LINGENFELTER

PERFORMANCE ENGINEERING

Installation Instructions for 2007-2010 GM 6.0L LY6 2500 Suburban Supercharger System

PN L250050609

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

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Revision - 1.2

INSTALLATION MANUAL

Intercooled Supercharger System For GM 6.0 Liter LY6 Engines

We encourage you to read this manual thoroughly before you begin work. A quick parts check to make certain your kit is complete (see shipper parts list in this manual). 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.

Make sure to have 91 Octane (R+M)/2 or higher octane fuel in the tank.

When unpacking the supercharger kit **DO NOT** lift the supercharger assembly by the black plastic by-pass actuator. This is *pre-set* from the factory and can be broken or altered if used as a lifting point!

Tools and Materials Required

- Safety glasses
- Metric wrench set
- Small or angled 3/8" drill
- 1/4", 3/16", 17/64", 5/16" & #31 drill bit
- 1/4", 3/8", and 1/2" drive standard and metric socket set (standard and deep)
- 5mm and 8mm hex (Allen) wrench
- 3/8" and 1/2" drive foot pound and inch pound torque wrenches
- Torque-angle meter or torque-angle attachment for your torque wrench
- Belt tensioner wrench or 1/2" breaker bar
- GM flywheel holding tool J-44643
- Pliers
- Small hammer
- Teflon tape or thread sealant
- Center punch tool
- Razor blade
- Phillips and flat head screwdrivers
- E5 and E6 inverted Torx socket
- Cutting tool (e.g. air saw, razor knife, etc.)
- Drain pan
- Compressed air
- Impact wrench
- GM fan wrench tool J-41240-5A
- GM fan clutch remover and installer tool J-48460
- Loctite RED thread locking compound (PN 27140)
- Shop vac, airline powered vacuum tool or similar
- Silver Sharpie or similar paint pen
- Heat gun
- Electrical tape
- Wire stripping and cutting tools
- 5A fused jumper wire (to run the fuel pump for 2007 model year trucks when changing the fuel pump or to drain the fuel on all year vehicles)
- Die grinder or similar tool (for 2007 model year trucks only)
- GM fuel module lock ring removal tool J-45722 (2007 model year trucks only)
- Black silicone RTV or green Loctite 680
- Spray silicone
- Motor oil or assembly lubricant (for the M22 heat exchanger fittings)
- Fuel quick disconnect tool (included in kit)
- Rivet gun & Cleco clamps

IMPORTANT

SPECIAL NOTE FOR 2009 AND NEWER MODEL YEAR VEHICLES - in the middle of the 2009 model year General Motors changed the design of the fuel rails. If your vehicle was built after February 2009 you may need a new fuel rail. See page 3/step # 2 for more information.

The supercharger kits are designed for stock engines, with stock components, in good mechanical condition only. Installation on worn or damaged engines is not recommended and may result in engine failure. Lingenfelter Performance Engineering is not responsible for the engine or consequential damages.

Aftermarket engine re-calibration devices that modify fuel and spark curve (i.e., programmers) are not recommended and may cause engine damage or failure. If you have any questions, call us!

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, and of course, no smoking.

The following is strongly recommended:

- Clean your engine compartment before starting any engine disassembly.
- 2007 model year trucks require the installation of a new fuel pump as part of this package (fuel pump kit not included), make sure the fuel level is low for ease of draining due to the large tank capacity.
- You must have a clean fuel filter. On these vehicles the fuel filter is part of the pump assembly. Under normal conditions the fuel filter should not need to be changed. If you think foreign material has gotten into the fuel tank then you may need to replace the entire fuel pump assembly.
- You must have a clean air filter. This system is designed to retain the vehicle's stock air filter.
- AC Delco #41-104 spark plugs (included with the kit) with 0.040 inch plug gap are recommended.
- Start with and use only 91 or higher octane fuel.
- Drive belt is a Gates #K061080.

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

- Wear eye protection at all times.
- Do not work on a hot engine.

If you have questions about the installation process, your vehicle's performance or any other aspects of this product, please check with your installation facility or call Lingenfelter Performance Engineering, Monday through Friday from 8 am to 5:00 pm and Saturday 8 am to 12 noon.

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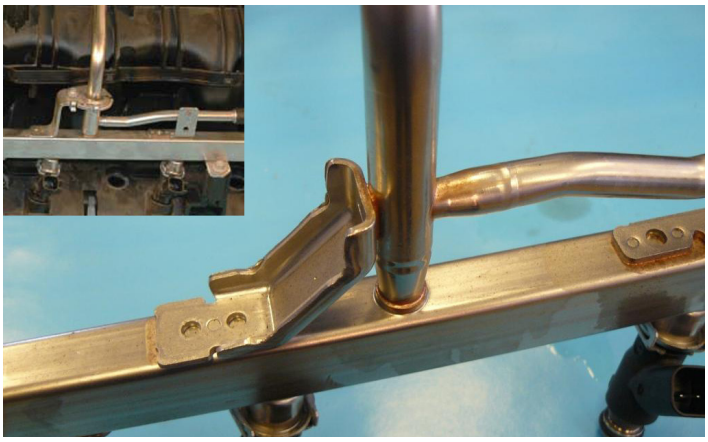
This supercharger kit requires reprogramming of the production engine control module (ECM). The vehicle cannot be driven without reprogramming the ECM. See steps 193-197 for additional information.

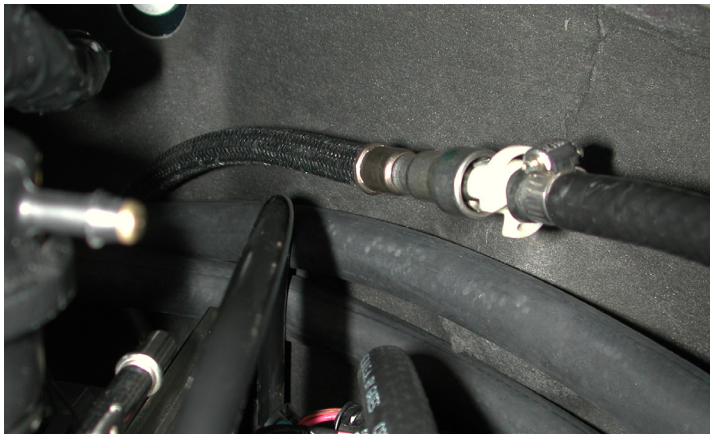
1. Remove the plastic engine cover by lifting up at the front and pulling the cover forward. This cover will not be re-used.



2. 2007-2008 vehicles can skip this step. On 2009-2010 model year vehicles GM changed the fuel rail design as a mid year change. If your vehicle was built after February 2009 it is likely you have the newer one piece fuel rail and you will need to purchase the older three piece fuel rail. The three piece rail can be obtained from LPE or your local GM dealer. The one piece fuel rail is shown in the image on the left and the three piece rail is shown as the smaller image in the upper left corner.

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

4. CAUTION! Always wear safety glasses when working with fuel. 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.***



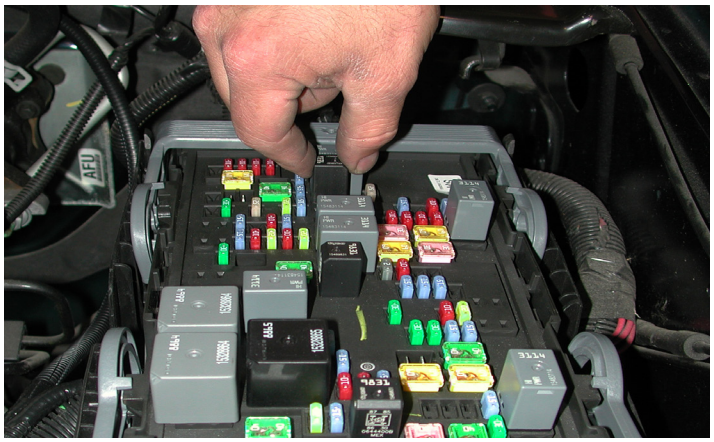
5. Draining the vehicle's fuel (steps 5-7)

• This step is required on 2007 trucks in order to change the fuel pump module.

• This step is also required on all trucks if you know low octane fuel is in the vehicle or if you do not know what fuel is in the vehicle.

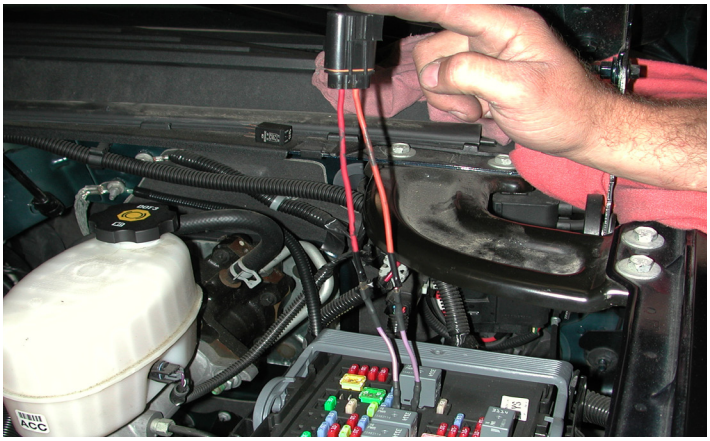
• Using the supplied 3/8" fuel line adapter, 7/32-5/8 worm gear clamp and the 10' of 3/8 fuel line hose, securely connect to the vehicle's fuel line (previously disconnected).

• Place the other end of the hose into an empty gasoline can.



6. Remove the vehicle's fuel pump relay from the fuse/relay center, located under the hood on the drivers side of the vehicle.

NOTE: This step is only required if you will be draining the fuel from the tank.



7. Using a 5A fused jumper wire, connect one lead to pin #30 and the other lead to pin #87.

This will electrify the vehicles fuel pump and begin draining the fuel tank. Once the fuel tank has been completely drained continue to the next step.

NOTE: This step is only required if you will be draining the fuel from the tank. DO NOT allow the fuel pump to run for long periods of time without fuel, this can cause pump failure.

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

9. Using an 8mm nut driver or a flat blade screwdriver, loosen the two (2) clamps, one (1) at the throttle body and one (1) at the MAF sensor.

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

11. Remove the PCV vent hose from the passenger-side valve cover by pushing the locking tab to the side.

12. 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.

13. Using a flat blade screwdriver, remove and save the (8) plastic push pins from the radiator support cover. The push pins will be used to re-install the cover

14. Remove the radiator support cover from the vehicle. Set aside to be re-installed later on.

15. Remove the upper radiator shroud. Remove the mechanical cooling fan using the J-41240-5A and J-48460 GM tools. Remove the lower radiator shroud.

