MAGNUSON SUPERCHARGERS

Installation Instructions for:

INTERCOOLED SUPERCHARGER SYSTEM
2010-2013 LS3/L99 Chevrolet Camaro

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

*** PREMIUM FUEL REQUIRED ***

ATTENTION!
Your MAGNUSON SUPERCHARGER kit is sensitive to corrosion!
Take care of if by using 50/50 anti-freeze with de-ionized water.

INSTALLATION MANUAL

Magnuson SuperCharger
GM 6.2L Engine
LS3/L99 Chevrolet Camaro

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.

Use only premium fuel, 91 octane or better.

Magnuson SuperCharger systems are manufactured to produce about 20 RWHP per pound of boost at sea level. High altitudes will produce different numbers.

Our Magnuson SuperCharger kits are designed for engines in good mechanical condition only. Installation on high mileage or damaged engines is not recommended and may result in engine failure, for which we are not responsible. Magnuson Products is not responsible for the engine or consequential damages.

Magnuson Products supercharger kits are designed for use on stock vehicles. To that end, the alteration or modification of the fuel system, drive train, engine, and/or supercharger outside of stock parameters in any way can result in engine damage or failure for which Magnuson Products is NOT responsible and will void Magnuson Products warranty and CARB certification. Aftermarket engine recalibration devices that modify fuel and spark curve (including, but not limited to programmers) are not recommended and may cause engine damage or failure. Use of non-Magnuson Products approved programming will void all warranties.

After you finish your installation and road test your vehicle, please fill out and mail in the limited warranty card, so we can add you to our files (this is important for your protection).

A new GM fuel filter is recommended at the time of supercharger installation
Stock spark plugs and stock plug gap is recommended
Drive belt = Gates# K060947

Tools Required:

- Metric wrench set
- ¼” - 3/8” and ½” drive metric socket set (Standard & Deep)
- 3/8”and ½” drive Foot pound and inch pound torque wrenches
- Phillips and flat head screwdrivers
- Fuel line quick disconnect tools (included in kit)
- Small or angled 3/8” drill motor
- Drain pan
- Hose cutters
- Hose clamp pliers
- Safety glasses
- Metric Allen socket set 3/8” drive
- Shop vacuum cleaner

Helpful Tool: Air or electric impact wrench.

*** PAY ATTENTION TO THE STEPS IN THIS INSTRUCTION MANUAL. ENGINE DAMAGE CAN OCCUR IF YOU DO NOT FOLLOW THE INSTRUCTIONS. ***

1. The first step is to reprogram the vehicle computer to allow it to function correctly with your new Magnuson Supercharger. Follow the instructions in the supplied SCT tuner manual. Locate your EO sticker and follow the instructions for placing the sticker on the supercharger.

2. The battery is located beneath the floor of the trunk. The first step is to remove the carpet covering the access panel.

3. Unscrew and remove the large wing-nut in the center of the panel.

4. Pull up on the access panel to remove.

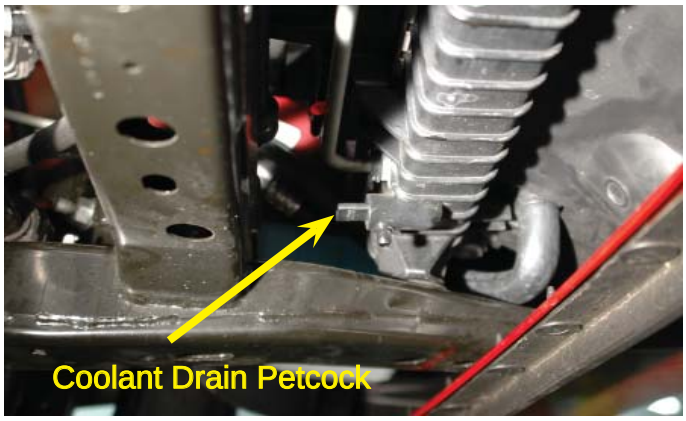
5. Pull up on the Styrofoam mount support and tire compressor to remove from the vehicle. Put these parts aside for later reinstallation.

6. Use a 10mm wrench to loosen and then disconnect the negative (-) battery cable at the terminal.

7. Slowly remove the gas cap to release fuel system pressure.

8. Remove the engine cover by lifting and put aside. This can be modified, should you wish by utilizing the side panels over the rocker covers, but will not be reused in this configuration.

9. Place a clean drain pan under the driver side front of the car. Near the driver side main frame rail is the radiator petcock drain valve with a down spout to drain. Twist the valve to start the flow, drain the coolant into the clean pan and put aside for later use.



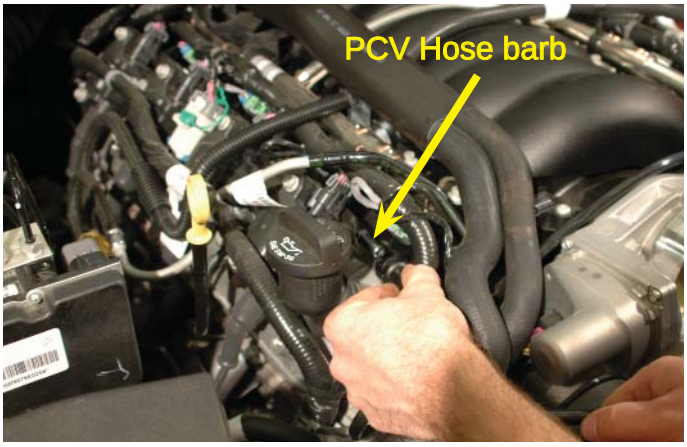
10. Remove the radiator cap to facilitate draining. When the radiator is drained, reset the petcock valve to shut, and replace the radiator cap.

11. Pull the passenger side vent tube off at the plastic box between the throttle body and the intake air box.

12. Use an 8mm wrench to loosen the clamps at the air box and throttle body.

13. Pull the loosened air inlet tube free from the vehicle, this will not be reused.

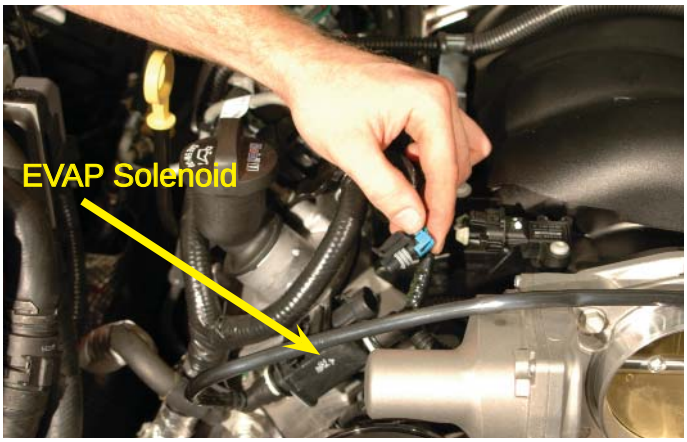
14. Rotate the passenger side vent tube removed from the air inlet in step #11 to expose the release tab. This will be at the front of the passenger side valve cover adjacent to the oil fill spout. Spread the tab to release from the hose barb and remove the hose. This will not be reused.



15. Remove the pinch clamps on the heater hoses from the water-pump hose barbs and pull the hoses free from the water pump.

16. Tuck the hoses over the brake module and out of the way, be aware of residual fluid that may be inside the hoses.

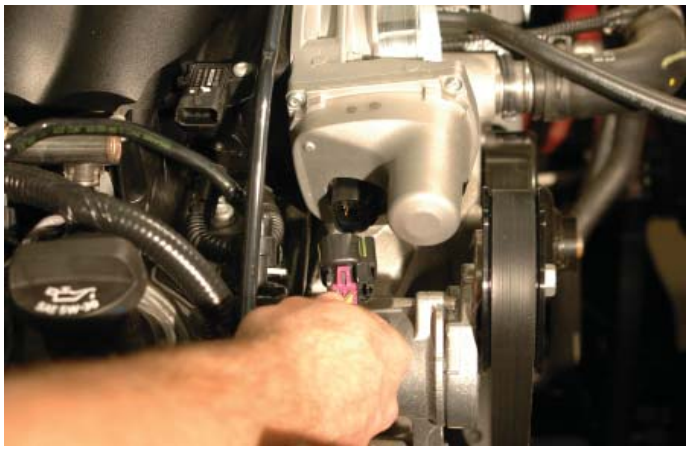
17. Disconnect the EVAP solenoid electrical connector.



18. Disconnect the MAP sensor electrical connector at the sensor on the OEM intake manifold.

19. Unplug the eight fuel injector connections.

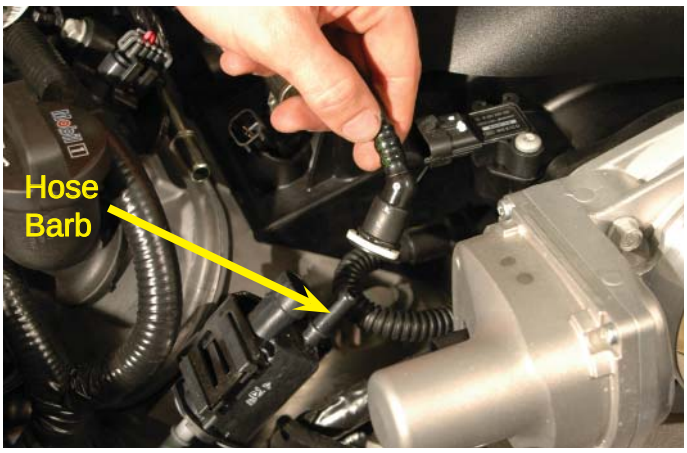
20. Unplug the electronic throttle body connection.



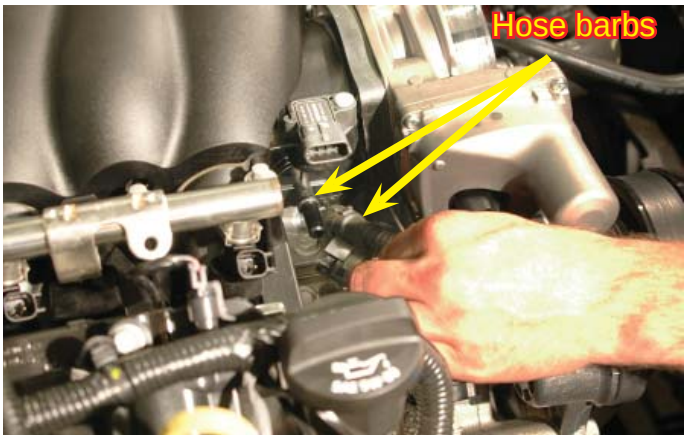
21. Pull the wire loom anchors free from the mounting holes on the OEM fuel rails on both sides of the engine.

22. Press on the light tabs of the EVAP line to release the clips from the EVAP solenoid and the Throttle Body. Put aside for later modification.

23. Unplug the remaining EVAP hose that goes from the sensor to the hard-line fitting on the passenger side. Tuck aside near the brake module for later reinstall.

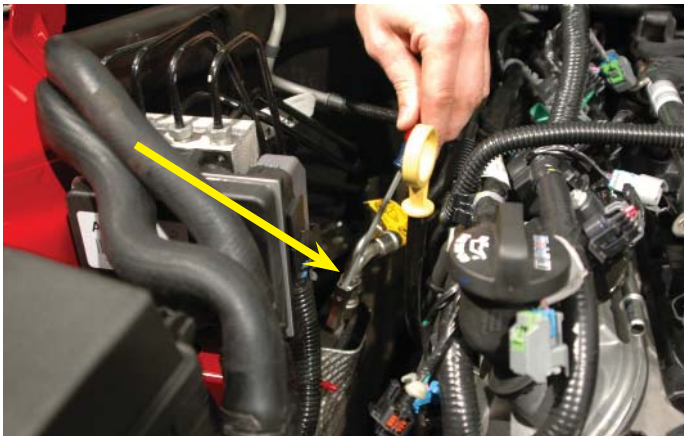


24. LS3 Engines: Unplug the PCV hose from the OEM manifold to the valley cover. This is a short “U” loop and will not be reused. L99 Engines: This hose goes from the OEM manifold back to the hose barb at the rear of the driver sided valve cover and will also not be reused.

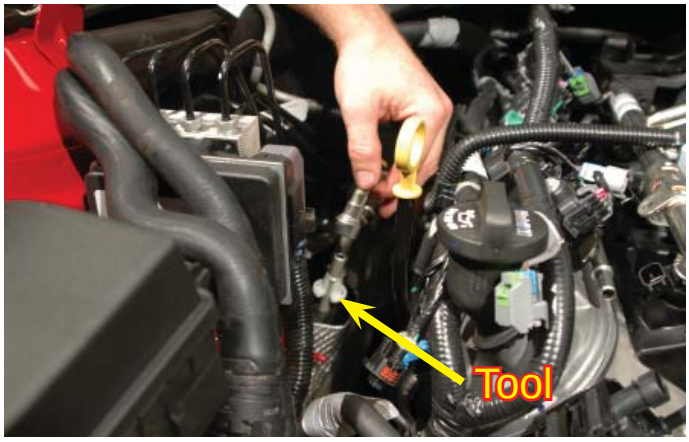


25. LS3 Engines: Disconnect the vacuum brake booster valve from the canister. It will be more out of the way if you swivel this hose behind the intake toward the passenger side of the engine. L99 Engines: Disconnect the hose from the sensor at the brake booster valve using a pair of pliers on the existing clamp.

26. Pry the retaining clip off the fuel line at the passenger side of the vehicle just below the brake module. Put this clip aside for later installation.



