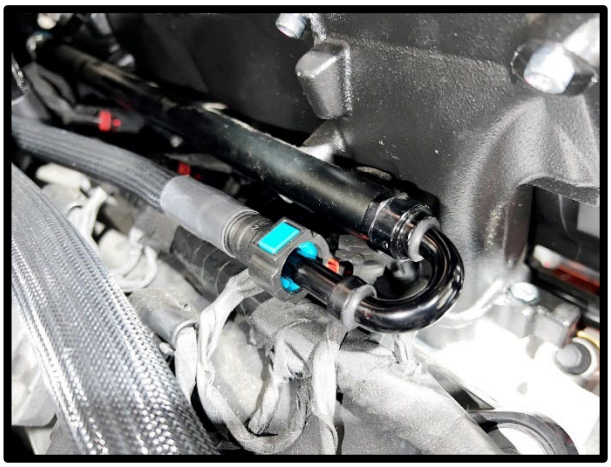
57. Reconnect stock fuel feed hose to the 9.49mm fitting you previously installed. **CAUTION:** Ensure fuel fitting clicks and locks in place.



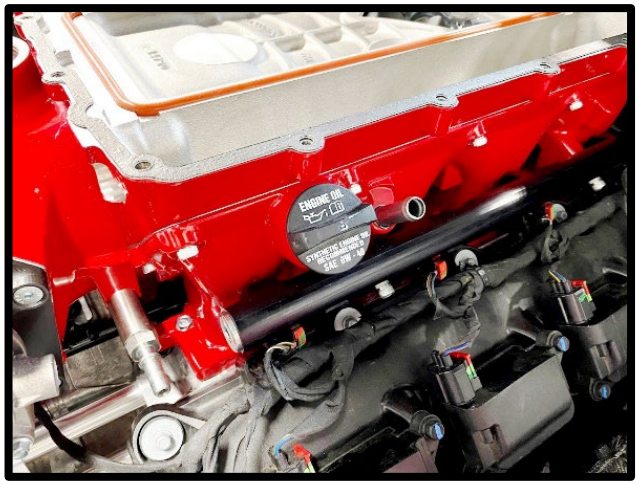
58. Install the supplied fuel cross over hose with dual 90deg to the rear side of each fuel rail. Click and secure in place. **CAUTION:** Ensure fuel fitting clicks and locks in place.



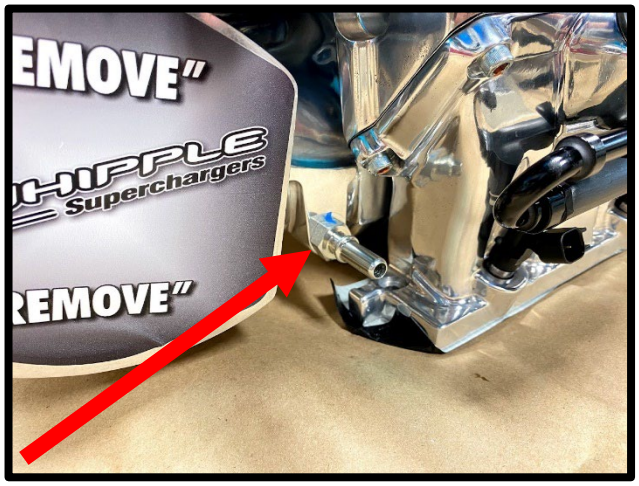
59. Install the 3/8" x 50" fuel front cross over hose, around the back of the supercharger and connect to both previously installed 180deg fittings. **CAUTION:** Ensure fuel fitting clicks and locks in place.



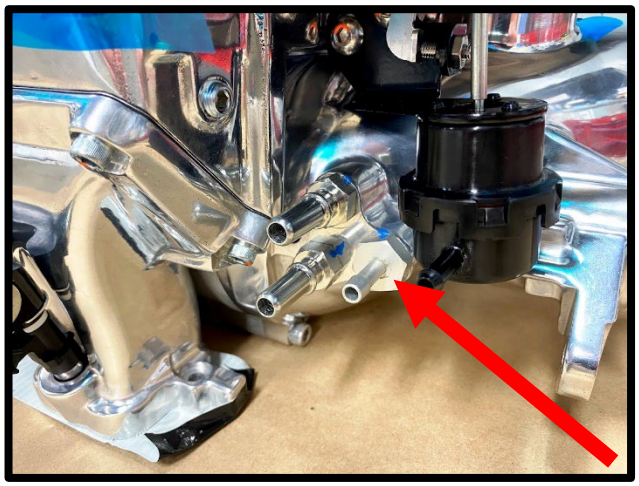
60. Remove the factory oil fill cap from intake manifold, transfer to supercharger assembly.



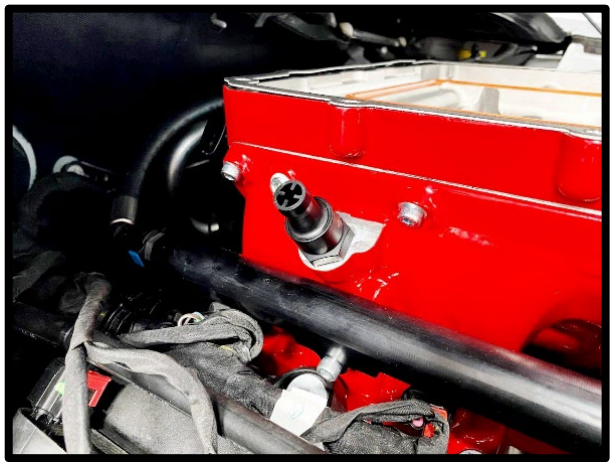
61. Install the (1) #2-906-V75BR oring to the -6 ORB to 9.89mm fitting. Install the (1) 9.89mm fitting in the LH side of SC inlet. Apply light amount of grease to oring to ease installation.



62. Install the (2) 9.89mm fittings and (1) 7.49mm quick connect fittings with the (3) #2-906-V75BR orings, to SC inlet. **NOTE:** 7.49mm fitting goes to front port (red arrow). Apply light amount of grease to oring to ease installation.



63. Install the #113 oring to PCV fitting. Apply light amount of grease to oring. Install the PCV fitting to the RH side of open passage on supercharger runner.

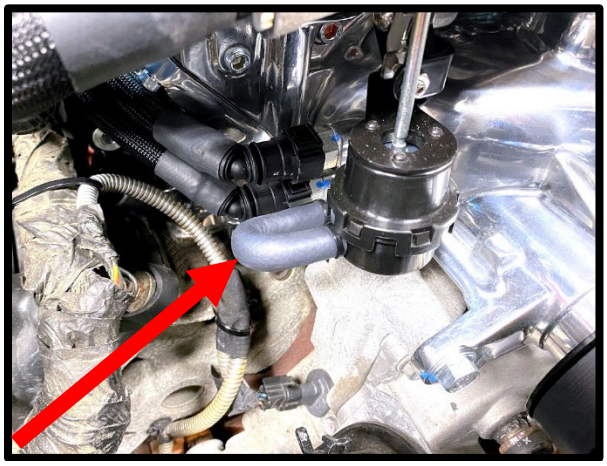


64. Install the TB to the supercharger inlet using the supplied TB adapter, supplied gasket and the (4) 6mm x 25mm FHCS. Torque to 75 in-lbs. Install the stock throttle body oring to TB adapter, then install the throttle body using the (4) 6mm x 35mm HHFCS bolts. Use **Blue Loctite #243** on threads, torque to 88 in-lbs using a 10mm socket.

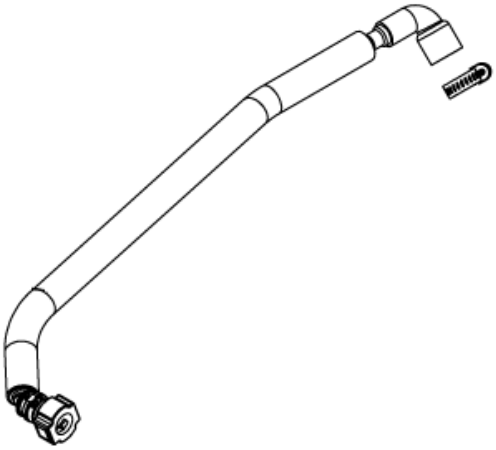
65. Install filler reservoir bracket to the LH side of supercharger lid. Use supplied (2) 6mm x 12mm HHFCS. Torque to 89 in-lbs using 10mm socket.