16. Installation of the crank-pin kit
Using a 24mm socket and impact wrench, remove the stock harmonic balancer bolt.

17. Install the drill guide using the supplied bolt and tighten to 30 ft-lbs with a 24mm socket and torque wrench.

18. Using a small or angled 3/8" drill and the supplied drill bit, insert the drill into the guide holes (2) and drill two (2) holes to the second step of the drill bit. *(Make sure that you drill all the way to the second step).* *(Caution: wear safety glasses).*

19. Using compressed air, blow the drill shavings out of the holes. *(Caution: wear safety glasses).*

20. Install the supplied reamer into drill. Using a small amount of oil, ream holes until reamer bottoms out in the holes. *(Caution: wear safety glasses).*

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

22. Once again, use compressed air to blow out the holes. *(Caution: wear safety glasses)*.

23. Insert the two supplied hardened roll pins into the drilled holes. The use of a small hammer and punch may be necessary to tap the pins in. Make sure that the pins are far enough below the surface that they do not touch the balancer bolt. *Note: To prevent the engine's crankshaft from spinning when trying to tighten the balancer bolt, the transmission dust cover must be removed to hold the flywheel or, remove the starter and install the GM flywheel holding tool.*

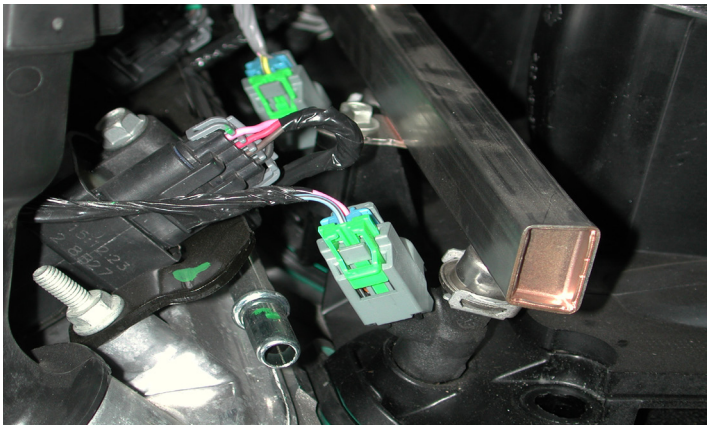
24. Install the new supplied factory GM harmonic balancer bolt with **RED** Loctite (PN 27140).

25. Using a 24mm socket, tighten the new harmonic balancer bolt according to General Motors specifications. Tighten to 37 ft-lbs (50 N-m) then tighten an additional 140 degrees using a torque angle meter.

26. Using a 10mm socket wrench, remove the (3) bolts that secure engine cover support bracket to the intake manifold. This will not be re-used.

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

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

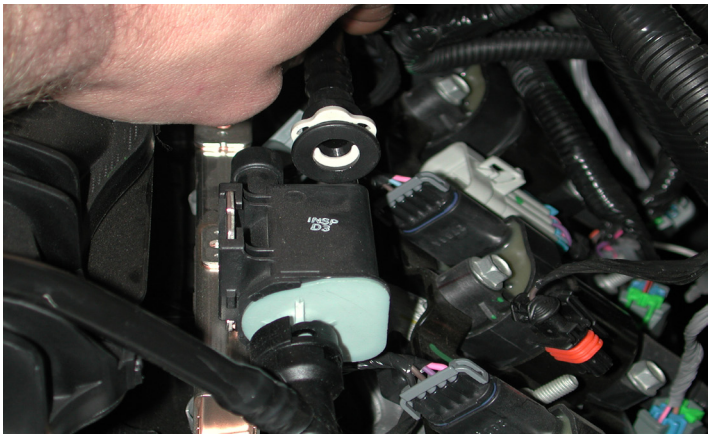


29. Unplug the eight (8) fuel injectors plugs by pulling up on the green locking tab and then pushing in on the release tab.

30. Disconnect the electrical plug from the MAP sensor located on the top of the intake manifold at the front.

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

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



33. Remove the EVAP line from the solenoid by pressing in the gray retainer clip and pulling the line off of the solenoid. Then rotate toward the driver side fender out of the way.

34. Next, remove the PCV hose from the rear of the drivers side valve cover. Then rotate toward the front of the vehicle to unlock it from the intake and pull up.

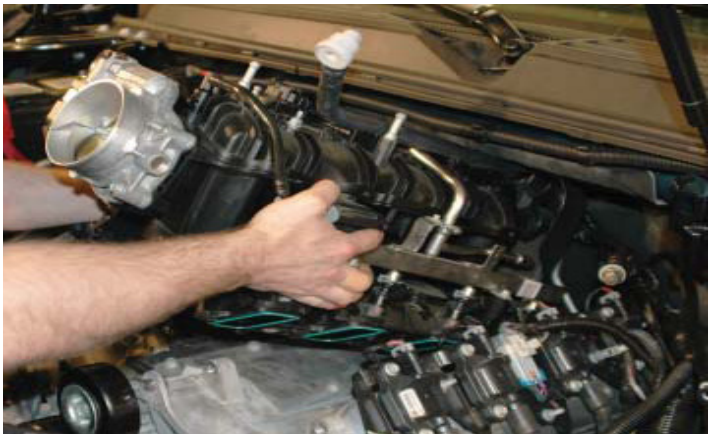
35. Before unbolting the intake manifold, removal of the alternator should be done to help ease removal of the manifold. Start by disconnecting the electrical connector on the top of the alternator.

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

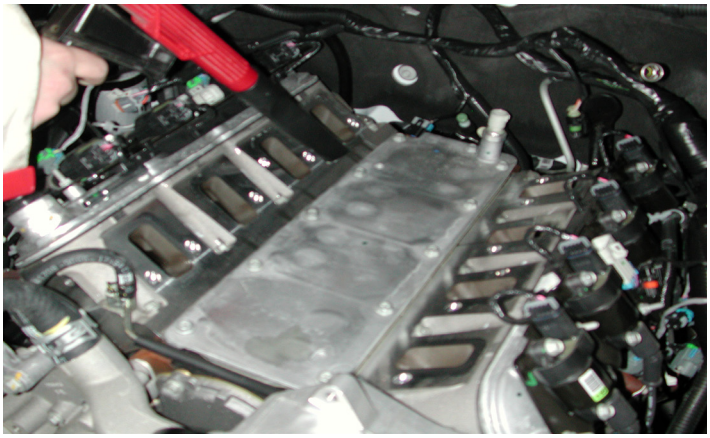
37. Remove the stock belt using a 15mm belt tensioner wrench on the tensioner pulley. The belt will be replaced with the longer belt provided in the kit.

38. Using a 15mm socket wrench, remove the (2) bolts securing the alternator to the bracket and remove the alternator from the vehicle. This will be re-installed later on.

39. The intake manifold is now ready to be removed. Using an 8mm socket wrench, remove the (10) bolts that secure the manifold to the engine.



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

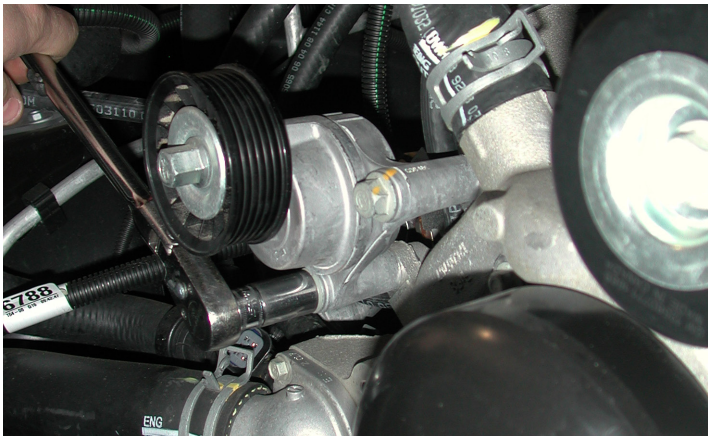


41. Using a vacuum cleaner or similar tool remove any dirt or debris from the intake port area. *CAUTION! Be careful not to get any dirt down the intake ports.*

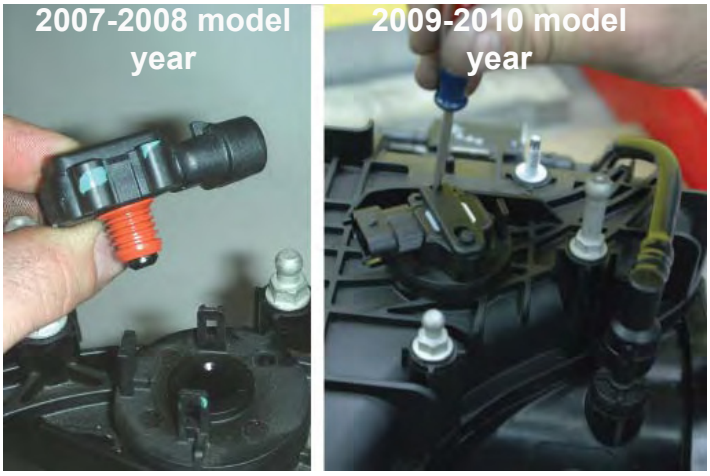
42. Cover the intake ports with tape or some clean rags so that nothing can fall into ports.

NOTE: The next step is only required on 2007 and some 2008 model year trucks. If your vehicle does not have the tab shown in the image you can skip step 43 and go to step 44.

43. The valley cover has a tab on the front passenger side that needs to be ground down to avoid conflict with the new intake manifold. Use a felt tip pen and mark a line approximately ¼" 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.



44. With a 15mm socket wrench, remove the (2) bolts that hold the tensioner to the water pump and remove the tensioner. *Note: The tensioner won't be re-used, but one stock bolt will be re-used.*



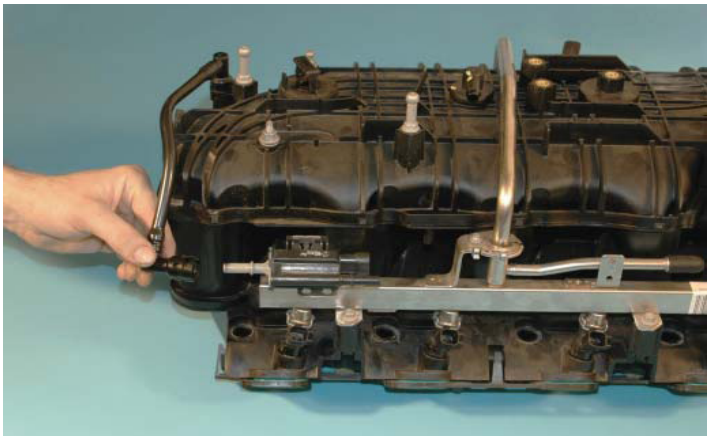
45. Remove the stock MAP sensor from the intake manifold by removing the retaining clip with a screwdriver and then gently pulling up the sensor. Be careful not to damage the rubber seal.

NOTE: On 2009 model year and newer 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.