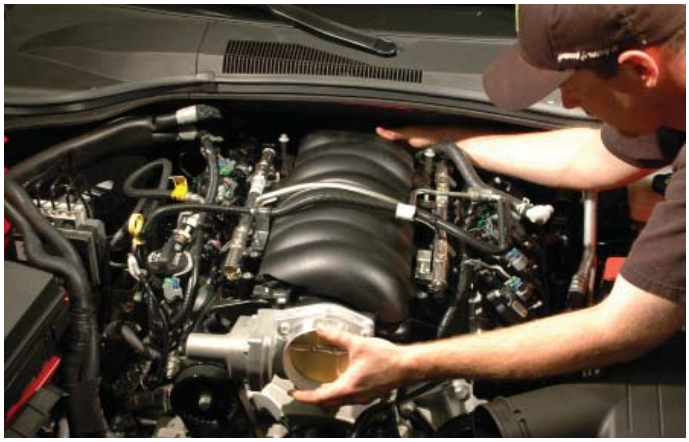
27. Use the provided fuel line removal tool to release the fuel line from the hard-line barb. The proper way to do this is to press the line into the fitting first, insert the tool and while the line is pressed in, push the tool into the fitting. Then pull the line free from the hose barb. If you have, or can improvise, we suggest that you cap both the hard-line barb and the fuel line.



28. Remove the engine cover hold down bracket using a 10mm wrench on the driver side near the end of the fuel rail. Then pivot the hold down bracket up and pull free from the engine. This will not be reused.

29. Unbolt the OEM intake manifold by removing the ten intake manifold bolts using an 8mm socket wrench; there are five on each side.

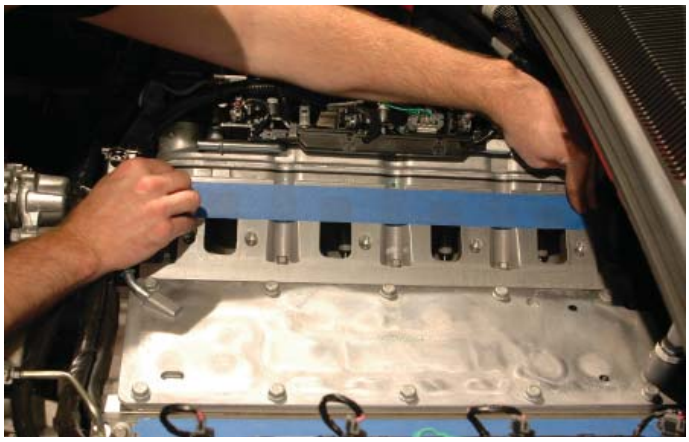
30. Carefully lift the OEM intake manifold assembly from the vehicle. Put aside for the moment, we will be using some components later.



31. Vacuum off the valley cover to ensure that no debris enters the ports.

32. Wipe off the heads with some alcohol or suitable solvent to eliminate any oils or residue that may have collected.

33. Cover the intake ports with tape to maintain a clean environment. It's important to keep your work surfaces clean, avoid contamination, or any debris falling into the exposed engine interior.



34. Unplug the MAF connector from the front of the OEM air box on the driver side.

35. Release the two clips on the air-box cover.

36. Rotate the air-box cover up and away from the clips, remove the filter and put both the filter and the cover aside for later reinstallation.

37. Release the two main upper radiator hose clamps and pull the two ends off of the engine barb and the radiator barb respectively. Leave the “T” fitting intact, twist and tuck the hose leaving the “T” connected between the power steering pump and the OEM air box.

38. Disconnect the overflow hose from the radiator fill spout, pull free from the mounting clamps and wrap up around the overflow bottle cap out of the way.

39. Disconnect the steam vent hose from the radiator fill spout, and tuck this behind the power steering pump.

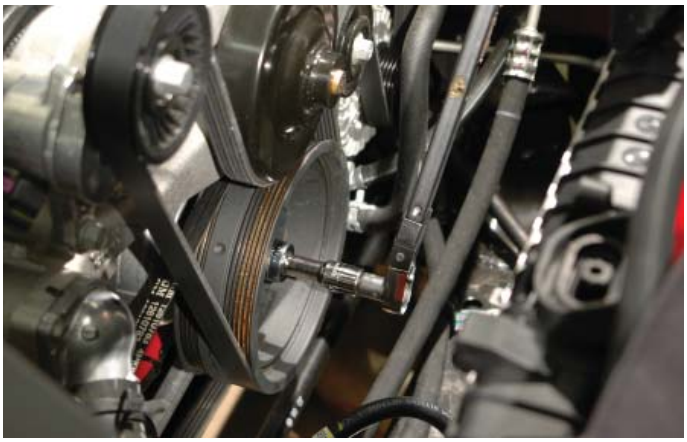
40. Unplug the fan shroud connection.

41. Use a 13mm socket to remove the two bolts holding the top of the fan shroud to the radiator.

42. Carefully lift the fan shroud assembly from the vehicle and put aside for later reinstallation.

43. Using a 24mm socket and an impact wrench, remove the Main Harmonic Balancer bolt. This will not be reused. Sometimes using a heat gun or MAP gas torch on the surrounding pulley material helps it to break free from the Loctite used during initial installation. Don't heat the bolt itself and always use care using open flame around engine compartments and combustible material.

44. Install the supplied drill guide using the supplied bolt. Torque the bolt to 30 ft-lbs using a 24mm socket and torque wrench. Verify your torque wrench settings.

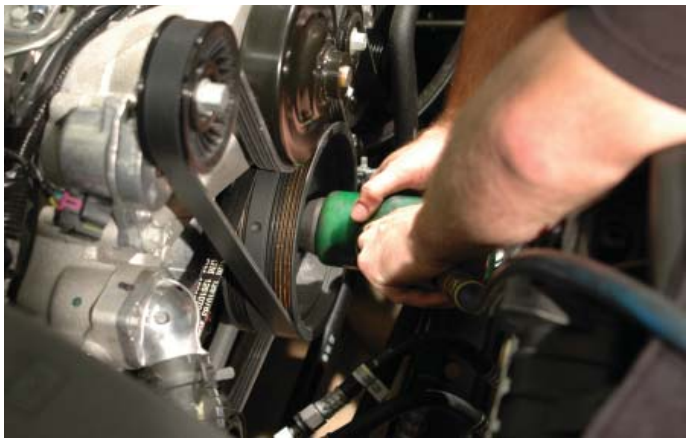


45. Using a small or angled 3/8” drill and the supplied drill bit, insert the drill into the two guide holes and drill to the second step of the drill bit. Be sure that you drill all the way to the second step, and use with suitable cutting oil. (Caution: Wear safety glasses)

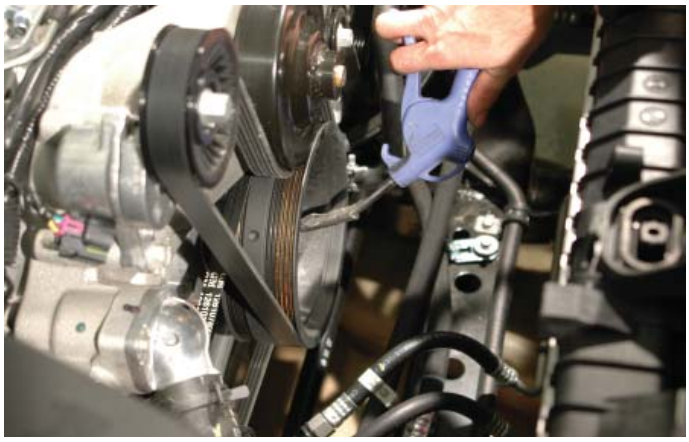
46. Using compressed air, blow the drill shavings out of the holes. (Caution: Wear safety glasses, and make sure that debris doesn’t blow into surrounding openings...such as the water-pump barb etc.)

47. Insert the supplied reamer into the drill, and using a small amount of oil, ream the holes clean until reamer bottoms out in the holes. (Caution: Wear safety glasses)

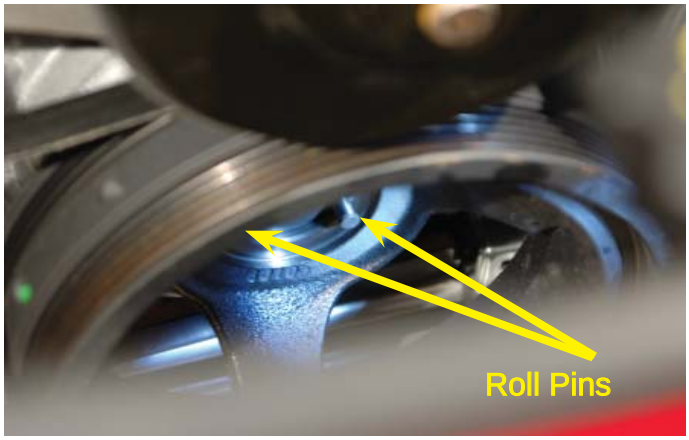
48. Using a 24mm socket, remove the large bolt and drill guide from the engine.



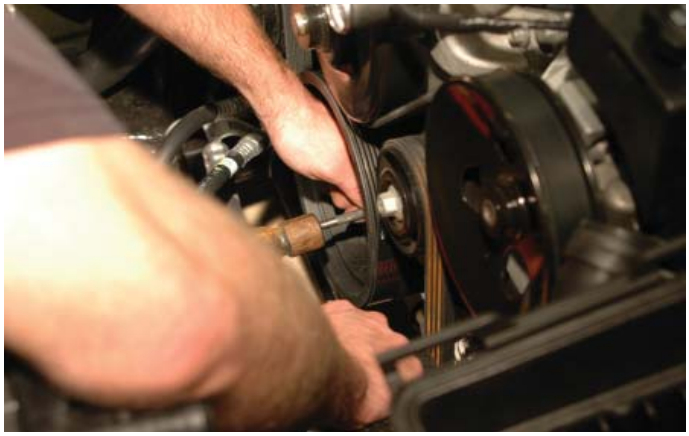
49. Once again, use compressed air to blow out the holes. (Caution: Wear safety glasses and again be aware of surrounding openings.)



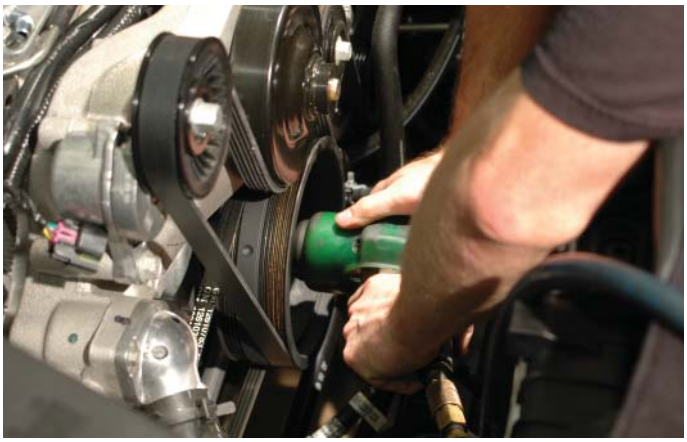
50. Insert the two supplied hardened roll pins into the drilled holes.



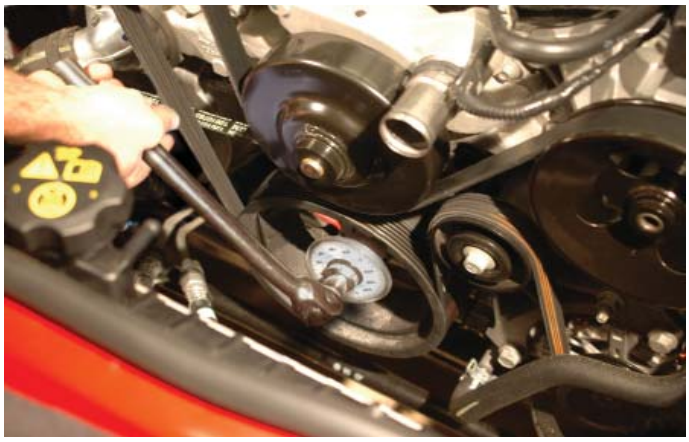
51. The use of a small hammer and punch may be necessary to tap the pins in. Make sure that the pins are in far enough that they do NOT touch the balancer bolt.



52. Install the new supplied factory GM Harmonic Balancer bolt.

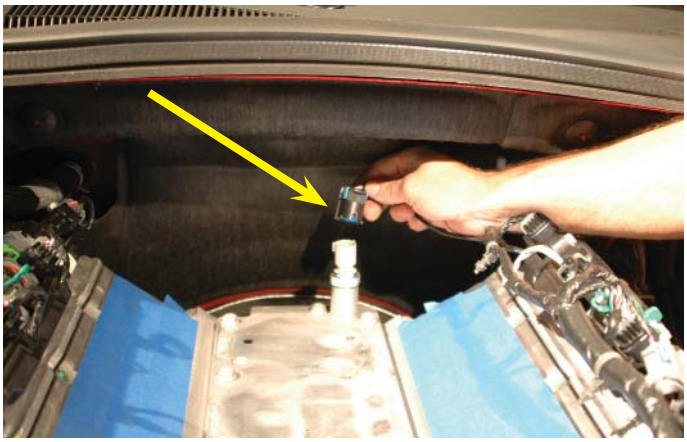


53. Using a 24mm socket tighten the new Harmonic Balancer bolt according to General Motors specifications. Tighten to 50 N-m (37 ft/lbs) then tighten an additional 140° using a torque angle meter.