66. Install filler reservoir to bracket using the supplied (2) 6mm x 12mm HHFCS. Torque to 75 in-lbs using 10mm socket.

67. Install the supplied u-bend bypass hose to bypass actuator and ¼" fitting.

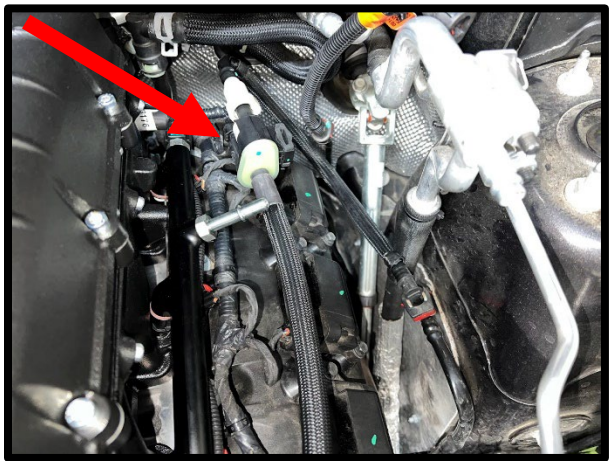


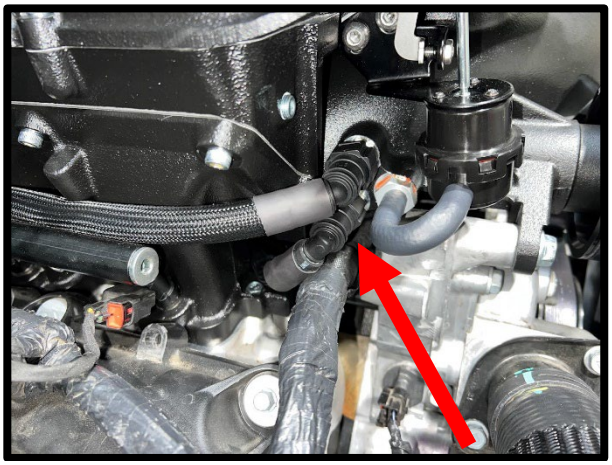
68. Install supplied 3/8" molded hose with 90deg end from SC inlet bottom 9.89mm quick connect fitting to PCV valve previously installed. Secure 90deg rubber hose with supplied #6 worm clamp.



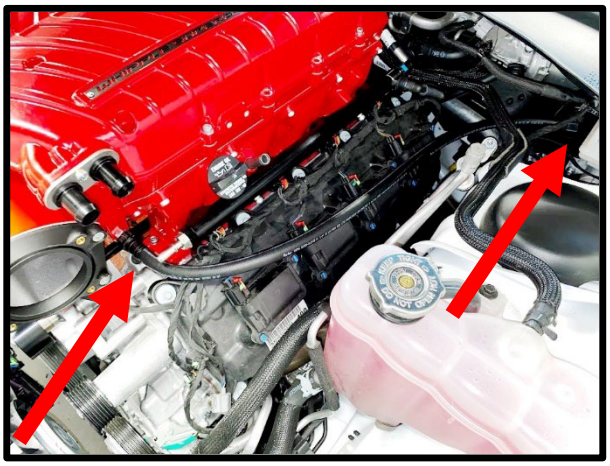
69. (**Firewall mounted EVAP solenoid**) Install supplied 3/8" molded hose to SC inlet top 9.89mm quick connect fitting previously installed. Install the supplied 3/8" to 5/16" reducer to end of hose. Install stock EVAP 90deg to end of hose. Secure to EVAP solenoid.

70. (**LH/Driver side EVAP mount**) Remove rear coil bolt and install EVAP bracket. Install EVAP solenoid to bracket. Install the supplied 3/8" x 33" EVAP hose with 90deg 9.89mm quick connect fitting. Route to front of fuel rail, under SC inlet and connect to bottom quick connect fitting previously installed. **NOTE:** PCV needs to go to top port on this type of installation.

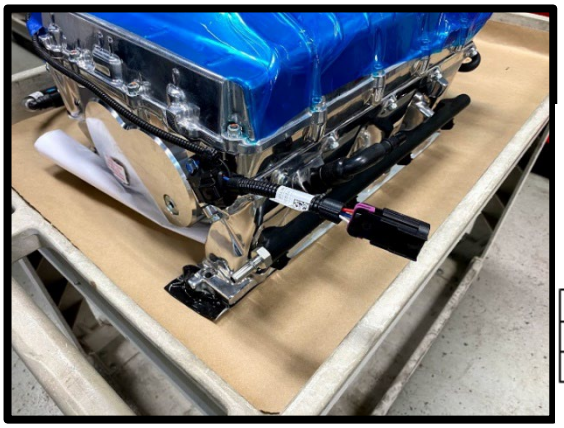


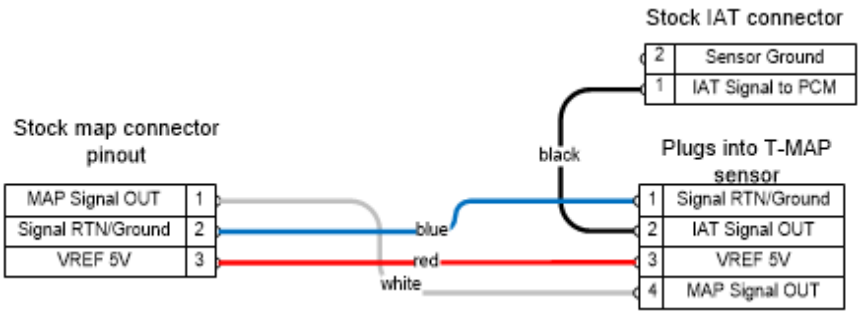


71. Install the supplied 3/8" hose to LH previously installed 9.89mm quick connect fitting in SC inlet. Route hose to brake booster fitting/sensor.

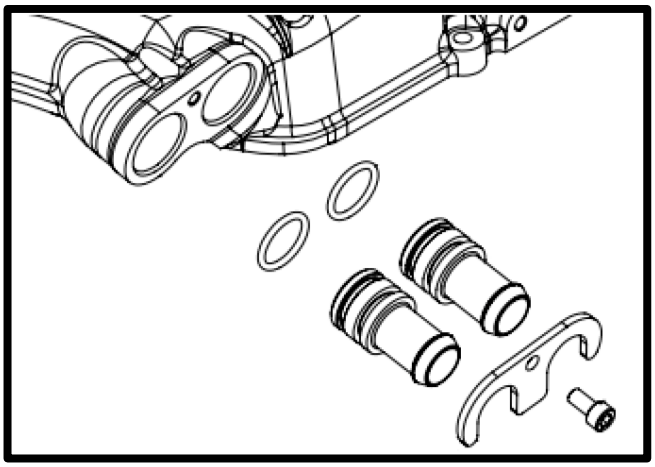


72. Install the supplied TMAP pigtail from factory MAP sensor to TMAP. Connect 4-way end to TMAP previously installed. Route single wire to LH side of engine. Connect to stock IAT sensor connector. **NOTE: MY06-10** and some **MY11-12** applications have a different IAT connector, cut factory end and pigtail end connectors off, strip IAT wire end and connect to TMAP pigtail IAT signal out single wire using supplied barrel crimp connector. Use heat gun to shrink supplied heat shrink over barrel crimp connector.

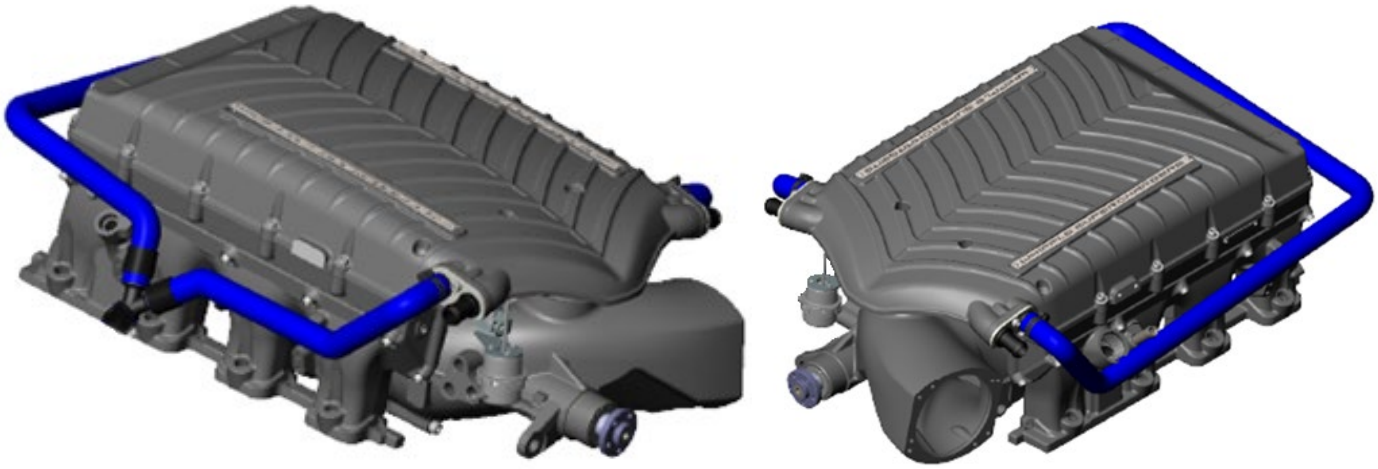




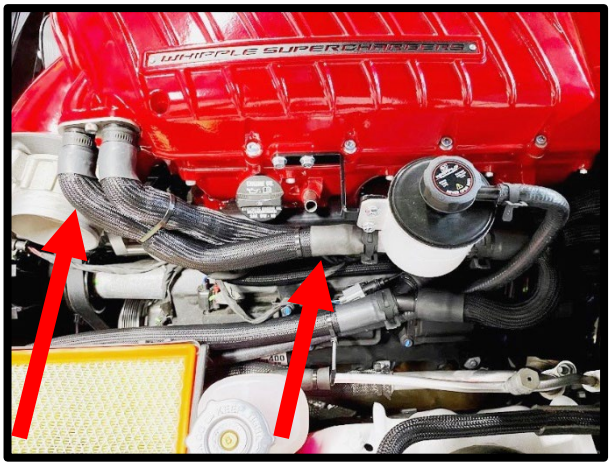
73. Install the (4) 2-117 IC fitting orings to the (4) IC fittings. Apply grease to the (4) 2-117 IC fitting orings. Slide fittings into lid. Secure fittings with supplied fitting retainer bracket and 6mm x 12mm SHCS bolt. Torque to 80 in-lbs.



