

MAGNUSON

SUPERCHARGERS

Installation Instructions for:

Radix Max

Intercooled Supercharger System

07-13 GM 6.0L & 6.2L SUV's



Step-by-step instructions for installing the best in supercharger systems.

*** PREMIUM GASOLINE FUEL REQUIRED ***



ATTENTION!
Your **MAGNUSON SUPERCHARGER** kit
is sensitive to corrosion!
Use only the vehicle manufacturer
recommended coolant for your engine in
the intercooler system as well.

89-89-60-009 TVS REV P

Magnuson Superchargers
1990 Knoll Drive, Bldg A, Ventura, CA. 93003
(805) 642-8833
magnusonsuperchargers.com

INSTALLATION MANUAL

Magnuson Superchargers Radix Max Intercooled Supercharger System GM 6.0 & 6.2 Liter Engines

Please take a few moments to review this manual thoroughly before you begin work: Make a quick parts check to make certain your kit is complete (see shipper parts list in this package). If you discover shipping damage or shortage, please call our office immediately. Take a look at exactly what you are going to need in terms of tools, time, and experience. Review our limited warranty with care. When unpacking the supercharger kit DO NOT lift the supercharger assembly by the black plastic bypass actuator. This is pre-set from the factory and can be altered if used as a lifting point!

Caution: Relieve the fuel system pressure before servicing fuel system components in order to reduce the risk of fire and personal injury. After relieving the system pressure, a small amount of fuel may be released when servicing the fuel lines or connections. In order to reduce the risk of personal injury, cover the regulator and fuel line fittings with a shop towel before disconnecting. This will catch any fuel that may leak out. Place the towel in an approved container when the job is complete.

This supercharger system requires the use of only premium gasoline fuel, 91 octane or better. It is NOT compatible with E85, Ethanol, Flex fuels.

Magnuson Superchargers recommend that you run a minimum of one (1) tank of premium fuel through your vehicle prior to installation of the system to prevent any possible damage that may occur due to running the supercharged engine on lower octane fuel.

Magnuson Superchargers systems are designed for engines and vehicles in "GOOD" mechanical condition. Magnuson Superchargers recommend that a basic engine system "Health Check" be performed prior to the installation of this supercharger system. Be sure to check for any pending or actual OBDII codes and fix/repair any of the stock systems/components causing these codes. If there are codes prior to the installation they will be there after the installation.

Magnuson Superchargers also recommend the following services to be performed on your vehicle before starting and running the vehicle post supercharger system installation:

- Fuel Filter change
 - Engine oil and filter change using brand name oil (organic or synthetic) and filter
- NOTE:** It is VERY IMPORTANT to use the factory specified oil viscosity. The original equipment manufacturer has selected this grade of oil to work with your other engine systems such as hydraulic chain tensioners and variable cam controls. Deviation from this specification may cause these systems to fail or not function properly. Please refer to your owner's manual for the recommended oil viscosity for your engine and application.
- On newer vehicles not requiring new spark plugs it is important to verify the spark plug air gap.

On older vehicles Magnuson Superchargers recommend these additional services to be performed:

- New spark plugs with the air gap set at the factory specifications OR new specifications if required by the installation manual.
- Coolant system pressure test and flush.

NOTE: YOU MUST USE THE GM SPECIFIED COOLANT MIXTURE

Non "Magnuson Approved" calibrations or "tuning" will Void ALL warranties and CARB certification.

Tools Required

- Safety glasses
- Metric wrench set
- 1/4" drill bit
- 1/4", 3/8", and 1/2" drive metric socket set (standard and deep)
- 8mm hex (Allen) wrench
- 3/8" and 1/2" drive foot pound and inch pound torque wrenches
- Belt tensioner wrench or 1/2" breaker bar
- 7/32" socket
- Drill and 5/16" drill bit
- Phillips and flat head screwdrivers
- Fuel quick disconnect tools (included in kit)
- E5 inverted Torx socket
- Small or angled 3/8" drill motor
- Drain pan
- Compressed air

IMPORTANT

Please remember to follow all safety rules that apply when working, including:

- Wear eye protection at all times.
- Do not work on a hot engine.
- Be careful around fuel - use shop towels to catch any spills and dispose of towels properly.

Contact Information:

Magnuson Superchargers
1990 Knoll Drive, Bldg A
Ventura, CA 93003

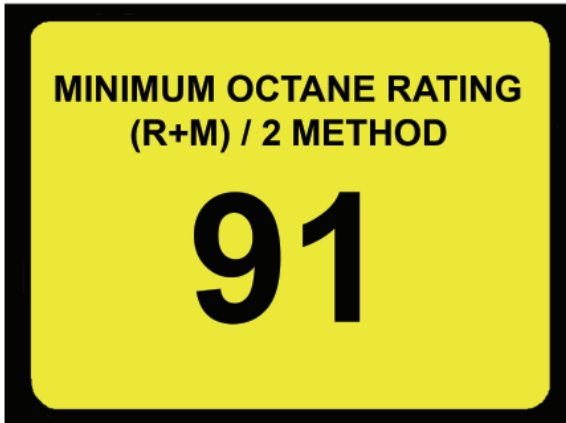
Sales/Technical Support Line (805) 642-8833
Websites www.magnusonsuperchargers.com
Email sales@magnusonsuperchargers.com



1. **If your kit has a provided handheld tuner follow the instructions in the provided pamphlet to install your tune. Your handheld tuner may not match the one shown.**



2. Your Intercooler system is sensitive to corrosion. It's very important to use the OEM recommended coolant mixture in your supercharger system as well.



3. Your system requires the use of minimum 91 Octane gasoline fuel. This system **is not compatible with E85 fuel.**



4. Using a 10mm socket wrench, start by disconnecting the negative (-) battery cable from the terminal on battery. Cover the cable end with electrical tape so accidental connection to battery does not occur.

5. To relieve fuel pressure in the tank, remove the fuel cap.



6. Remove the plastic engine cover by lifting up at the front and pulling the cover forward. This cover will not be re-used.

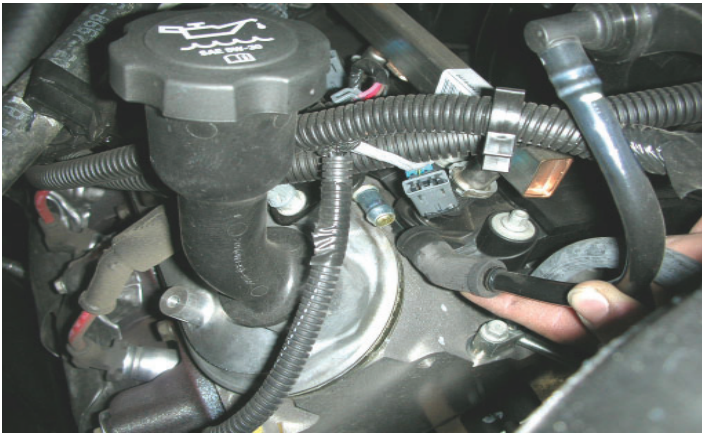


7. Using an 8mm nut driver or a flat blade screwdriver, loosen the two clamps, one at the throttle body and one at the MAF sensor.



8. Disconnect the loom clamp from the upper radiator hose using a small flat blade screwdriver.





9. Remove the PCV vent hose from the passenger-side valve cover. **NOTE: From 2009- and up model year vehicles, the connector has changed from a slip on rubber tube to a plastic clip on connector.** To remove this connector, first disconnect the #2 (Front-passenger side) injector connector. Then unplug the PCV vent hose from its upper air tube connection. Rotate this tube assembly clockwise (as seen from the front of the vehicle) to expose the retaining clip. Use your finger or a small screwdriver to press this clip clockwise (again from the front), and pull the assembly free from the valve cover mounting tube.



10. Everything should now be free from the engine, so the air intake assembly can be removed from vehicle, this part will not be re-used.



11. With a cool engine remove the radiator cap. **(Be careful not to remove the cap if the engine is still hot.)**



12. Place a drain pan under the front of the truck and disconnect the heater hose on the passenger-side on the water pump.



13. Unplug the electrical connector from the MAF sensor. **NOTE: On 2009 and up model year vehicles, this sensor is located on the top surface, not the front surface shown in this picture, and the connection points toward the rear of the vehicle.**



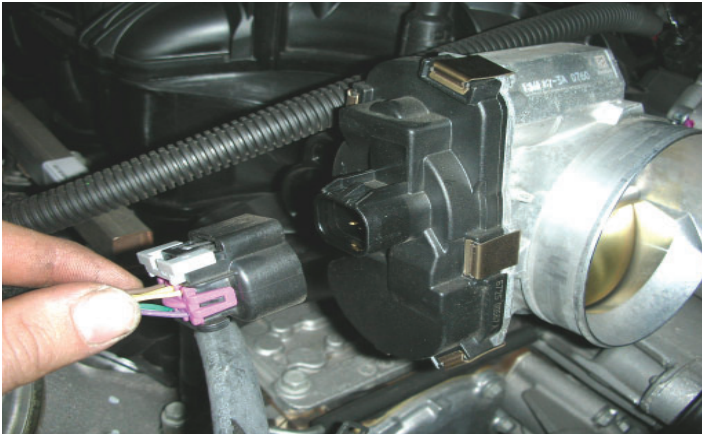
14. Firmly grasp the air intake box and pull up, removing it from the vehicle. The air box will be re-installed in a later step.



15. Using a 10mm socket wrench, remove the three bolts that secure engine cover support bracket to the intake manifold. This will not be re-used.



16. Remove the wiring harness bracket from the intake manifold by removing the nut with a 10mm socket wrench.



17. Disconnect all electrical and hose connection from the intake manifold. Start by unplugging the ETC connector from the throttle body.



18. Unplug the eight fuel injector plugs by pulling up on the gray tab and then pushing in on the release tab.



19. Disconnect the electrical plug from the MAP sensor located on the top of the intake manifold at the front. **NOTE: On 2009 and up model year vehicles, this connector looks a little different.** Disconnect by pressing down on the release tab on the top of the connector and pull free from the MAP sensor.



20. Now that all the electrical connections are free from the manifold, move the wiring harness out of the way by moving them over to the driver side of the engine compartment.



21. With the wiring harness out of the way, unplug the EVAP electrical connector from the solenoid.



22. Remove the EVAP line from the solenoid by pressing in the gray retainer clip and pulling the line off of the solenoid. Repeat procedure for removing the other end of this line. **NOTE: Your vehicle may not have the test port (the green cap) shown in this picture.**



23. Remove the power brake hose and check valve from the booster. This hose will not be reused, but keep the check valve as you will be using it in a later step. **NOTE: If vehicle is equipped with hydra-boost then the vehicle will not have this hose.**



24. Next, remove the PCV hose from the top of the intake. Also, remove the other end of the hose from the rear of the valve cover. This will not be re-used. **NOTE: On 2009 and up model year vehicles, this connector has changed.** To remove, first the clip connector on the valve cover needs to be released and disconnected. Then rotate the entire assembly clockwise 90° (looking down on the intake manifold) then pull up as the twist lock is released.



25. Remove the stainless steel safety clip from the fuel line. Do not discard. This will be re-installed later on.



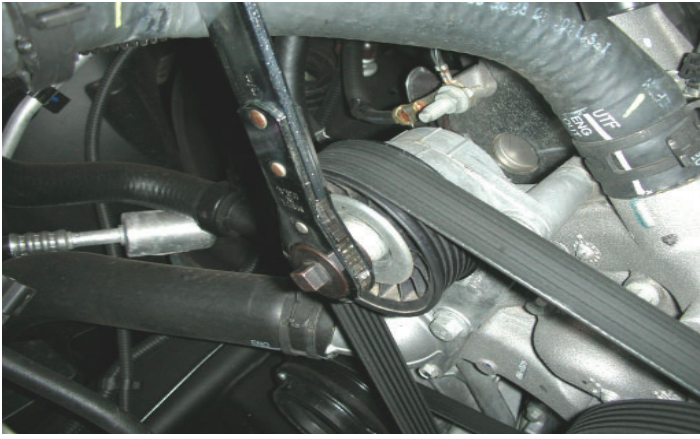
26. **CAUTION!** Always wear safety glasses when working with fuel. Continue on with the next three steps ensuring that the negative (-) battery cable is still disconnected. Using the fuel disconnect tool provided, remove the fuel line from the fuel rail. **CAUTION! Fuel system may be under pressure. Avoid open flames or any source of ignition.**



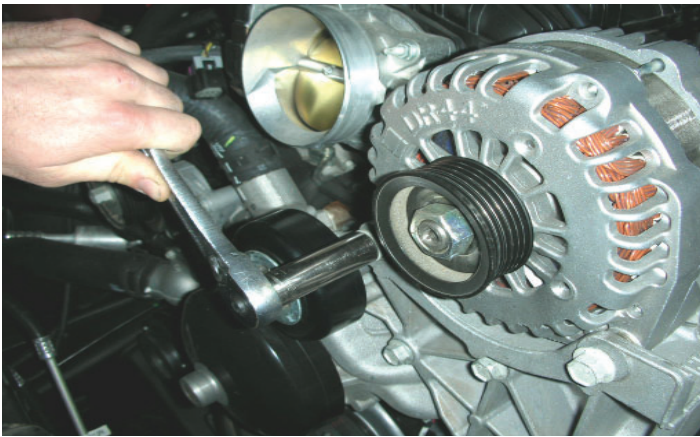
27. Before unbolting the intake manifold, removal of the alternator should be done to help ease removal of the manifold. Start by disconnecting the electrical connector on the top of the alternator.



28. Using a 10mm socket wrench, remove the nut holding the positive (+) wire to the back of the alternator. Route the wire over towards the passenger-side fender, out of the way.