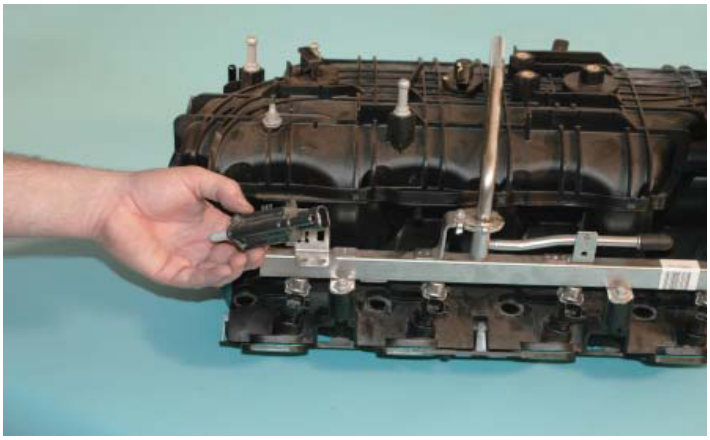
46. For 2009+ MAP sensor skip to step 46. If you have the 2007-2008 style MAP sensor you will need to install the provided bushing. **YOU MUST** install the bushing with sealant to prevent a vacuum leak. We recommend black silicone RTV or green Loctite 680. Be sure to wipe off any excess sealant inside the bushing. Allow sealant to cure for 24 hours before starting the engine.

47. 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.

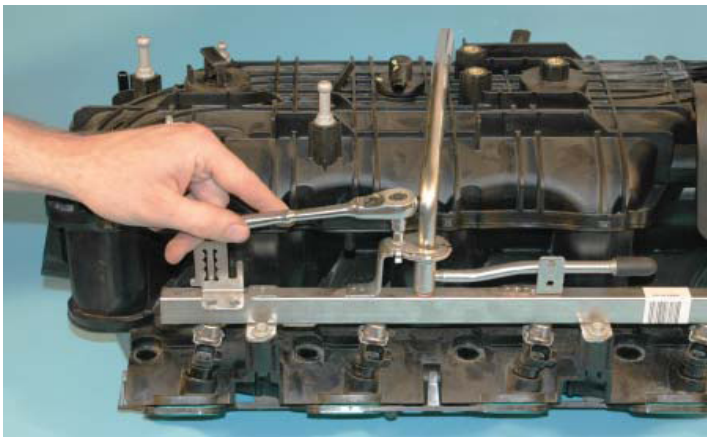
Using a 4mm Allen wrench, install the MAP sensor retaining clip with the provided 6mm button head screw as shown.



48. Disconnect the short EVAP pipe from the EVAP solenoid on the stock intake manifold.



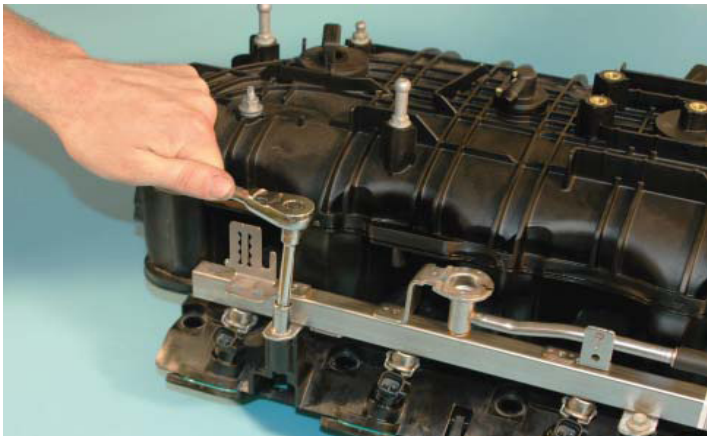
49. Remove the stock EVAP solenoid from the stock manifold by releasing the locking tab and lifting up to free the unit from the mounting bracket.



50. Remove the (2) E6 (inverted Torx) bolts *(one on each side)* of the crossover tube retaining brackets for the fuel rails.

NOTE: If you have a 2009 truck, you can skip steps 50-54. Use the new 3 piece fuel rail instead.

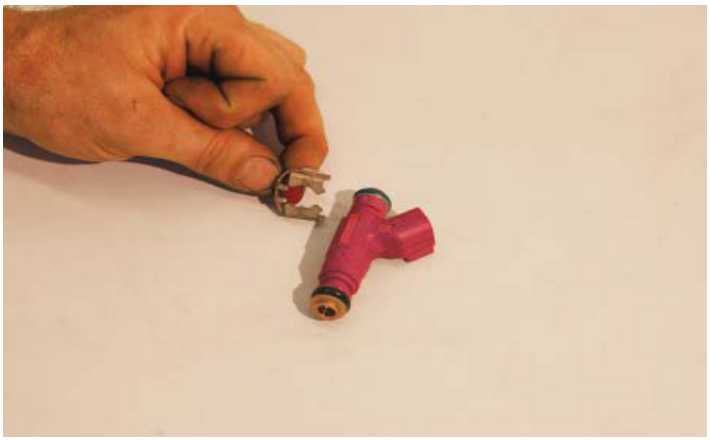
51. Using a flat blade screwdriver, carefully bend the centerline tab of the crossover tube retaining brackets out enough to clear the mounting flange on the fuel rail on each side. Then lift away to remove the crossover tube retaining bracket on each fuel rail manifold. The crossover tube can then be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



52. Using a 10mm socket wrench, remove the (4) bolts securing the fuel rails to the stock intake manifold. There are (2) on each side, put these aside for later installation.

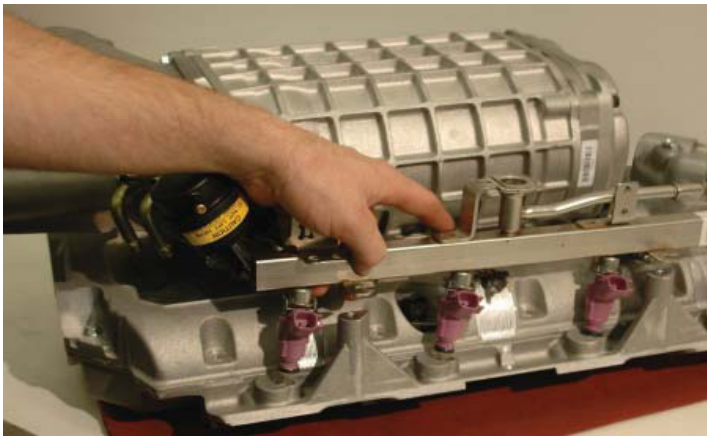
53. Once the (4) bolts have been removed carefully pull up on the fuel rail assembly, pulling them both free from the stock intake manifold. Be aware that there could be fuel remaining in the fuel rails and take caution to clean up spillage and dispose of properly.

54. Next, remove the (8) retaining clips that secure the injectors into the rail. Then carefully remove the (8) 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 (8) higher flow rate injectors supplied with the supercharger kit.

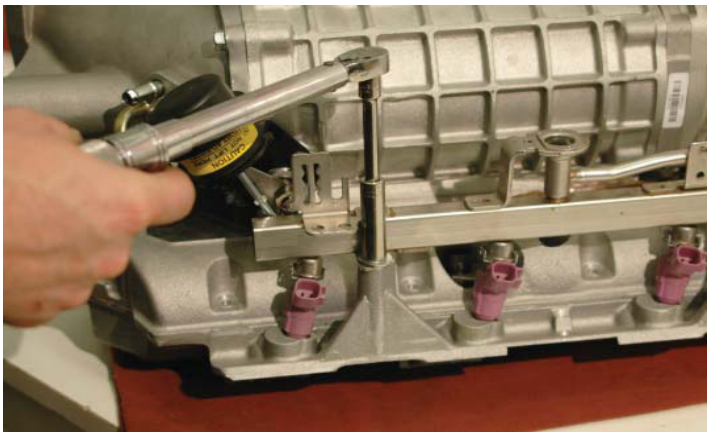


55. Take the (8) stock injector retaining clips and install them onto the new injectors.

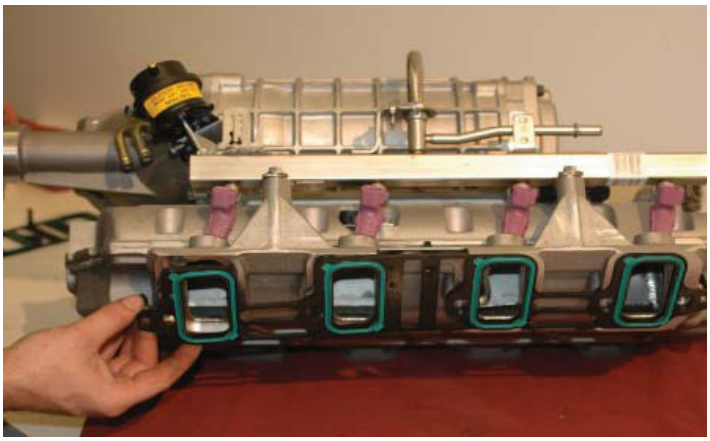
56. Now install the (8) injectors into the fuel rails, make sure to lubricate the injector O-rings with the supplied Lubriplate lubricant. Ensure that the retaining clip is properly seated locking the injectors in place.



57. Next, install the fuel rail onto the supercharger manifold. First, be sure the fuel rail with the fuel feed is on the driver's side of the manifold. Then, using the Lubriplate lubricant, spread a dab on each new injector O-ring, then carefully press the stock fuel rails with the new injectors into the new supercharger intake manifold assembly.



58. Secure the fuel rails to the manifold using the stock hardware. Torque bolts to 106 in-lbs. Verify that your torque wrench settings are set to in-lbs.

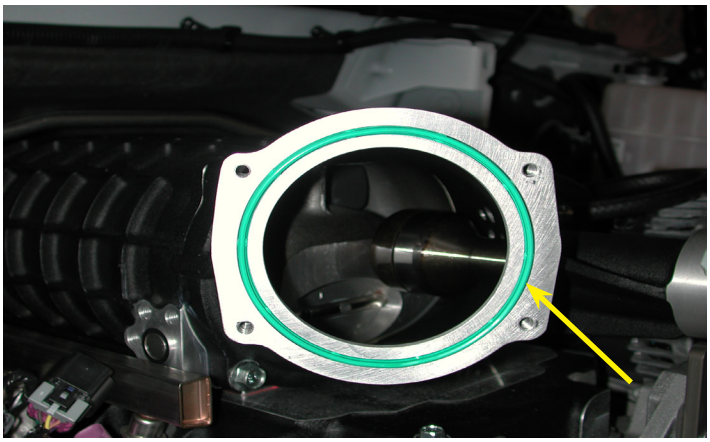


59. Now install the supplied new GM stock intake gaskets onto the supercharger plenum.

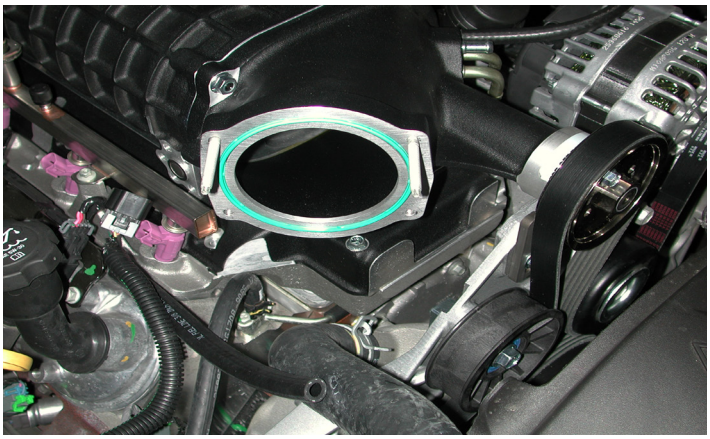
60. Using a 10mm socket wrench, remove the stock throttle body from the OEM intake manifold. Next, using a #5 internal Torx, remove the (2) mounting studs from the stock manifold.