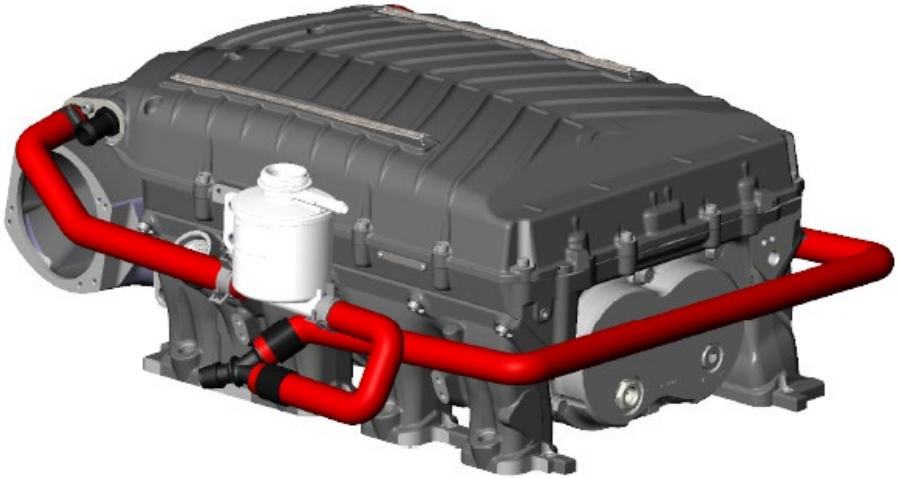
74. Install the supplied intercooler feed supply hose assembly to the LH and RH rear intercooler fittings. Secure both fittings with supplied black worm clamps.



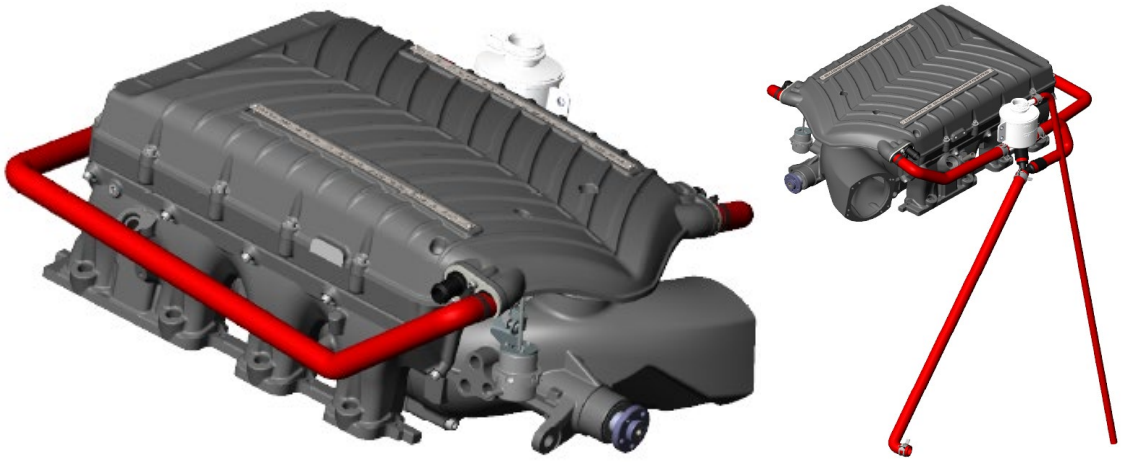
75. Install supplied LH intercooler outlet hose from LH front IC fitting to filler reservoir front fitting. Secure filler reservoir with supplied constant tension clamp. Secure hose to IC fitting using black worm clamp.



76. Install supplied U molded ¾" hose to filler reservoir rear fitting and Y fitting. Secure hose using constant tension clamp.

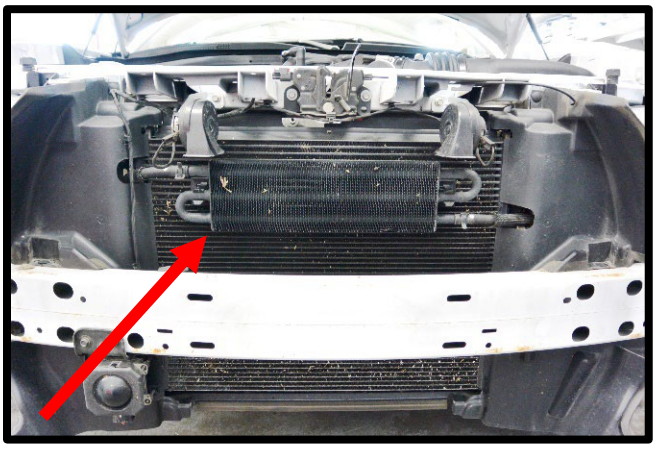


77. Install supplied RH side intercooler front fitting, intercooler outlet fitting. Route to supplied Y fitting below reservoir. Secure hose to Y fitting with supplied constant tension clamp. Secure hose to IC outlet fitting using black worm clamps.

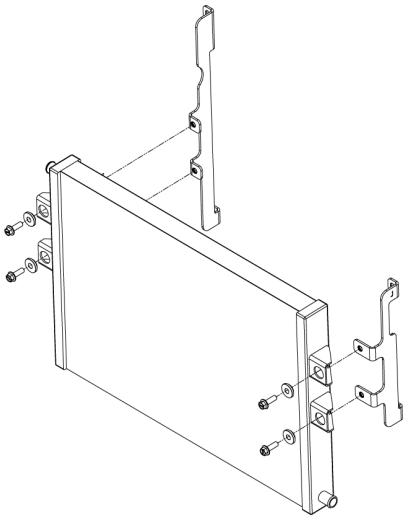


78. Reinstall the factory radiator and fan assembly in reverse order using factory hardware.

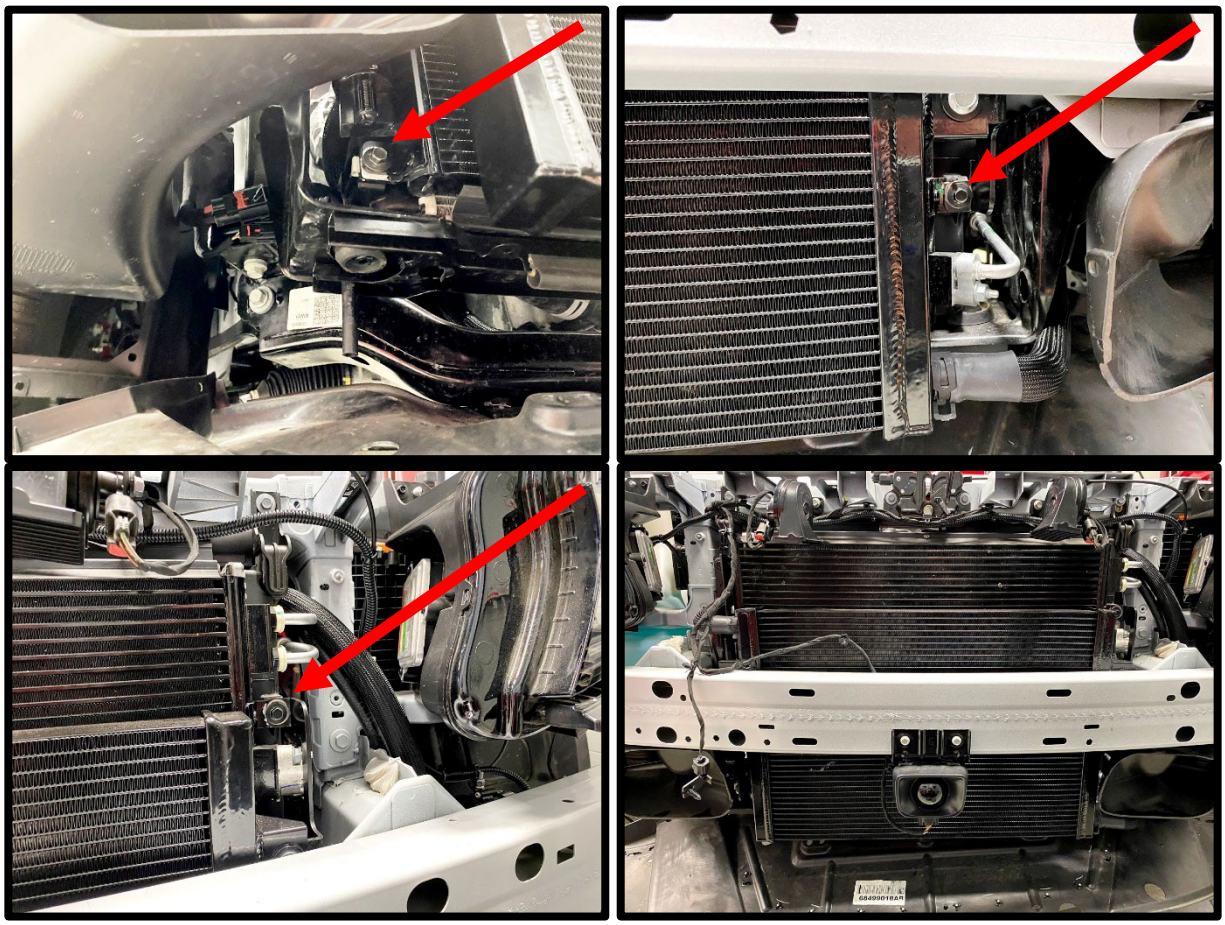
79. (MY11+ 6.4 when applicable) Remove the factory power-steering heat exchanger by prying from the factory push clips. Leave loose until after heat exchanger mount. After heat exchanger is mounted, remount this cooler.