29. Remove the stock belt using a 15mm belt tensioner wrench on the tensioner pulley. The belt will be replaced with the longer belt provided in the kit.



30. Using a 15mm socket wrench, remove the two bolts securing the alternator to the bracket and remove the alternator from the vehicle. This will be re-installed later on.



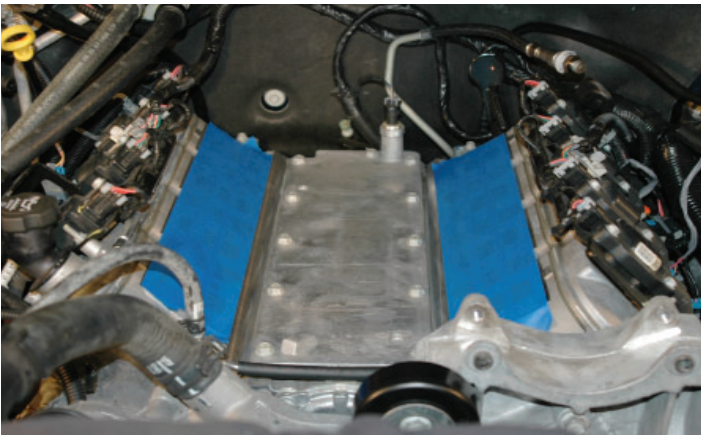
31. The intake manifold is now ready to be removed. Using an 8mm socket wrench, remove the ten bolts that secure the manifold to the engine.



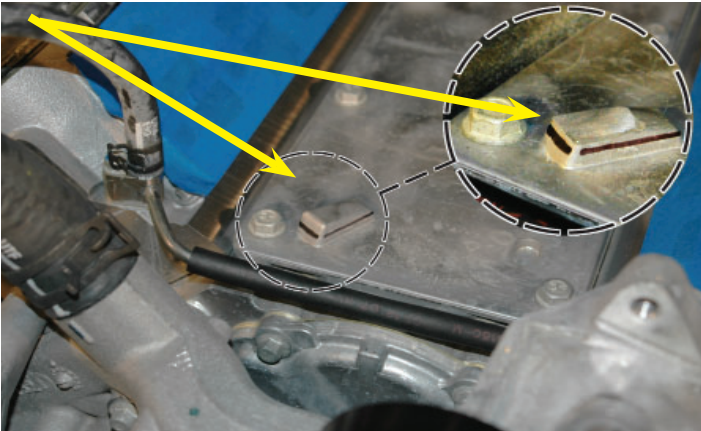
32. With all of the bolts removed, lift the intake manifold up and out of the vehicle and set aside. **CAUTION! Take care not to drop any bolts, dirt or any debris into the intake ports.**



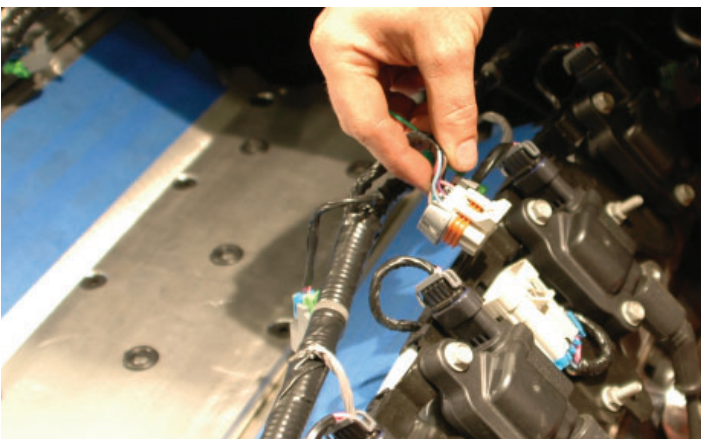
33. Using a vacuum cleaner remove any dirt or debris from the intake port area. **CAUTION! Be careful not to get any dirt down the intake ports.**



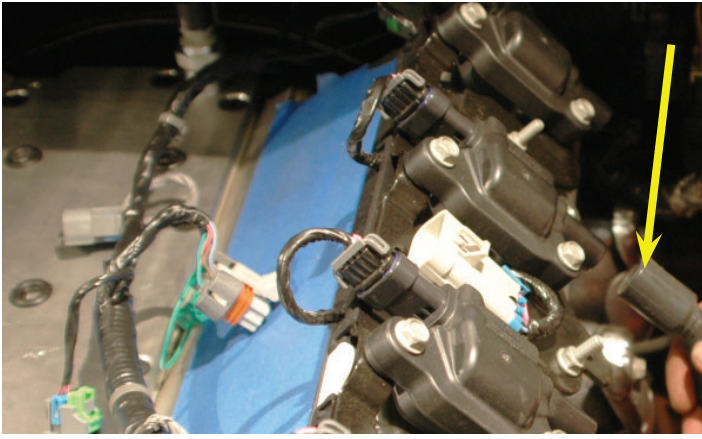
34. Cover the intake ports with tape or some clean rags so that nothing can fall into ports.



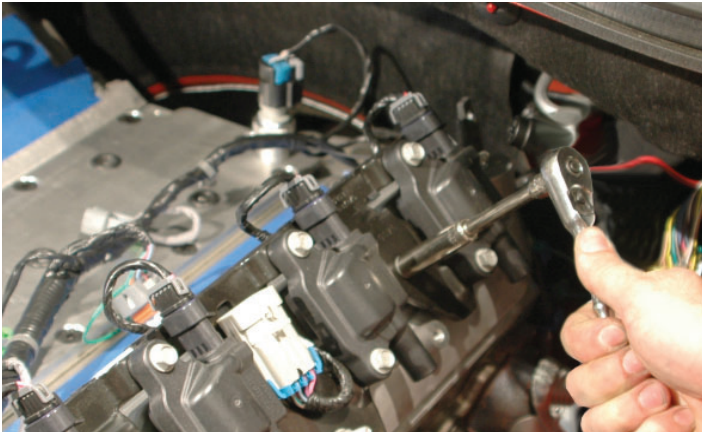
35. The Valley cover may have a tab on the front passenger side that needs to be ground down to avoid conflict with the new intake manifold. If so, use a felt tip pen and mark a line approximately $\frac{1}{4}$ " up from the main surface of the valley cover around this tab as shown. Using a die grinder or other suitable tool (even a file will work). Take this tab down to the line as shown in the inset photo. Make sure no debris from grinding gets into any intake ports or any other openings of the engine, vacuum debris completely to ensure no contamination remains.



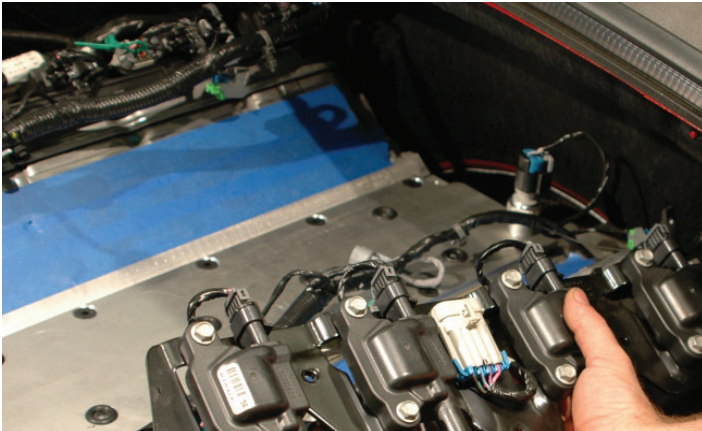
36. **NOTE: 2011 and newer vehicles follow the next eight steps. Earlier vehicles skip these steps.** On each side of the engine disconnect the main coil bracket plug.



37. Disconnect all eight plug wires from the coil packs.



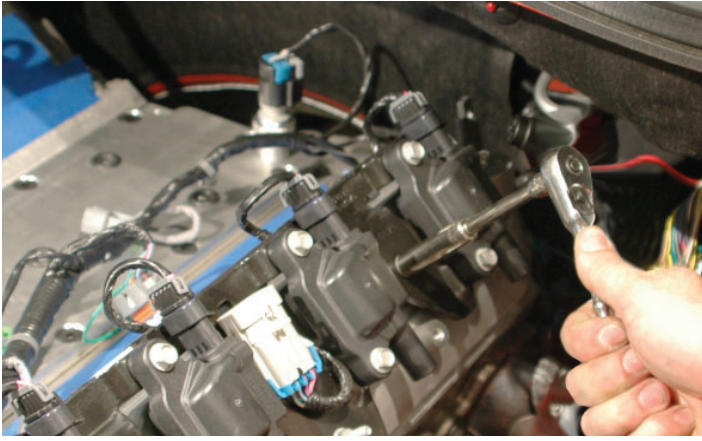
38. Use a 10mm wrench to remove the bolts holding the coil packs to the valve covers.



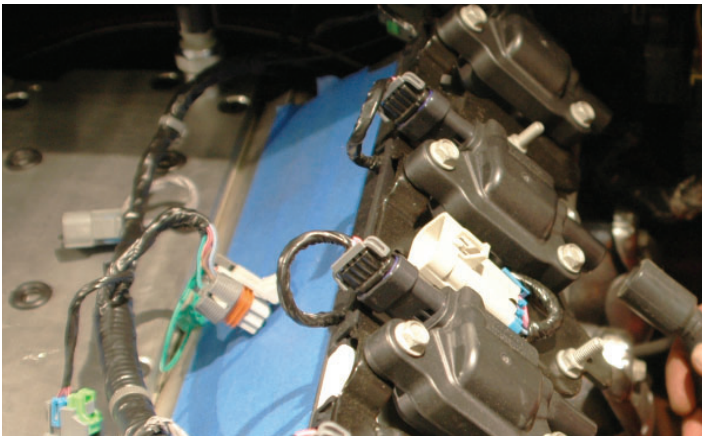
39. Remove both coil brackets from the engine compartment.



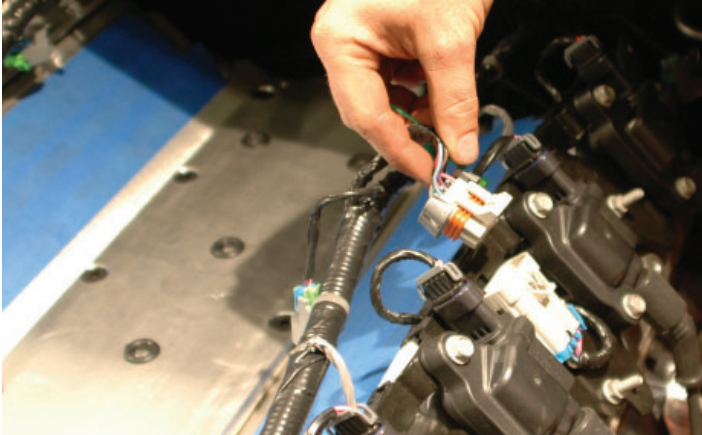
40. The coil packs will need to be modified to accommodate the new supercharger system. Use a small screwdriver to unclip the top and bottom halves of the plastic wire covers. Remove these covers from the coil packs completely.



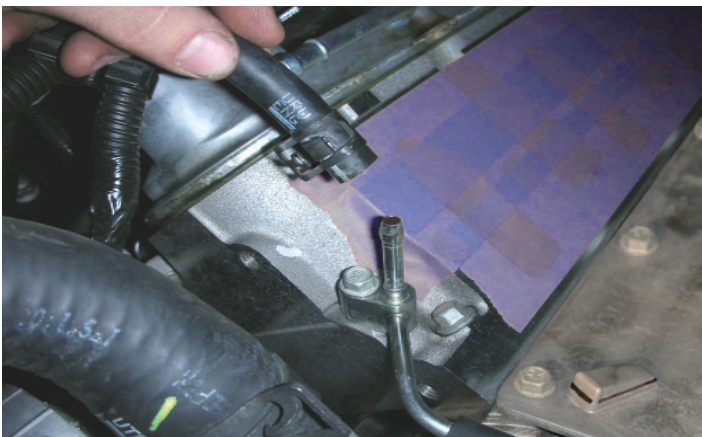
41. Remount the coil packs to the valve cover using a 10mm wrench.



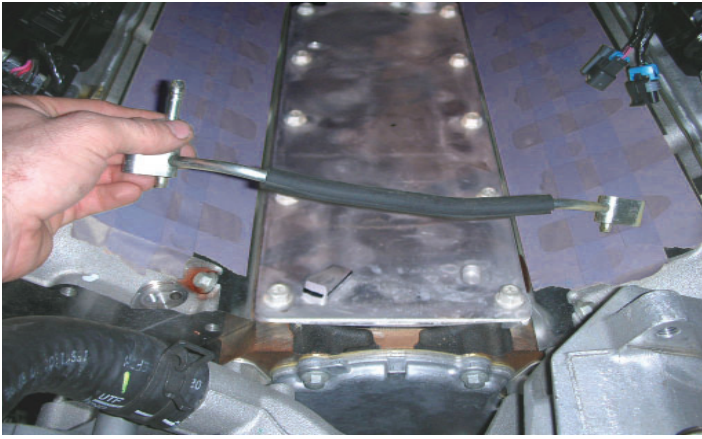
42. Replace the plug wires on the coil packs on both sides of the engine.



