SUPERCHARGER INSTALLATION MANUAL

2023 BLACKWING-V

PART NUMBERS: WK-1035-30, WK-1035-32

WHIPPLE SUPERCHARGERS
3292 NORTH WEBER AVE
FRESNO, CA 93722
TEL 559.442.1261
FAX 559.442.4153
WWW.WHIPPLESUPERCHARGERS.COM

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

CALIFORNIA AIR RESCOURCE BOARD EXECUTIVE ORDER# PENDING

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

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

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

INTRODUCTION

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

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

RECOMMENDED TOOLS AND SUPPLIES

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

Tools

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

Tie Straps

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

Sealants, Chemicals and Lubricants

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

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

PRE-INSTALLATION CHECKLIST

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

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

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

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

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

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

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

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

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

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

SAFETY PRECAUTIONS

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

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

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

GLOSSARY OF TERMS

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

WARNING

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

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

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

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

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

SUPERCHARGER INSTALLATION INSTRUCTIONS

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

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

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

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

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

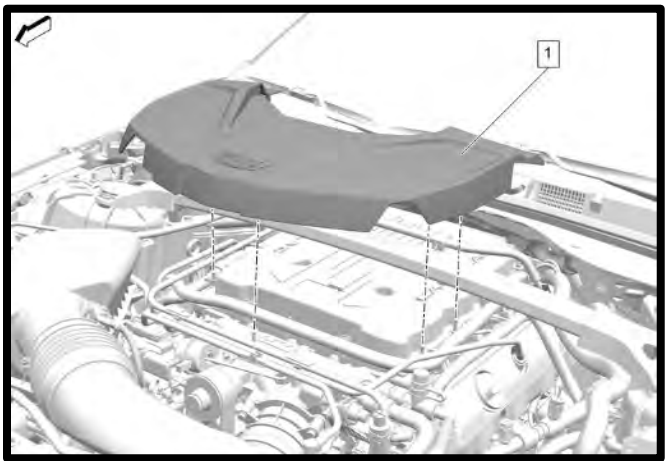
2. Disable fuel pump control module by removing fuel pump fuse located in fuse box. Start vehicle and allow engine to run until the engine stops. Attempt to restart vehicle to ensure pressure has dropped.

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

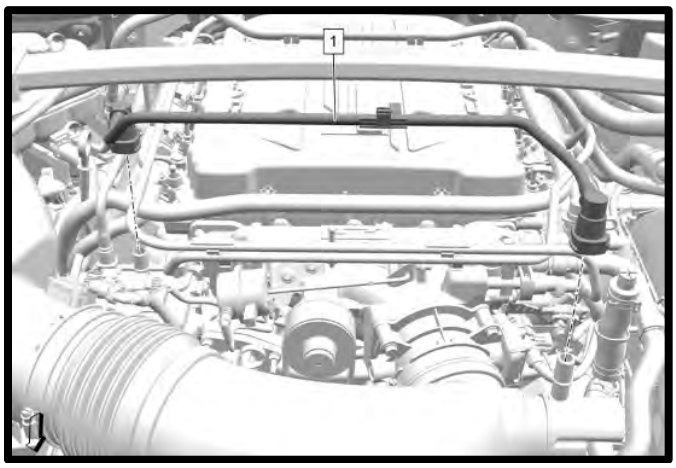
4. Locate the battery in the trunk by removing the access door on the passenger side. With an 8mm wrench disconnect the (-) negative battery cable. Make sure the cable is far enough away from the battery that it does not accidentally touch the battery and make connection during the installation.

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

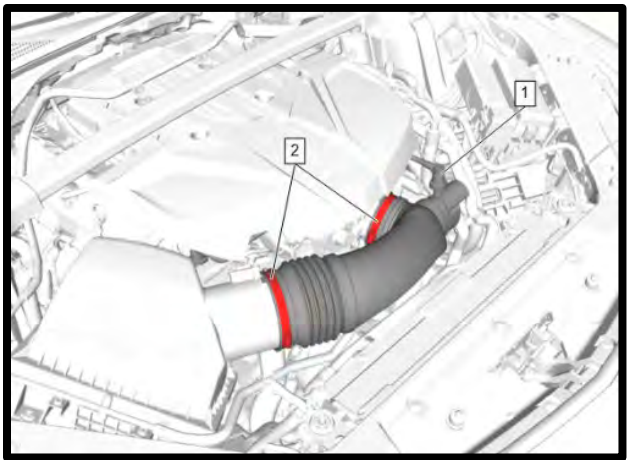
6. Lift cover from supercharger by pulling up.



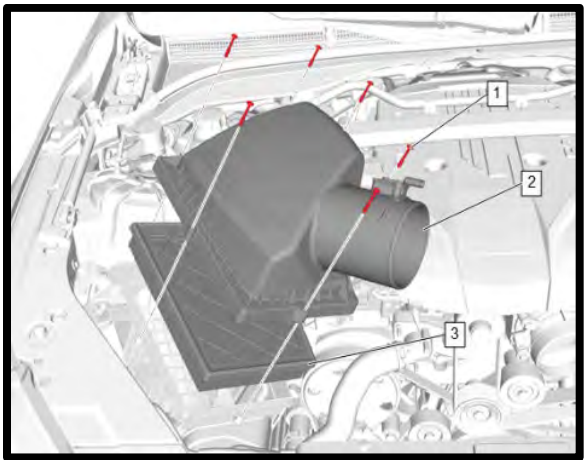
7. Disconnect the make-up air tube from the air inlet tube and catch can. Remove the factory air inlet tube and airbox lid from the engine (5/16" nut driver).



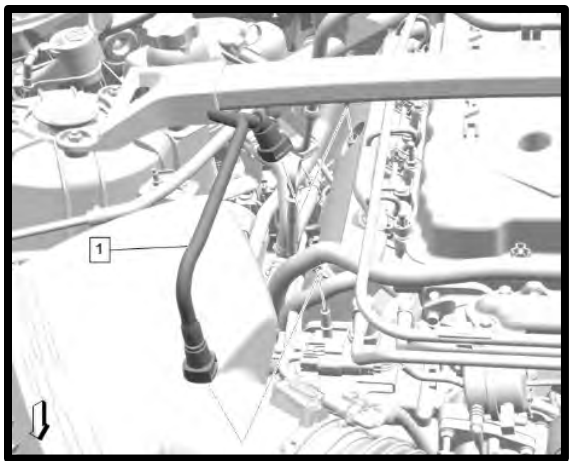
8. Using a 5/16" nut driver, remove the 2 clamps securing the air tube between throttle body and air filter box. Lift and remove away from engine.



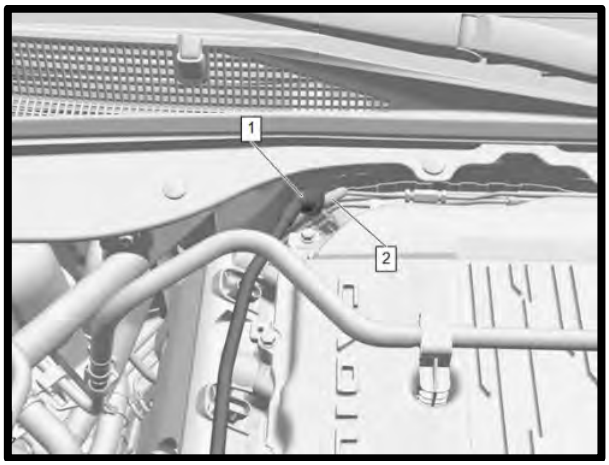
9. Disconnect the MAF electrical connector from MAF housing. Using a Phillips screw driver, remove the 6 screws securing airbox lid to the lower. Remove this lid. **Note:** Changing the airbox makes the supercharger system non-emissions legal.