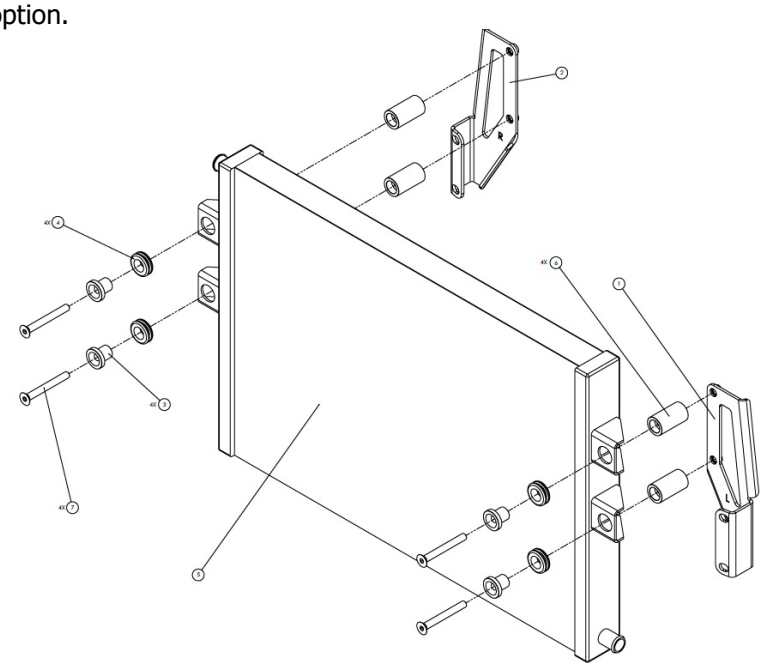
80. (**Late model**) Install the heat exchanger brackets to heat exchanger prior to installation. Use the supplied (4) 8mm x 25mm HHFCS bolts and (4) .813" sleeved washer per bolt.



81. (**Late model**) Mount heat exchanger to the (4) factory radiator using factory hardware using a 10mm socket.

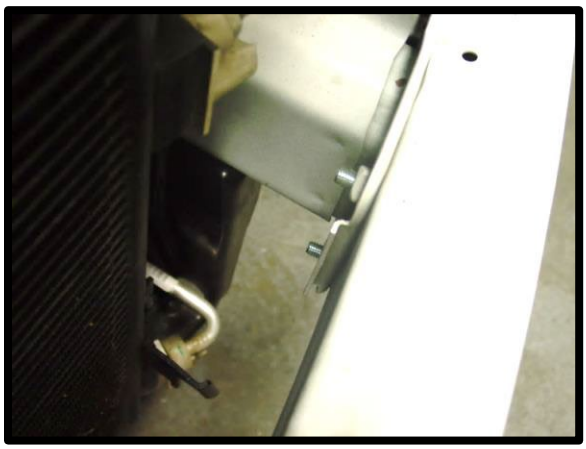


82. Early model vehicles are missing the mounting positions, therefore, familiarize yourself with the different mounting option.

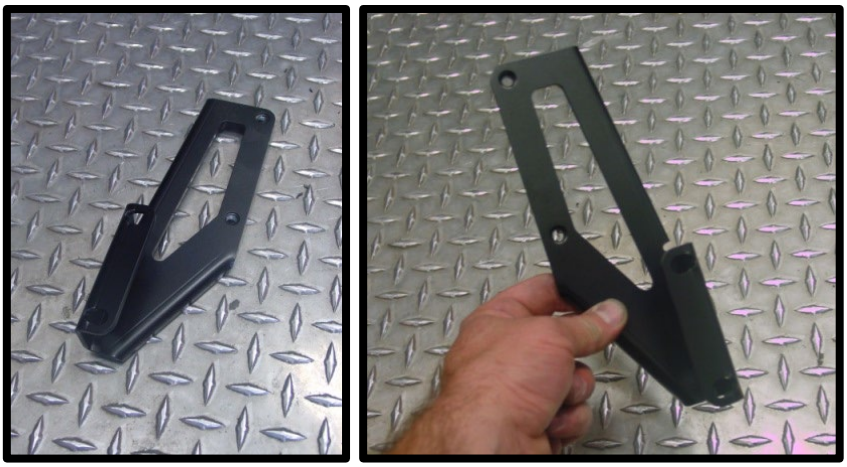


ITEM NO.	DESCRIPTION	QTY.
1	HEAT EXCHANGER BRACKET, DRIVER SIDE	1
2	HEAT EXCHANGER BRACKET, PASSENGER SIDE	1
3	MUSTANG HE SPUD (6061)	4
4	5/8" ID X 7/8" OD GROMMET	4
5	HE 24X16	1
6	1.7" SPUD SPACER	4
7	M8 X 1.25 X 70 FHCS BLK-OXIDE	4

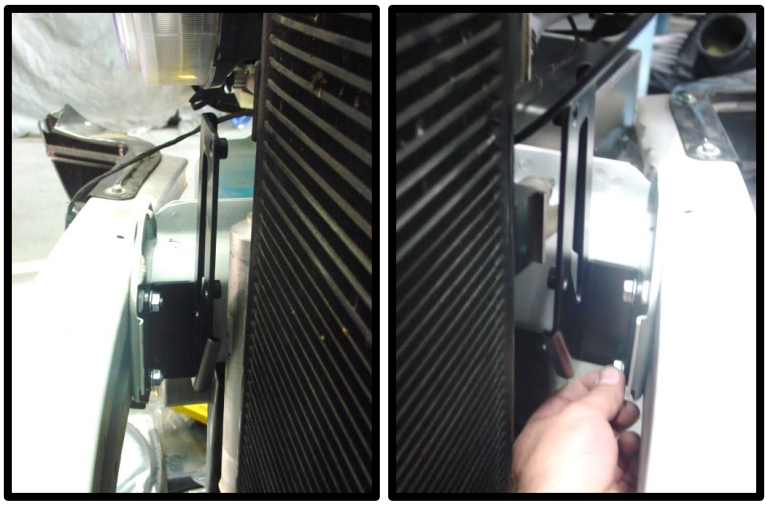
83. (**Early models**) Locate four 8mm flange hex head bolts from the Hemi LTR Shipping Bolt Bag (Part # HEMI-1104) and install only part way (about 6-8 threads showing for ease of bracket installation).



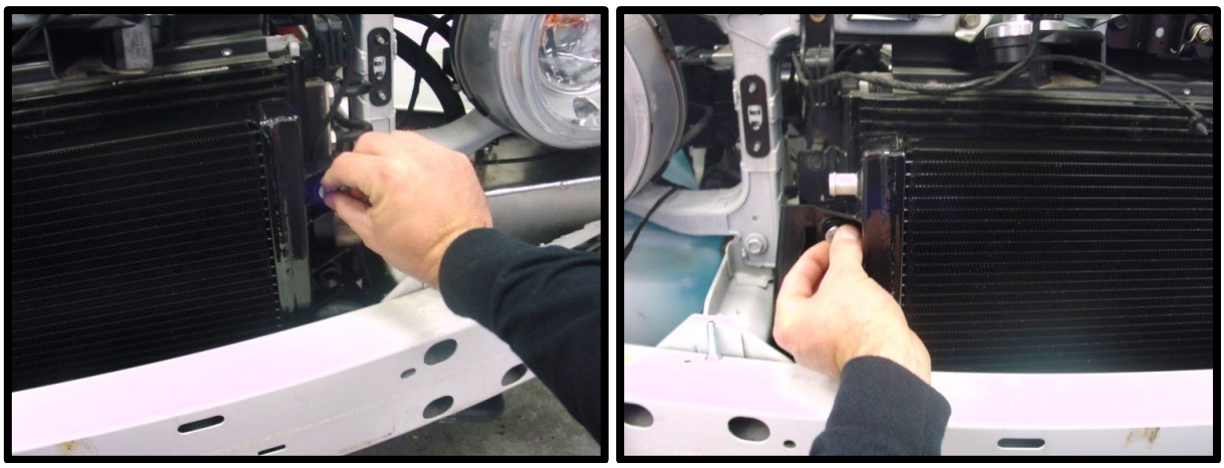
84. (**Early models**) Locate the passenger side and driver side heat exchanger brackets.



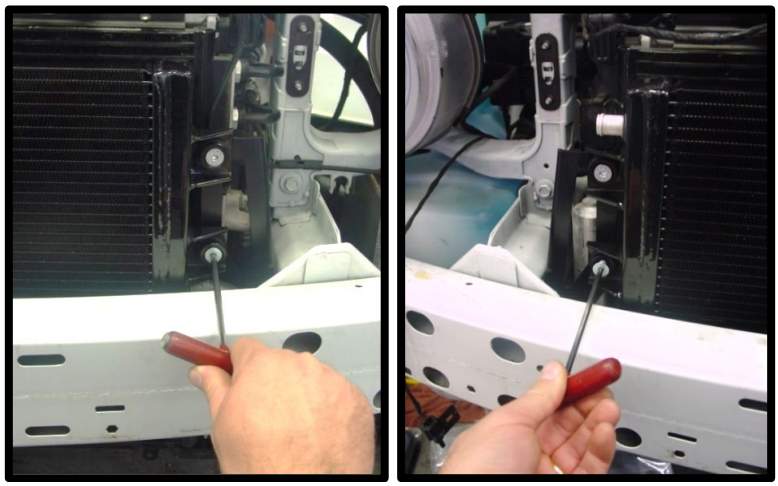
85. (**Early models**) Install the passenger side and driver side heat exchanger brackets over the previously installed 8mm bolts, secure with the supplied (2) 8mm flange nuts to just hold the bracket in place. The brackets will remain loose until all heat exchanger hardware is installed.