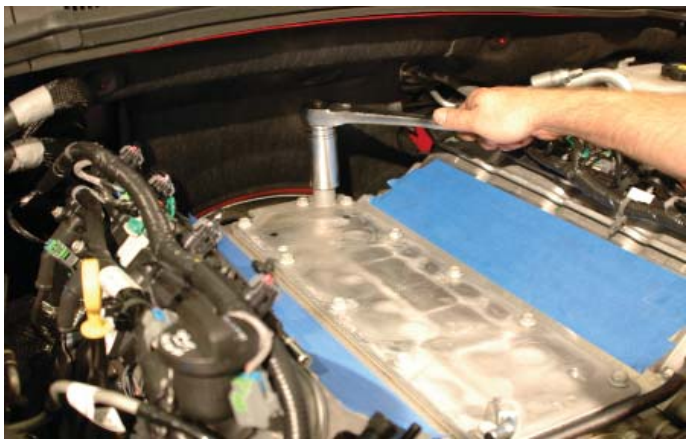


54. Using a 15mm socket on the Tensioner Pulley bolt, spring the pulley down to remove tension on the drive belt and remove the belt when tension has been released.

55. Unplug the oil pressure sensor from the back, driver-side of the OEM valley cover.



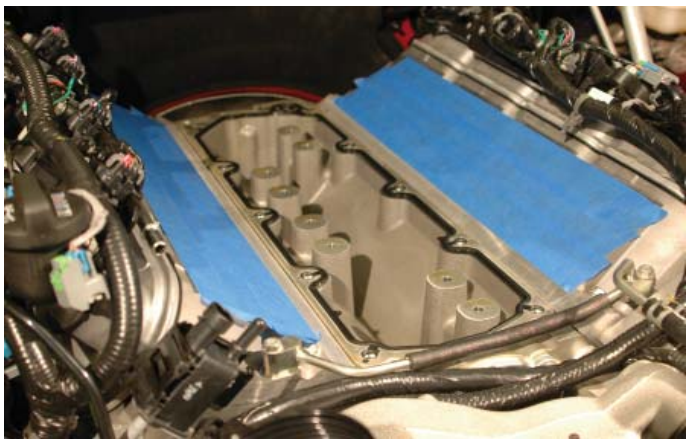
56. Remove the oil pressure sensor from the valley cover using a 6-point 1-1/16” socket or wrench, put aside for later re-installation. NOTE: L-99 cars or cars with Displacement On Demand (D.O.D.) will retain D.O.D. valley cover, skip to step #62. Damage to engine may occur if MagnaCharger valley cover is installed on D.O.D. equipped vehicles.



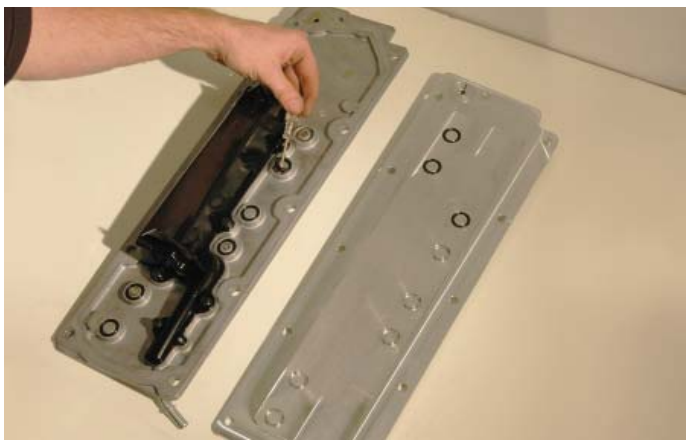
57. Remove the eleven valley cover bolts using a 13mm socket and set aside. NOTE: L-99 cars or cars with Displacement On Demand (D.O.D.) will retain D.O.D. valley cover, skip to step #62. Damage to engine may occur if MagnaCharger valley cover is installed on D.O.D. equipped vehicles.

58. Remove the OEM valley cover. This will not be reused, but we will need components. NOTE: L-99 cars or cars with Displacement On Demand (D.O.D.) will retain D.O.D. valley cover, skip to step #62. Damage to engine may occur if MagnaCharger valley cover is installed on D.O.D. equipped vehicles.

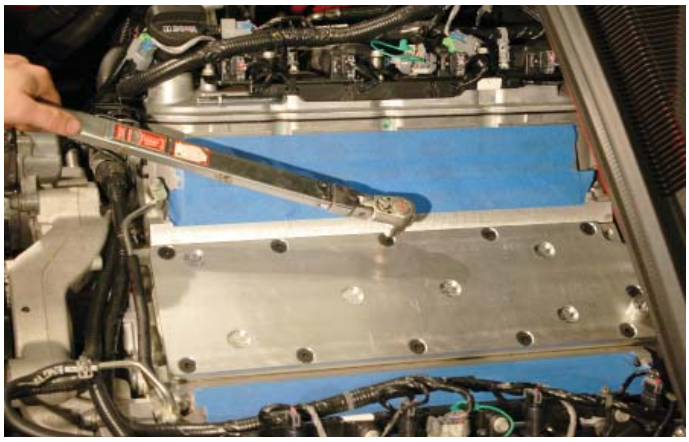
59. Verify the integrity of the existing valley cover gasket, and that it is correctly positioned on the valley surface. NOTE: L-99 cars or cars with Displacement On Demand (D.O.D.) will retain D.O.D. valley cover, skip to step #62. Damage to engine may occur if MagnaCharger valley cover is installed on D.O.D. equipped vehicles.



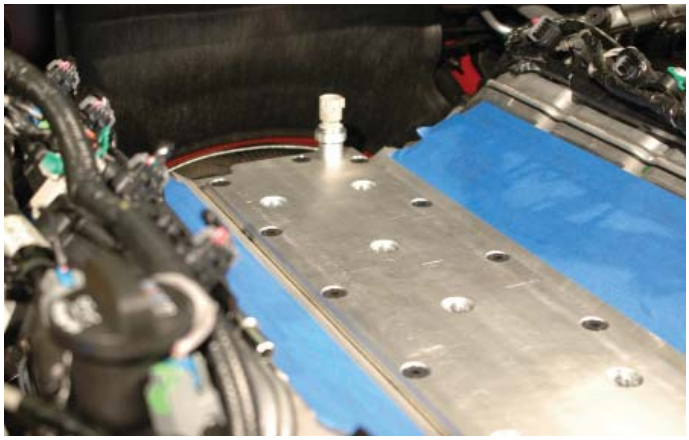
60. Remove the existing O-ring seals from the OEM valley cover, and place in the O-ring grooves of the new provided valley cover. NOTE: L-99 cars or cars with Displacement On Demand (D.O.D.) will retain D.O.D. valley cover, skip to step #62. Damage to engine may occur if MagnaCharger valley cover is installed on D.O.D. equipped vehicles.

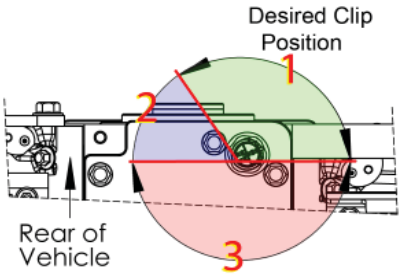


61. Install the new valley cover using the eleven provided Allen-countersunk bolts. Torque to 18 ft. lbs using a 5mm Allen socket. Verify your torque wrench settings. NOTE: L-99 cars or cars with Displacement On Demand (D.O.D.) will retain D.O.D. valley cover, skip to step #62. Damage to engine may occur if MagnaCharger valley cover is installed on D.O.D. equipped vehicles.



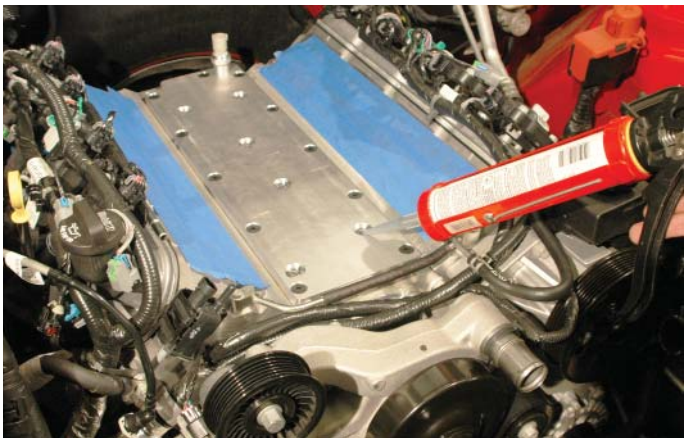
62. The secondary locking clip on your 2009 (+) oil pressure sensor connector may cause interference with the supercharger assembly. If you have previously removed the sensor, you should wrap the sensors threads with teflon tape or paste before reinstalling. If the secondary locking clip is not in position #1, you will need to reclock it (rotate). If the secondary locking clip lands in position #2, you may increase the installation torque to rotate into position #1. You should not have to exceed 24 ft-lbs.



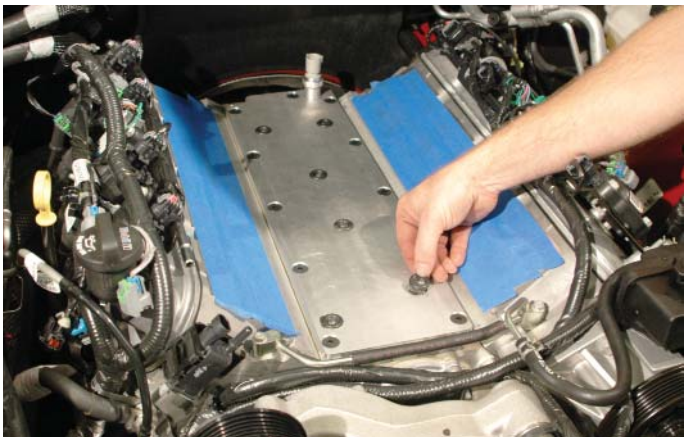


63. If the secondary locking clip lands in position #3, you will need to remove the sensor and reclock it using the supplied copper shim. Before reinstalling, wrap the sensor's threads with teflon tape or teflon paste. Reinstall the sensor and shim into position #1 by torquing to 15 ft-lbs minimum to 24 ft-lbs maximum.

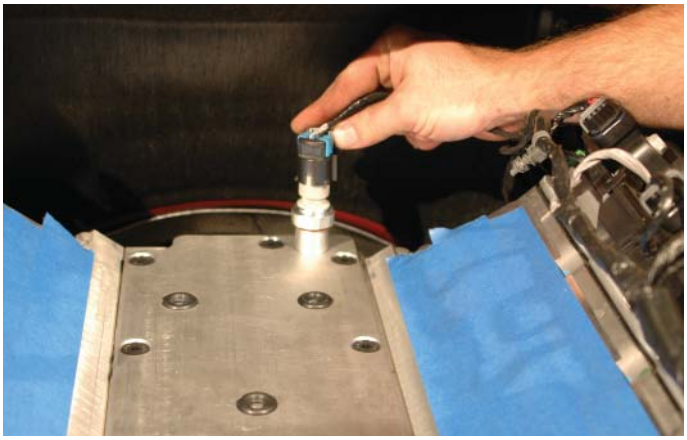
64. Place a dab of some black silicone into the recesses of the top surface of the new valley cover to hold the six provided O-rings in place. NOTE: If your vehicle is L-99 or D.O.D., skip to step 67.



65. Insert the six provided O-rings into place on the top surface recesses of the new valley cover.



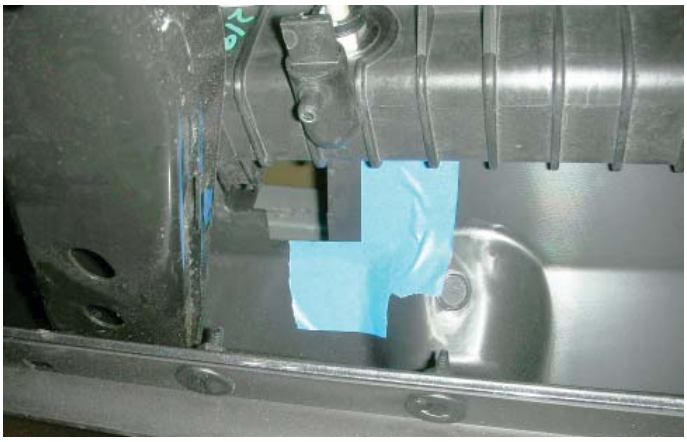
66. Replace the oil pressure sensor plug and locking clip on the oil pressure sensor.



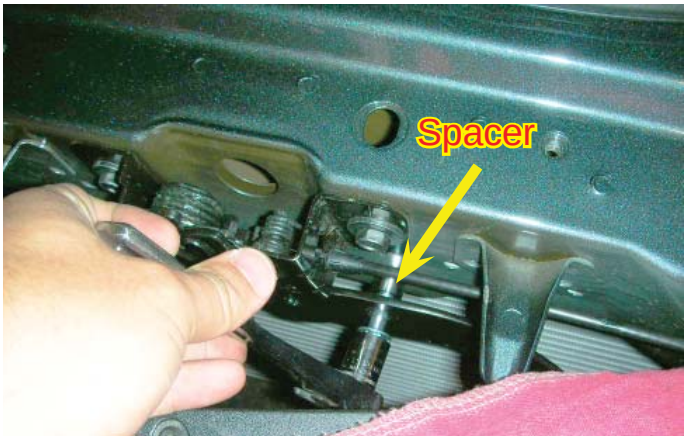
67. NOTE: If you have a convertible Camaro, the next four steps are required. The convertible model has some minor frame stiffening modifications. One of these is an additional “A- frame” type brace to the upper, fascia cross frame. Remove the two top bolts of this “A” frame brace using a 12mm wrench.