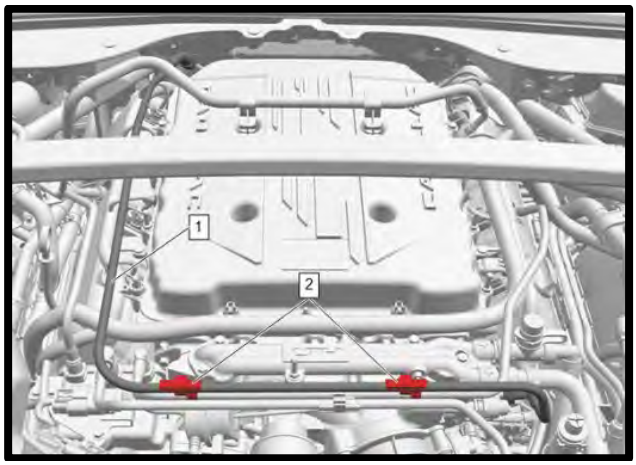


10. Remove the PCV fresh air tube from the RH side valve cover and RH side catch can.

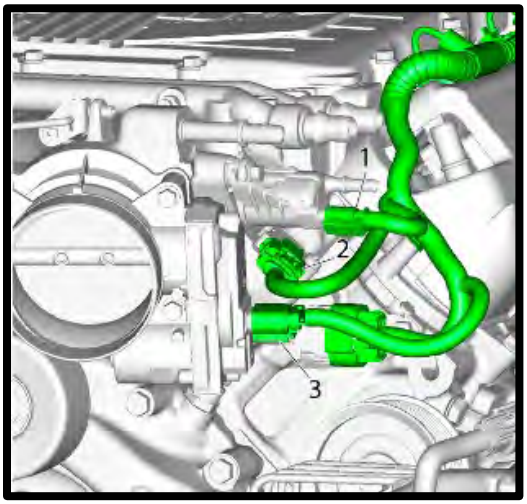


11. Remove the EVAP hose from the vent line at the back of the engine to the EVAP solenoid on the driver side front of SC.

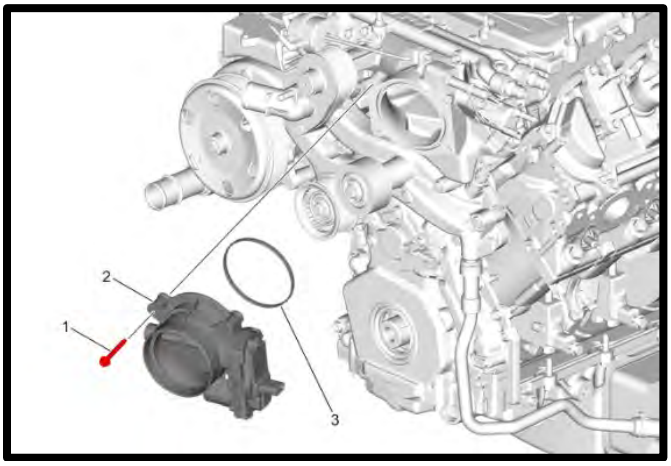




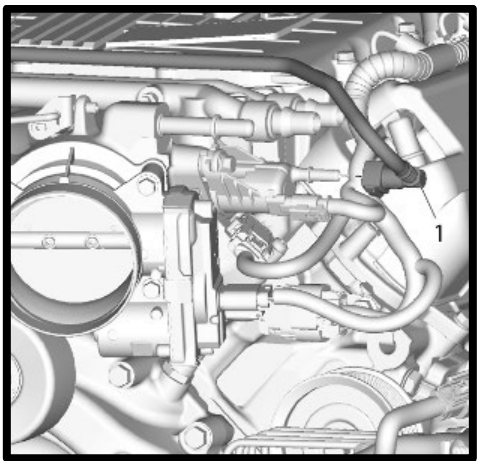
12. Disconnect the (3) electrical connectors.

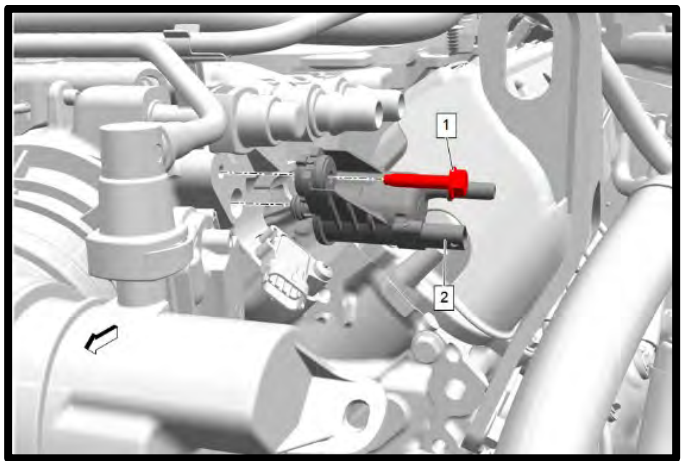


13. Disconnect the electrical connector from the throttle body. Remove the throttle body from the engine by removing the (4) bolts using a 10mm socket.