43. Reconnect the mail coil plug on both sides of the engine. **NOTE: This ends the steps for 2011 and newer vehicles.**



44. Remove the coolant hose from the vent pipe. **NOTE: Some fluid may leak from the pipe onto the hose.**



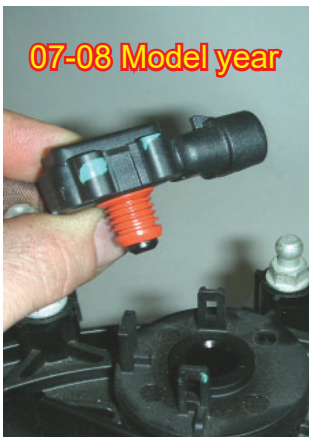
45. Remove the two bolts that secure the coolant vent pipe to the cylinder heads and remove the vent pipe from the engine, put aside for later re-installation. It's a good idea to put a piece of tape over all openings to avoid debris contamination.



46. With a 15mm socket wrench, remove the three bolts that hold the tensioner to the water pump and remove the tensioner. **NOTES: The tensioner won't be re-used, but one long stock bolt, and the short stock bolt will be re-used. *Some 08-09 tensioners only have the two long bolts. We will still use one of those and will supply a new bolt to take the place of the short stock bolt that wasn't installed originally.**



47. To make installation of the supercharger manifold easier, remove the alternator/power steering bracket from the engine block. Using a 15mm socket wrench, remove the four bolts on the front side and the one bolt on the lower driver-side.



07-08 Model year



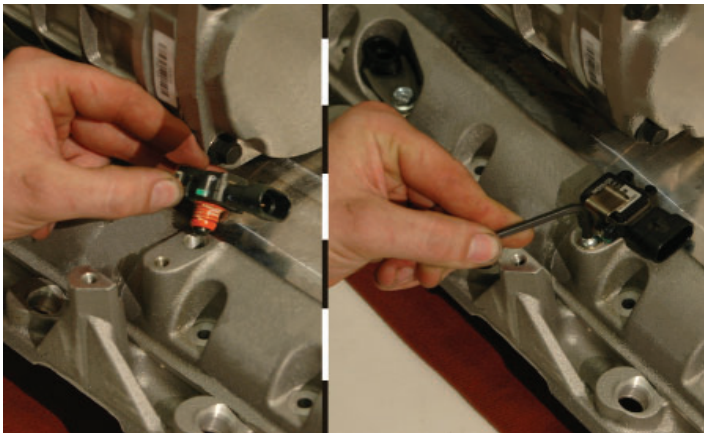
2009 Model year

Lever, then slide pin lock.

48. Remove the stock MAP sensor by removing the retaining clip with a screwdriver and then gently pulling up the sensor. Be careful not to damage the O-ring seal. **NOTE: On 2009 and up model year vehicles this connector has changed.** To remove, insert a small screwdriver into the slot opposite the slide-tab lock. Lever the locking tab outward to release the lock, then slide the lock to remove.

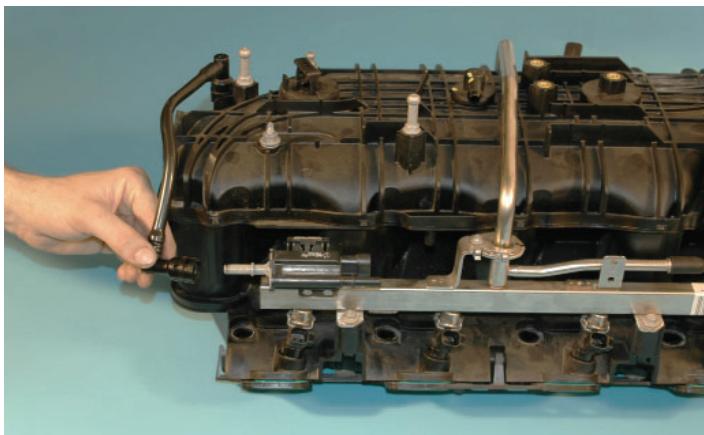


49. **NOTE: For 2009 and up model year vehicles MAP sensor, skip ahead three steps to disconnecting the EVAP pipe.** If you have the 99-08 style MAP sensor you will need to install the provided bushing: **YOU MUST install the bushing with the sealant to prevent a vacuum leak.** We recommend black silicone RTV or green Loctite 680. Be sure to wipe off any excess sealant inside the bushing. Allow sealant to cure before starting engine.

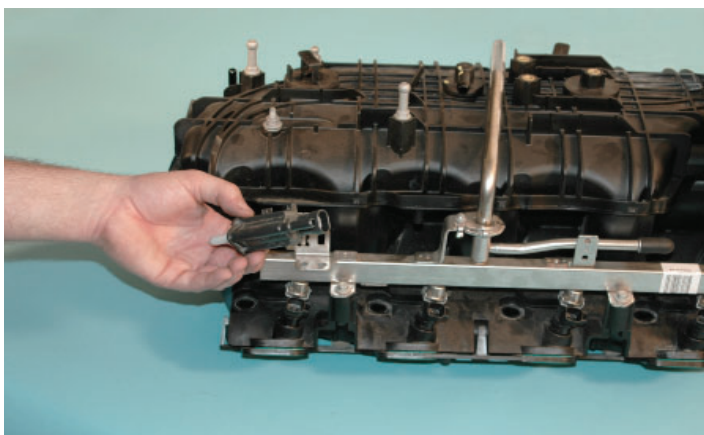


50. Spread some of the supplied Lubriplate lubricant on the MAP sensor seal (see inset photo), and press the MAP sensor into the provided hole in the supercharger manifold as shown.

51. Using a 4mm Allen wrench, install the MAP sensor retaining clip with the provided 6mm button head screw as shown.

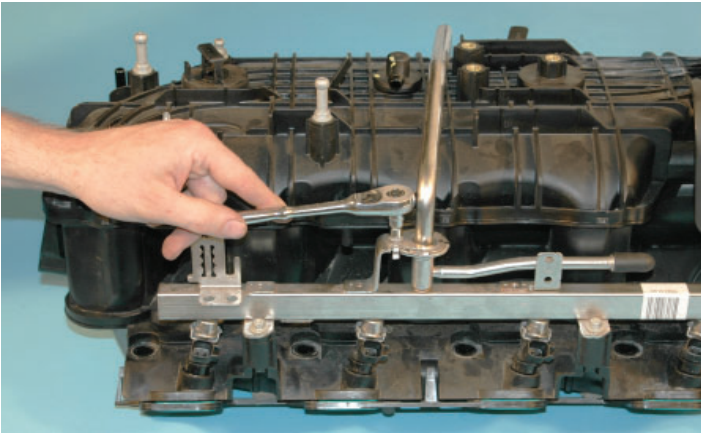


52. Disconnect the short EVAP pipe from the EVAP Solenoid on the stock intake manifold.

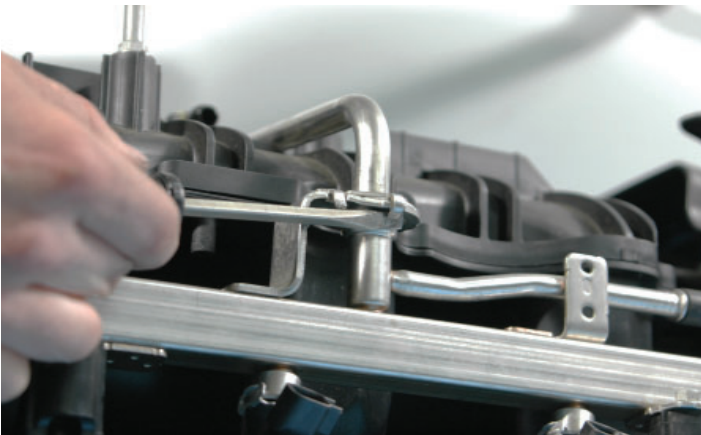


53. Remove the stock EVAP solenoid from the stock manifold by lifting up to free the unit from the mounting bracket.

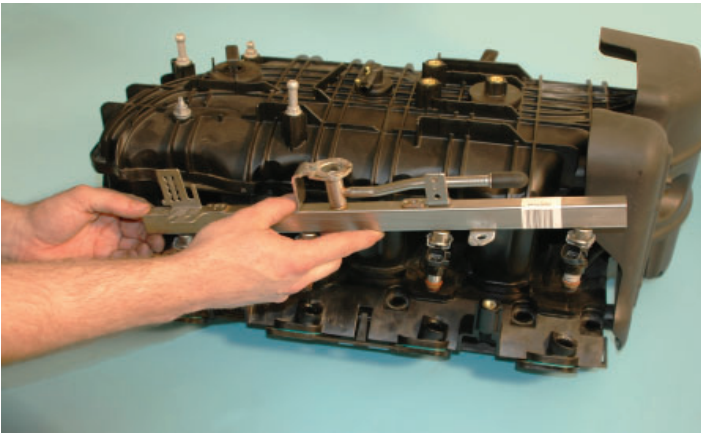
54. **NOTE: 2009- and up vehicles have the fuel rail crossover tube solder-integrated with the fuel rails. For these model year vehicles, skip ahead 10 steps to solenoid bracket installation.** For earlier model years, remove the two E6 (inverted Torx) bolts (one on each side) of the crossover tube retaining brackets for the fuel rails.



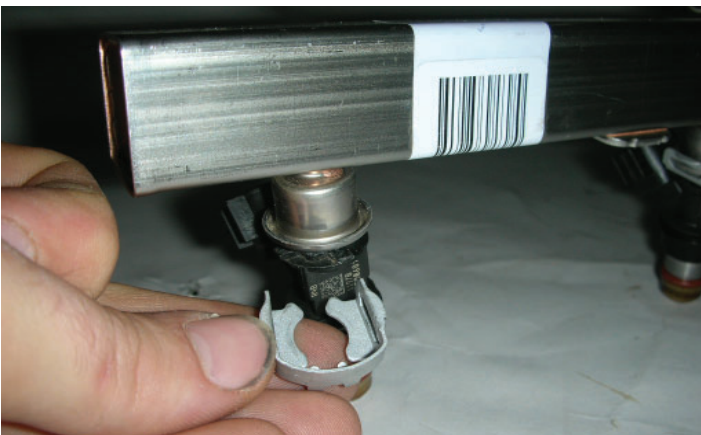
55. Using a flat blade screwdriver, carefully bend the centerline tab of the crossover tube retaining brackets out enough to clear the mounting flange on the fuel rail on each side. Then lift away to remove the crossover tube retaining bracket on each fuel rail manifold. The crossover tube can then be removed from the fuel rail manifolds. Put aside the existing O-rings for later use, the stock crossover tube will not be reused.



56. Using a 10mm socket wrench, remove the four bolts securing the fuel rails to the stock intake manifold. There are two on each side, put these aside for later installation. Once the four bolts have been removed carefully pull up on the fuel rail assembly, pulling them both free from the stock intake manifold. Be aware that there could be fuel remaining in the fuel rails and take caution to clean up spillage and dispose of properly.

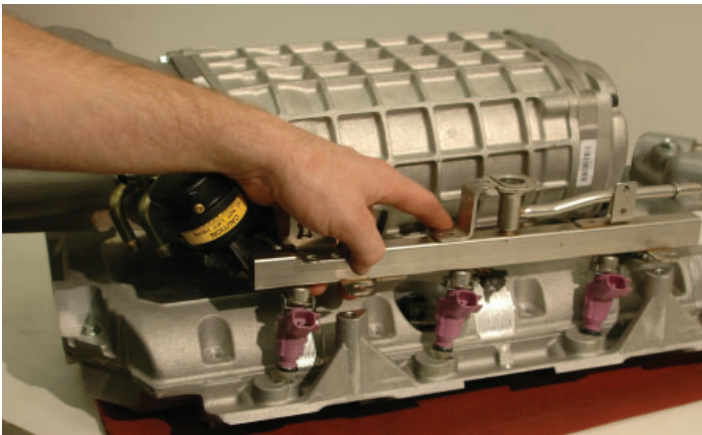


57. Next, remove the eight retaining clips that secure the injectors into the rail. Then carefully remove the eight fuel injectors by pulling them free from their sockets. Again, be aware that there could be fuel remaining in the fuel rails and use appropriate caution. They will be replaced with eight larger injectors supplied with the supercharger kit.





58. Take the eight stock injector retaining clips and install them onto the new injectors. Now install the eight injectors into the fuel rails, make sure to lubricate the injector O-rings with the supplied Lubriplate lubricant so they don't get damaged. Ensure that the retaining clip is properly seated locking the injectors in place.



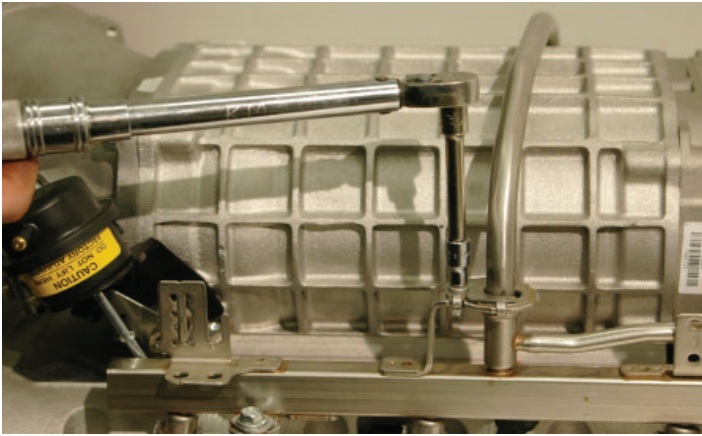
59. Next, we'll install the fuel rail onto the supercharger manifold. First, be sure the fuel rail with the fuel feed is on the driver-side of the manifold. Then, using the Lubriplate lubricant, spread a dab on each new injector O-ring, and carefully press the stock fuel rails with the new injectors into the new supercharger intake manifold assembly. Attach the fuel rails to the manifold using the stock hardware, but don't tighten at this time.