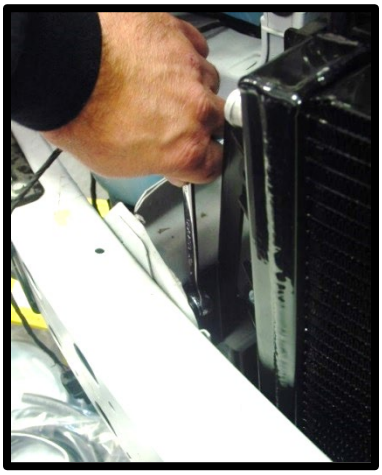
86. (**Early models**) Set heat exchanger behind bumper brace. Loosely install the upper two 8mm flat head socket cap screws on each side.



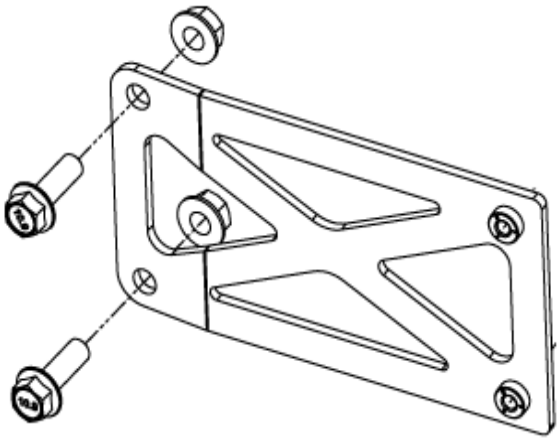
87. (**Early models**) Adjust the brackets as necessary to align the lower holes and install the final two 8mm flat head socket cap screws. Once centered, using a 5mm allen, torque the 8mm bolts to 18 ft/lbs.



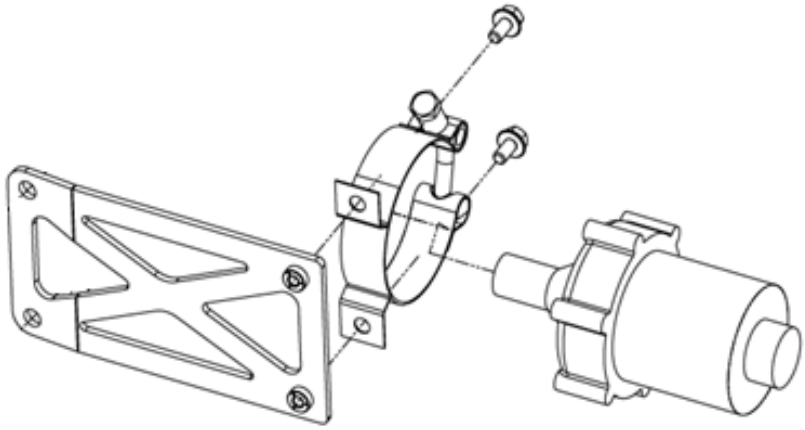
88. (**Early models**) Return to the four M8 flange head nuts on the heat exchanger bracket and, using a 13mm wrench, torque to 18 ft-lb. Alternatively, you may use a 13mm box/open wrench to tighten the nut snug plus ¼ turn.



89. Install intercooler pump bracket to LH side of front bumper support, under head light, secure using the supplied (2) 8mm x 25mm HHFCS through the bumper support outer bolt holes, secure bolt with the supplied (2) 8mm flanged nuts.

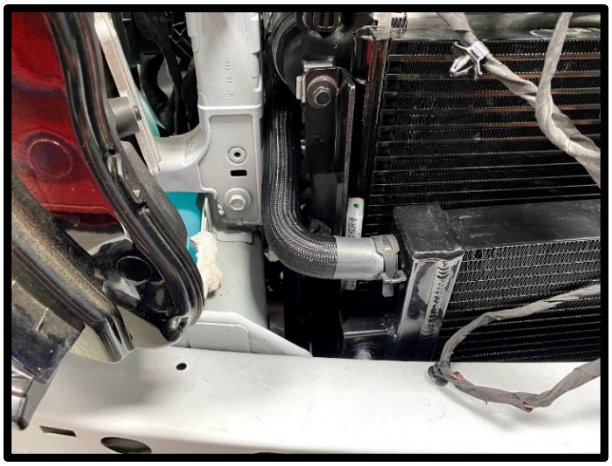


90. Mount IC pump to bracket, using the supplied T-Bolt clamp. Install rubber strip around OD of bump to rubber isolate in clamp. Secure clamp to bracket using the supplied (2) 6mm x 12mm HHFCS bolts.

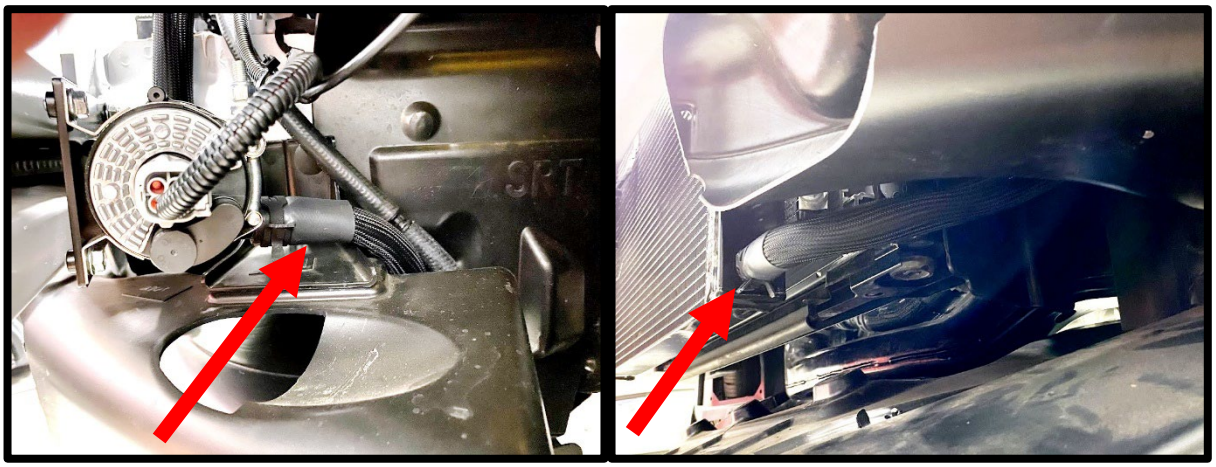


91. Test fit the 6.4L (when applicable) P/S heat exchanger. Use the supplied new mounts to relocate P/S heat exchanger just above Whipple heat exchanger.

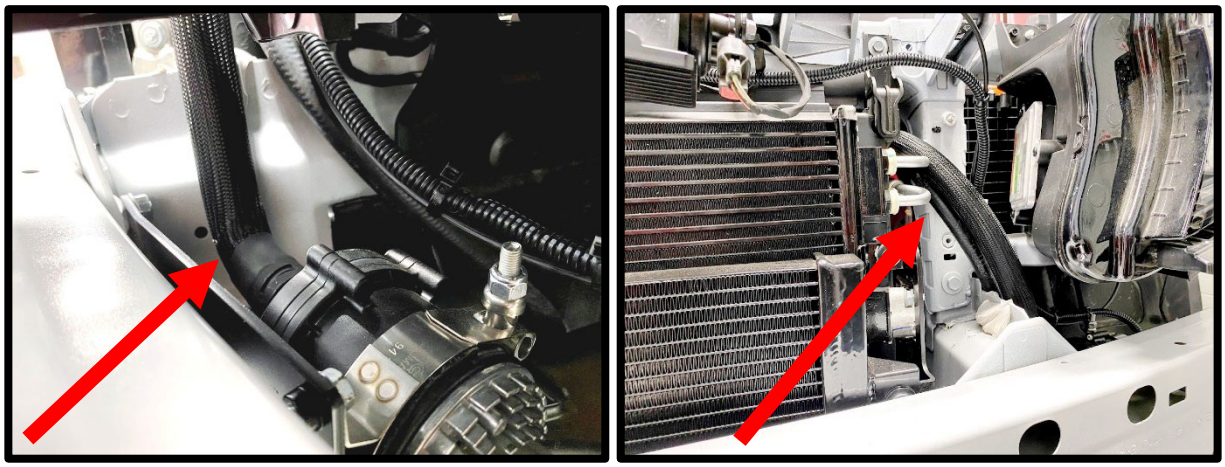
92. Install the supplied hose #3103094 to LTR outlet. Secure end with supplied constant tension clamp. Route to engine for later installation to intercooler inlet.