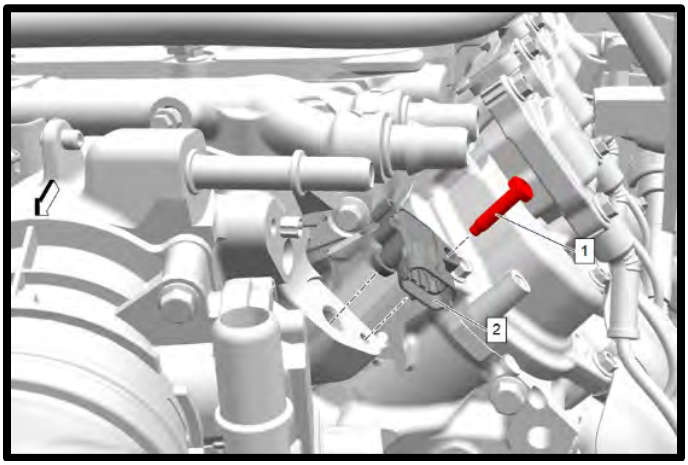


14. Disconnect EVAP solenoid electrical connector. Using a 10mm socket, remove EVAP solenoid from SC inlet.

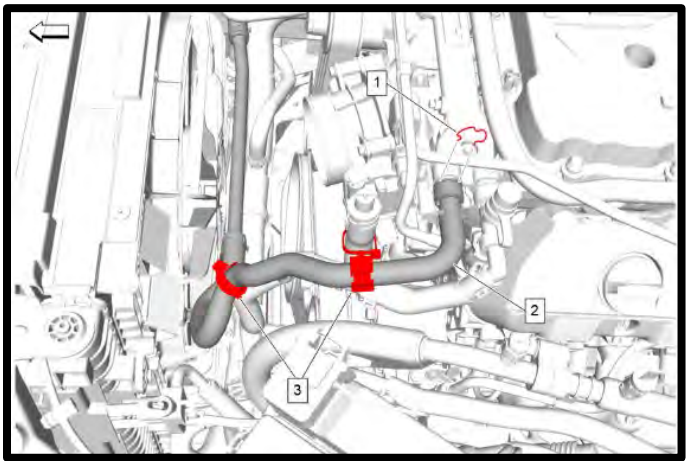




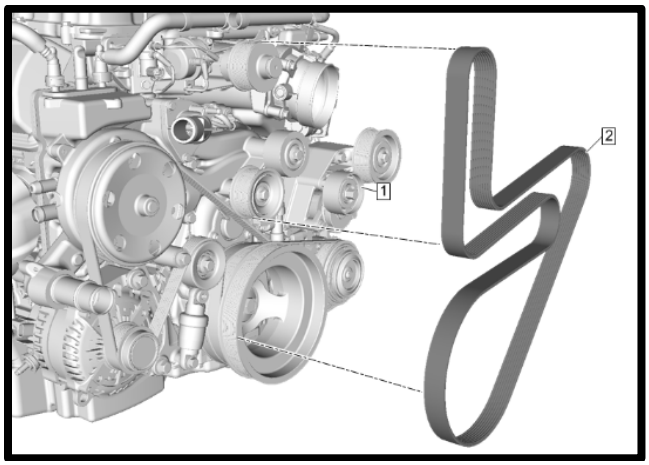
15. Disconnect the SIP (Supercharger Inlet Pressure) MAP sensor from the inlet.



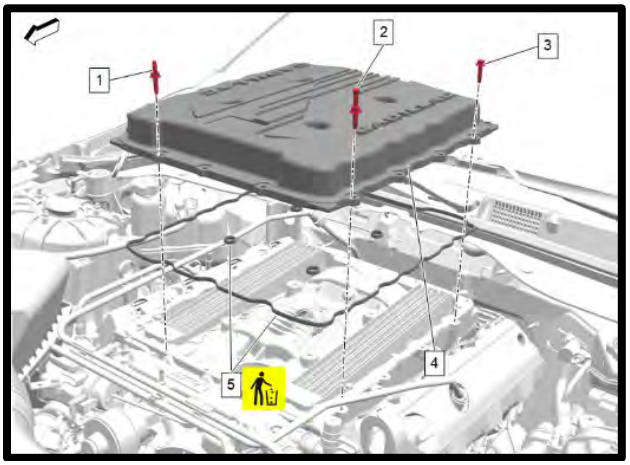
16. Install a drain pan under the driver side of engine. Remove the (2) intercooler inlet/outlet fittings from the factory IC water distribution block which connects to stock transfer pipe across radiator area and to IC pump inlet.



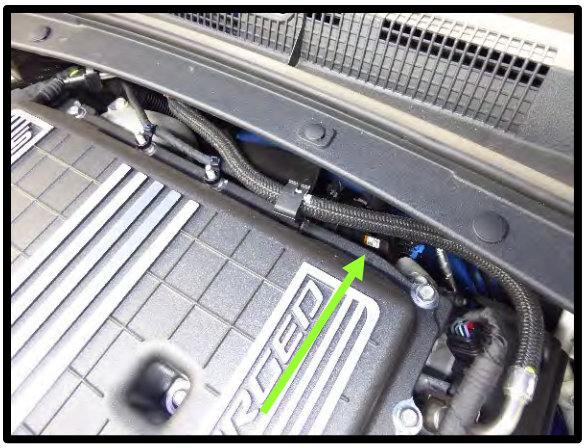
17. Using a 15mm socket or tensioner, release tension from spring loaded tensioner and remove the SC belt.



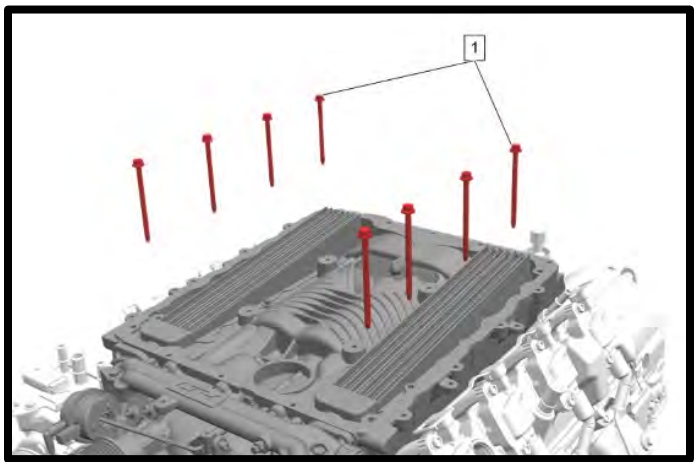
18. Using a 10mm socket, remove the stock bolts securing factory SC lid. Carefully lift up and out of the way.



19. Disconnect the factory post SC MAP sensor from the back of intake manifold, passenger side.



20. Using a 10mm socket, remove the (10) bolts from the supercharger (8 inside, 2 outside).

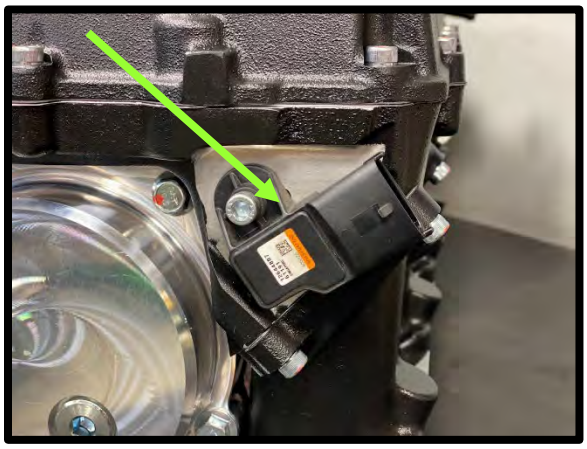


21. Carefully lift the stock supercharger off and away from engine.

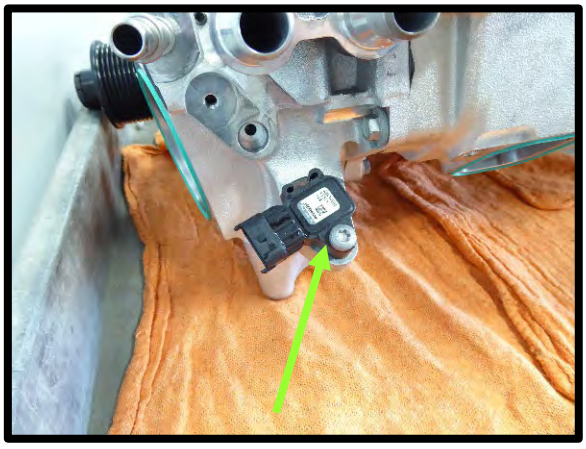
22. Clean the intake manifold surface using carb cleaner or other like chemicals. Cover intake ports with masking tape or duct tape. Remove the sound dampening material from the valley of the block, this will not be reused.