61. Install the supplied spark plugs by applying a small amount of anti-sieze to the threads and tightening them to the GM specification of 11 ft-lbs.

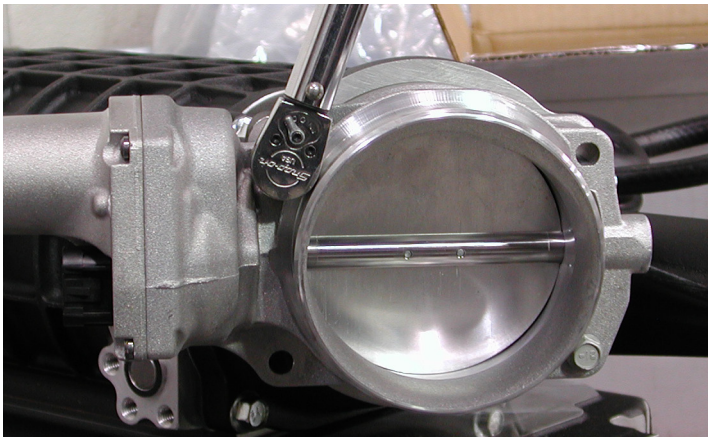
62. Remove the stock throttle body O-ring from the OEM stock manifold.



63. Clean off any oil on the O-ring before installing the O-ring onto the supercharger inlet.

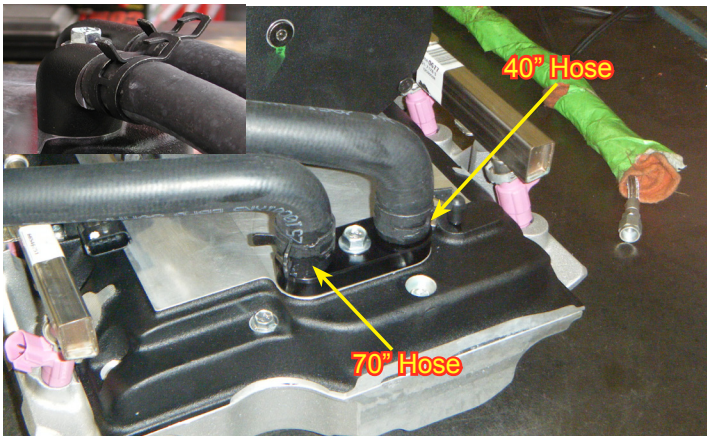


64. Install the (2) studs (*from the OEM intake manifold)* into the supercharger intake tube using a #5 Torx socket.

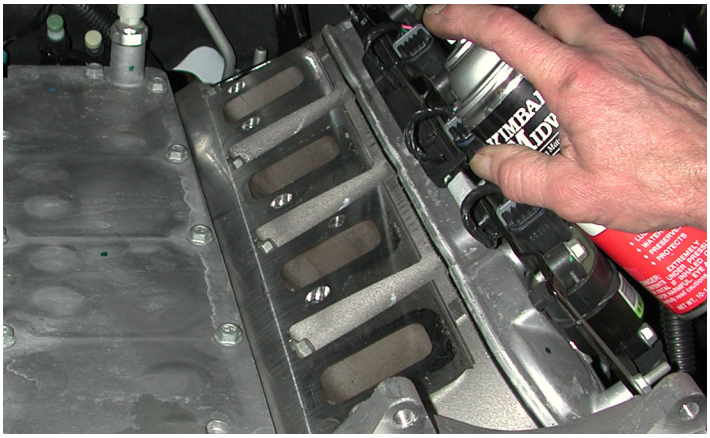


65. Now install the supplied throttle body using the stock hardware and torque to 106 in-lbs with a 10mm socket wrench.

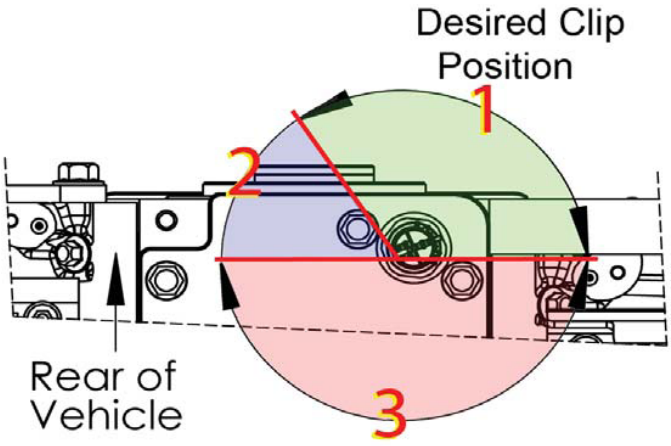
66. Measure the 90 degree bent portion of the 3/4” hoses and cut them down to better fit the intercooler barbs.



67. Starting at the intercooler water neck on the rear of the supercharger plenum, use the 70” length of the 3/4” hose and secure it with a 27 mm constant tension clamp on the driver side barb. Install the 40” piece of 3/4” hose on the passenger side barb with a constant tension clamp. Pictured in the top left corner is the 27 mm constant tension clamps.



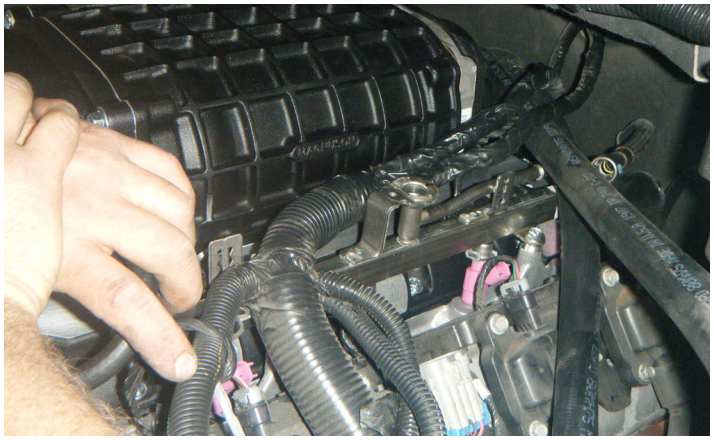
68. Remove the tape from the intake ports. Spray silicone or some mild soap and water solution on cylinder head surface to lubricate. This makes the intake manifold slide around a little to help line up the holes. *(Do not use anything that will damage the intake gaskets such as petroleum based products,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



69. The secondary locking clip on your 2009-2010 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 re-installing. 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 but do not exceed 24 ft-lbs on the sensor.

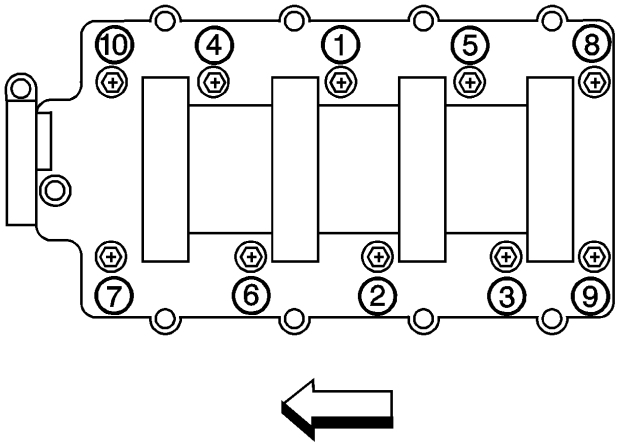
70. If the secondary locking clip lands in position #3, you will need to remove the sensor and reclock it using the supplied copper shim. Before re-installing, wrap the sensor's threads with teflon tape or teflon paste. Re-install the sensor and shim into position #1 by torquing to 15 ft-lbs minimum to 24 ft-lbs maximum. Use the picture on the previous step (step 69) for a top view of the acceptable clocking position.

71. View of the secondary locking clip on the oil pressure sensor.



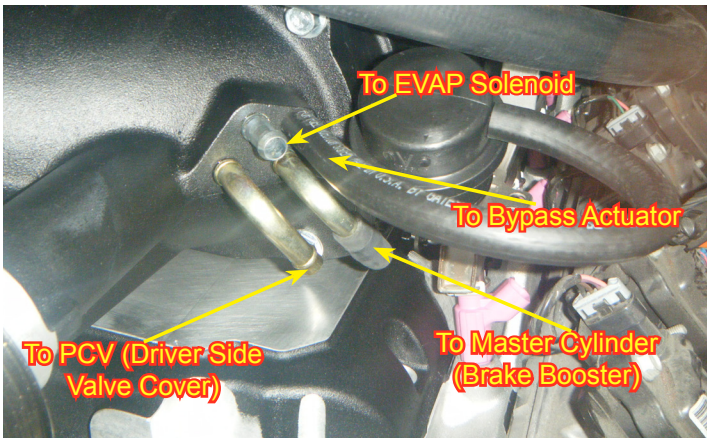
72. With the help of an assistant, carefully lower manifold assembly into place, use care to not damage gaskets. Route the 3/4” hoses to the driver side of the supercharger.

DO NOT lift the supercharger assembly by the black plastic bypass actuator. This is *pre-set* from the factory and can be altered or broken if used as a lifting point!



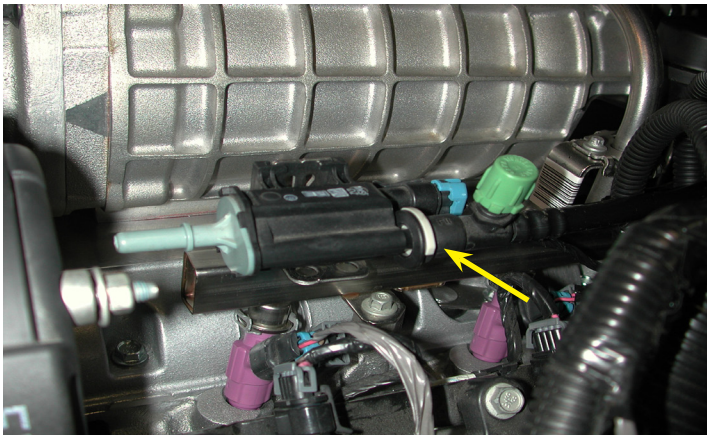
73. Torque all (10) bolts gradually and evenly to a torque of 89 **in-lbs**. *Note: Make sure your wrench is set to torque to in-lbs, not ft-lbs.*

74. Now take your 15mm socket wrench and remove the factory idler pulley.



75. Illustrated are the connections to the front of the supercharger.

NOTE: Some trucks do not have a master cylinder, in which case the master cylinder inlet must remain plugged as shown in the picture.



76. Take the EVAP solenoid and place it onto the factory bracket. Reconnect the rear EVAP line at this time.

77. 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 as indicated. Route the other end under the coil bracket and plug into the hose barb on the supercharger nose as shown.