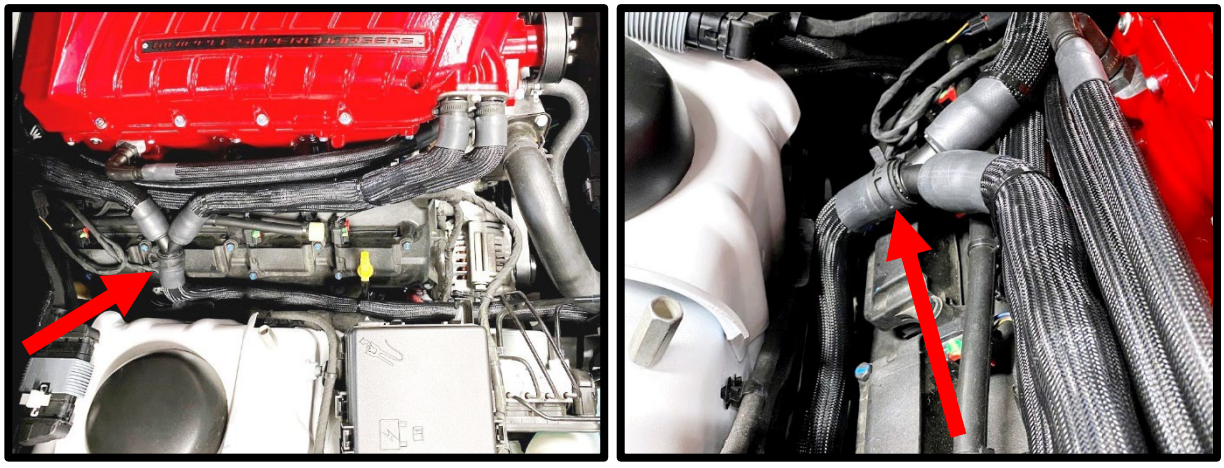
93. Install the supplied LTR feed hose #3103150 from the IC pump outlet to LTR inlet. Secure both ends with constant tension clamps. ***CAUTION: Ensure this hose can never KINK or rub a hole during operation.**



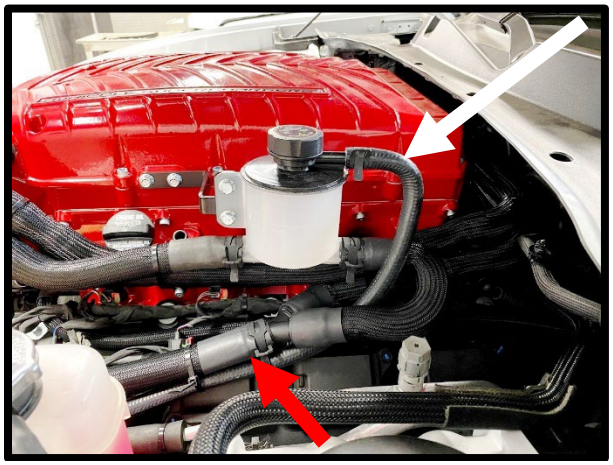
94. Install the supplied IC pump inlet #3103149 to filler reservoir hose to the IC pump inlet, secure with supplied constant tension clamp. Route this hose and the supplied reservoir vent hose between radiator and core support. Secure with zip-ties. ***CAUTION: Ensure this hose can never KINK or rub a hole during operation.**



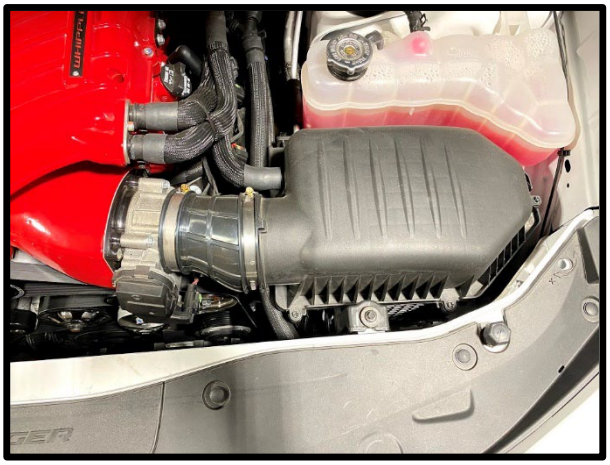
95. Connect the previously routed LTR outlet to the Y intercooler inlet. Secure with supplied constant tension clamp.



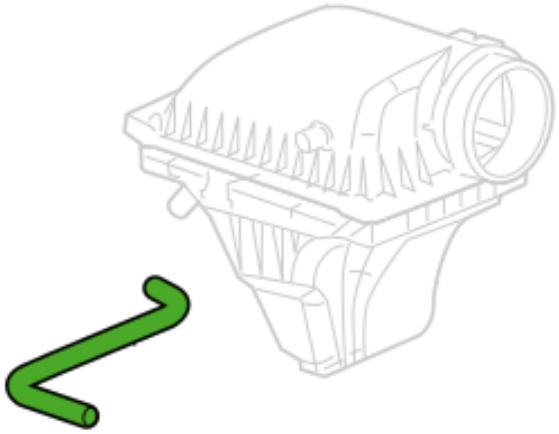
96. Connect the previously routed IC pump outlet hose to the filler reservoir Y fitting. Connect the filler reservoir breather hose to the filler reservoir top fitting. Secure ends with supplied constant tension clamps. Route down along the filler outlet hose, down away from exhaust. **NOTE: This can burp if system exceeds 10psi, do not run next to exhaust.**

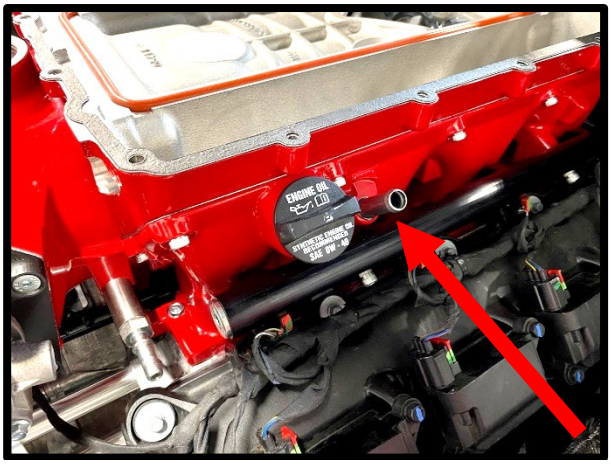


97. Install the supplied high flow filter to factory airbox lower. Install the air box and supplied rubber inlet hose to factory airbox and throttle body using stock clamps. Secure box using stock bolt with an 8mm nut driver.

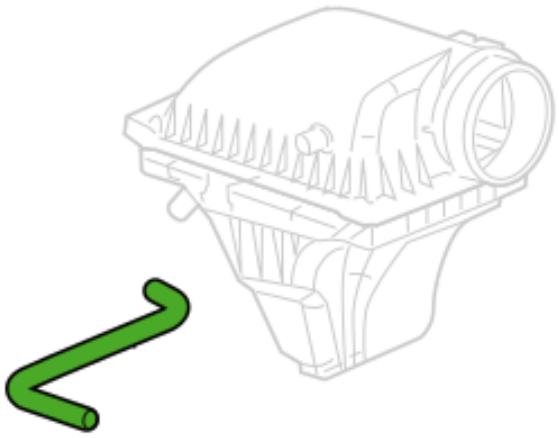


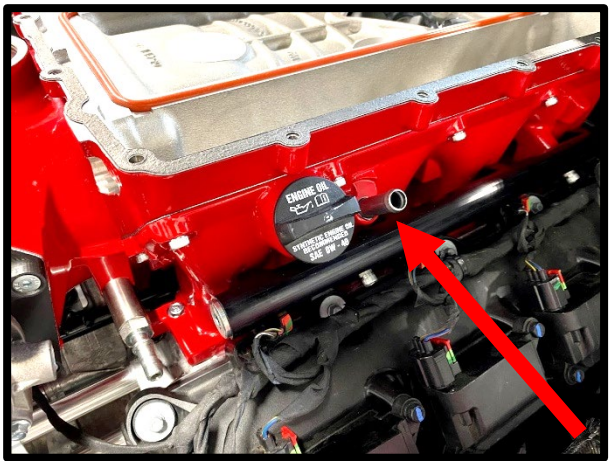
98. **(MY 06-10**) Locate stock make-up air hose. Install stock end to airbox lid. Install the supplied ½" hose coupler to end of hose. Install supplied 90deg rubber hose end to hose coupler. Install this to make-up air barb in manifold.



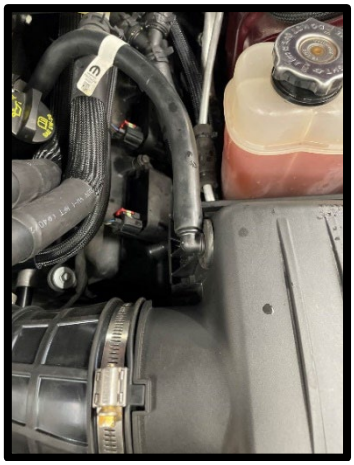


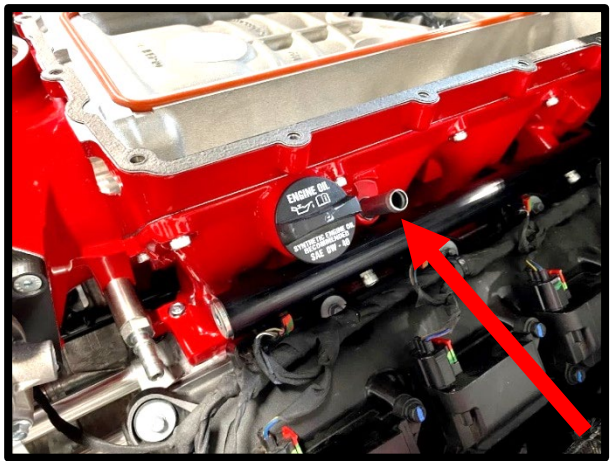
99. **(MY 11+**) Locate stock make-up air hose. Install stock end to airbox lid. Install the supplied ¾" to ½" hose coupler to end of hose. Install supplied 90deg rubber hose end to hose coupler. Install this to make-up air barb in manifold.