68. Loosen the 13mm bolts securing the bottom of the “A-frame” member to the frame rails on each side of the vehicle.

69. The heat exchanger (LTR-being installed in the upcoming steps) will be shifting about ¾" toward the passenger side of the vehicle. The air deflector will need to be modified slightly to create access for the heat exchanger hose barbs. The existing notches will need to be increased about ¾" toward the passenger side of the vehicle on each side of the air deflector as shown by this driver side tape application.



70. Once your notches are complete, reconnect the top "A-frame" bracket using the provided longer bolts, incorporating the provided spacer between the "A-frame" and the upper cross frame fascia support. Tighten all your bolts and torque to 40 ft-lbs. Verify your torque wrench settings.



71. NOTE: All vehicles continue from here: Remove the two upper radiator mounting bolts using a 10mm socket wrench.

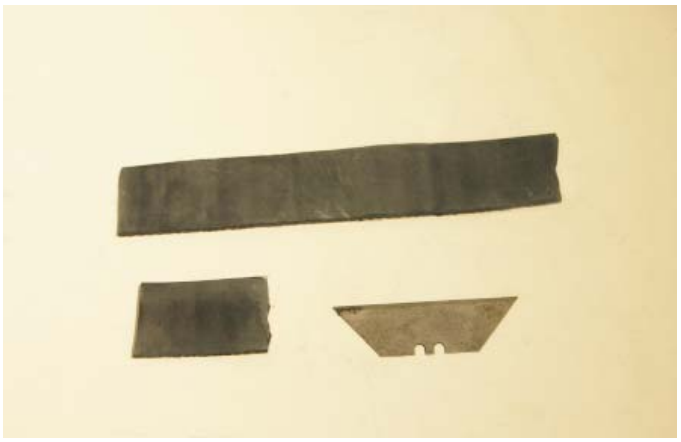
72. Remove the two upper radiator mounting brackets.

73. Pry off the rubber deflector strip from the top/front of the radiator. Put these parts aside for later reinstallation.

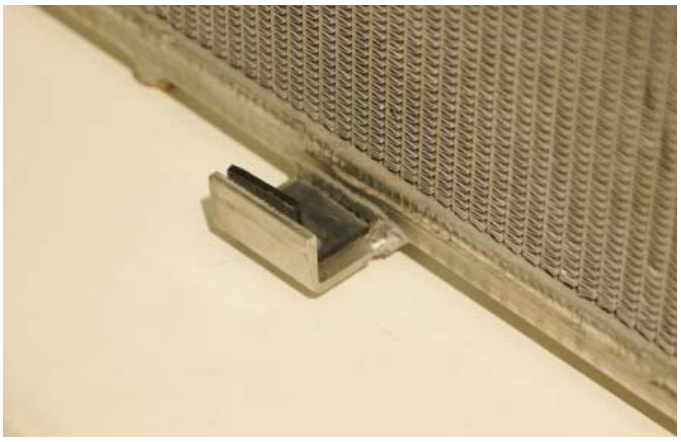
74. These are the heat exchanger components.

75. Cut the strip of the supplied adhesive backed foam in half

76. Cut two strips of the supplied adhesive backed rubber to fit the upper mounting angles of the heat exchanger. These will butt up against the heat exchanger and wrap around the inside edge of the angle.

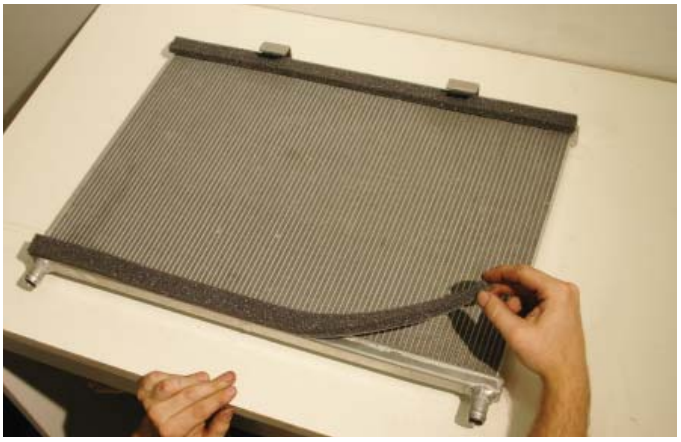


77. Attach the adhesive backed rubber to the mounting angles as shown.

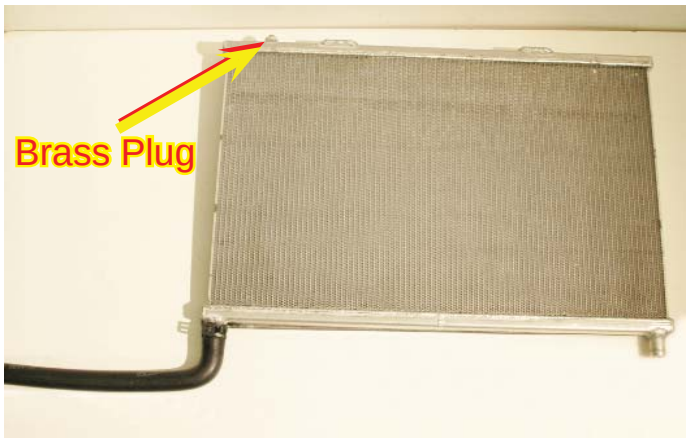


78. Attach one strip of the adhesive backed foam to the inside-upper edge of the heat exchanger, overlapping the rubber strips as shown.

79. Attach the other strip to the inside-bottom edge of the heat exchanger as shown.

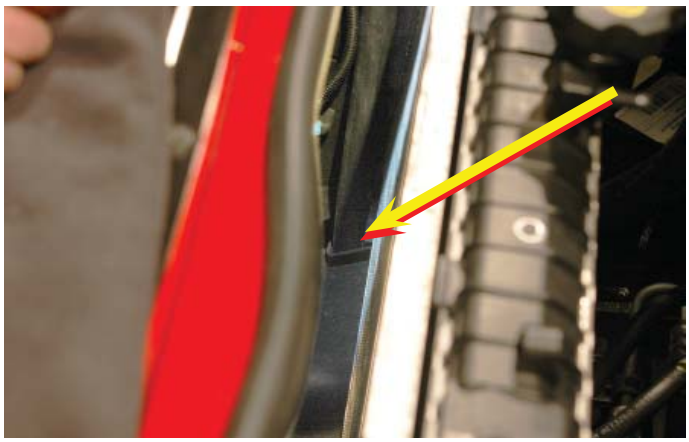


80. Replace the plastic plug on the top of the heat exchanger with the provided brass plug. Cut 1-3/4" off the short angle of the ¾" x 4" x 60" x 90° angle hose. Use the supplied spring hose clamps to attach the short end to the passenger side barb of the heat exchanger. This hose will angle directly outward from the heat exchanger as shown. With the mounting angles pointing down, this will be the left hose barb.



81. Cut 1-3/4” off the short angle of the ¾” x 4” x 36” x 90° angle hose. Use the supplied spring hose clamp to attach the short end of the hose to the remaining hose barb of the heat exchanger. This hose will also be pointing outward as shown.

82. There are two rectangular holes in the splash shield just forward of the radiator, one on the passenger side and one on the driver side. These holes correspond with the hose barbs of the intercooler heat exchanger. This picture shows the passenger side location.



83. With the help of an assistant, guide the two hoses through these holes. From below pull on these hoses while the assistant holds the radiator pushed back and guides the heat exchanger down in front of the existing radiator and AC condenser assembly.

84. Guide the “hooks” of the intercooler heat exchanger over the top of the AC Condenser. Ensure that the foam is between the two (both top and bottom), and the rubber strips are still in place around the “hooks”.

85. Replace the air deflector strip.

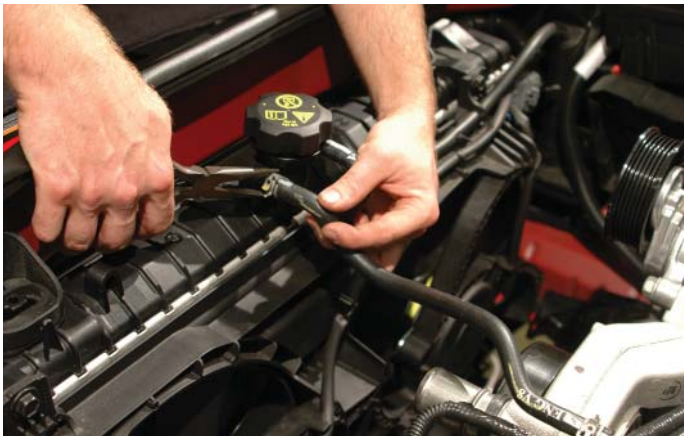
86. Reinstall the upper radiator clamps using the stock hardware and a 10mm wrench. Tighten securely.

87. With the radiator mounted back in the stock location, use a 13mm wrench and the stock hardware to re-install the electric fan shroud assembly.

88. Plug the electrical connection back into the fan shroud assembly.

89. Uncoil the coolant overflow from the reservoir bottle, and relocate through the stock clip locations. Re-connect the coolant overflow hose back onto the hose barb on the radiator neck.

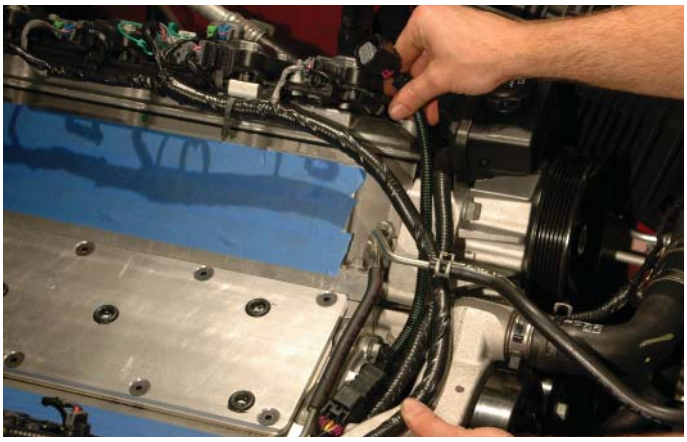
90. Reconnect the steam vent hose to the barb at the side of the radiator neck; place the stock clamp back in position.



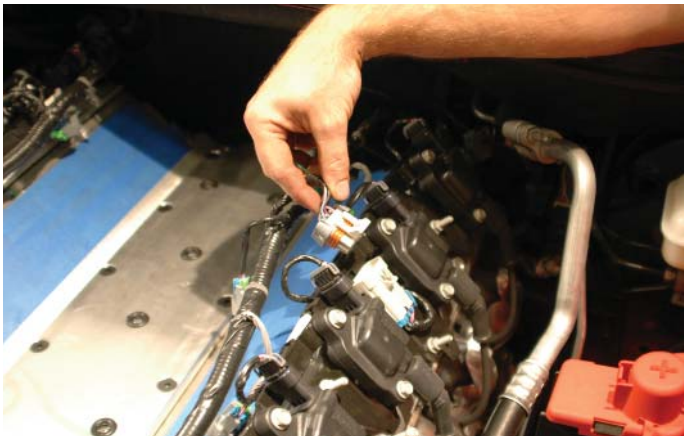
91. Pull the radiator upper hose from between the PS pump and air box, and relocate to the stock barbs on the water pump and radiator, re-attach the hose clamps to secure the hose to the hose barbs.

92. This is the provided Electronic Throttle control (ETC) connector extension harness.

93. Locate the ETC connector on the OEM engine harness. Plug the extension harness into the existing ETC connector and route adjacent to the steam pipe to the driver side of the engine.

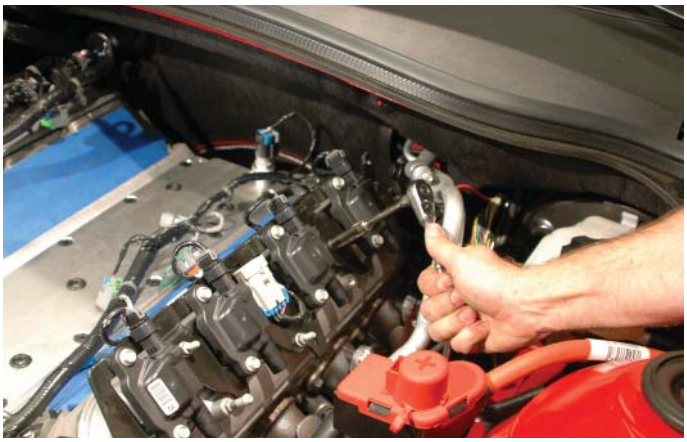


94. Disconnect the main coil connectors from the center of the coil rails on both sides of the engine.



95. Disconnect all plug wires from the coils on both sides of the engine.

96. Use a 10mm wrench to remove the five bolts from the coil brackets on each side of the engine.



97. Remove the coil brackets from the mounts on the rocker covers on both sides and put on a bench for some required modifications.

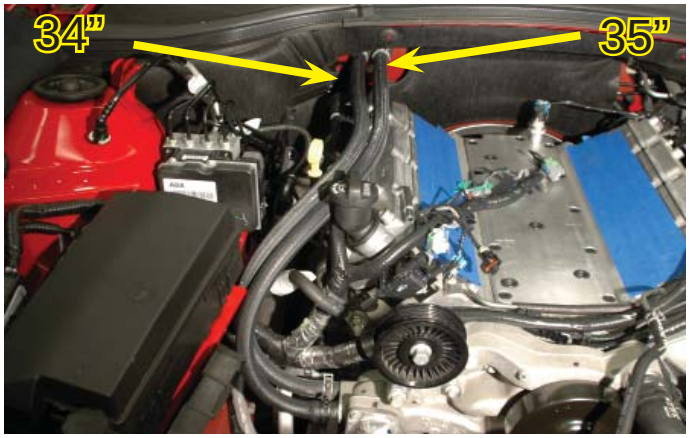
98. The plastic wire loom covers from the coil bracket assemblies must be removed. Unsnap the connecting clips and remove from both sets of coil brackets.