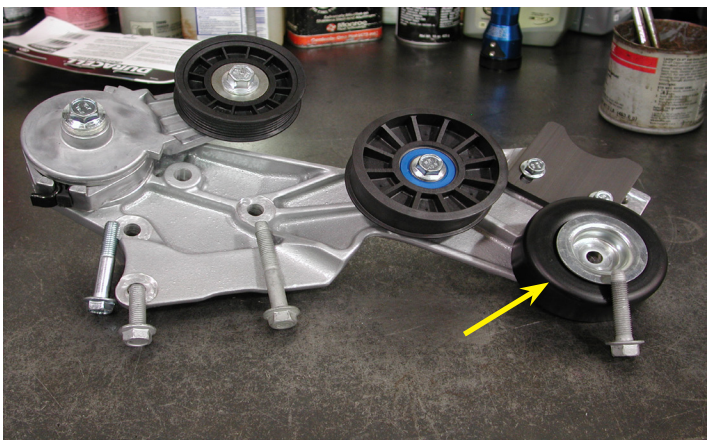
78. Take the front EVAP hose from the stock manifold, and carefully cut out the 90° fitting at the end of the hose.

79. 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.

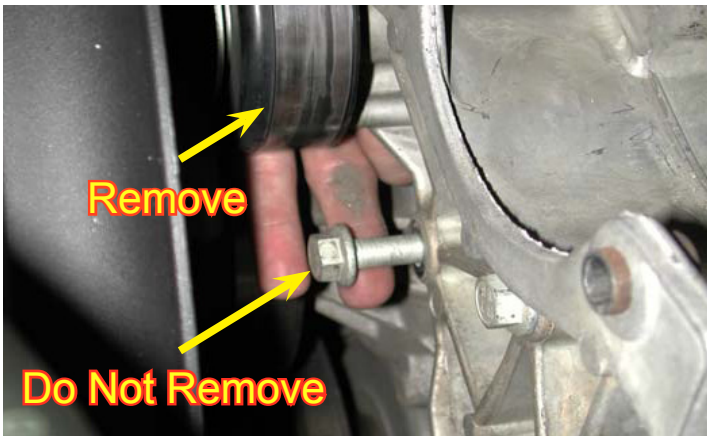
80. Connect the 90° elbow installed in step 79 to the front of the EVAP Solenoid.

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

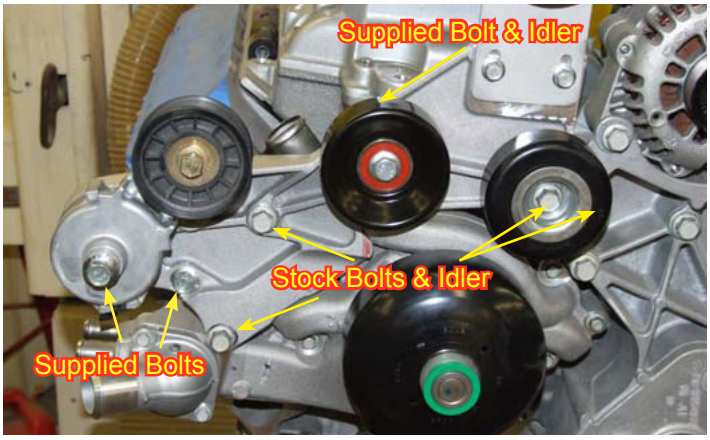
82. Using a soft hammer, knock the factory bolt loose from the idler pulley. The bolt retainer and stand off, pictured here on the right side of the pulley, will not be re-used. *Note: The bolt, dust cover and idler will mount to the new tensioner bracket.*



83. Here is the supplied tensioner assembly showing where the specific bolts and where the factory idler goes. Remove the supercharger support bracket (attached with two bolts) and the plastic bag with the tensioner installation pin before installing the tensioner assembly on the engine.



84. The bolt below the factory idler will be used so do not remove it from the assembly.



85. Here is the new tensioner assembly installed in the original tensioner location. Note the location of the supplied bolts and the stock bolts. Torque all mounting fasteners to 40 ft-lbs.

86. Torque the tensioner mounting bolt to 50 ft-lbs.

87. 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. Replace the stainless steel safety clip that was removed at the beginning of disassembly.

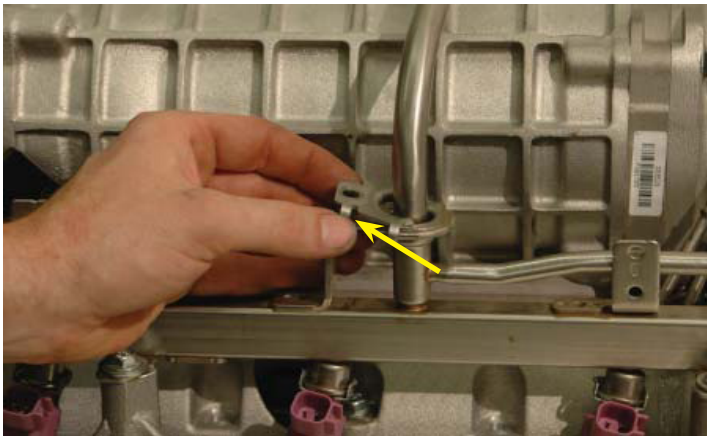
88. Remove the wiring harness from the original bracket. This bracket will not be re-used.

89. Take the (8) fuel injector plugs and connect them to the (8) fuel injectors. *Note: Make sure that the connectors are seated on the injectors and locked in place. Pull the harness connector to ensure a good contact.*

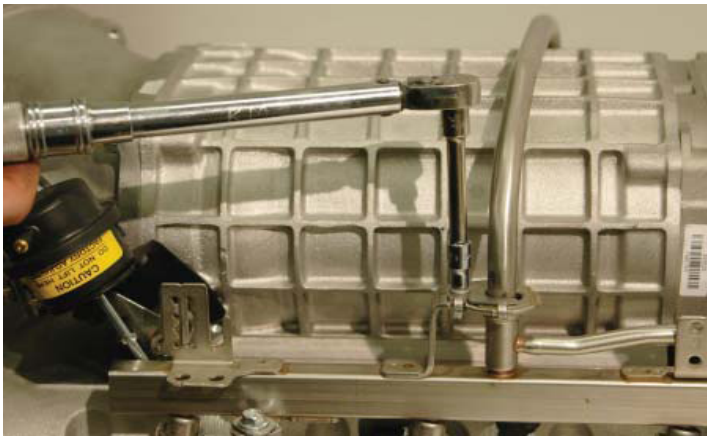
90. Install the new O-rings onto the new supplied fuel crossover tube. Lubricate the O-rings with the supplied Lubriplate lubricant.

NOTE: The supercharger is shown off of the vehicle for illustrative purposes only. This should be done after step 88.

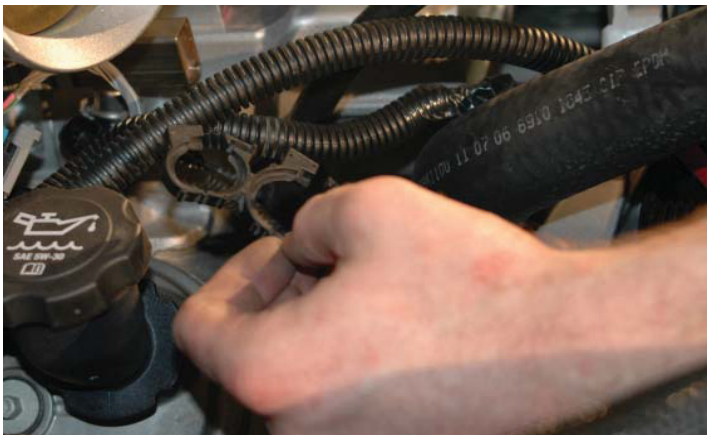
91. Now, install the crossover tube into the fuel rails sockets. *(Note: The angled side of the crossover tube goes on the bypass side of the supercharger)*. Test the fit to ensure that it's mounted correctly.



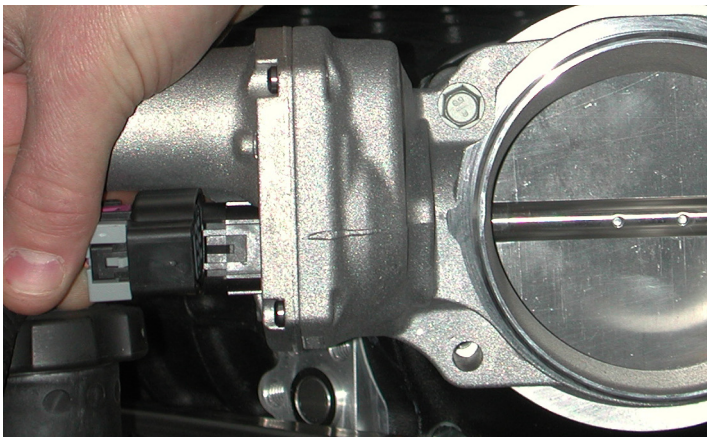
92. Next, re-install the fuel crossover tube retaining brackets. The retaining tab on each side should now be bent back into place using a pair of pliers. Only bend the retaining tab that goes on the outside of the supercharger housing as indicated.



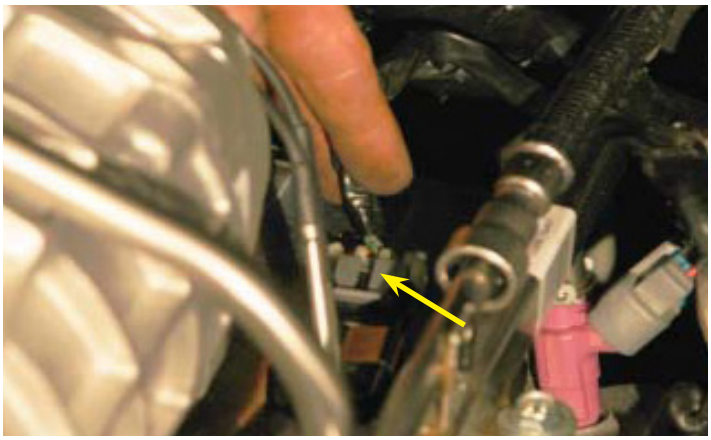
93. Lock the retaining brackets to the fuel rails with the factory hardware using an E-6 inverted Torx socket wrench. Torque these bolts to 50 in-lbs, verify that your torque wrench is set to in-lbs.



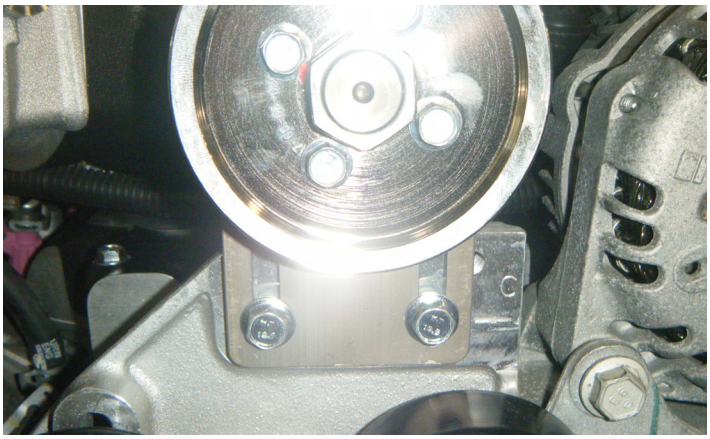
94. Remove the plastic loom clip from the wire-looms located next to the oil filler neck with a flat blade screwdriver.