100. **(MY 2020+ 5.7L ONLY**) Locate stock make-up air hose. Using a 1" hole saw, drill a hole in the airbox. Using a air blade or similar, cut out the inside ribbing where you drilled the 1" hole. Install supplied 1" grommet. Install supplied ½" 90deg plastic adapter, then connect stock make up air hose.

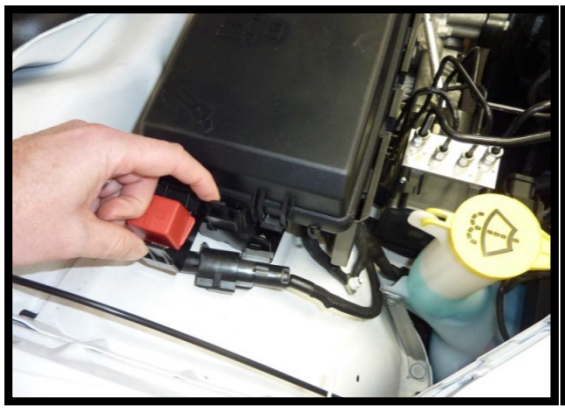


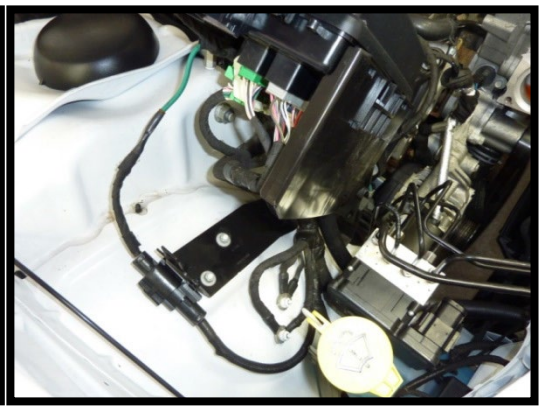


101. (**2006-2017**) Follow the included fuel pump installation instructions.

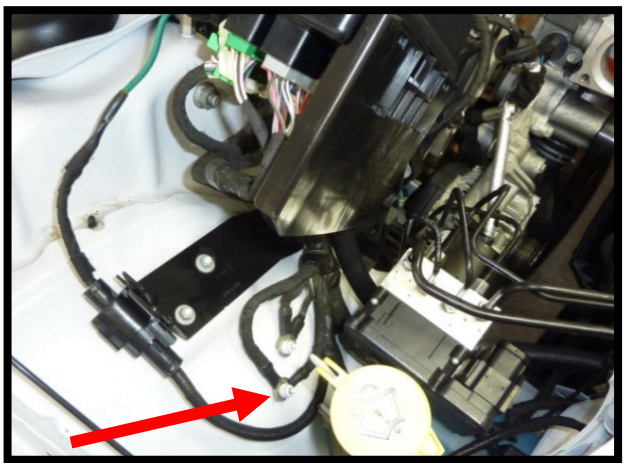
102. (**2018+**) Follow the included fuel pump booster installation instructions.

103. Release tab and lift up fuse center under hood for the intercooler relay harness installation.

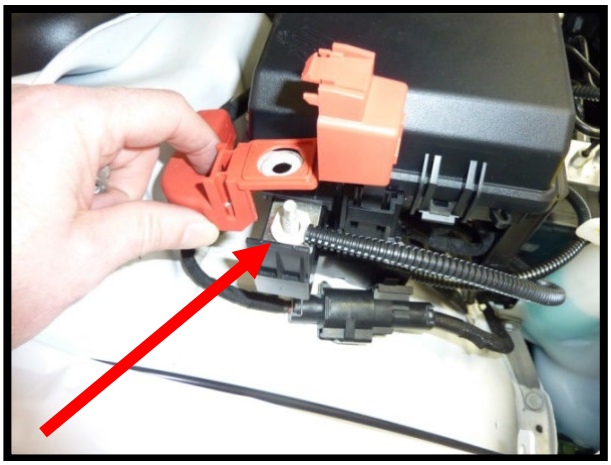




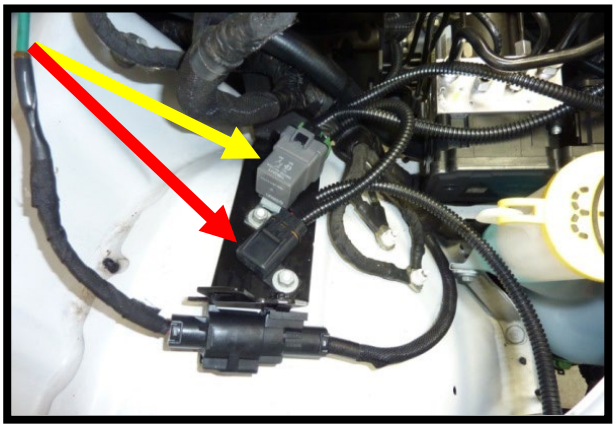
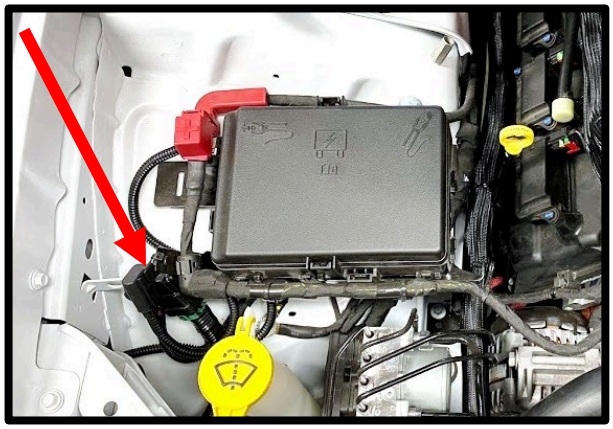
104. Bolt intercooler black ground wire to chassis ground on body next to fuse center it may be in different place depending on year or model.

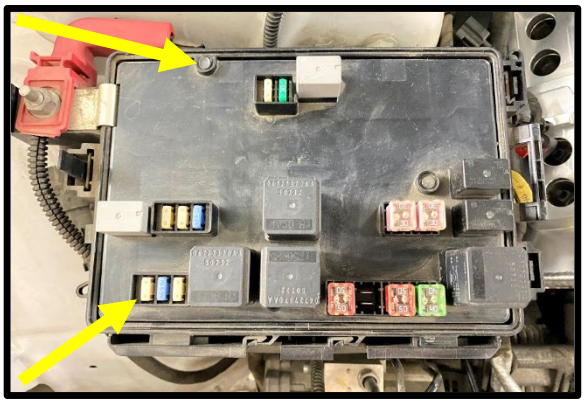
105. Remove red plastic power cover, install the intercooler relay power B+ eyelet to the factory power stud on fuse center.



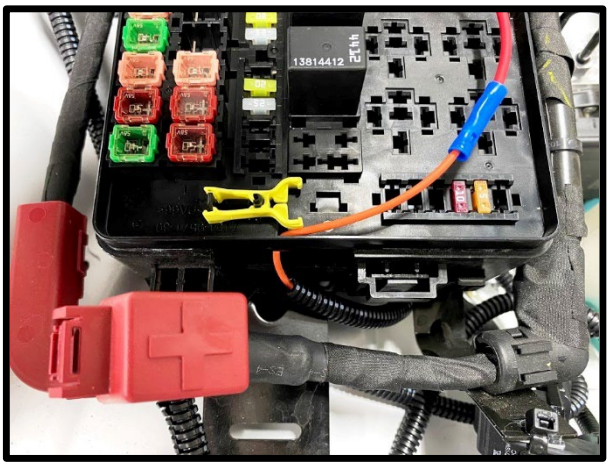
106. Mount intercooler relay and fuse holder on bracket under fuse center or to fuse box using a zip-tie.

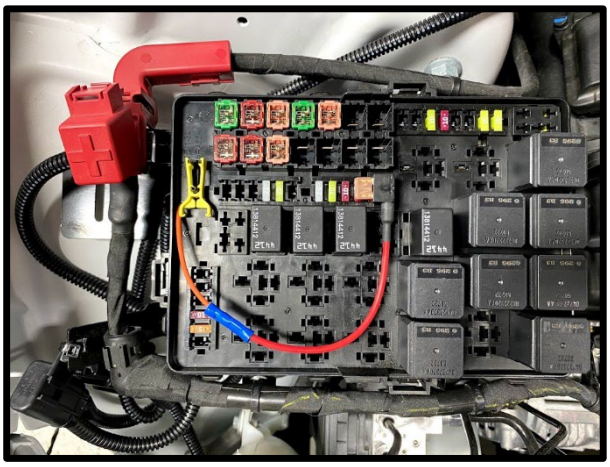



107. (**Early Fuse Box**) Locate the 25A fuse from location #6 (Ignition Coils/Injection). This will be the front most fuse on most applications. Install the 25A fuse into empty slot on fuse tap (under 5A). Install fuse tap in slot previously occupied by stock fuse. Use a 1/8" drill bit to drill hole in plastic rivet closest to the passenger side strut tower. Feed bare wire extending from the intercooler harness through the hole. Slide the supplied heat shrink over barrel crimp connector, use heat gun to shrink and seal connection.