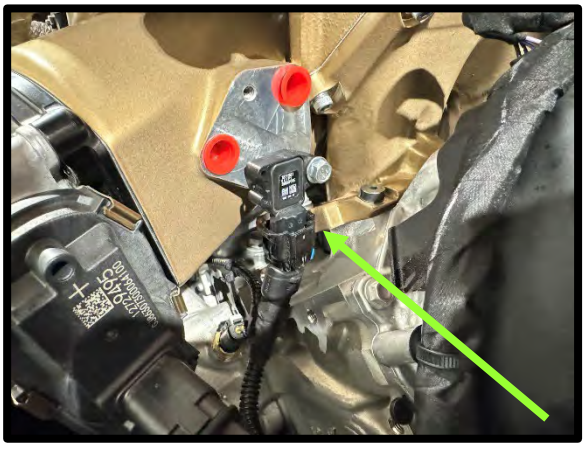
23. **HIGHLY RECOMMENDED**. Replace stock spark plugs with new OEM replacement plugs, #12642722, **gap at .032"**. Apply a small amount of anti-seize on the threads. Torque to 11 ft-lbs

24. Using a T30 Torx socket, remove the factory post SC TMAP sensor (3-bar). Install the LT4 3-bar map sensor to the supercharger. Apply light amount of grease to oring before installing. Secure to manifold using the supplied 6mm x 20mm SHCS. Torque to 89 in-lbs.

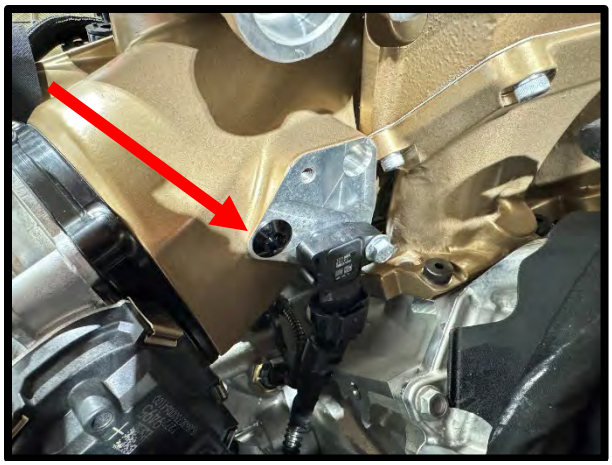


25. Using a T30 Torx socket, remove the factory pre-SC MAP sensor (SIP 1-bar). Install into the boss located at the top of the inlet of the Whipple SC. Apply light amount of grease to oring before installing. Secure to manifold using the supplied 6mm x 20mm HHFHCS. Torque to 90 in-lbs. Reconnect factory SIP sensor electrical connector.

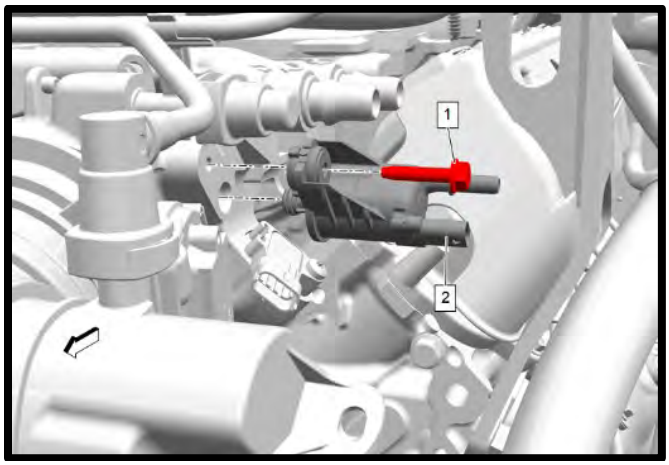


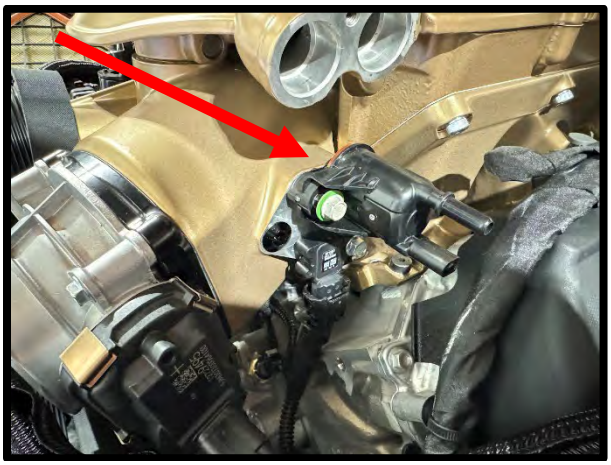


26. Install the supplied -6 ORB plug with #2-906 Viton oring to the inlet casting port.

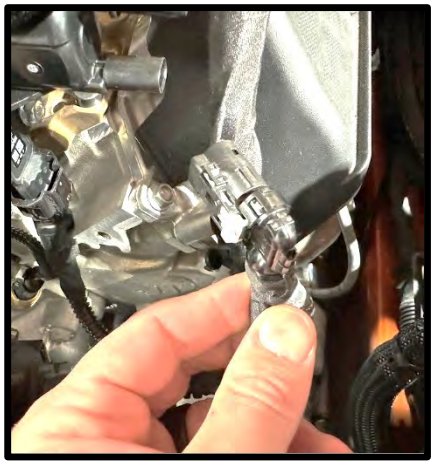


27. Install the factory EVAP solenoid to the inlet casting. Secure using the factory hex head bolt, torque to 96 in-lbs (10mm socket).

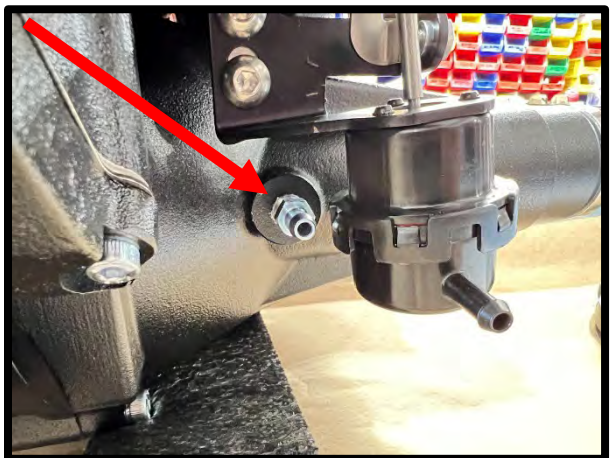




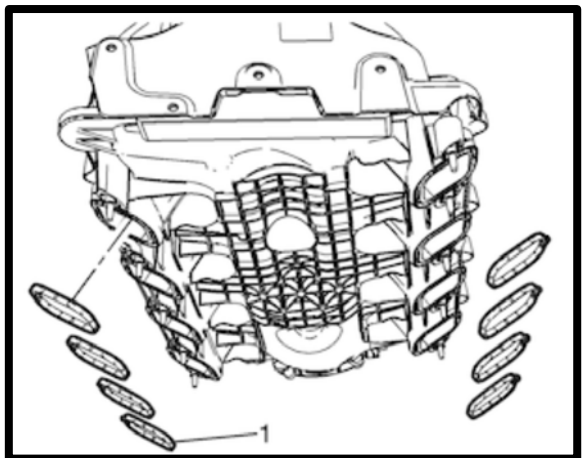
28. Using a small screwdriver, open the 90deg harness strain relief and remove. Rotate strain relief 180deg and reinstall. Connect to EVAP sensor.