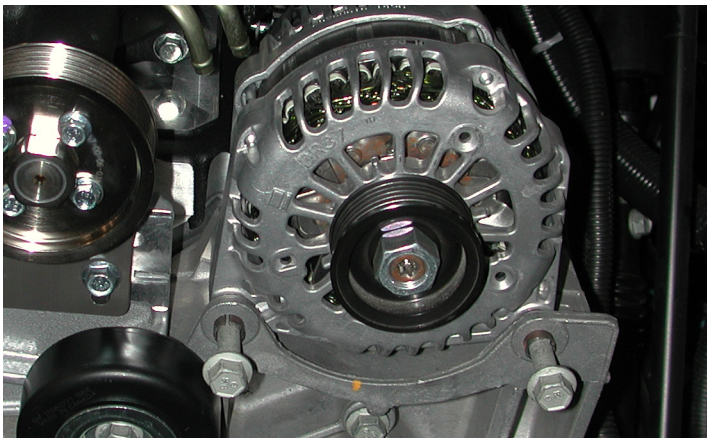
95. Plug the electrical connector for the ETC back into the throttle body.



96. Plug the MAP sensor back in. Sensor location is now at the rear of the manifold and no wire extensions are necessary.

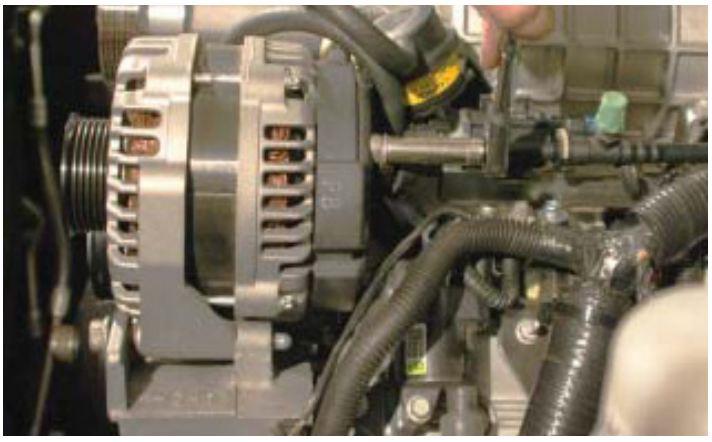


97. Install the supercharger nose support bracket with the (2) bolts provided. Apply tension upwards on the bracket and torque bolts to 15-17 ft-lbs with a 12mm socket wrench.



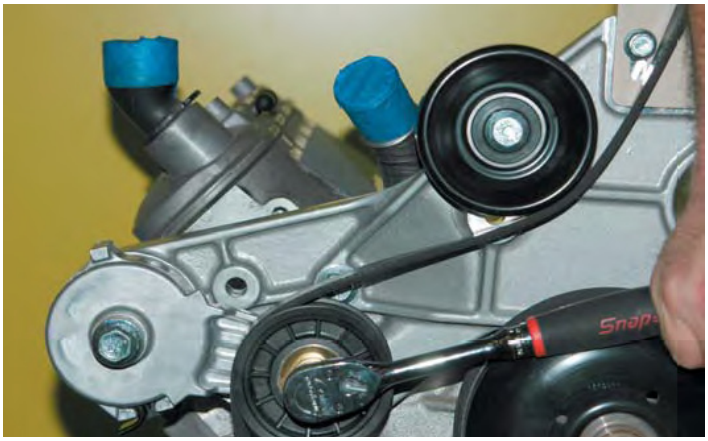
98. Next, re-install the alternator using the factory hardware. Using a 15mm socket wrench torque the (2) mounting bolts to 40 ft-lbs. Verify that your torque wrench is set to ft-lbs.

If installing a higher output alternator, replace the stock unit with the high capacity alternator at this time.



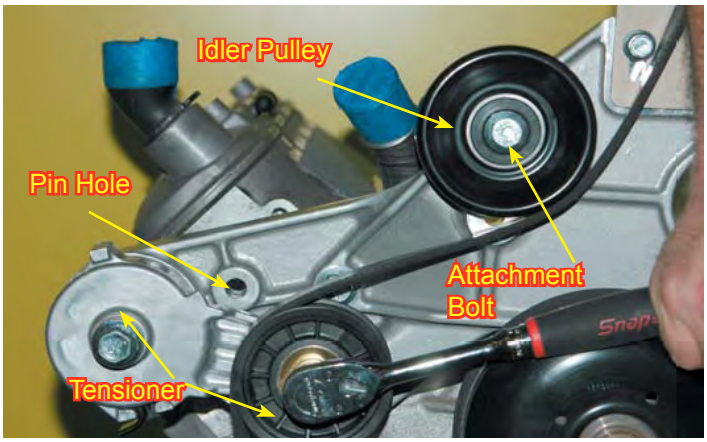
99. Ensuring that the battery is still disconnected, connect the battery (+) cable to the alternator and secure the nut with a 10mm socket wrench.

100. Using the pin provided, hold the tensioner all the way down and insert the pin into existing hole on the tensioner bracket.

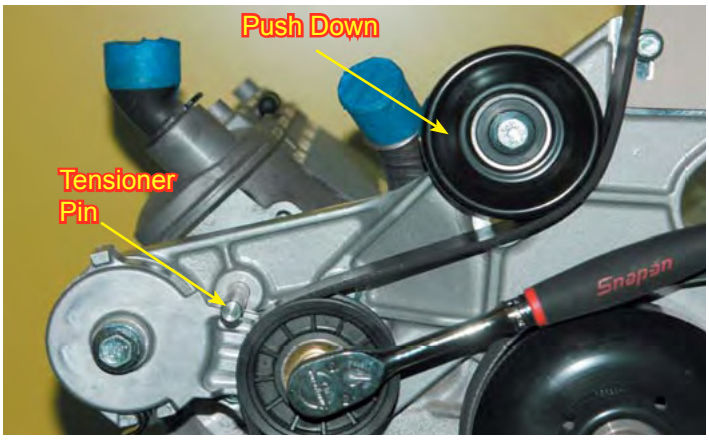


101. Using the belt routing diagram as a guide, install the new belt provided.

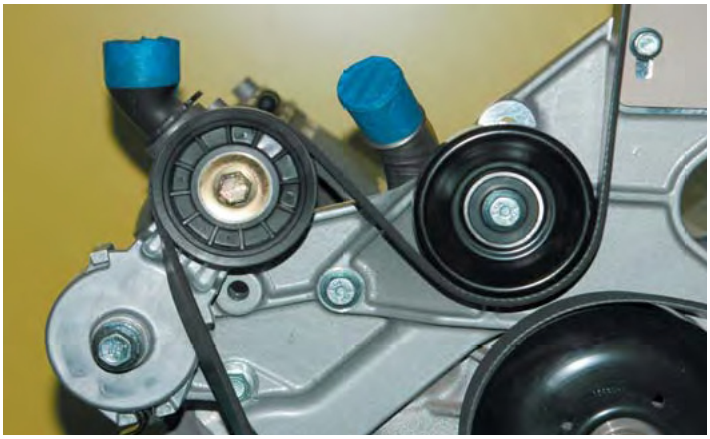
NOTE: The engine is shown off of the vehicle for illustrative purposes only.



102. After the initial accessory belt installation, loosen the idler pulley attachment bolt using a 15 mm socket wrench. Press the Idler arm down using a suitable 15 mm wrench. Note the location of the Pin hole.



103. With the tensioner in the compressed position, place the tensioner pin supplied into the pin hole and release the tensioner so it will remain in the compressed position. Push down on the idler pulley as far as it will go and then tighten the idler pulley attachment bolt securely.



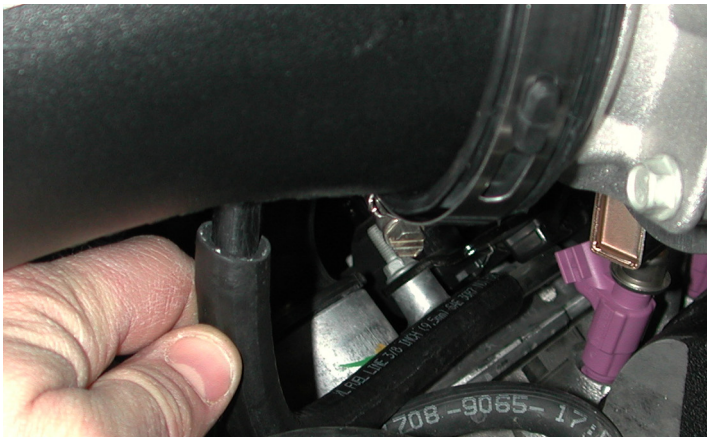
104. Press down on the tensioner again with the 15 mm wrench and remove the tensioner pin. Release the tensioner against the belt and the modification is complete. Retain the tensioner pin with the vehicle for future belt service.

105. Here is the air tube and it's components.

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

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

108. 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.



109. Using a 3/8" piece of hose *(roughly 5" long)* connect the right *(passenger side)* rocker cover vent tube to the plastic hose barb on the bottom of the air inlet tube.

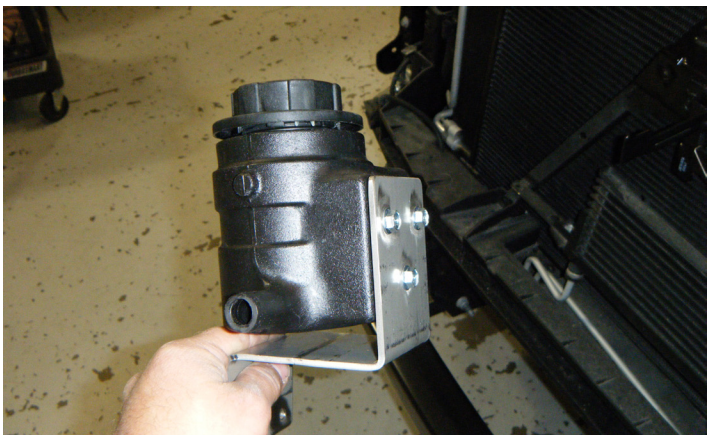
110. You will now install the intercooler reservoir and reservoir bracket. If your vehicle is not compatible with the bracket (due to different armoring configurations around the battery tray) shown in steps 110-114, skip these steps and use the bracket shown in steps 115-122 that attaches to the alternator bracket. If equipped with dual batteries remove the drivers side front battery. This is where the intercooler reservoir tank mounts. Remove the two bolts shown using a 10mm socket wrench.

111. 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.