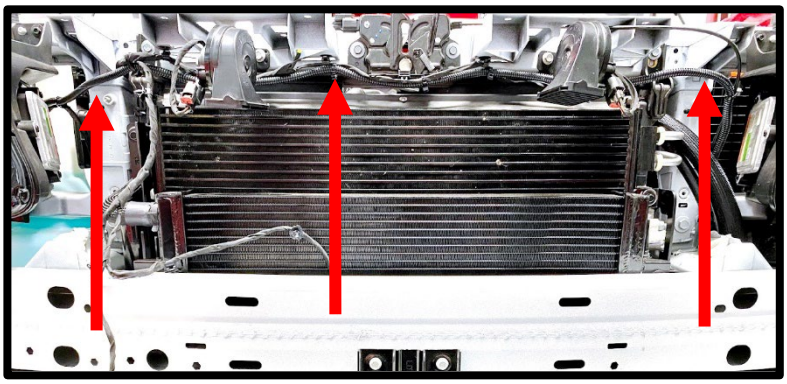


108. **(Later Fuse Box**) Feed the fuse tap wire through the opening of the fuse box as shown. Using crimpers, connect the fuse tap wire to the barrel connector. Slide the supplied heat shrink over barrel crimp connector, use heat gun to shrink and seal connection. Remove the stock 10A fuse from **location #39 Power Steering/AC Clutch**, install into supplied fuse tap in spot previously occupied by 10A fuse. Install fuse tap to **#39 Power Steering/AC Clutch.** This will have the stock 10A fuse and the supplied 5A for IC pump system. NOTE: Some vehicles are equipped with low profile micro fuses. In this case, use the 10A supplied fuse in the fuse tap and discard 10A stock micro fuse.

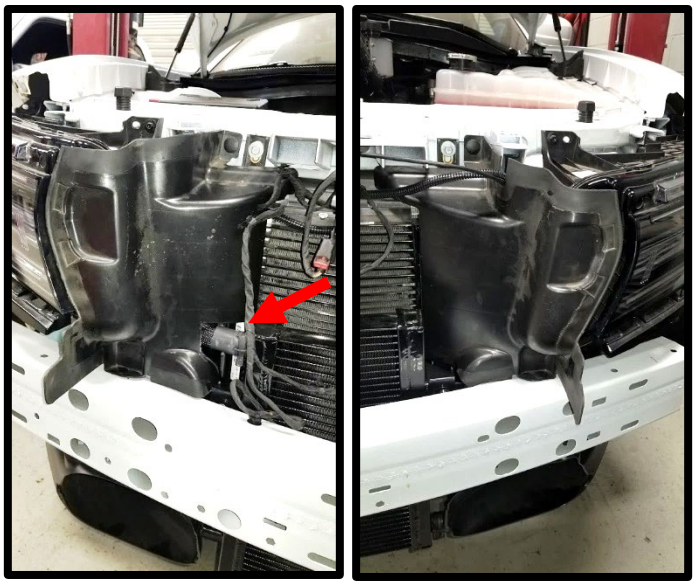




109. Route the intercooler 2-way connector harness across top of radiator, down to IC pump, secure with zip ties. Connect pump connector to pump, until it clicks and locks in place.



110. Mock up the front radiator closeouts (vary by vehicle type and model year). Cut to clear heat exchanger and intercooler hoses.



111. Mock up the front fascia to the front of the vehicle. Note that you may need to slightly notch the front grille area. There should be .25" clearance to the intercooler exchanger.

112. (Challenger) Reinstall the front fascia assembly:
    - Place the front fascia assembly into position and connect the fog lamp wire harness connectors if equipped.
    - Push the left and front side of the fascia into the fender mounted fascia mounting brackets.
    - Install the mounting fasteners that secures the front fascia assembly (9) to the inside of the front fender.
    - Install the belly pan.
    - Install the left and right front splash shields.
    - When applicable, reinstall factory air temp sensor using stock push pin.

113. (2006-2010 300/Charger) (2011-2014 300/Charger) require (1) set of sub-frame spacers to lower motor for hood clearance. Always check hood clearance before closing hood the first time.

114. (2006-2010 300) The hood needs to be notched to clear the SC.

115. 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 **Dodge/Chrysler/Jeep 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 DODGE/CHRYSLER/JEEP APPROVED ENGINE COOLANT, THIS WILL CAUSE CORRISION IN THE SYSTEM.** Start engine to completely fill system.

116. Attach the negative cable to the battery and tighten using a 10mm wrench.

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. If one is not available, the following procedure will be adequate, but the system must be checked after 2 heat cycles to verify proper operation.

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

118. 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 or any DCX approved coolant. 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.

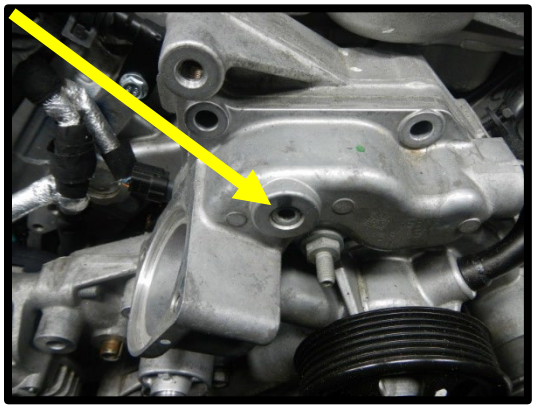
119. Turn the ignition to the **ON** position, after a brief delay, the electric pump motor will cycle (**06-10** models only run with engine running). Air bubbles will begin to rise to the filler tee as the coolant level drops, continue to fill while pump is running. Once its done filling, turn the ignition key **OFF**, the level will drop, top off with fluid. Reinstall filler cap and turn the ignition **ON** and let run for 60 seconds. Turn key **OFF**, remove cap to release air. Repeat until the filler tee holds at the cold fill level with key **OFF**. To build more pressure in the intercooler system, try squeezing the in and out intercooler hoses while the pump is running. Building pressure in the system will help push the trapped air from the intercooler system to the filler tee. 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.

120. 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!***

121. 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. ***TIP: 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.

122. Start the engine and let idle. The engine should idle normally between 600-700 rpm at normal operating temps. Inspect for leaks. You will need to remove the factory plug from the water pump housing to relieve air pockets. **NOTE:** Vehicles that have hose and fitting here, run hose into cup until system is bled.



123. 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. Add coolant to fill the system.

124. Before driving, make SURE that you have **91 [(RON+MON)/2]** 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.

125. DO NOT use aftermarket cold air kits or duct with the supplied Whipple calibration. The Whipple calibration is designed to work with the Whipple cold air intake system or the factory air box with high flow filter only. Changes to the air inlet system could cause potential issues with the calibration and performance. Aftermarket throttle bodies are not supported with the Whipple calibrations.

126. Clean the inner area of the gas door with acetone. Attach the "**91 OCTANE OR HIGHER**" decal to the gas tank fill cap or door.

127. Install the supplied emissions decal next to factory emissions decal.

128. If you would like to install a boost gauge, there is an extra 1/8" NPT port located on the passenger side of the supercharger runner.

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

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

131. Re-check SC oil level regularly over the first 1,000 miles, level may drop very slightly as it fills the bearings and cavities.

132. After the initial test drive, go through the belt tensioner process again. During your second 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 or the wrong/old spark plugs.

133. If you have questions about your vehicle's 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. Whipple does not offer custom tuning for modified engines.

⚠ 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 guidelines:

1. When changing engine oil, remove the catch can from intake manifold for proper filling.
2. Use only premium grade fuel (91-octane or higher). (RON+MON)/2 is the US spec on fuel.
3. Always listen for any sign of spark knock or pinging. If present, discontinue use immediately and consult your vehicle owner's manual.
4. 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.
5. 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.
6. Change the oil in the supercharger every 100,000 miles. Use Whipple SC approved oil only.

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

7. 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.
8. Inspect and clean your high-flow air filter element every 7,500 miles.
9. Inspect and replace spark plugs every 10,000 miles. Only run specified plugs.
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.

IMPORTANT INFORMATION

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). Higher boost levels must run higher octane levels and are not supported.

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 calibration changes, due to emission laws, this **CANNOT** be supported by Whipple.

FUEL SYSTEM
The Whipple fuel system (FLOW) needs no additional changes for power levels supplied by Whipple. Stock fuel PSI is 58psi, this will drop to 51-53psi at WOT due to stock fuel line. If lower, the fuel pump or filter may have an issue.

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). All boosters are hard on spark plugs and should never be used on consistent basis.

ENGINE COOLANT
Whipple recommends running a 50/50 mix of distilled water and coolant. The engine temp should run between 195-205deg F under normal driving conditions. The fans are turned on at an earlier temp to promote cooler operating temps. We also recommend 1-2 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.

CONGRATULATIONS

Your new Whipple Supercharger is engineered to significantly increase your engine's 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 regard to the limited warranty. NOTE: Whipple Superchargers will not authorize any warranty repair work or supercharger replacement for normal noise