99. In steps 15-16 you disconnected the heater hoses from the water pump and tucked them out of the way. Now squeeze the clamps and remove these hoses from the hose barbs at the firewall. Remove the clamps from the hose ends, they will be reused, but the hoses will not. The hose clamps may be glued onto the hoses…now is a good time to practice that patience you've been working on.

100. Cut the supplied 5/8" hose into a 34" length, and the supplied 3/4" hose into a 35" length if they are not already sized correctly.

101. Take the 34” x 5/8” hose and use one of the clamps removed to attach the hose to the smaller barb at the water-pump. Route the other end up between the oil fill spout and dipstick. Use one of the removed clamps to connect the hose to the smaller barb (outside) on the firewall.

102. Use the 35” x 3/4” hose and the removed clamps to attach to the remaining barb on the water-pump. Route the other end parallel to the just installed hose and connect to the remaining hose barb at the firewall using one of the removed clamps.



103. Cut two pieces of the supplied split loom to cover these hoses as they pass by the existing fuse center mounting platform and over the valve covers.

104. Remove the MAP sensor from the OEM intake manifold using a T-25 Torx wrench.

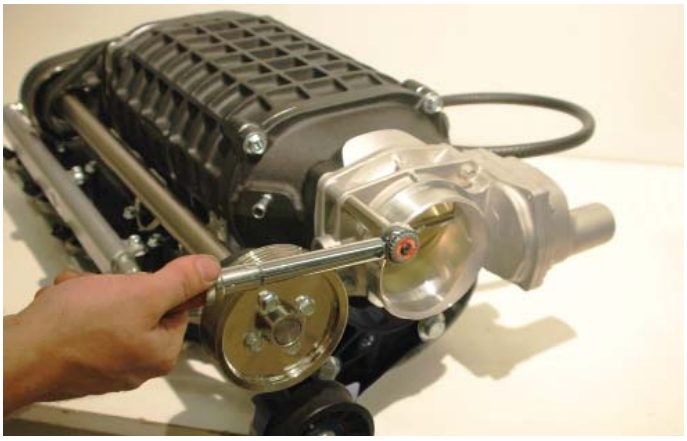
105. Use a 10mm socket wrench to unbolt and remove the throttle body from the OEM intake manifold.

106. Remove the O-ring from the stock throttle body connector groove.

107. Remove the brake booster valve from the hose coming from the OEM intake manifold.

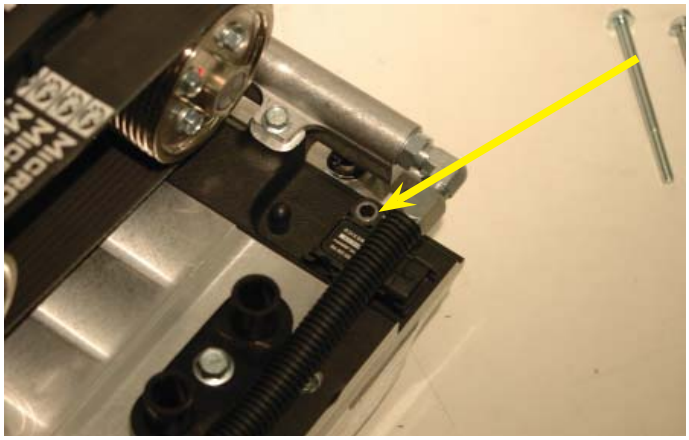
108. Install the O-ring just removed from the manifold into the groove on the supercharger inlet.

109. Install the OEM throttle body onto the supercharger inlet using a 10mm socket wrench. Torque the bolts to 106 in-lbs. Make sure you are using the correct settings on your torque wrench.



*** PAY EXTREMELY CLOSE ATTENTION TO THE NEXT STEP. ENGINE DAMAGE WILL OCCUR IF YOU DO NOT USE THE PROPER BOLT LOCATION. ***

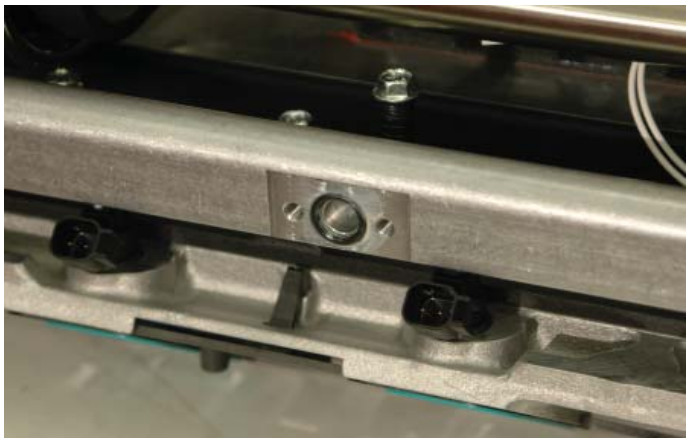
110. Press the MAP sensor removed in step 104 into the sensor hole adjacent to the last intake manifold mounting bolt hole (on the passenger side of the supercharger assembly). There are three intake manifold bolts not pre-installed with split loom spacers. **IMPORTANT: USE THE LONGEST (M6 x 100mm) OF THE THREE REMAINING BOLTS FOR THIS LOCATION.** Cut a 1" piece of the split loom provided, and slide it onto this bolt to hold this bolt up a bit. Drop the bolt down through the MAP sensor.



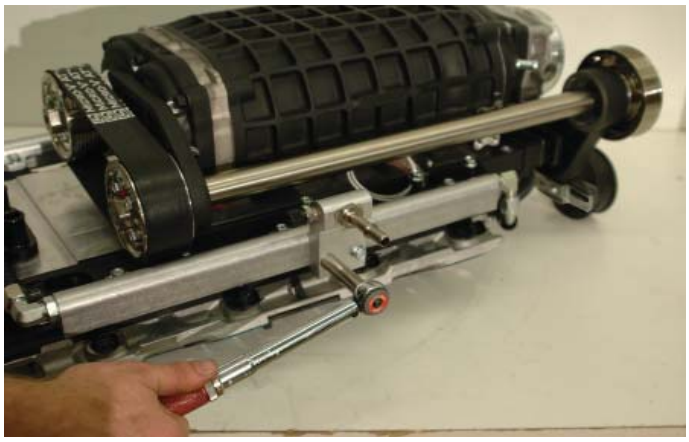
*** PAY EXTREMELY CLOSE ATTENTION TO THE ABOVE STEP. ENGINE DAMAGE WILL OCCUR IF YOU DO NOT USE THE PROPER BOLT LOCATION. ***

111. Snap the supplied intake manifold gaskets onto the new Supercharger intake manifold.

112. Using the provided Lubriplate lubricant, lube the fuel manifold O-ring and insert it into the groove on the passenger side fuel rail.



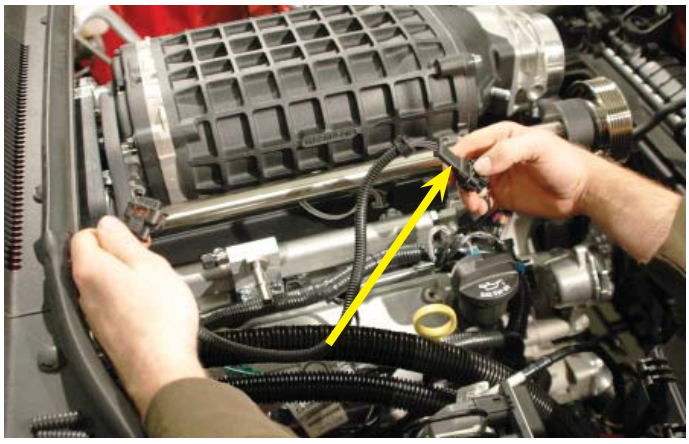
113. Install the fuel supply manifold on the fuel rail and torque to 106 in-lbs. Verify your torque wrench settings.



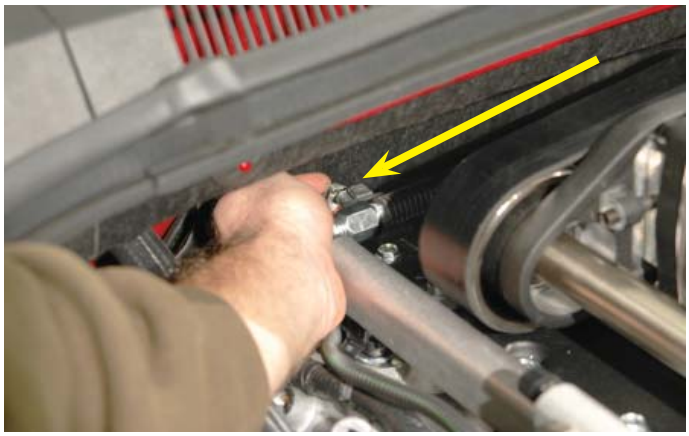
114. Remove the tape from the heads and lubricate with silicone spray, mildly soapy water spray, or a suitable lubricant (non-petroleum based-to allow some sliding movement), get an assistant to help, and carefully lift the supercharger assembly into the engine.

115. Remove the split loom spacers from the pre-installed manifold bolts and after an initial hand tighten using a 10mm socket, torque the bolts down to 106 in-lbs using a cross rotation pattern. Make sure to verify your torque wrench settings.

116. Attach the supplied MAP sensor extension harness to the existing MAP plug.



117. Plug the other end of the extension harness into the MAP sensor located under the rear fuel rail cross-over tube at the back of the passenger side of the engine.



118. Plug in the fuel injector connections to the injectors on each side of the engine. Make sure to route and stuff the wiring to avoid moving components.

119. Re-mount the modified coil brackets to each side of the engine using the stock hardware. Torque all bolts to 106 in-lbs. Verify your torque wrench settings.

120. Plug in the main coil connectors on both sides of the engine.

121. Attach the stock plug connectors back onto the coils on the coil brackets on both sides of the engine.

122. Plug in the electronic throttle body connection on the driver side of the throttle body.

123. Attach the supplied fuel line between the fuel supply barb below the ABS Module (where the OEM fuel line was disconnected in steps # 26-27) and the new fuel rail manifold on the passenger side of the vehicle. Pull firmly on both ends to verify that you have a good connection. The EVAP sensor tube should be under the fuel line and above the heater hoses. IMPORTANT: You should NOT be able to remove the fuel line from either end without the use of the fuel line removal tool.

124. Remove the fuel line safety clip from the fuel line still attached to the OEM intake manifold. Use this and the clip removed in step #26 to re-attach fuel line safety clips on both ends of the fuel line.

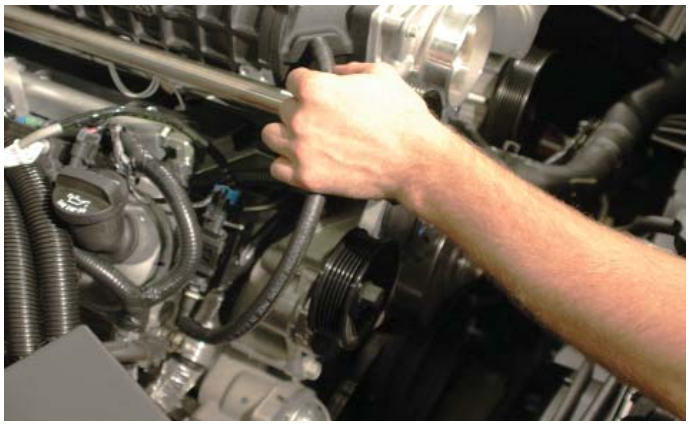
125. Plug in the EVAP solenoid electrical connection at the front of the passenger side valve cover.

126. Plug in the 90° fitting of the EVAP tube (from the hard-line on the passenger side running over the heater hoses) to the upper EVAP solenoid barb.

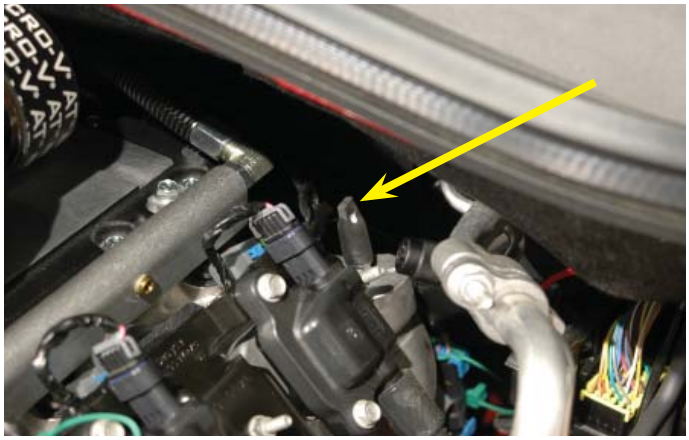
127. Use a sharp blade and carefully split the end of the EVAP tube (removed in step #22) to salvage the 90° fitting.