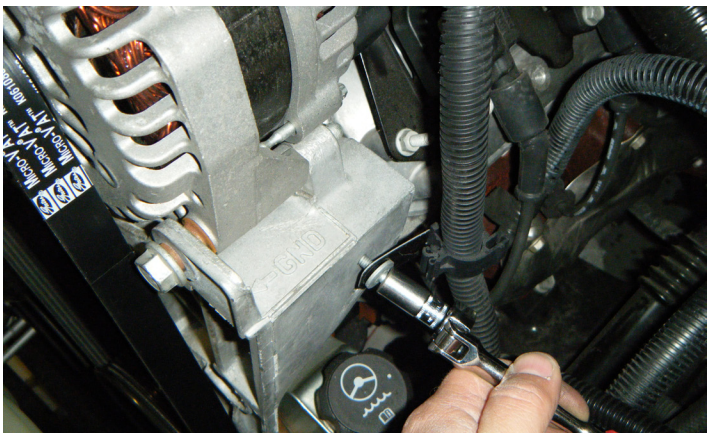
112. Using a 10mm socket wrench, re-install all bolts that were removed.

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

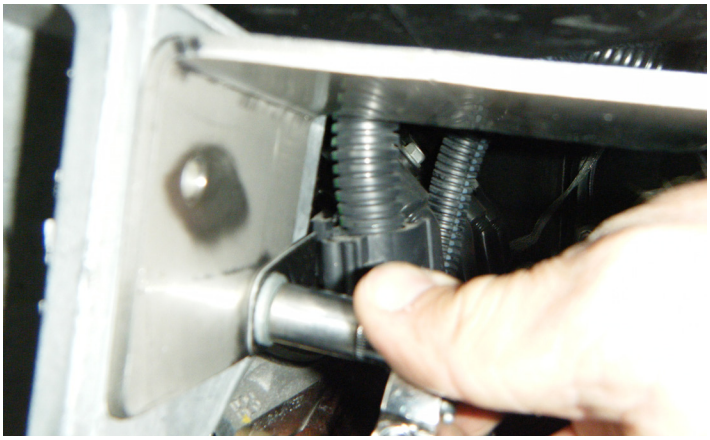
If applicable, re-install the secondary battery but do not reconnect the battery power and ground cables.



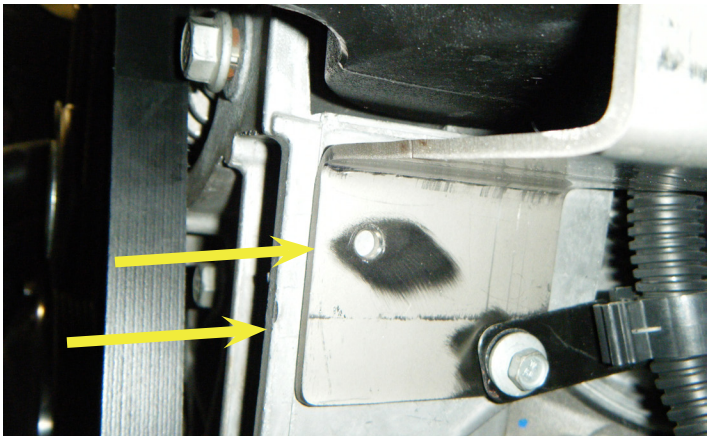
114. Using a 10 mm socket and ratchet, install the intercooler reservoir on the intercooler reservoir bracket as shown.



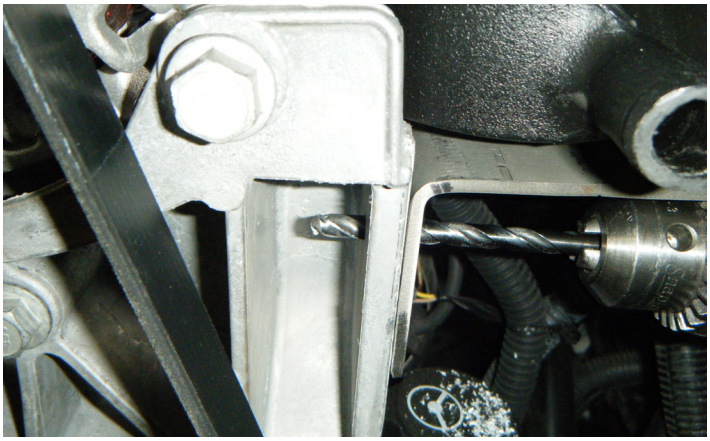
115. Using a 10mm socket and ratchet, remove the bolt shown located on the driver side of the alternator bracket.



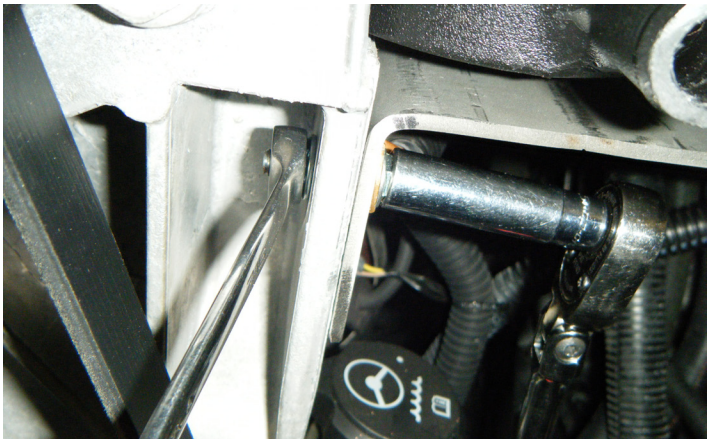
116. Using a 10 mm socket and ratchet, install the bolt removed in the previous step into the bottom hole on the reservoir bracket to secure the reservoir bracket and wiring harness bracket to the alternator bracket.



117. Position the reservoir bracket so that the edge of the reservoir bracket and the edge of the alternator bracket are parallel as shown. Torque down the bolt you installed in the previous step to 89 in-lbs.

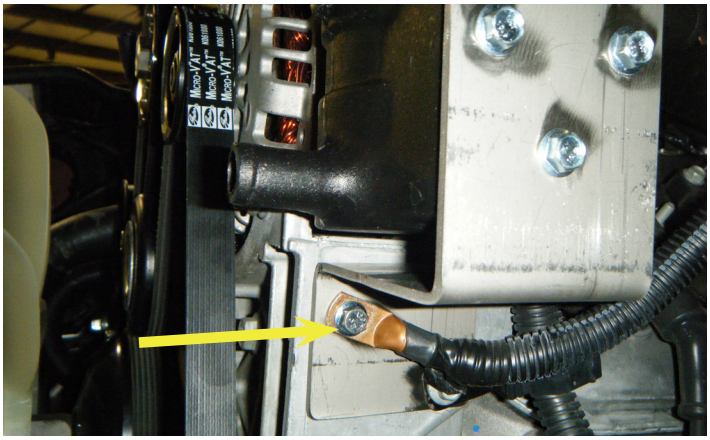


118. Using a 0.25” drill bit and drill, drill a hole all the way through the alternator bracket.

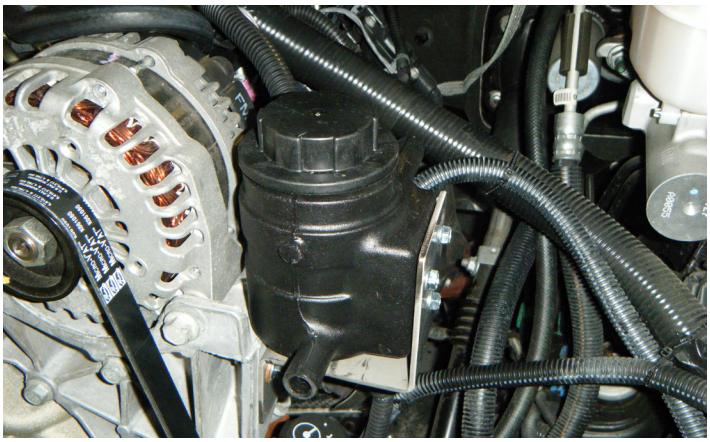


119. Using the LPE supplied 0.25” nut (part # 34292) and bolt (part # KP24724), install the ground wire as shown and hand tighten the nut and bolt.

NOTE: Some installations may not have the ground wire in this location. If this is the case you should still secure the bracket with the second nut and bolt but can ignore connecting the ground wire.



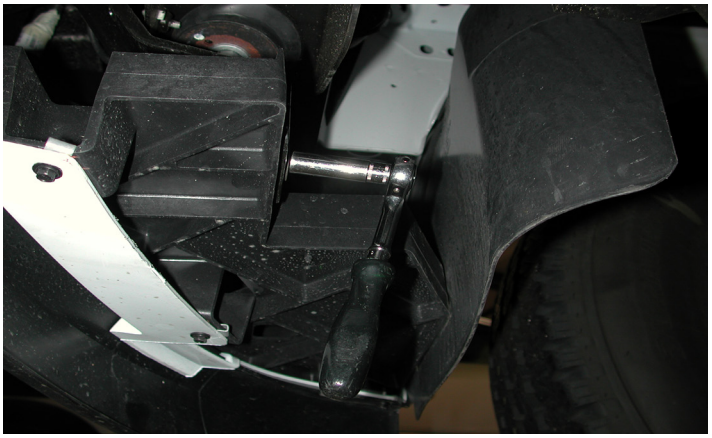
120. Using a 10 mm ratchet and 10 mm wrench, tighten the bolt and nut to 120 in-lbs.



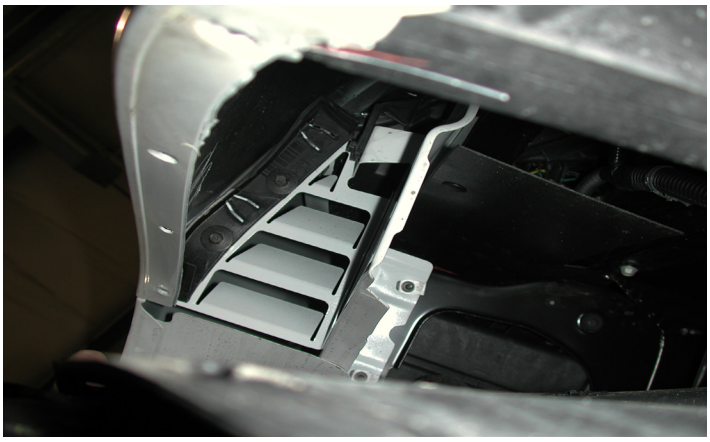
121. Be sure that the inlet and outlet are in the position shown as you will need to connect the hoses to them in later steps.

122. You must now remove the front fascia. The front fascia and grill assembly are all one piece. Start by removing the bolts at the top of the fascia.

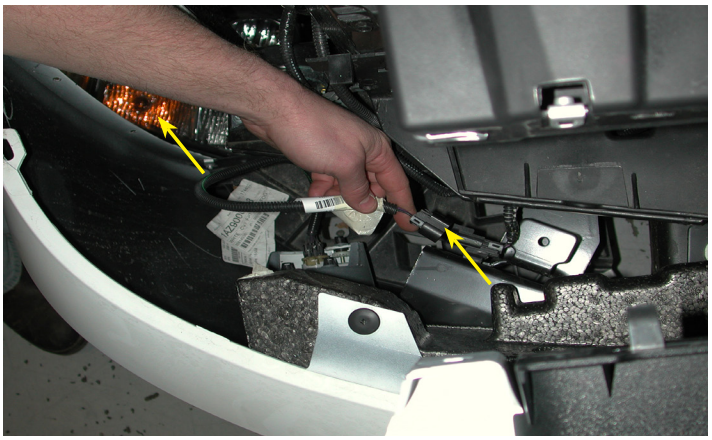
123. Next remove the (2) 7mm bolts and (3) push clips from both of the front inner fender wells.