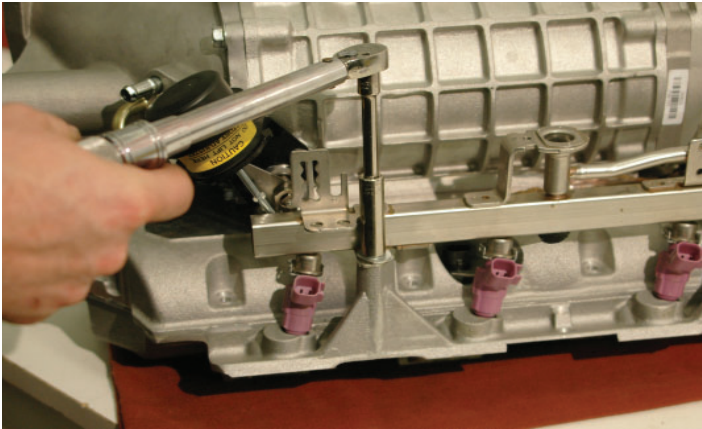
60. Install the stock O-rings onto the new supplied fuel crossover tube. **NOTE: Inspect your stock O-rings, if they are damaged use the black ones supplied.** Lubricate the O-rings with the supplied Lubriplate lubricant.



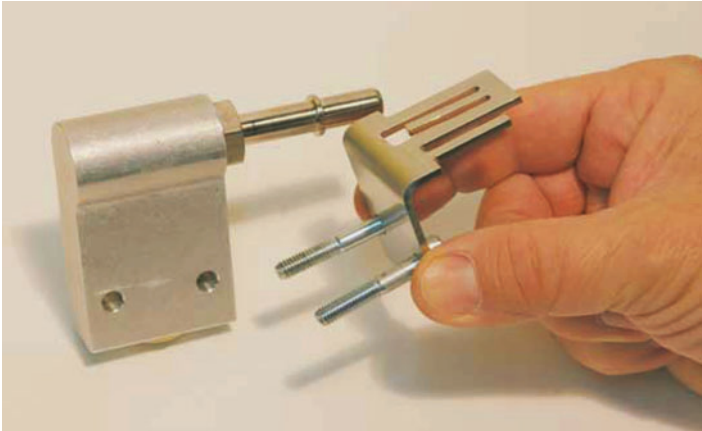
61. Now, install the crossover tube into the fuel rails sockets. **NOTE: The angled side of the crossover tube goes on the bypass side of the supercharger. Test the fit to ensure that it's mounted correctly.** Next, re-install the fuel crossover tube retaining brackets. The retaining tabs should now be bent back into place using a pair of pliers.



62. Lock the retaining brackets to the fuel rails with the factory hardware using an E-6 inverted Torx socket wrench. Torque these bolts to 50 in-lbs. Verify that your torque wrench is set to in-lbs.



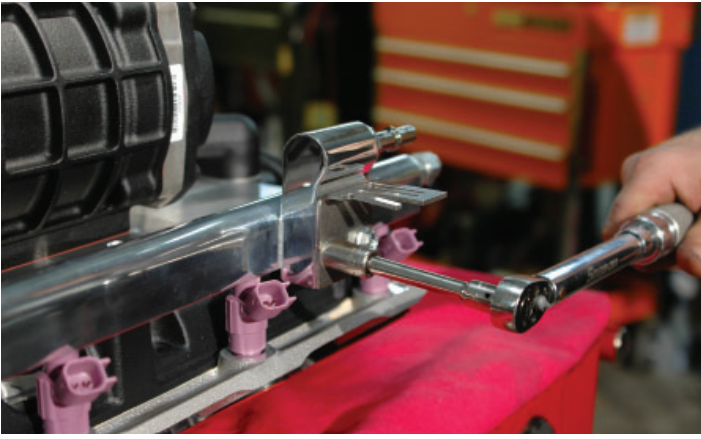
63. Secure the fuel rails to the manifold using an 8mm socket and Torque the bolts to 106 in-lbs. Verify that your torque wrench settings are set to in-lbs.



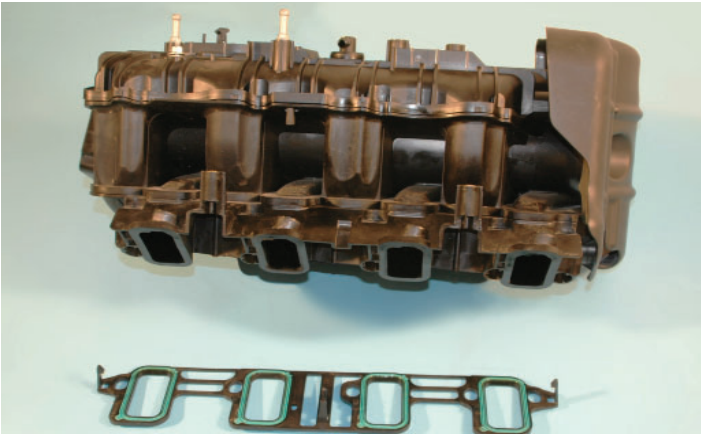
64. **NOTE: The next three steps apply for 2009- and up model years. For 2007-2008 model years skip ahead three steps to the intake gasket installation.** Assemble the solenoid bracket and bolts onto the fuel manifold.



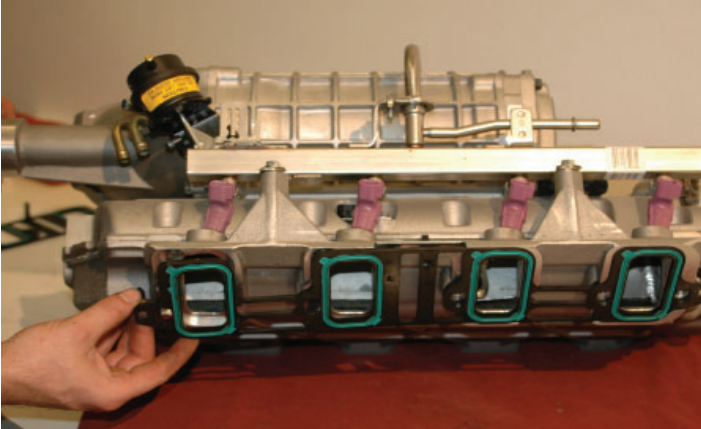
65. Using some of the lubricant supplied, install the O-ring into the recess on the fuel rail. Install the fuel manifold and bracket onto the fuel rail. Take care not to pinch the O-ring.



66. Torque the fuel manifold bolts to 106 in-lbs using a 10mm socket and torque wrench. Verify your torque wrench settings. **Bend the single, short tab on the EVAP bracket slightly. This will create a tight fit with the EVAP solenoid. NOTE: 2011 + vehicles use a flat EVAP bracket mounted further up on the fuel rail.**



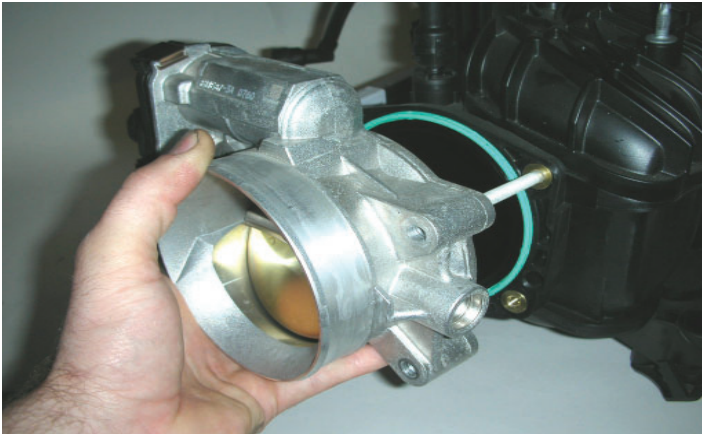
67. Remove the stock intake manifold gaskets from the OEM intake manifold.



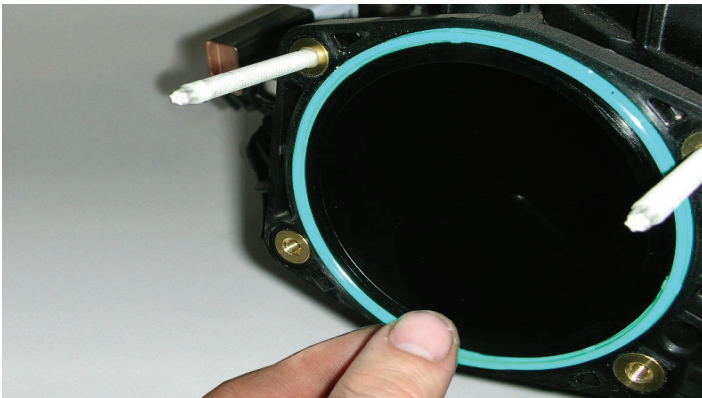
68. Now install the stock gaskets onto the new supercharger manifold.



69. If the bypass vacuum hose is not in place, cut a section of 1/4" hose to 10". Attach one end of this hose to the Bypass valve hose barb, and the other end to the barb on the supercharger inlet tube as shown.



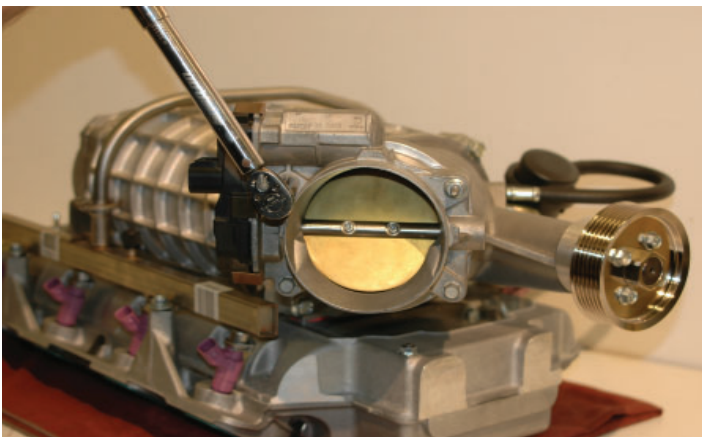
70. Using a 10mm socket wrench, remove the stock throttle body from the OEM intake manifold. Next, using a #5 internal Torx, remove the two mounting studs from the stock manifold.



71. Remove the stock throttle body O-ring from the OEM stock manifold. Clean off any oil before installing the O-ring onto the supercharger inlet.



72. Install the two studs from the previous step into the supercharger intake tube using a #5 Torx socket. Then press the throttle body O-ring into the inlet tube groove as shown.



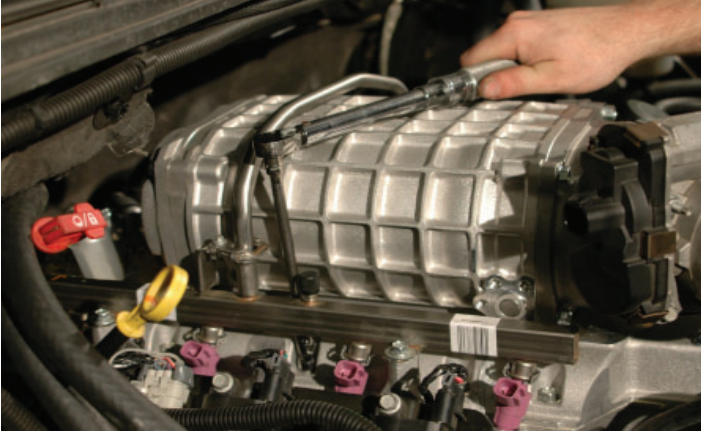
73. Now install the throttle body using the stock hardware and torque to 106 in-lbs with a 10mm socket wrench. Verify your torque wrench settings.



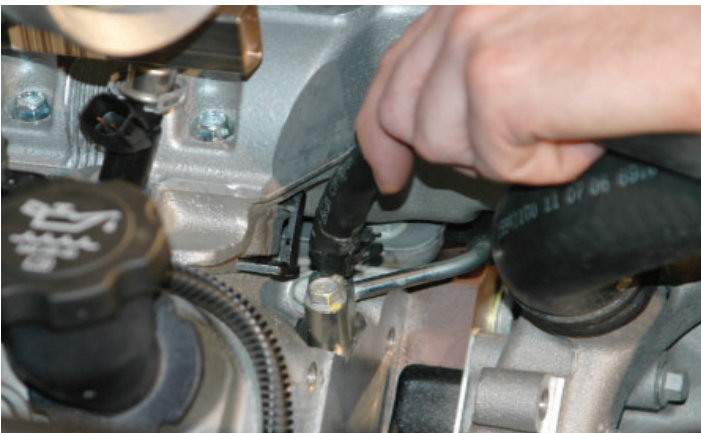
74. Remove the tape from the intake ports. Spray silicone or some mild soap and water solution on cylinder head surface to lubricate. This makes the intake manifold slide around a little to help line up the holes. **(Do not use anything that will damage the intake gaskets such as petroleum based products, etc.)**



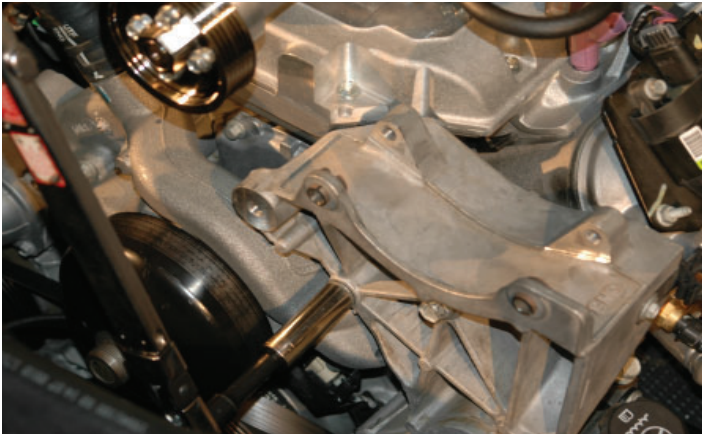
75. With the help of an assistant, carefully lower manifold assembly into place, use care to not damage gaskets.