128. Cut a 15” piece of the supplied 5/16” hose and install the right angle fitting just removed on one end.

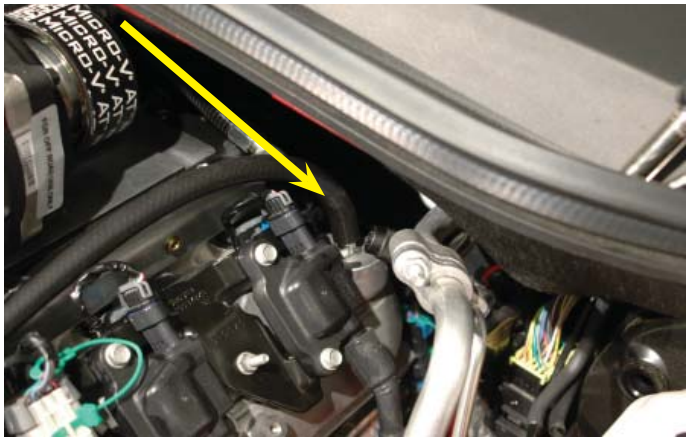
129. Connect the 90° fitting to the bottom barb of the EVAP solenoid. Route the other end over the jack shaft to the hose barb on the Supercharger inlet on the passenger side of the engine, again no clamp is necessary.



130. On the driver side of the engine, at the rear of the valve cover, adjacent to the fuel rail crossover and the coil bracket is a PCV hose barb covered with a cap. Remove this cap. NOTE: L-99 or D.O.D. vehicles will not have this cap and instead will have a PCV hose connection here.



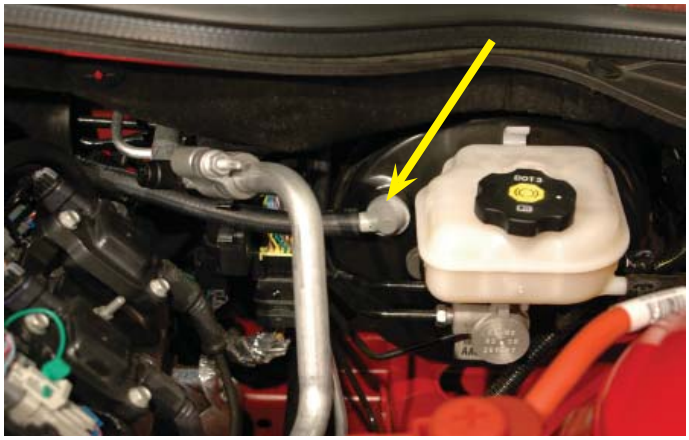
131. Cut a section of the 3/8” hose to 22” in length. Plug one end of this hose on this PCV valve barb just uncovered.



132. Route this hose along the fuel rail forward to the closest barb on the driver side of the Supercharger inlet.

133. Cut a section of the supplied 11/32” brake hose to 30” in length. Attach the OEM check valve removed in step #107 to one end of this hose. NOTE: L-99 or D.O.D. cars; brake booster will have a sensor in place of the check valve. Install the hose onto the sensor instead. Sensor was removed from booster for ease of installation and photograph.

134. Depending on the car, install the check valve or sensor with hose at the brake booster as shown. Route the hose laterally toward the engine and turn it forward to parallel the PCV hose just installed.



135. Route the hose just below the PCV hose between the fuel rails and coil bracket and attach the loose end to the front barb on the Supercharger inlet.

136. Tie the PCV, Brake Booster, and Bypass hoses together loosely with a zip tie as shown.

137. Add a zip tie to loosely tie the brake booster hose and the PCV hose together where they meet at the rear of the engine.

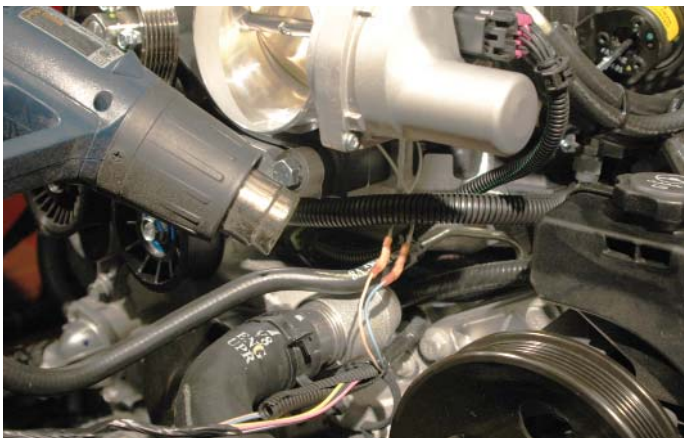
138. On the passenger side of the Supercharger assembly, near the front are two white wires exiting the intercooler lid. These are the IAT sensor wires. Strip off about 3/8” of the insulation on each of these wires.

139. Crimp on a provided wire splice connector to each of these wire ends.

140. Uncover the MAF wire loom connector that hooks to the air box. This should be by the upper radiator hose at the water-pump. Cut the blue and the tan wire even with the end of the existing wire loom. Strip off about 3/8” of insulation from the end of the two wires that continue back in the split loom toward the engine.

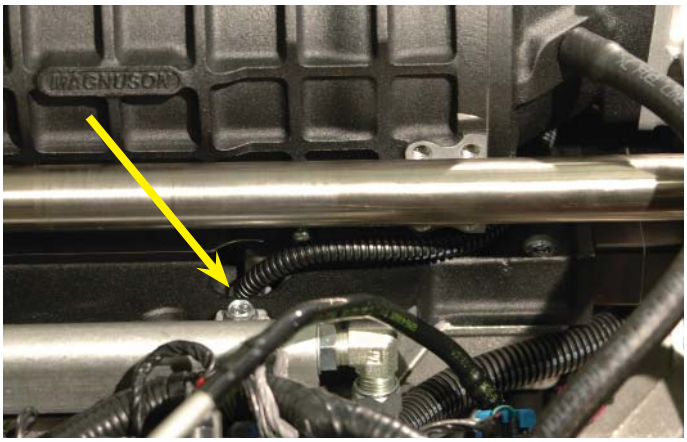
141. Pull these two wires out of the loom back to where the split-ring mount clamps to the hose barb at the water-pump. Tuck the two white wires from step #138 under the supercharger inlet and crimp one to each of the tan and blue wires. It doesn't matter which attaches to which.

142. Use a heat gun or hair dryer set on high to shrink these connections securely. The ends of the blue and tan wires that go to the plug are abandoned and can be taped off and recovered with the existing split loom.



143. Cut a piece of the provided split loom (about 18") to reach from the split-ring clamp, following the white wires back to where they enter the Supercharger lid on the passenger side of the Supercharger. Slide the split loom over the wires, one end should be at the junction by the split-ring clamp.

144. The other end should reach all the way to the other end of the wires at the Supercharger lid. It's a good idea to cross tape the junction of the two split looms at the water-pump hose barb.

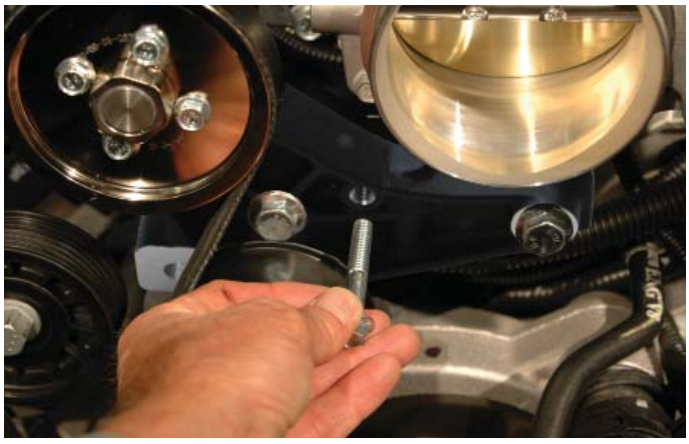


145. Use a 15mm wrench to remove the OEM tensioner pulley.

146. Install the supplied 76mm pulley and torque the bolt to 40 ft-lbs. Verify your torque wrench settings.

147. This procedure is easier with a helper. Route and install the drive belt according to the drive belt diagram. Use a 15mm long wrench to compress the tensioner to utilize all the pulleys. With the tensioner still held compressed, install the new idler pulley. Ensure that the rectangular nut engages the slot behind the bracket, and using a lever against the temporary bolt as shown, lever the idler toward the tensioner pulley. Tighten the bolt using a 15mm wrench, and torque the bolt to 40 ft-lbs.

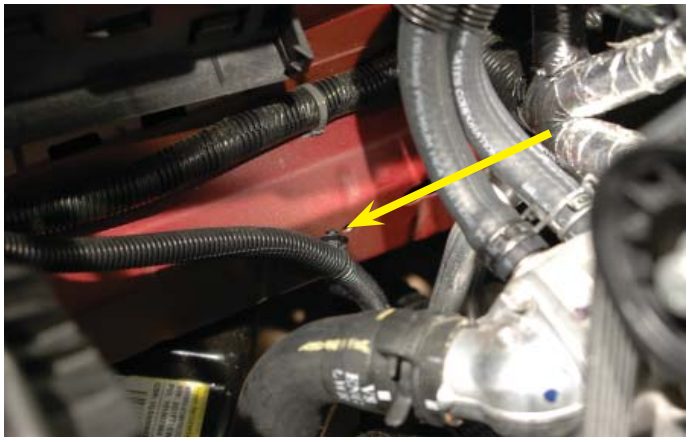
148. Remove the tensioner idler pulley lever bolt. It's a good idea to check the belt tension periodically, and adjust the idler pulley using the bolt and lever as necessary.



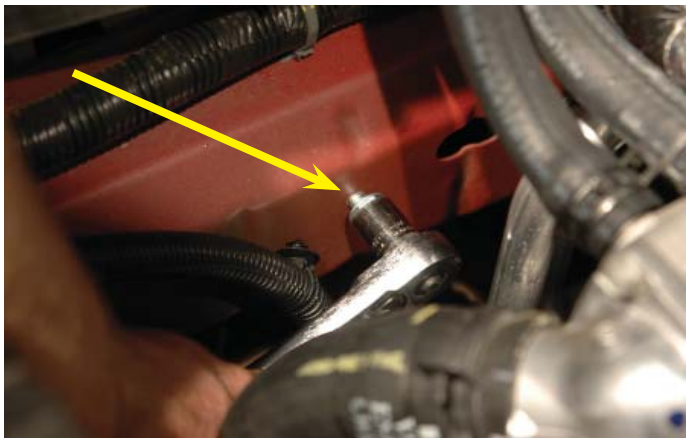
149. Replace the air filter and air-box cover removed earlier, snapping the retaining clips in place to secure the cover.

150. Plug the MAF sensor connector at the airbox neck.

151. On the passenger side of the engine, near the thermostat on the frame rail, unplug the fuse center wire loom hold-down clip by pulling it away from the frame.



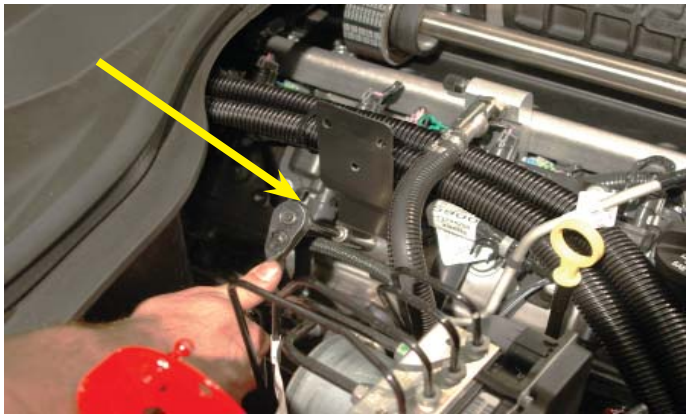
152. Use the provided self-tapping bolt and a ½" socket to prep the hole just vacated for mounting the intercooler pump. Chase the hole to ensure the proper bolt function.



153. There are two ways to approach this. The first way: You place the Intercooler pump in the Adel clamp so that the bolt will be toward the rear. In all cases, the discharge barb points forward and directed toward the outside edge of the fan shroud. Tighten the bolt being careful not to strip the threads. The second way (pictured): Mount the Adel clamp to the frame but do not tighten. Use a mild soap solution (like Windex) to lubricate the rubber of the clamp.

154. Slide the pump into the Adel clamp. Access to tighten the bolt is easiest if done from below.

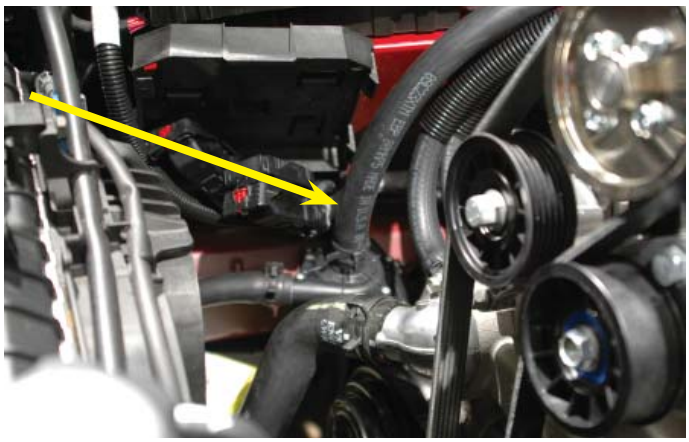
155. Mount the supplied reservoir mounting bracket to the center stud of the passenger side coil bracket using the supplied nut and a 10mm wrench.



156. Attach the reservoir bottle to the bracket as shown with the supplied bolts and a 10mm wrench.

157. Route the passenger side hose from the intercooler heat exchanger up into the engine compartment. Cut the hose to fit at the intercooler pump discharge barb. Clamp on using a supplied spring clamp.