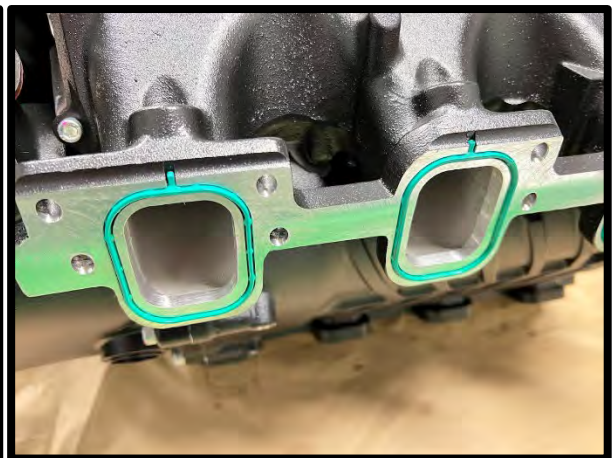


29. Apply light amount of pipe Teflon to threads of supplied 1/8" NPT to ¼" barb fitting. Install fitting to RH 1/8" NPT port on SC inlet.

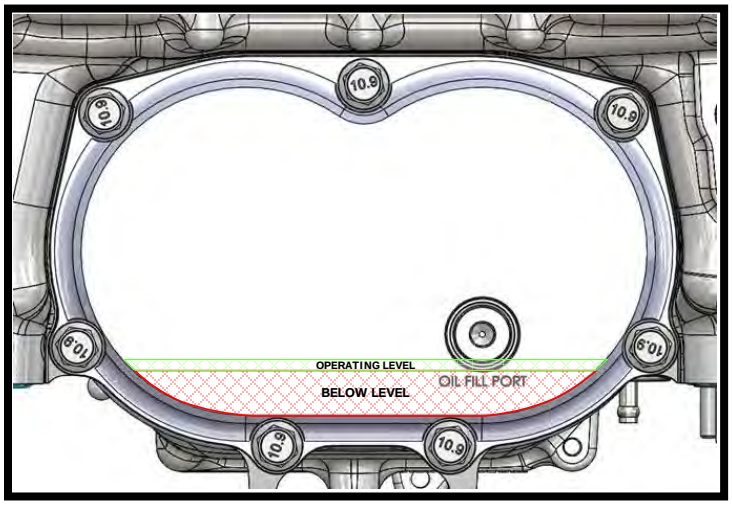


30. Remove the factory orings from the intake manifold (8). Clean and inspect orings, replace torn or damaged orings as needed. Install into the new runners. Apply light amount of grease to oring for ease of installation.

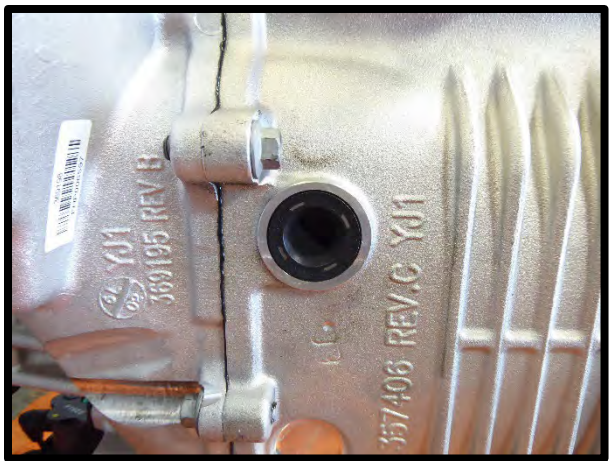




31. Make sure the supercharger is on a flat surface. Remove the oil fill plug using an 8mm allen socket.
    - Fill the compressor to the **BOTTOM** of the fill plug (**4.0 FL/OZ**). Rock compressor back and forth. Then spin the compressor/rotors by the pulley so the oil fills the bearings. **NEVER OVER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

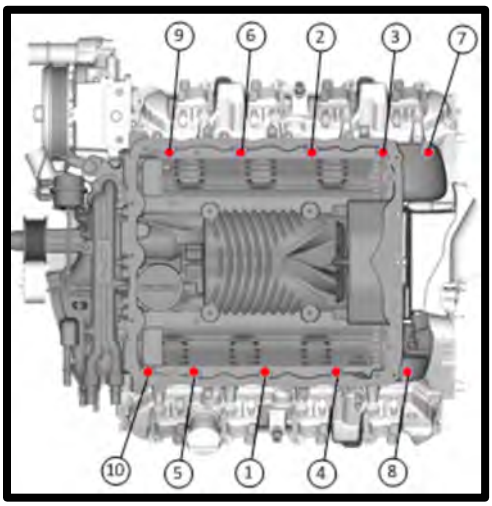


32. Apply light amount of grease to PCV grommet pre-installed into supercharger inlet.

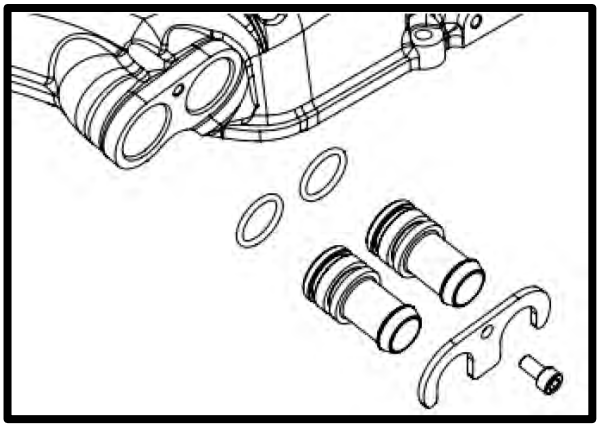


33. Carefully set the supercharger assembly onto manifold. Be cautious of manifold orings while setting on engine. The wiring harness will need to be pulled back to allow SC to drop down.

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



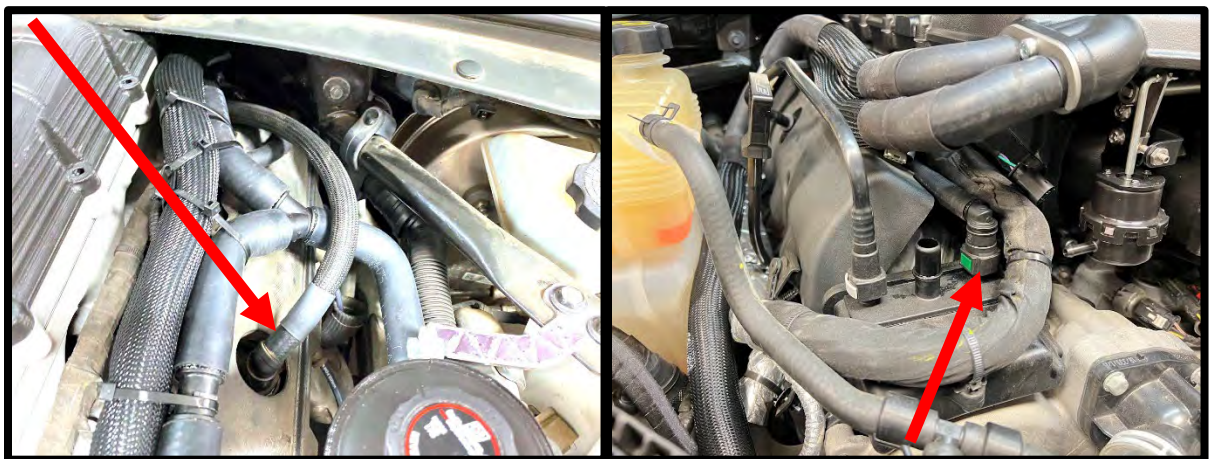
35. Install (4x) 2-117 IC fitting orings to the (4x) IC fittings. Apply grease to the (4x) 2-117 IC fitting orings. Slide fittings into lid. Secure fittings with supplied fitting retainer bracket and (2x) 6mm x 12mm SHCS bolt. Torque to 80 in-lbs.