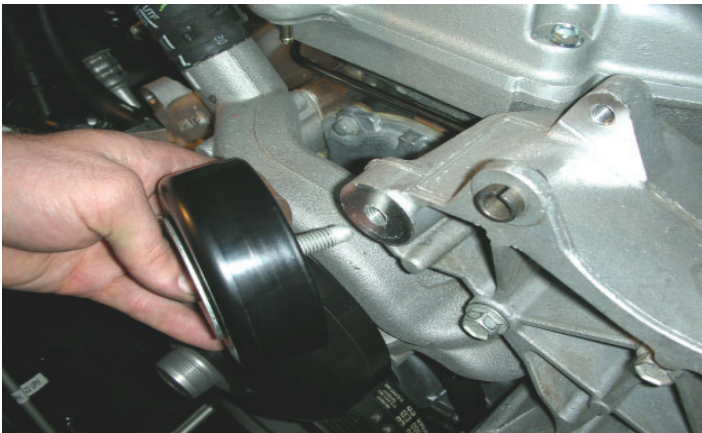
76. Torque all ten bolts gradually and evenly to a torque of 106 in-lbs. **Note: Make sure your wrench is set to torque to in-lbs, not ft-lbs.**



77. Install the OEM vent pipe using the stock hardware, torque to 106 in-lbs. Verify your torque wrench settings. Take the coolant hose previously removed from the vent pipe, and re-install the hose onto the vent pipe using the factory clamp.



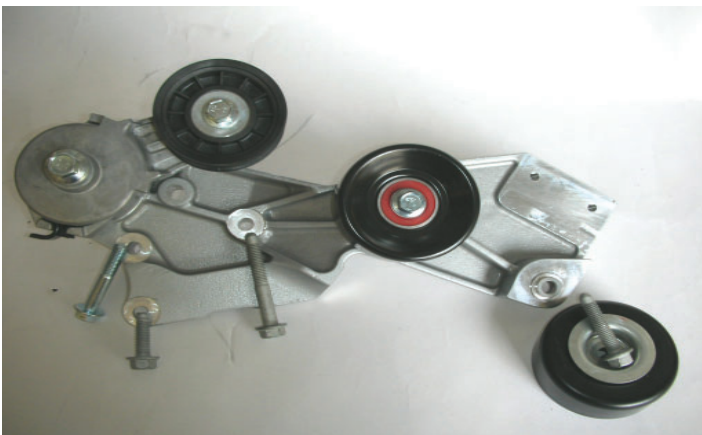
78. Re-installed the alternator/power steering bracket with all the factory hardware and torque to 40ft-lbs with a 15mm socket wrench. Verify your torque wrench settings.



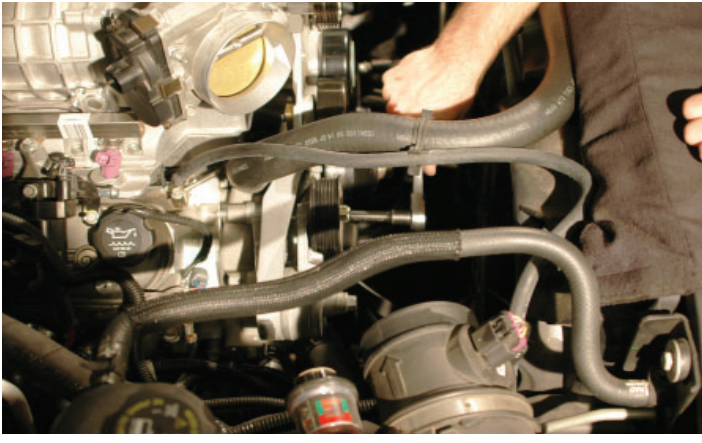
79. Use a 15mm socket wrench to remove the factory idler pulley.



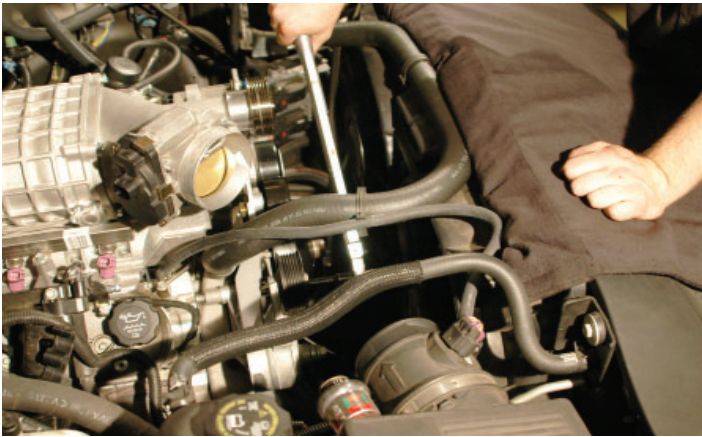
80. Using a soft hammer, knock the factory bolt loose from the idler pulley. The bolt retainer and stand-off pictured here on the right side of the pulley will not be re-used. **NOTE: The bolt, dust cover and idler will mount to new tensioner bracket.**



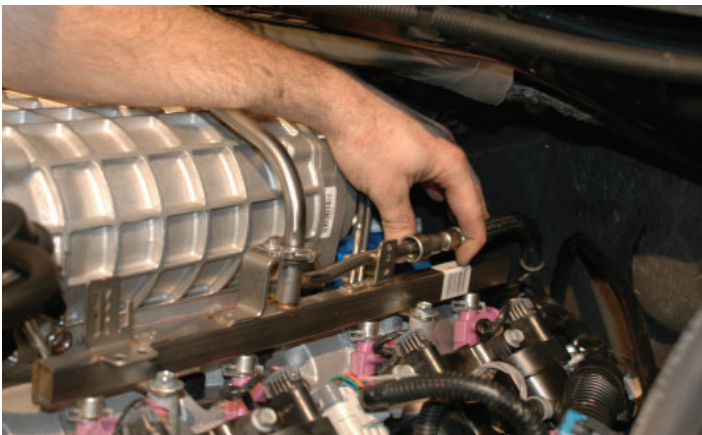
81. Here is the tensioner assembly showing where the specific bolts and where the factory idler goes.



82. Install the tensioner assembly into the vehicle as shown.



83. Torque all the bolts to 40ft-lbs with a 15mm socket wrench. Verify your torque wrench settings.



84. Push the fuel line connector on to the fuel manifold. Ensure that the fuel line is pushed all the way on. **Pull on the connector to check that it is secure, you should not be able to remove the connector unless you use the removal tool. Inspect factory fuel line for kinks or tight bends in braided section. If required push gently on fuel line near firewall to eliminate kinks/tight bends.** Replace the stainless steel safety clip that was removed in an earlier step.



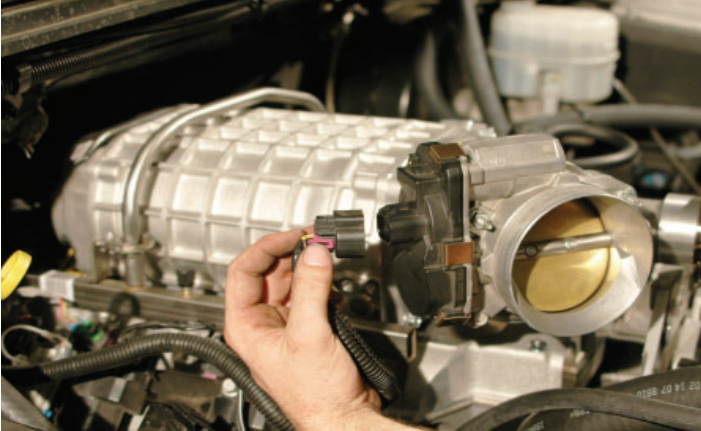
85. Remove the wiring harness from the original bracket.



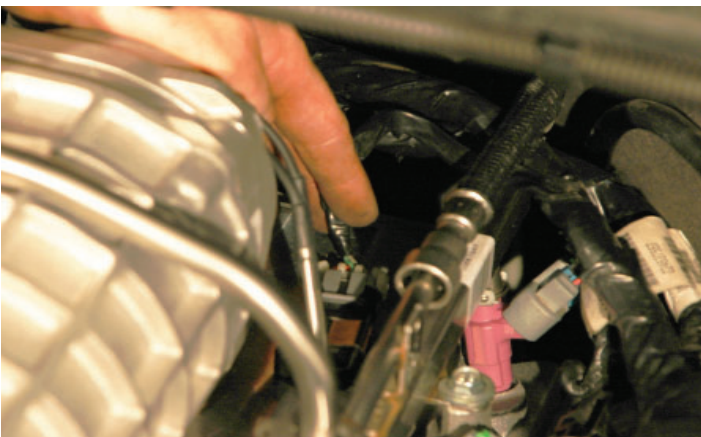
86. Take the eight fuel injector plugs and connect them to the eight fuel injectors. **NOTE: Make sure that the connectors are seated on the injector and locked in place. Pull the harness connector to ensure a good contact.**



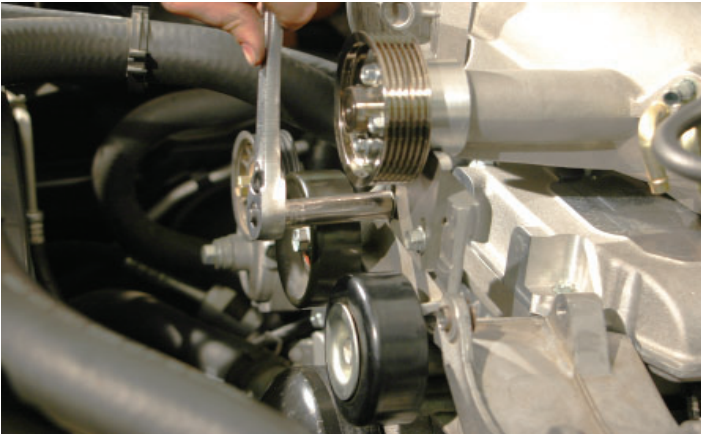
87. Remove the plastic loom clip from the wire-loom located next to the oil filler neck with a flat blade screwdriver.



88. Plug the electrical connector for the ETC back into the throttle body.



89. The MAP sensor can also be plugged back in. Sensor location is now at the rear of the manifold and no wire extensions are necessary.



90. Install the supercharger nose support bracket with the two bolts provided. Torque bolts to 15-17ft-lbs with a 12mm socket wrench. Verify your torque wrench settings.



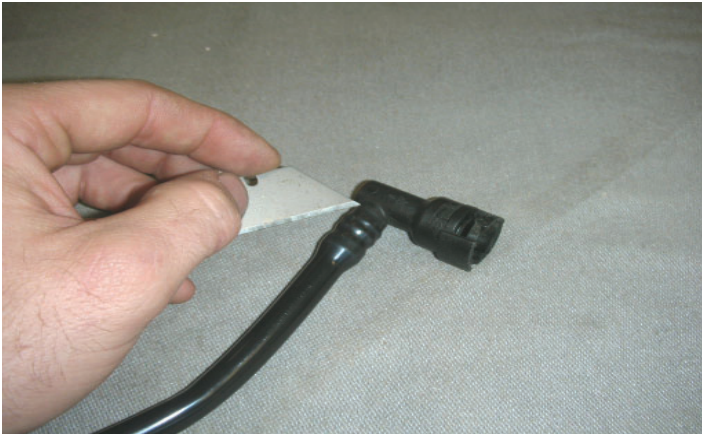
91. Cut a section of the provided 11/32" brake hose to 26" in length. Install the stock check valve on one end, and plug the check valve into the brake booster.



92. Route the other end under the coil bracket to the supercharger nose, and plug into the supercharger barb as shown.



93. Cut a section of the provided 3/8" hose to 25" in length. Plug one end into the PCV barb at the back of the driver-side valve cover. Route the other end under the coil bracket and plug into the hose barb on the supercharger as shown.



94. **NOTE: 09-and up vehicles skip ahead 5 steps to the EVAP fitting removal. For 07-08 vehicles continue on here;** take the front EVAP hose from the stock manifold and carefully cut out the 90° fitting at the end of the hose.



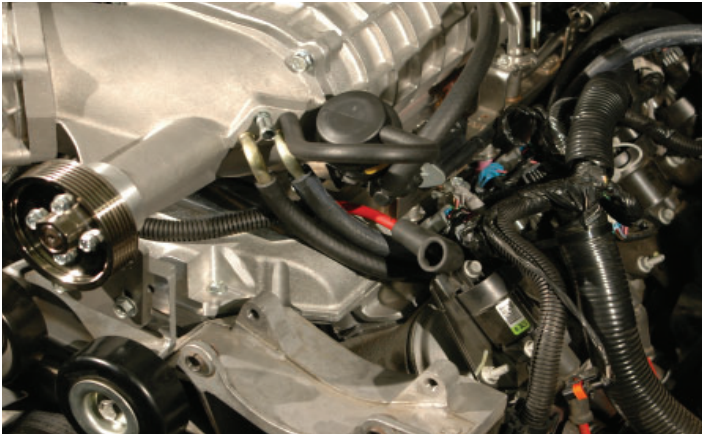
95. Cut a section of the 3/8" hose to 10-1/2" in length. Install the factory 90° elbow removed in the previous step onto one end.