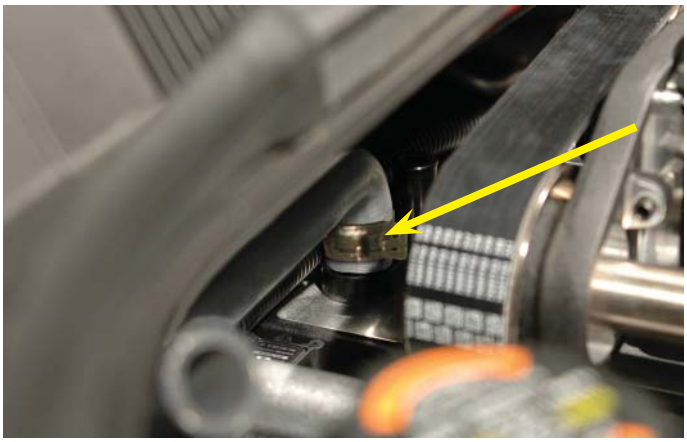
158. Take the cut-off section of the aforementioned hose and attach one end to the inlet barb of the intercooler pump. Clamp on the barb with a provided spring clamp.



159. Route the hose up parallel to the heater hoses to the outlet barb of the intercooler reservoir. Clamp securely on the reservoir barb using a provided worm gear clamp. This may be made easier by removing the upper end of the fuel line hose to the manifold at the fuel rail temporarily.

160. Cut off the “U” section short leg of the provided “J” hose. The short end will not be used.

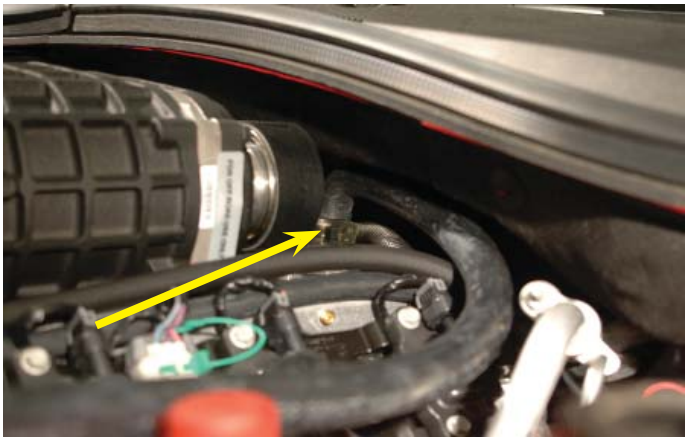
161. Use a provided clamp on the end of the hose you just cut and push the remaining section of the “U” onto the passenger side barb of the intercooler. Verify your hose is secure and the hose is pointed toward the passenger side of the car as shown.



162. Cut 1” off of the remaining short leg of this hose and route to the intercooler reservoir. Use a provided worm gear clamp on the reservoir barb and tighten securely.

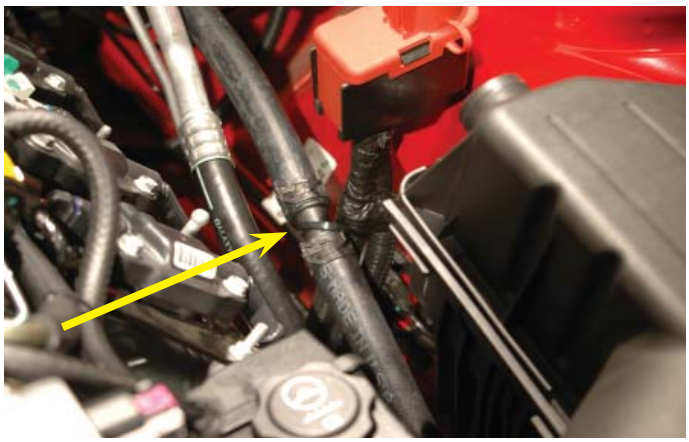
163. Cut 1-1/2” off the short leg of the remaining ¾” x 4” x 36” x 90° hose.

164. Place a provided clamp on the short leg of this hose and push the end onto the intercooler barb on the driver side behind the supercharger. Tighten the clamp securely with the hose pointing toward the driver side of the vehicle.

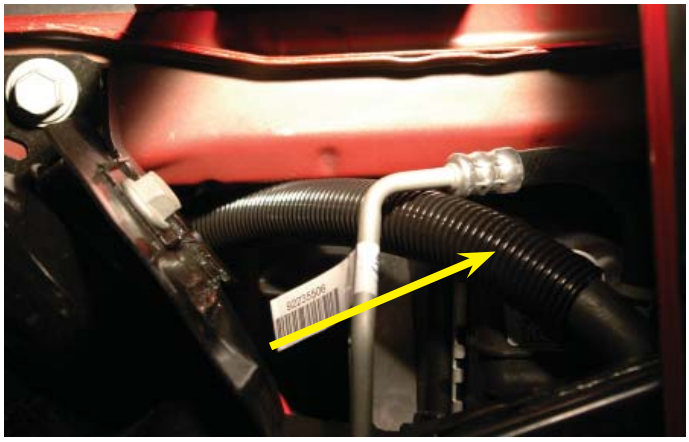


165. Cut 11” off the end of this hose and route below the air conditioner hose bending toward the front of the vehicle. Insert the provided hose coupler and use the provided clamp to prepare the end of this hose.

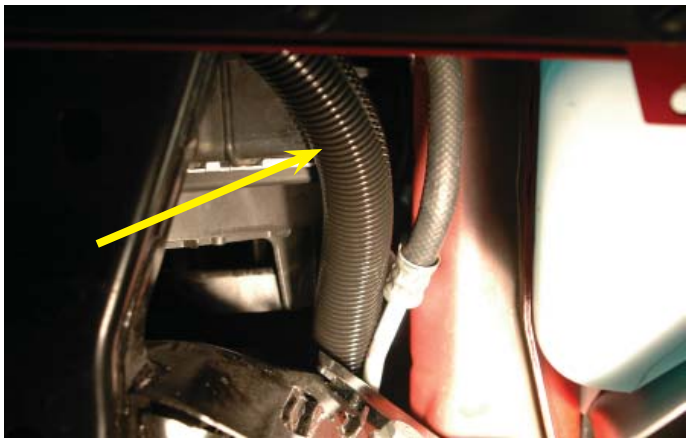
166. Route the remaining driver side intercooler heat exchanger hose up into the engine compartment toward the air conditioner hoses. Cut 2-1/2” of the end of the hose and using the provided clamp join the hose to the hose coupler just installed in the previous step. Use a zip tie to anchor the coupling to the existing battery wire loom bundle behind the air-box.



167. Slide a length of the provided 1” split loom over the passenger side intercooler heat exchanger hose to protect the hose from chaffing at the rectangular hole in the splash shield and adjacent edges.

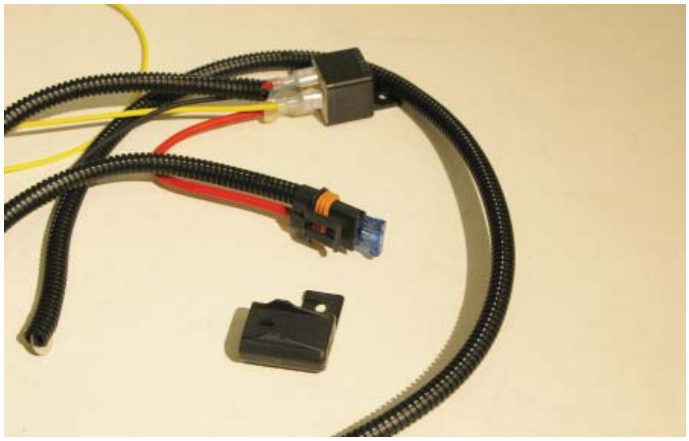


168. Slide a length of the provided 1” split loom over the driver side intercooler heat exchanger hose to protect the hose from chaffing at the rectangular hole in the splash shield and adjacent edges.



169. This is the intercooler pump wiring harness components.

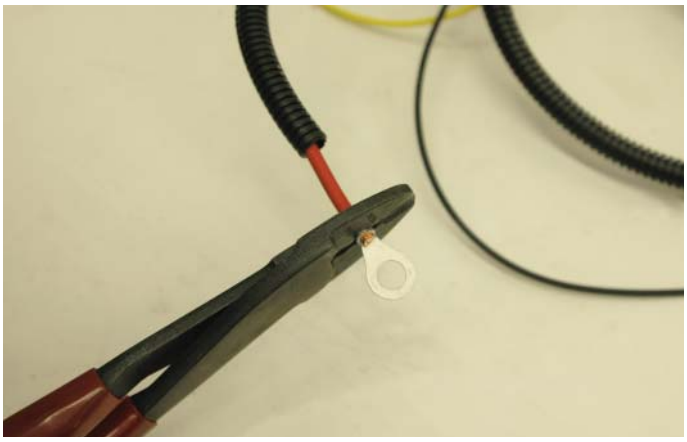
170. Insert the provided 15amp fuse into the fuse holder at the end of the red wire from the relay box.



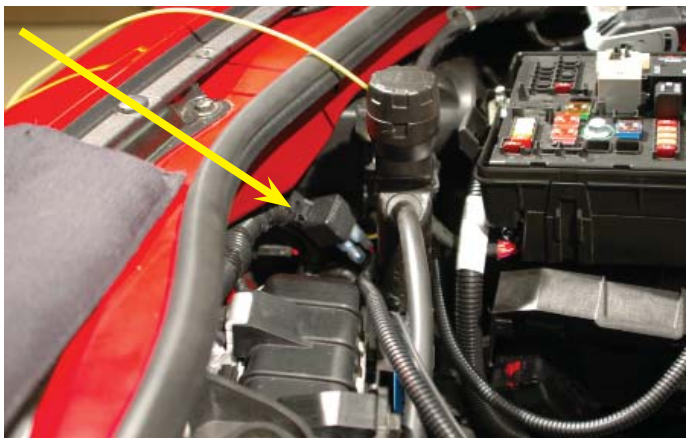
171. Remove the fuse center cover.

172. Remove the positive (+) lug nut using a 13mm wrench. Make sure that your battery negative (-) terminal is still disconnected.

173. Cut the red wire with the “eyelet” connector to 13” in length. Strip off ½” of the insulation from the end and crimp on the supplied “eyelet” connector end.

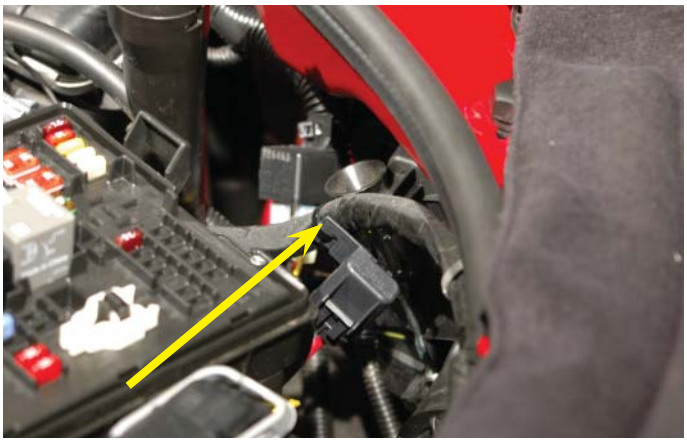


174. Zip tie the relay box of the wiring harness to the existing OEM harness in front of the radiator overflow reservoir as shown.

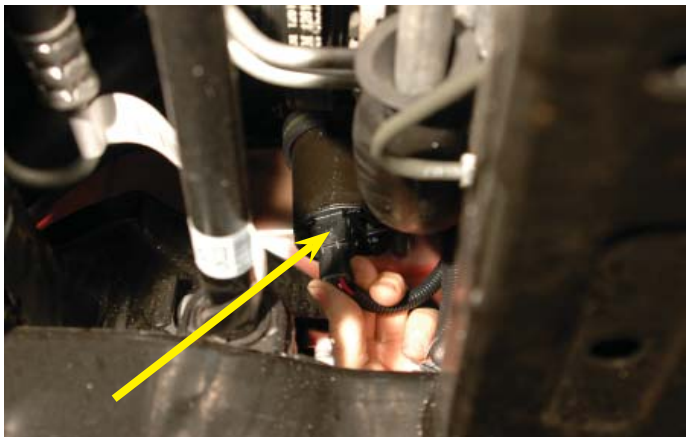


175. Replace the positive (+) lug nut incorporating the red wire “eyelet” you attached in step #173 from the new harness.

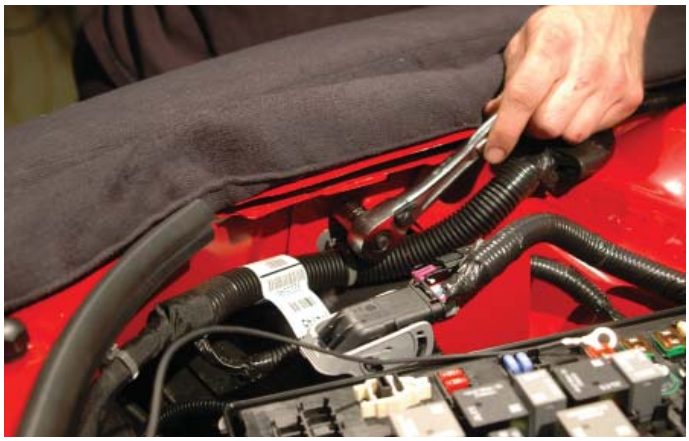
176. Zip tie the fuse holder of the wire harness to the existing wire harness by the headlight adjusting screw as shown.



177. Route the intercooler pump plug around the fuse center and down toward the intercooler pump. Plug the end into the terminal at the bottom of the intercooler pump.