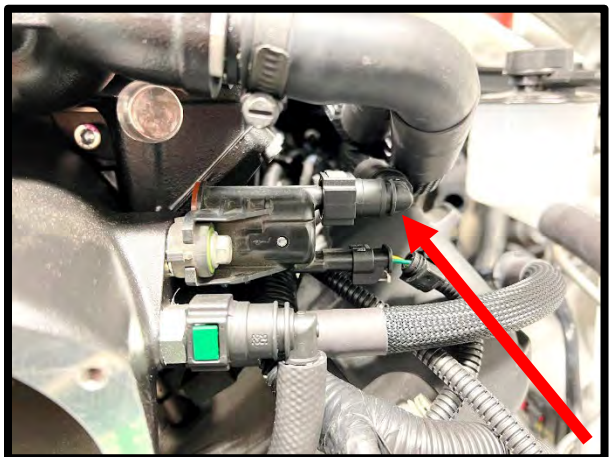
36. Reconnect factory fuel feed hose to stock fitting.

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

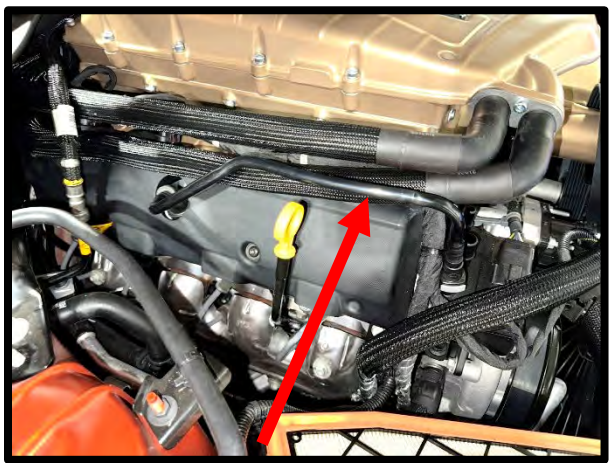
38. Install the 3/8” x 45” vent hose 45deg fitting in driver side valve cover. Route hose around the back and then around to the RH side of engine. Connect other end to OEM catch can, center most fitting as shown.



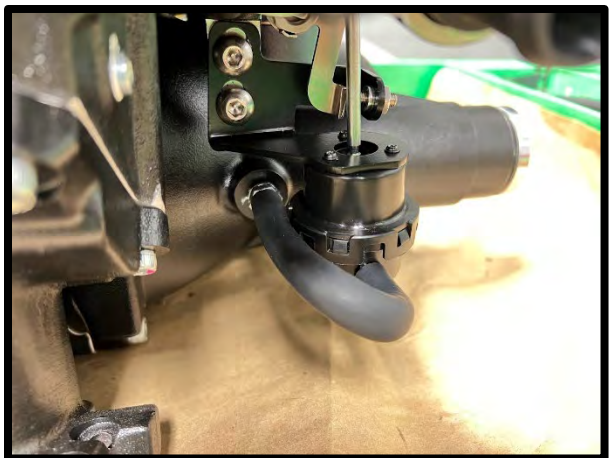
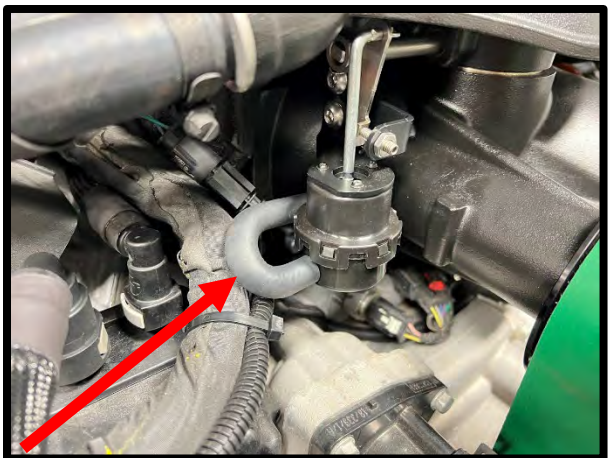
39. Connect the 3/8” x 45” EVAP hose previously routed to the EVAP solenoid.



40. Reconnect stock make-up air hose from RH valve cover to factory catch can.

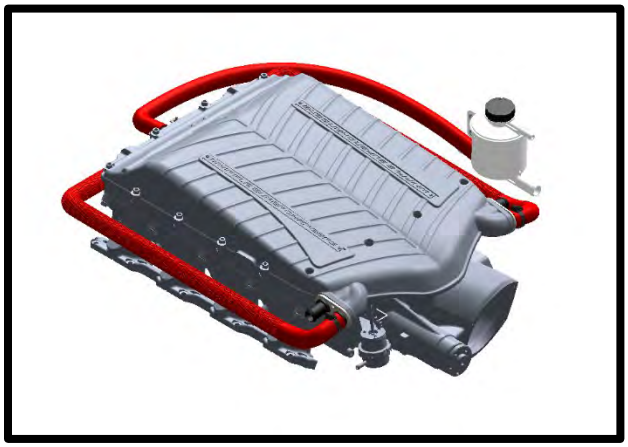
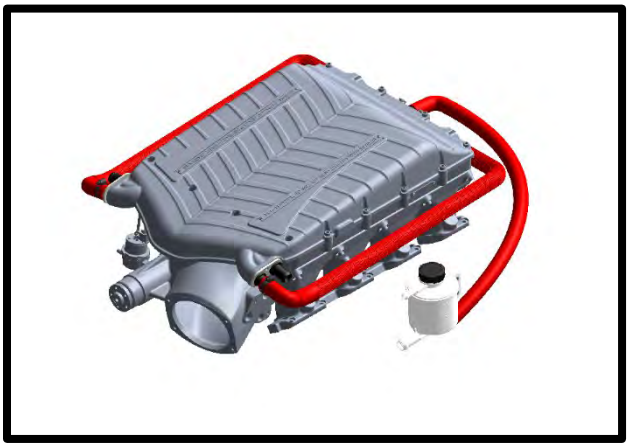