96. Install the OEM EVAP Solenoid on the mounting bracket on the driver side fuel rail.



97. Connect the 90° elbow installed two steps ago to the front of the EVAP Solenoid



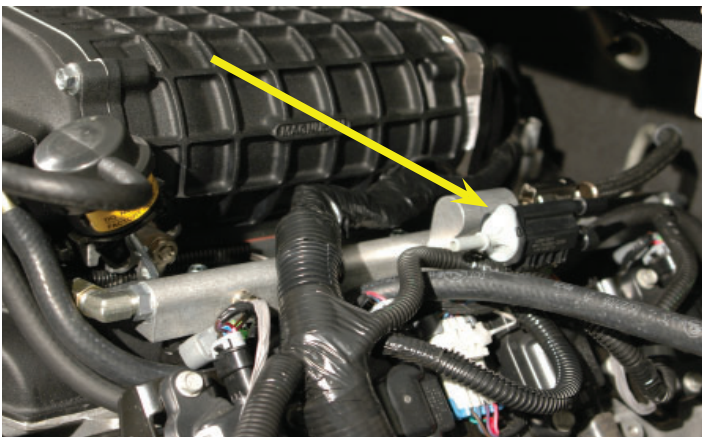
98. Route the battery positive (+) cable below the supercharger nose, behind the brake and PCV hose for later connection to the alternator.



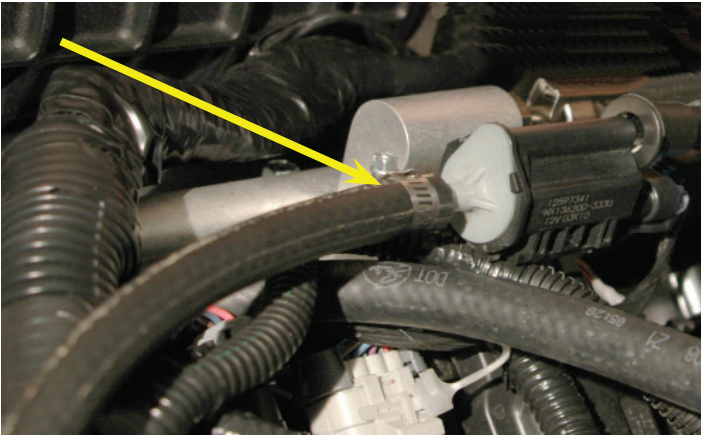
99. **NOTE: The next four steps are for model year 09- and up vehicles, 07-08 vehicles skip ahead four steps to test port end EVAP hose installation:** Take the rear EVAP hose from the stock manifold and carefully cut out the fittings at the ends of the hose.



100. To create a new rear EVAP hose, cut a section of the 3/8" hose to 11" in length. Install the factory fittings removed in the previous step onto the ends.



101. Install the OEM EVAP Solenoid on the mounting bracket on the driver side fuel rail manifold.



102. Cut a piece of the provided 3/8" hose to 16-1/2". Attach and clamp one end to the front barb on the EVAP solenoid.



103. Plug in the test port end of the EVAP hose **(09-and up vehicles, it's the hose assembled three steps ago)** to the remaining (rear) barb on the EVAP Solenoid. Plug the remaining end onto the back of the engine barb from whence it was removed.



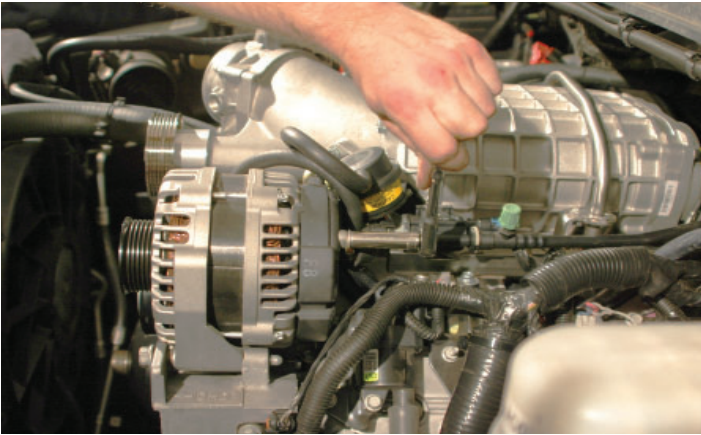
104. Plug in the electrical connection to the EVAP Solenoid.



105. Next, re-install the alternator using the factory hardware.



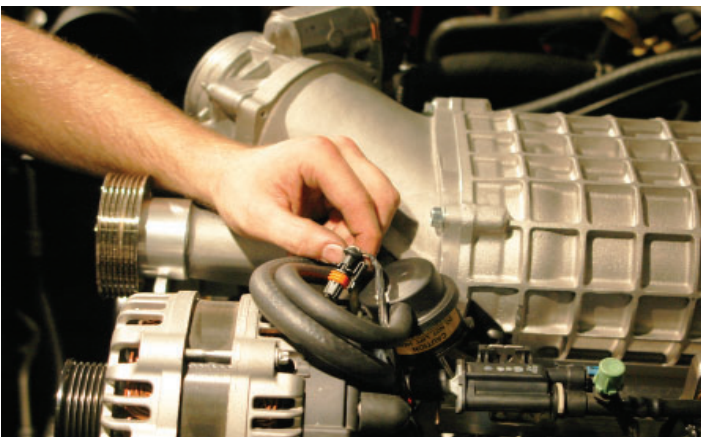
106. Using a 15mm socket wrench torque the two bolts to 40ft-lbs. Verify that your torque wrench is set to ft-lbs.



107. Ensuring that the battery is still disconnected, connect the battery positive (+) cable you routed in a previous step to the back of the alternator and secure the nut with a 10mm socket wrench.



108. Route the front hose from the EVAP Solenoid to parallel the Bypass Valve hose and connect to the remaining barb on the supercharger nose.



109. Plug in the Electric-Voltage sensor wire into the Alternator connector as shown.



110. Use a 15mm socket wrench to lever the tensioner all the way down, then insert the pin provided into existing hole on the tensioner bracket to hold the tensioner in the compressed position.



111. Using the belt routing diagram as a guide install the new belt provided. Slide the idler pulley down and torque to 40 ft-lbs using a 15mm socket wrench. Verify your torque wrench settings. Finally remove the pin and release the tensioner. Make sure belt contacts all pulleys correctly.

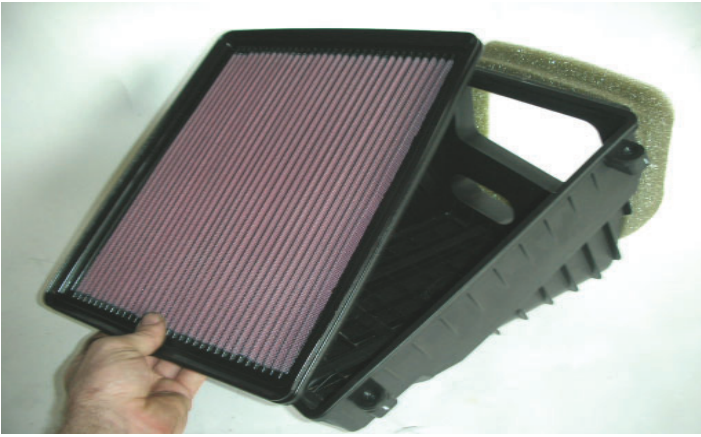


112. Using a T-25 Torx socket, remove the four screws that attach the air box lid to the lower half of the air box.



113. Remove the stock air filter from the air box.

114. Take the new K&N air filter supplied in the kit, and install it into the air box.



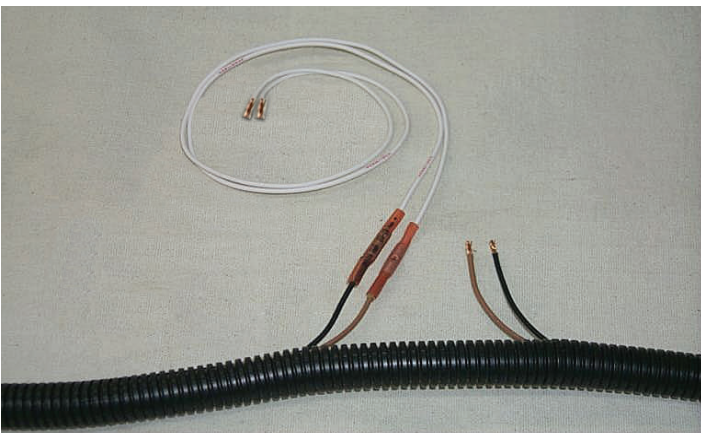
115. Re-install the air box lid and then install the air box assembly back into the vehicle.

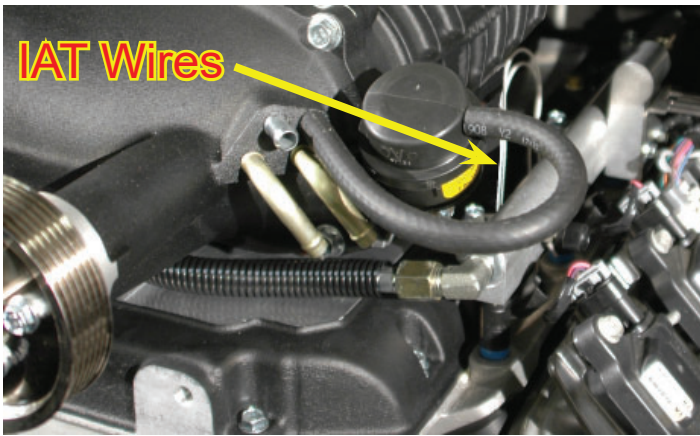


116. Locate the MAF electrical plug, pull back the flex loom about 12", and cut the tan wire and the tan w/black stripe wire about 2" from the MAF connector.



117. Cut the supplied white wire into two equal lengths and strip about 1/4" off all ends. Strip about 1/4" of insulation from the ends of the tan and the tan/black wires to the computer and the IAT white wires. Using the crimp/shrink connectors supplied, connect one white wire to the tan wire, and the other white wire to the tan wire with the black stripe that runs to the vehicles computer. The severed ends of the wires that run to the MAF will no longer be used.





118. Locate the two IAT wires on the driver side of the intercooler lid. Cover the extended wires from the previous step with the supplied split loom and route under the supercharger nose below the bypass valve to meet the wires from the lid. Use the supplied connectors to join one extended wire to each of the IAT wires from the supercharger lid. Using a heat gun or blow dryer set on HIGH; shrink the insulation on all connectors so that it contracts around the wires completely. **You must shrink the insulation, as crimping the connectors alone is not enough to secure them.**



119. Gather the provided air tube and components.



120. Assemble the bellows and coupler to the air tube. **NOTE: The position of the clamp screws. The screws must be facing up so that you can install the assembly on the vehicle.**



121. Using some of the O-ring grease supplied, apply a light coating of grease on the inside of the coupler.



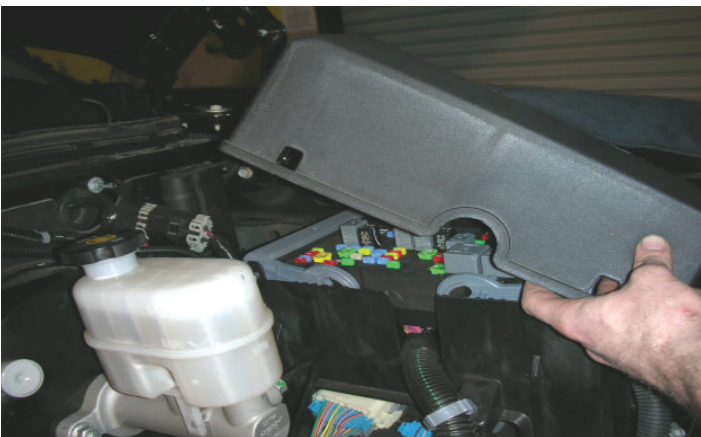
122. Push the bellows end of the air tube assembly on to the air box first, and then install the remaining end with the coupler on to the throttle body. Tighten all clamp screws securely.



123. Attach the remaining 3/8" hose (left over from a previous step) (about 9") from the right (passenger-side) valve cover to the barb on the bottom of the air tube.



124. Remove the driver side fender to firewall brace with a 13mm socket wrench, to gain access to the fuse relay panel.



125. Pull back on the two tabs holding the fuse cover to the fuse box and lift the cover out of the vehicle.



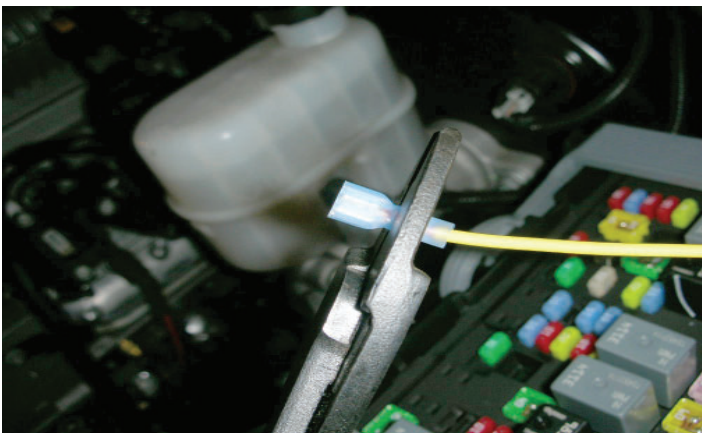
126. Remove the 10amp mini-fuse located in the fuse box, which is labeled HVAC-IGN.
NOTE: Fuse location could vary, verify by fuse name.