178. Use one of the provided self tapping bolts and a ½" socket to tap the hole in the fender well just forward of the shock tower and above the existing wire loom as shown.

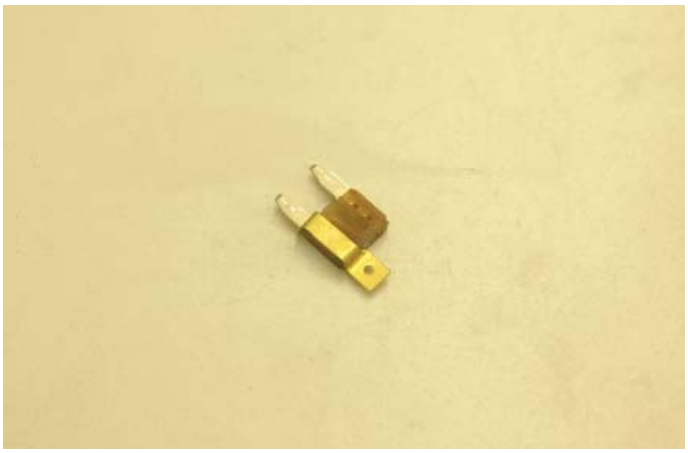


179. Cut off the existing "eyelet" connector off the black ground (-) wire, strip off ½" of the insulation and crimp on the supplied larger "eyelet" connector.

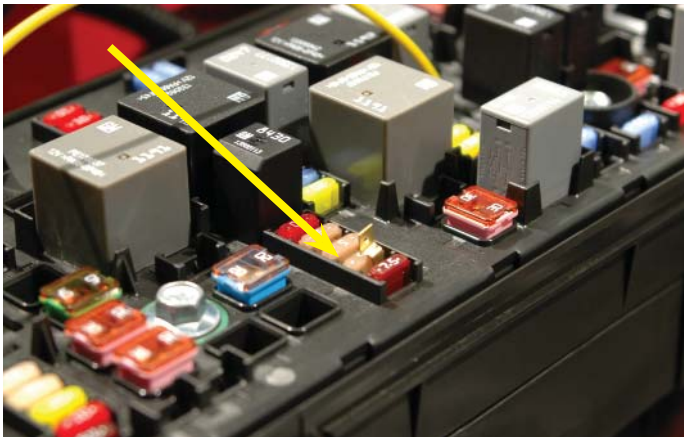
180. Use the self tapping bolt from step #178, incorporate the just installed "eyelet" on the black wire from step #179, and ground the wire harness to the automobile body at the prepped hole. Tighten snugly being careful to not strip the threads.

181. Use the fuse removal tool in the fuse center to pull the 5amp IGN fuse from slot 15 of the fuse center.

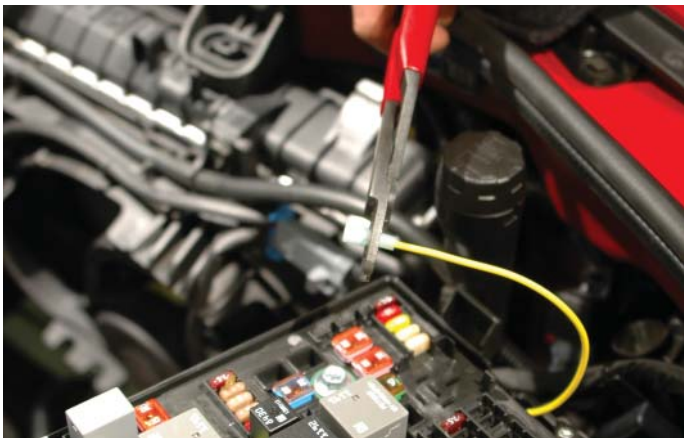
182. Install the provided fuse-tap on one leg of the fuse.



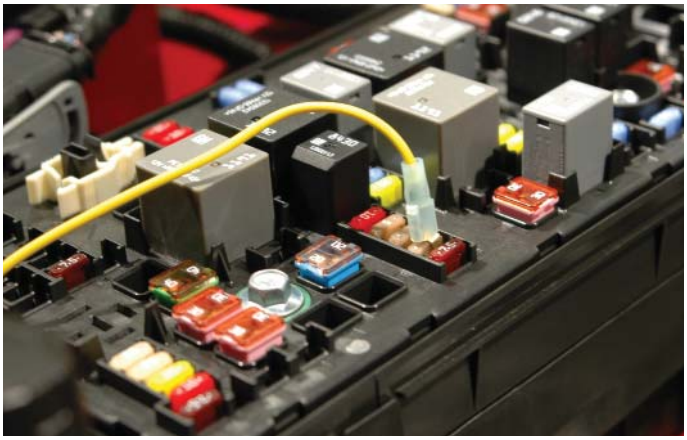
183. Replace the IGN fuse with the fuse tap back into the slot from whence it came.



184. Strip off 3/8” of the insulation off the end of the yellow wire and crimp on the provided spade connector.



185. Route this wire into the fuse center and connect it to the fuse-tap on the IGN fuse you just reinstalled.

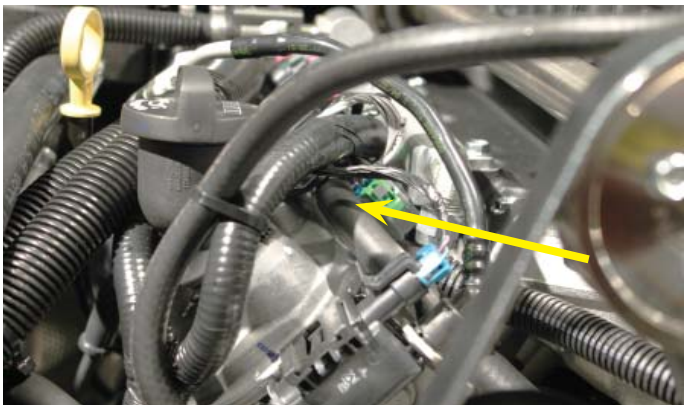


186. Close the fuse center cover.

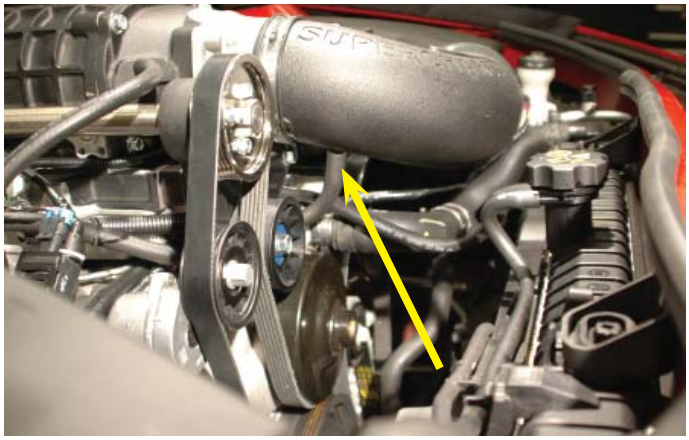
187. This is the air inlet tube component assembly. The “hump” hose connecting to the air-box may have a long and a short side. Should that be the case, the long side goes to the air-box/filter side, and the short side connects to the air inlet tube.

188. Push the air inlet tube onto the air-box and throttle body necks and tighten all clamps securely.

189. Cut a piece of the remaining 3/8” hose to fit between the PCV fitting on the passenger side valve cover near the oil-fill spout, and the hose barb on the bottom of the air tube assembly. Push one end onto the hose barb at the front of the valve cover.



190. Route the other end of the hose behind the pulleys and push onto the hose barb on the bottom of the air inlet tube assembly, in front of the throttle body.



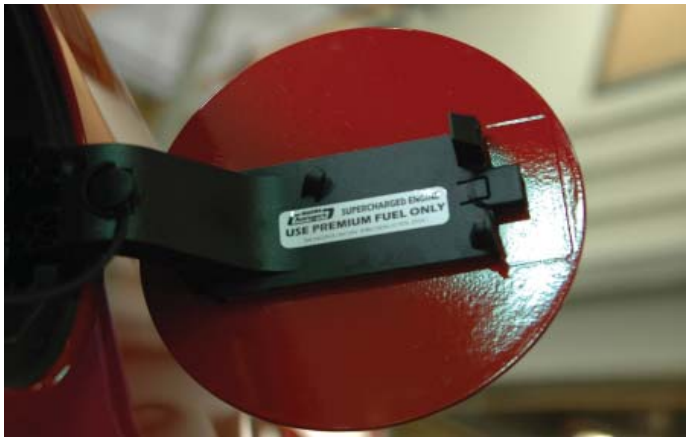
191. Re-attach the battery negative (-) terminal in the trunk of the car. The tire pump, floor and carpet can be replaced as well.

192. Fill the intercooler system at the reservoir with a 50/50 mixture of coolant and de-ionized water.

193. 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 in steps # 9, 10 back into the radiator.

194. Attach the Vacuum routing diagram, intercooler-belt routing diagram/information sticker in a conspicuous location. We chose the underside of the hood.

195. Attach the “Use Premium Fuel Only” decal to the gas tank fill cap or door.



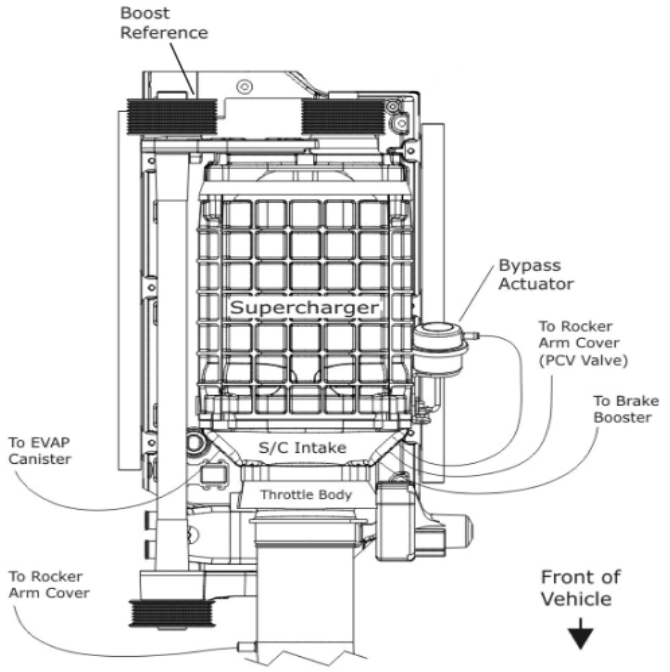
196. Start the vehicle for five seconds and shut off. Check for fuel leaks and supercharger/engine pulley belt alignment. Check the radiator and intercooler reservoir levels, topping off as necessary.

197. Test-drive the 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, this is normal.

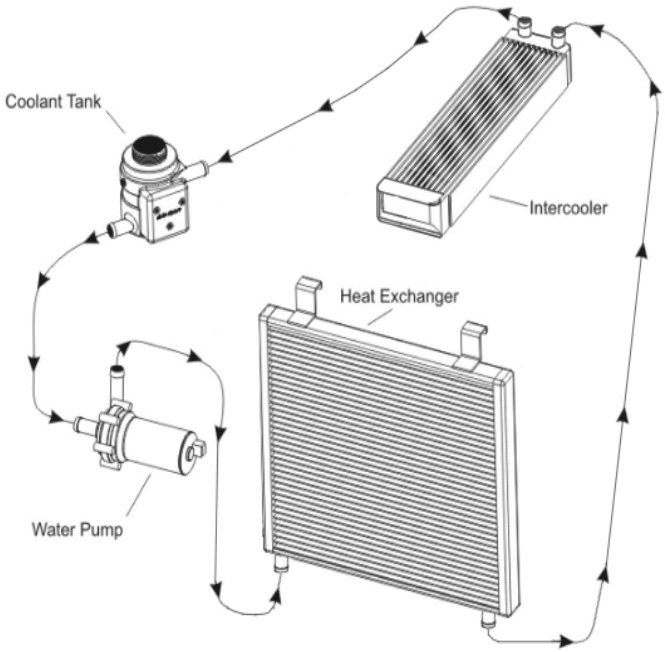
198. Re-check the radiator and intercooler reservoir coolant level regularly over the first 1,000 miles, top off level as needed.

199. After the initial test drive, go through the belt tensioner process again (step #147). When next you start driving, gradually work the vehicle to wide open throttle runs. Listen for any engine detonation (pinging). If engine detonation is present, let up on the throttle immediately. Most detonation causes are low octane gasoline still in the tank.

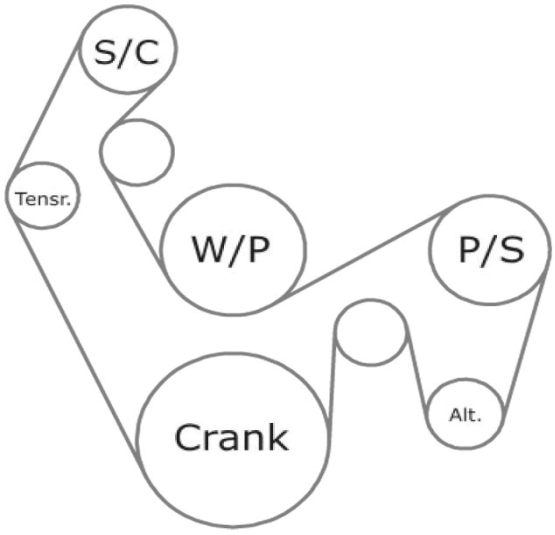
MAGNUSON
SUPERCHARGERS



Vacuum Routing Diagram



Intercooler Routing Diagram



Belt Routing Diagram