41. Install supplied u-bend ¼" bypass vacuum hose from bypass to SC inlet 1/8" NPT to ¼" barb fitting.

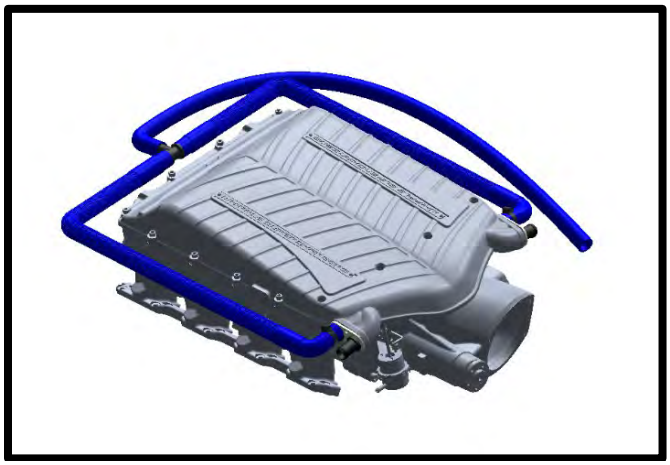



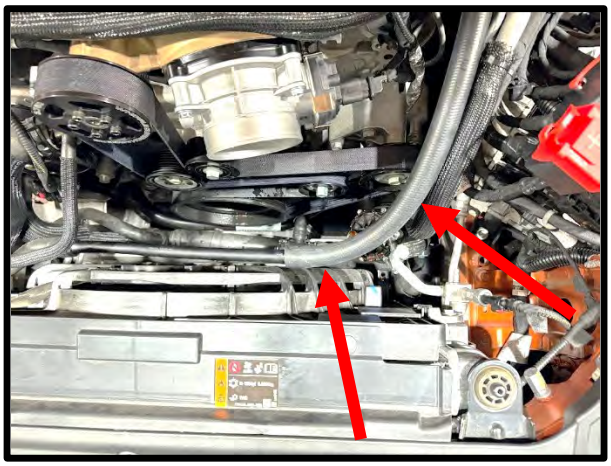
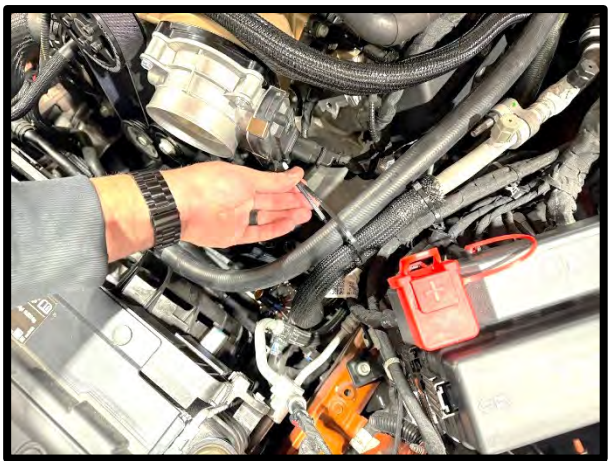
42. Install filler reservoir to filler bracket previously installed. 3/8" barb faces forward. Secure using supplied (2) 6mm x 12mm HHFCS.

43. Install the supplied preformed IC outlet hose #3103182 to the RH front fitting. Route around the back of the SC to supplied TEE fitting. Install the supplied hose #3103182 to RH side front IC inlet fitting. Install supplied ¾" hose to TEE fitting and route to rear fitting of the reservoir. Secure hose to the IC inlet fittings with supplied black 16mm-27mm black worm clamps. Secure other ends with supplied #16 pinch clamps. **NOTE**: **DO NOT MIX UP!**

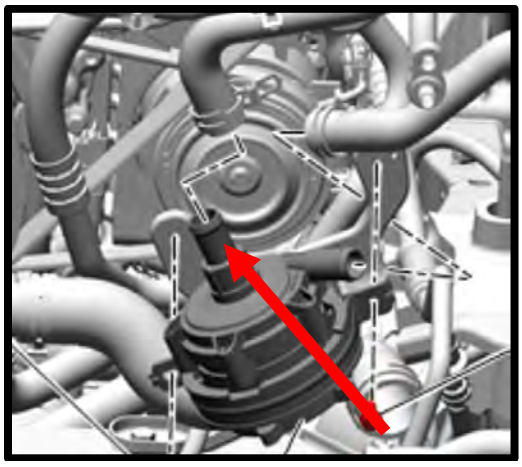
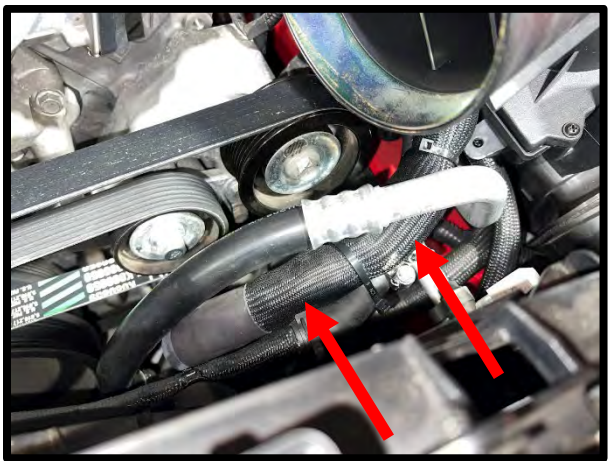



44. Install the supplied preformed IC inlet hose to the LH rear fitting. Route around the back of the SC to supplied TEE fitting. Install the supplied hose #3103182 to RH side, rear IC inlet fitting. Route to the back of SC, secure to the TEE fitting. Install supplied ¾" x 45" hose with 90deg to Tee fitting and secure these with the black 16mm-27mm black worm clamps. Route to front of engine and secure to stock tube going across fan area. Secure with stock clamp. Secure line to AC hose using zip-tie. **NOTE**: **DO NOT MIX UP!**



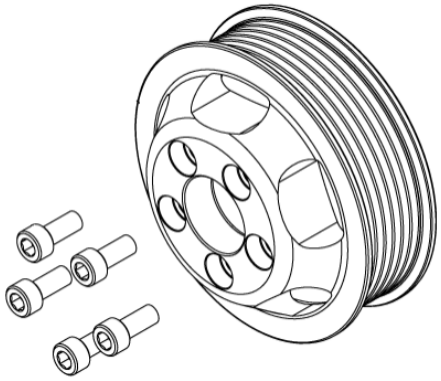



45. Install the reservoir to IC pump ¾" hose from reservoir to IC pump top barb fitting. Secure hose to reservoir using #16 pinch clamp and to pump using stock clamp. Secure hose away from idler and belt with zip-ties.

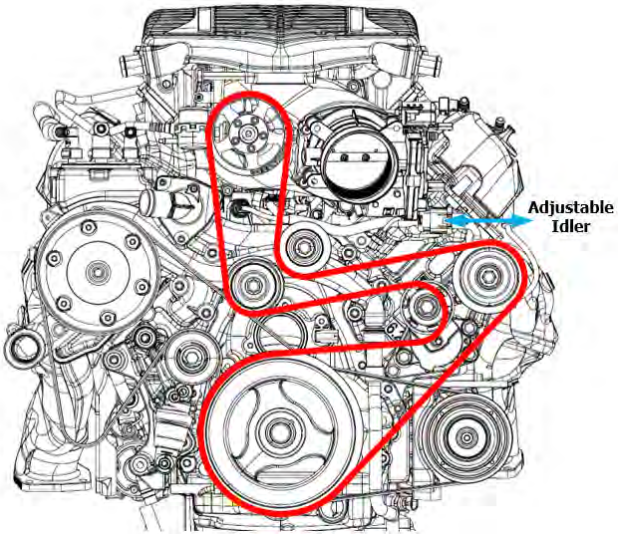



46. Install the 3/8" preformed hose to the filler reservoir 3/8" barb. Route along the IC feed hose, away from the belt, then down towards bottom of radiator. Secure with supplied #12 pinch clamp. **NOTE:** This is a 15psi system, this line can burp fluid in the event of an IC system failure or improper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

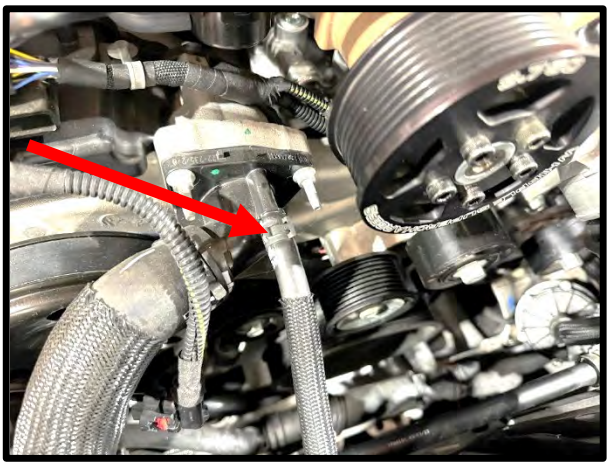
47. Install the supplied supercharger pulley using the supplied (5) 6mm x 14mm SHCS to secure. Torque to 119 in/lbs using a 5mm allen socket. Use the 6-rib belt to hold the pulley in place to torque. **NOTE:** Loctite or thread locker is not required or needed.