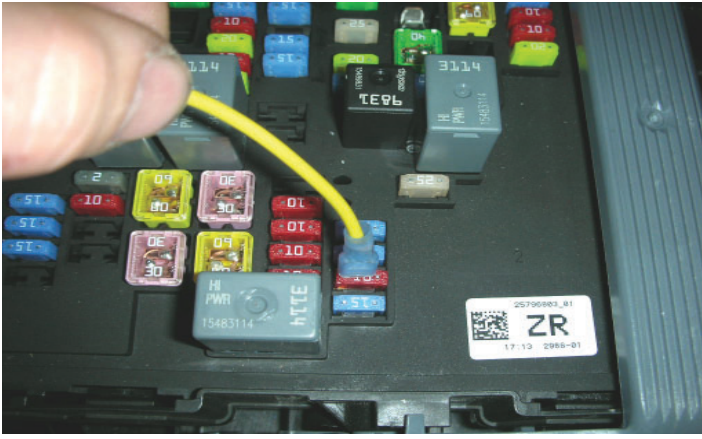
127. Install the supplied fuse t-tap onto the fuse and re-install the fuse back into the fuse box.



128. The intercooler relay harness is going to mount on the driver side inner fender just below where the fender support bracket is mounted. Use the self-tapping screw supplied to drill a hole, then use the screw to mount relay to fender.



129. With the relay mounted, take the yellow trigger wire from the relay, strip about 1/4" of the insulation from the end and crimp it onto the supplied spade connector.



130. Take the yellow wire from the intercooler relay and connect the spade terminal end and install the wire onto the fuse tap installed earlier. (HVAC IGN)



131. Next, take the fused red wire and cut off the 6mm eyelet connector and replace it with the supplied 8mm eyelet connector and install the wire onto the M8 stud in the fuse center.



132. Using a 12mm socket wrench, and the nut provided, secure the fused red wire to the M8 stud.



133. With a 10mm socket wrench, remove the nut securing the ground cable to the firewall.



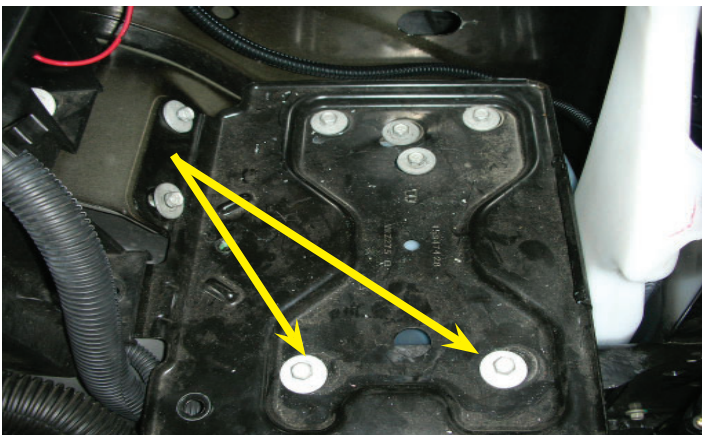
134. Crimp the supplied 6mm eyelet connector onto the ground (black wire) wire from the intercooler relay, install it onto the ground stud and re-install the factory nut.



135. Now, re-install the fuse cover onto the fuse center. Be careful not to pinch any wires.



136. Re-install the fender to the firewall brace.



137. To install the intercooler reservoir tank bracket you must remove these two bolts, using a 10mm socket wrench.



138. Lift up on the secondary battery tray and slide the intercooler reservoir tank bracket under the tray, lining up the holes on the bracket with the holes on the tray.



139. Using a 10mm socket wrench, re-install all bolts that were removed.



140. Mount the intercooler reservoir tank to the bracket using the three M6 X 12mm bolts. Tighten the bolts using a 10mm socket wrench.



141. Using a flat blade screwdriver, remove eight plastic pushpins from the radiator support cover.



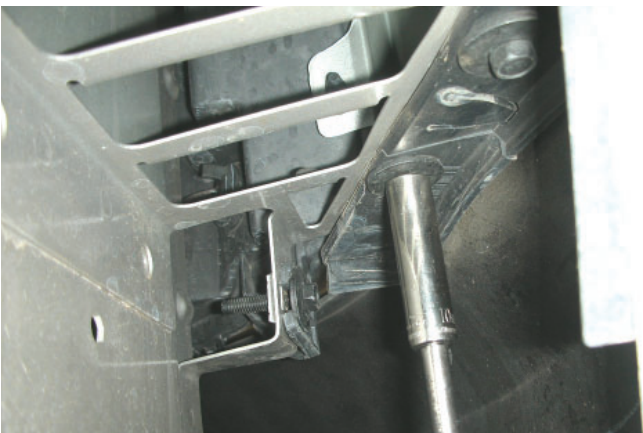
142. Remove the radiator support cover from the vehicle. Set aside to be reinstalled later on.



143. Using a 7mm socket wrench and a flat blade screwdriver, remove the two bolts and the two plastic pushpins that secure the inner wheel well to the front fascia.



144. With the wheel well loose, pull back on the wheel well, giving you access to the fog lamps. Disconnect the electrical connector from the lamp. Repeat on the other side of the vehicle.



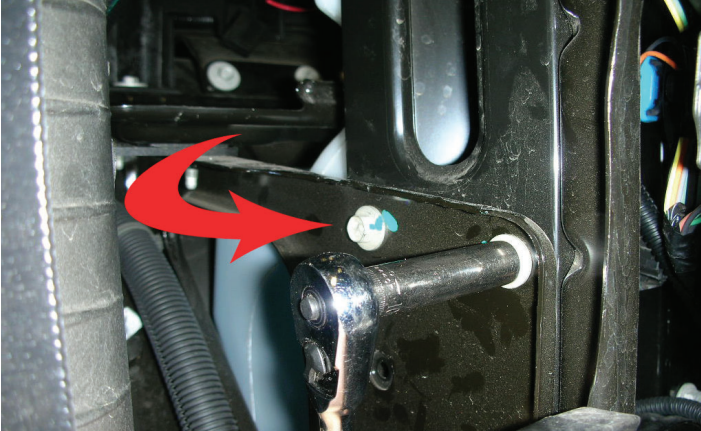
145. After unplugging the fog lamps, remove the two bolts with a 10mm socket wrench that secure the fascia to its support frame. Also remove the two bolts that secure the lower front fascia to its support brackets.



146. Using a 10mm socket wrench, remove the six bolts that secure the front fascia to the radiator support.



147. With the help of an assistant, carefully remove the front fascia and set to the side in an area where it won't be damaged.



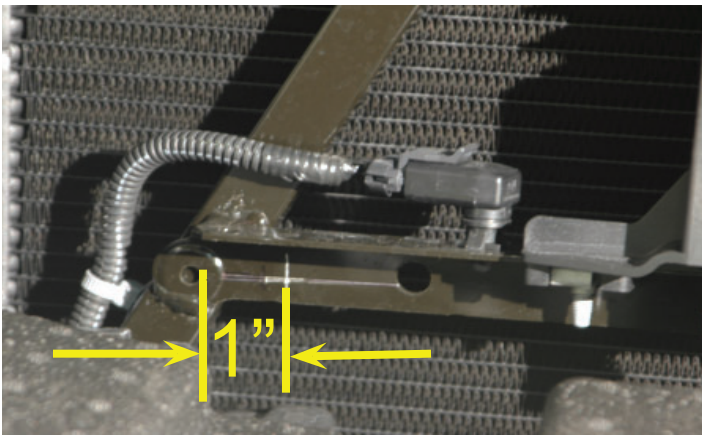
148. Using a 10mm socket wrench, remove the bolts shown, this is behind the drivers' side headlight, it is bolted to the radiator support.



149. Locate the Adel clamp, and put it on the intercooler pump, then using the 6mm x 55mm bolt and the spacer supplied install the intercooler pump to the radiator support.



150. **NOTE: For 07-08 vehicles near the base of the fascia "A-Frame" support in front of the radiator is a bolted connection.** Remove the two bolts at the base of the "A-Frame" and skip the following steps for the 09- and up vehicles.



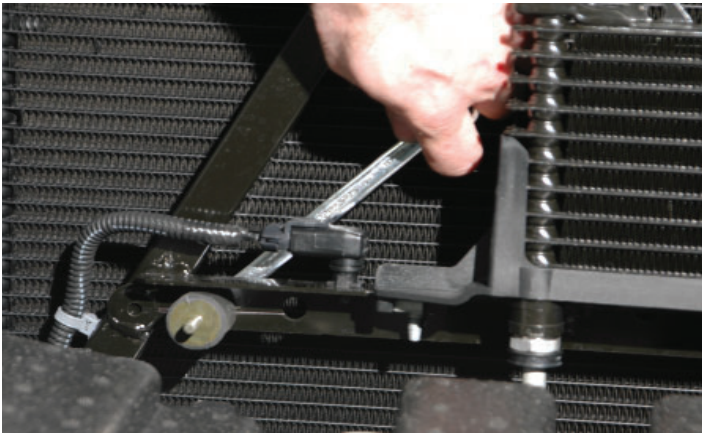
151. **NOTE: For 09- and up vehicles, near the bottom of the fascia "A-Frame" support in front of the radiator above the bumper support, there is a welded cross support.** At the junction there is what used to be the bolted connection mentioned in the previous step. The hole location is still visible as shown in this picture of the passenger side. Measure over from the inside edge of the hole 1" and mark a parallel center line as shown. Repeat the process on the driver side.



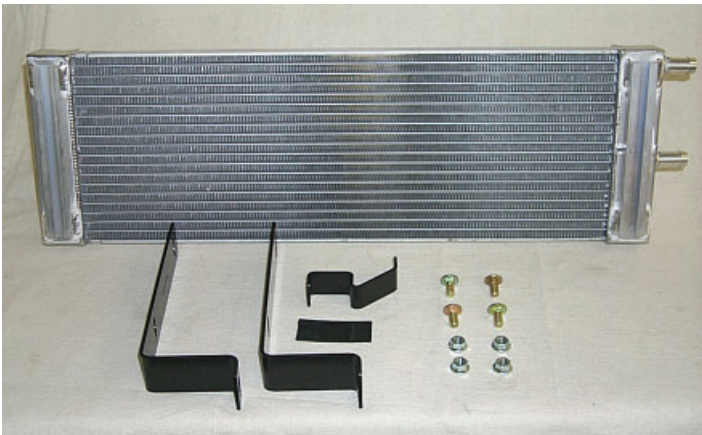
152. Use the marks to drill two $\frac{1}{4}$ " holes, one on each side. Place a board or some protection behind the locations to avoid the drill bit punching through and creating a hole in the radiator behind the cross member.



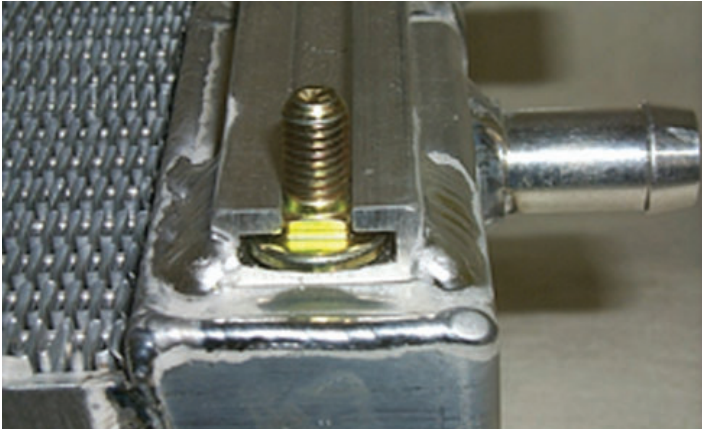
153. Install the rubber shock mounts using the nuts supplied in the two holes. **NOTE: For 09- and up vehicles, put two of the supplied washers between the shock-mount and cross-member.** Use the supplied nuts on the back of the cross-member.



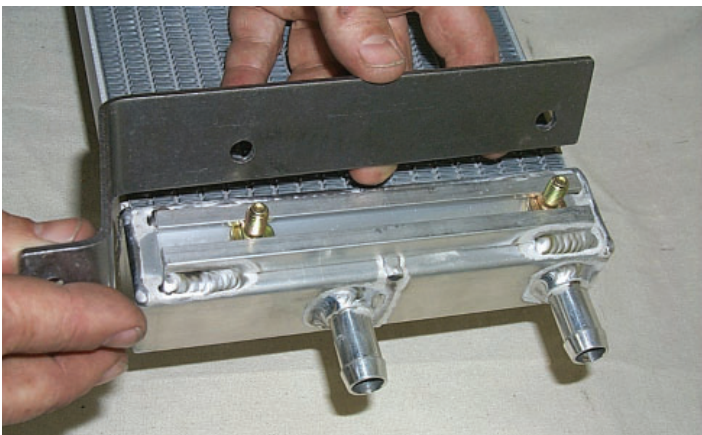
154. Tighten the mounts securely but be careful to not over tighten and break the rubber connection.



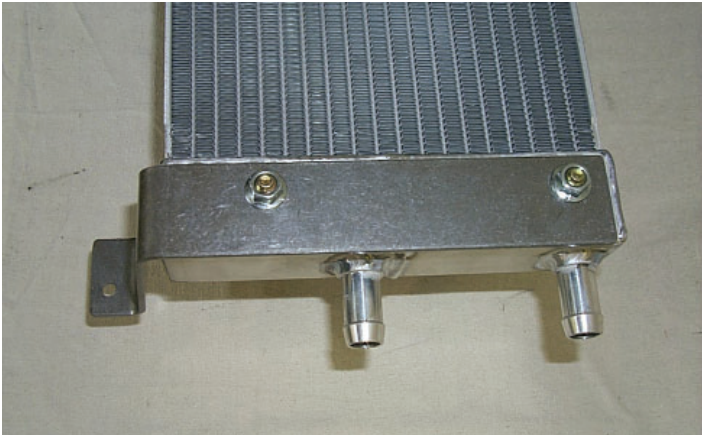
155. Gather the provided intercooler and its mounting components.