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

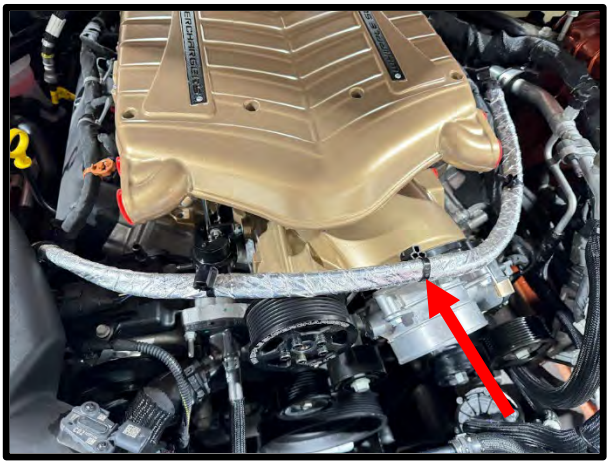


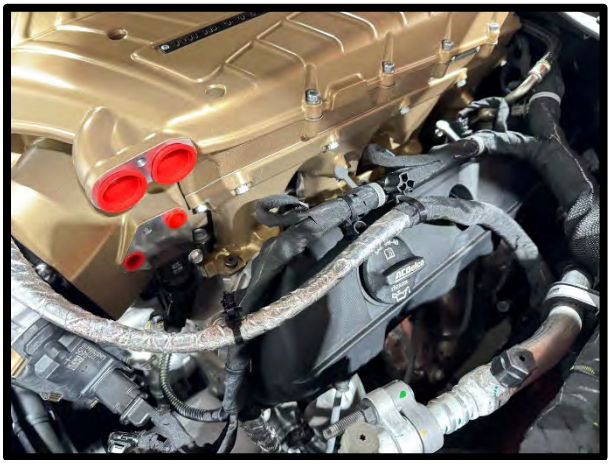
49. Verify that the factory thermostat housing vent line hose clamp is not facing the supercharger belt, if so, rotate out of the way.



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

51. Remove the factory plastic retainers from factory wiring loom.





52. Install the supplied split sleaving to the factory wiring harness.

53. Install factory make-up air hose from middle catch can fitting to air inlet tube. Secure wire loom to this hose above supercharger using zip-ties.

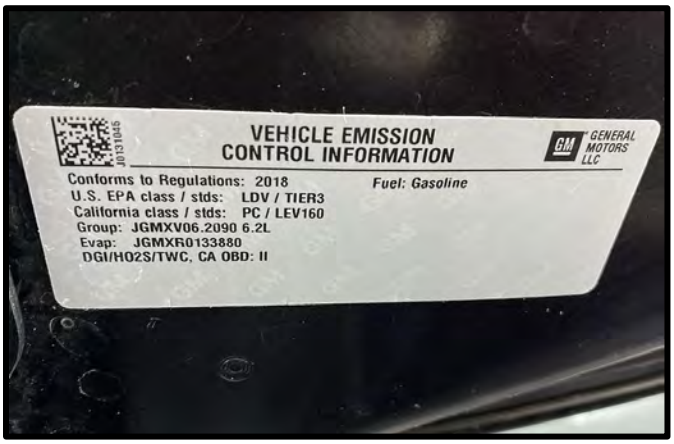
54. Install the stock rubber 90deg inlet tube using stock hose clamps to throttle body and airbox. Install factory airbox lid, secure using factory fasteners.

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

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

57. **(Complete kits)** Install the supplied 50-state legal sticker (when applicable) to the hood as the factory emissions sticker. Use light amount of acetone to clean surface before installing.

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



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

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

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

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

61. 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.

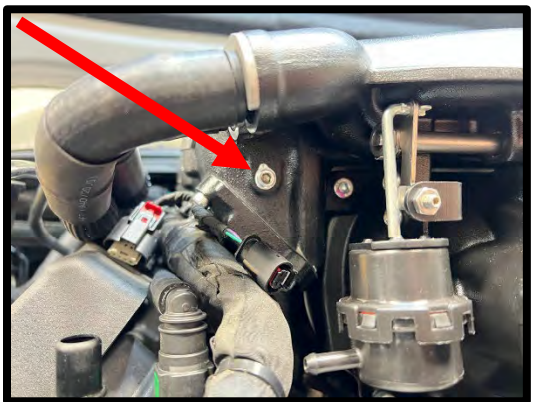
62. Start the engine to turn IC pump on, after a brief delay, the electric pump motor will cycle. Air bubbles will begin to rise to the filler reservoir as the coolant level drops, continue to fill while pump is running. Once it's done filling, turn the ignition key **OFF**, the level will drop, top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

63. 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!***

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

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

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



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

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

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

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

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

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

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

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

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

INSTALLATION NOTES

MAINTENANCE AND SERVICE

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

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

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

6. Do not operate the vehicle at large throttle opening if the MIL lamp is on steadily. This indicates an electronic engine control malfunction: reduce throttle opening and consult your vehicle dealer.
7. Inspect and clean your high-flow air filter element every **10,000 miles**. Replace as necessary.
8. Check intercooler fluid level every 7,500 miles.
9. **Replace spark plugs every 20,000 miles. Only run stock plugs, #12642722 (.032" gap).**
10. Follow your factory service intervals for oil changes and other typical maintenance items.
11. Check the supercharger/accessory drive belt. Adjust or replace as required.

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

CONGRATULATIONS

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

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

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

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

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

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

IMPORTANT INFORMATION

DYNO INSTRUCTIONS
When testing on a chassis dyno, the 10-speed auto 7th gear is 1:1 which will show the highest torque value on inertia-based dyno's but will run into the factory speed limiter, therefore 5**th** gear is ideal for testing.

BOOST LEVELS
All Whipple kits are shipped with boost levels that Whipple feels achieves maximum power while maintaining reliability with stock engines (@ sea level).

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

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

FUEL OCTANE
Never run a fuel octane that is below 91octane, (RON+MON)/2 and never run fuel with more volume than 10% Ethanol. It is recommended, when available, to run 92-94 octane. Never mix mid-level (below 91) with 91+, this is very dangerous and can cause severe engine damage. Do not attempt to increase octane ratings with generic octane boosters, these are very hard on spark plugs and many brands do very little to the actual octane rating (1 point is .1 octane).

ENGINE COOLANT
Whipple recommends running a 50/50 mix of distilled water and coolant. The engine coolant temp should run between 190-210deg F under normal driving conditions. We also recommend 1-2 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.