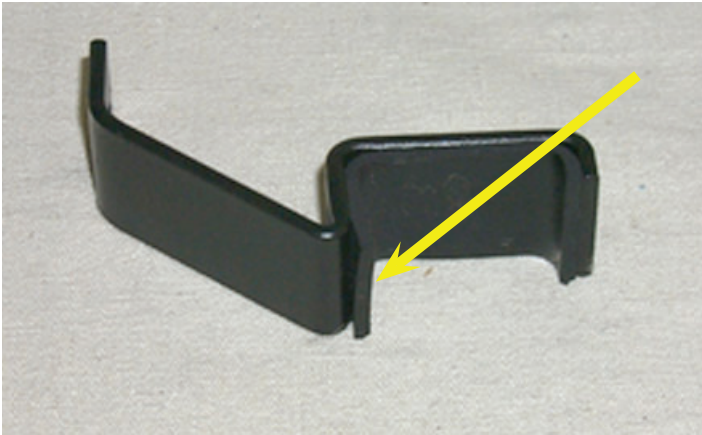
156. Install two of the round-headed carriage bolts supplied into both channels on the sides of the heat exchanger. The square portion of the bolt shaft must be aligned with the side of the channel.



157. Align the bolts with the holes in the bracket.



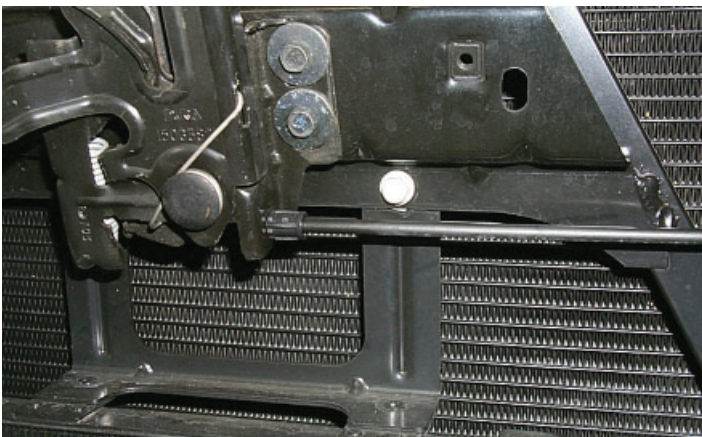
158. Torque the mounting nuts to 18 ft-lbs. Verify your torque wrench settings.



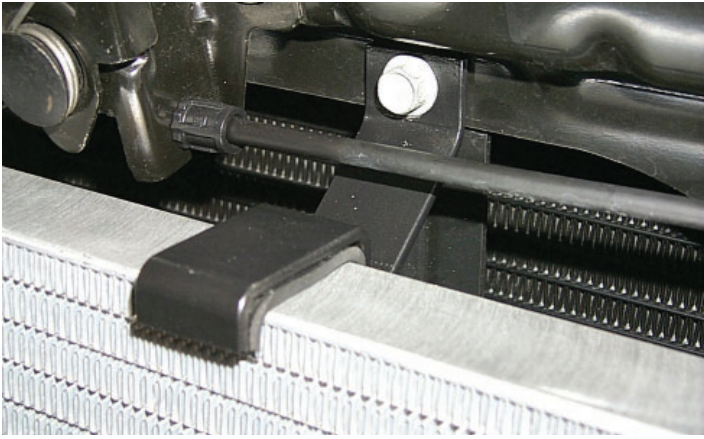
159. Assemble the upper mounting clamp with its plastic strip. Peel the backing tape off the plastic strip and apply the strip to the inside of the jaws on the mounting clam.



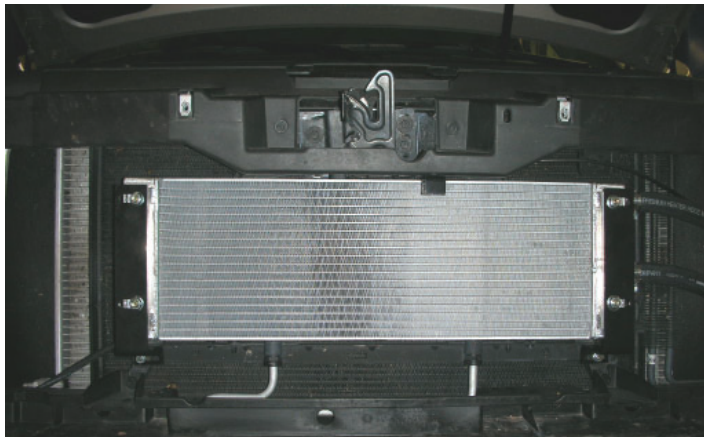
160. Install the heat exchanger onto the studs of the rubber mounts and secure it with the nuts supplied and a 10mm socket wrench.



161. Remove the bolt located below and to the right of the hood latch with a 10mm socket wrench. Vehicles without transmission cooler will not have this bolt. In this case use the bolt provided.



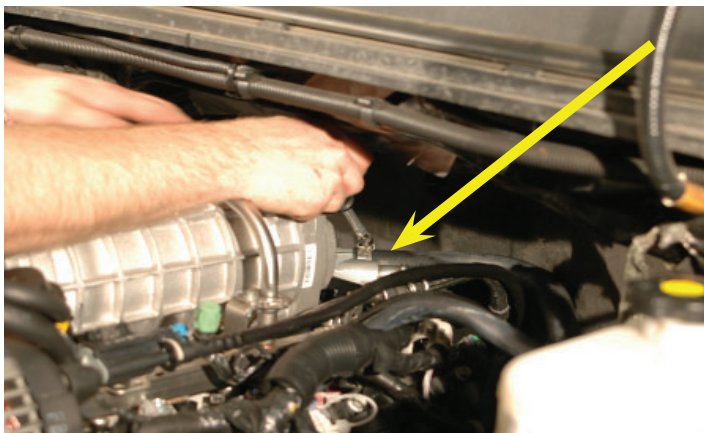
162. Install the upper mounting clamp onto the heat exchanger core using the bolt removed in the previous step. Tighten the bolt securely.



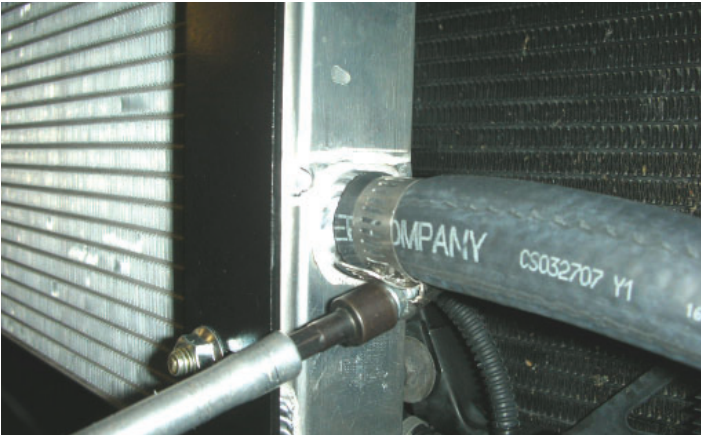
163. Here is the heat exchanger mounted.
Note: The hose barbs are on the driver side.



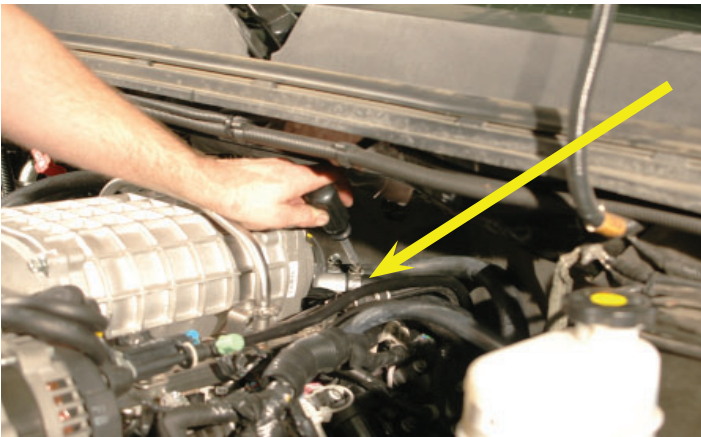
164. Route the electrical plug for the intercooler pump between the PCM and the fender well, through the radiator support and connect the plug to the pump.



165. Starting at the intercooler barb on the driver side of the supercharger, attach the short end of the supplied 4 x 60 x 3/4" 90° molded hose with a #10 clamp. Run the hose forward and down beside the left side of the radiator.



166. Route the hose that was just installed (in the previous step) through the radiator support and under the intercooler pump and connect it to the lower barb on the heat exchanger and secure it with the #10 clamp provided. Cut and install a piece of the split loom provided to cover and protect the hose at the radiator support.



167. Connect the short end of the supplied 4 x 36 x 3/4" 90° molded hose to the intercooler barb behind the supercharger on the passenger side. Secure the hose with a #10 clamp.



168. Trim the hose if needed and connect it to the intercooler reservoir tank upper 3/4" barb and tighten the clamp. Make sure you are using the supplied worm gear clamps.



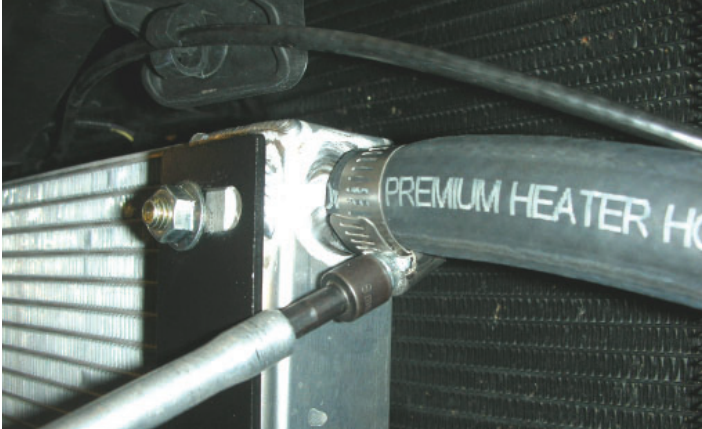
169. Now, put a piece of the remaining hose onto the other (lower) 3/4" barb on the intercooler reservoir and secure the clamp. Make sure you are using the supplied worm gear clamps.



170. This hose will route directly to the inlet barb on the intercooler pump. Secure the hose with the supplied #10 clamp. **NOTE: Clamps may vary between squeeze style and screw style.**



171. Using the last remaining hose, attach one end to the outlet barb on to the intercooler pump.



172. Finally route the hose to the upper barb on the heat exchanger and tighten the clamp. Cut and install a piece of the split loom provided to cover and protect the hose at the radiator support.



173. Place the belt/vacuum routing diagram onto the radiator support cover.

174. Re-connect the battery with a 10mm socket wrench.



Make sure that you have followed step #1 in this manual to load the proper supercharger calibration to your vehicle's ECM.

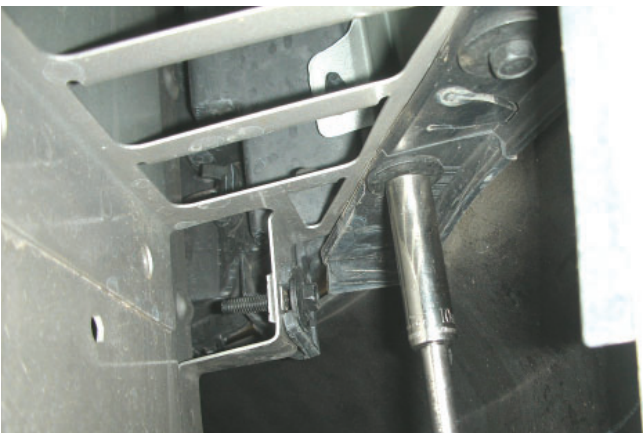
175. Refill radiator and intercooler system with the vehicle manufacturer recommended coolant mixture. Let run for 5-10 minutes. Bleed system at the reservoir. Check system periodically for fluid level.



176. Replace the front end Fascia using the stock hardware following the removal steps in reverse. Using a 10mm socket wrench, replace the six bolts that secure the front fascia to the radiator support.



177. Replace the two bolts using a 10mm socket wrench that secure the fascia to its support frame.





178. Pull back on the wheel well, giving you access to the fog lamps. Reconnect the electrical connector to the lamp. Repeat on the other side of the vehicle.



179. Using a 7mm socket wrench, replace the two bolts and the two plastic pushpins that secure the inner wheel well to the front fascia.



180. Replace the radiator support cover using the stock hardware.



181. Start the vehicle for 5 seconds and shut off, once again check for fuel leaks and fan-supercharger belt alignment. Check radiator and intercooler reservoir.



182. Test drive vehicle for the first few miles under normal driving conditions. **Do not perform any wide open throttle runs.** 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. Check & bleed intercooler reservoir as needed.



183. After the initial 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. Install the provided "Use Premium Fuel Only" sticker to the inside of the fuel filler door.

After you finish your installation and road test your vehicle, please fill out the warranty registration. This can be found on our website.

If you have questions about your vehicles performance, please check with your installation facility.

NOTES

NOTES



Please enjoy your “Magna Charged” performance responsibly!

This supercharger system requires the use of only premium gasoline fuel, 91 octane or better. It is NOT compatible with E85, Ethanol, Flex Fuels.

MAGNUSON
SUPERCHARGERS