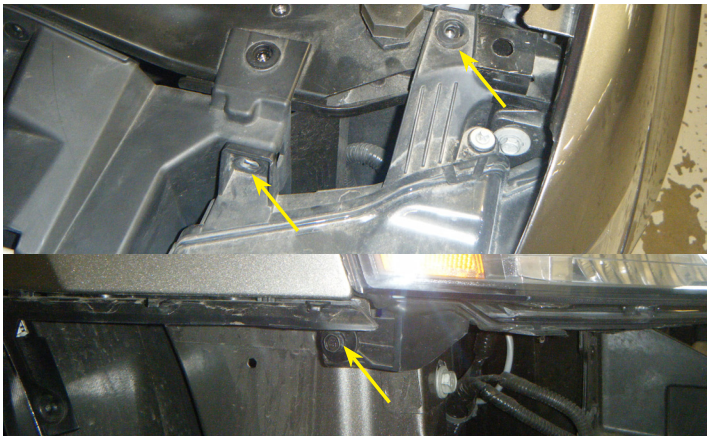
124. Remove the (2) one on each side 10mm bolts securing the plastic fascia support brackets to the metal bumper support brackets.



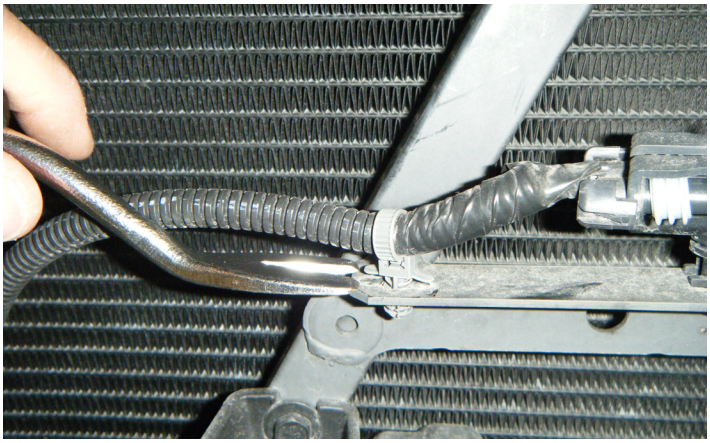
125. Next remove the (4) two on each side bolts holding the fascia to the fenders.



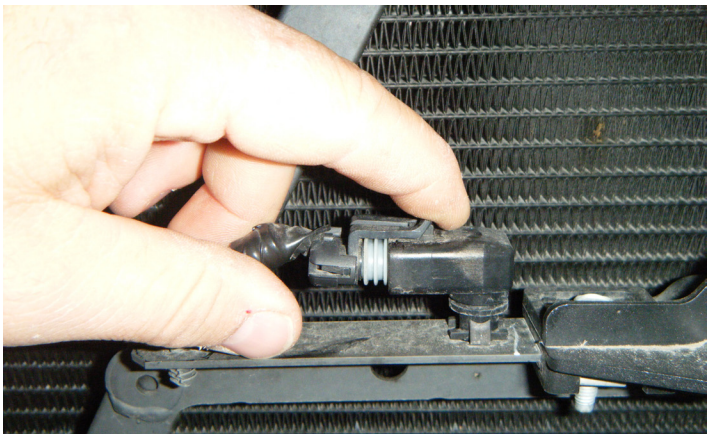
126. With help from an assistant carefully pull the front fascia loose from the vehicle and unplug the fog lights on each side. Set the fog lights and the fascia aside somewhere so they will not get damaged .



127. Remove both headlights from the vehicle. Be careful not to scratch the lens or break the plastic brackets. Three (3) bolts secure each headlight assembly.



128. Using a pry tool, remove the plastic tree clip from the “A” frame that holds the wiring harness for the ambient temperature sensor.

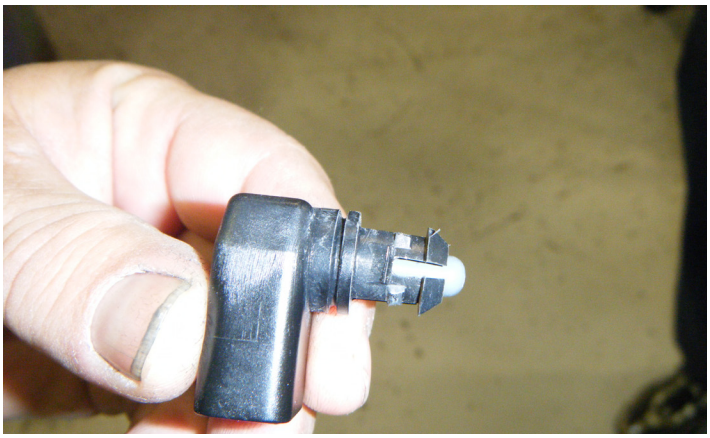


129. Remove the electrical connector to the ambient temperature sensor.

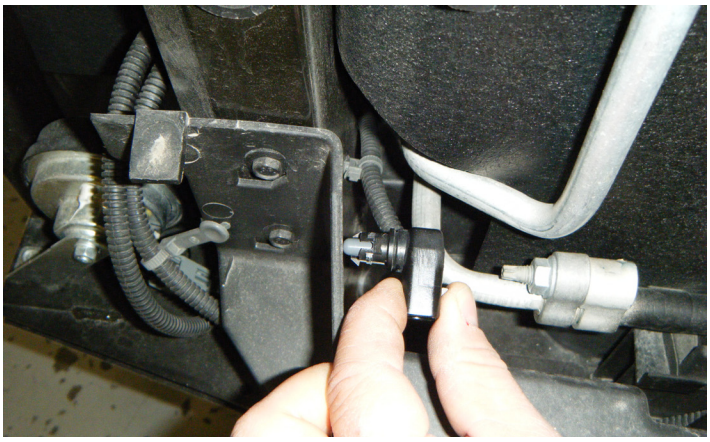
130. Using a pair of side cuts, cut the tree clip from the wiring loom of the ambient temperature sensor wiring harness. The tree clip will not be re-used.

131. Carefully remove the ambient temperature sensor. Be careful not to damage the sensor element during removal.

132. Using a pair of side cuts, remove the outer clips on the ambient temperature sensor.

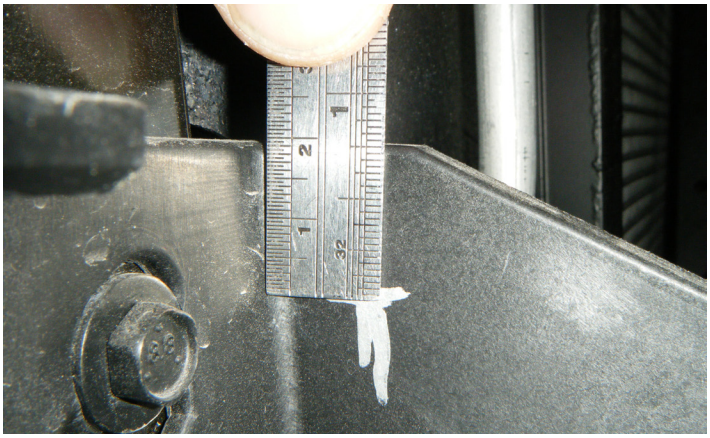


133. The ambient temperature sensor should look like this after removing the clips. This will allow the sensor to be installed on the plastic bumper support.

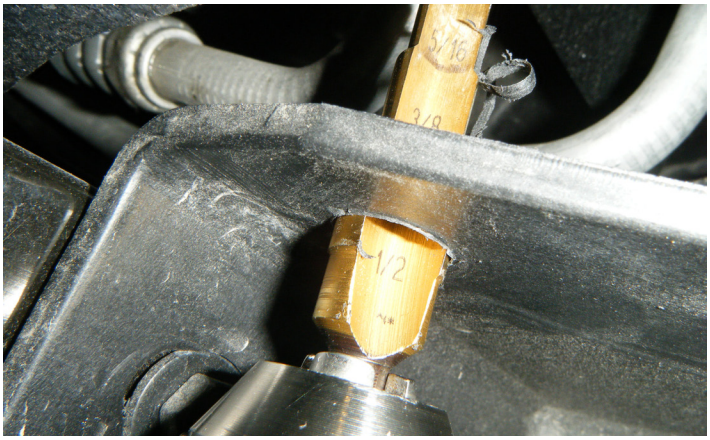


134. The ambient temperature sensor will be relocated to the passenger side of the plastic front bumper support.

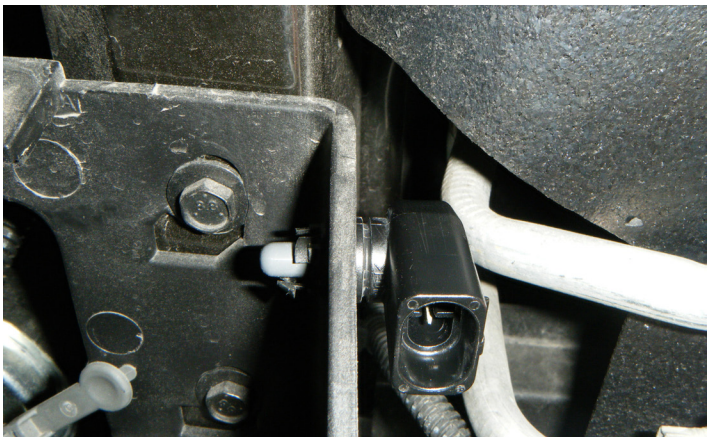
135. Measure 0.5” over and, using a silver marker (or equivalent), draw a vertical line on the plastic bumper support as shown.



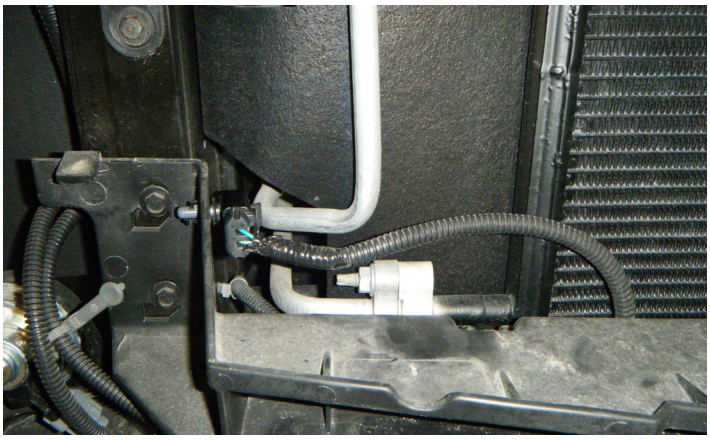
136. Measure 0.75” down and, using a silver marker (or equivalent), draw a horizontal line on the plastic bumper support as shown.



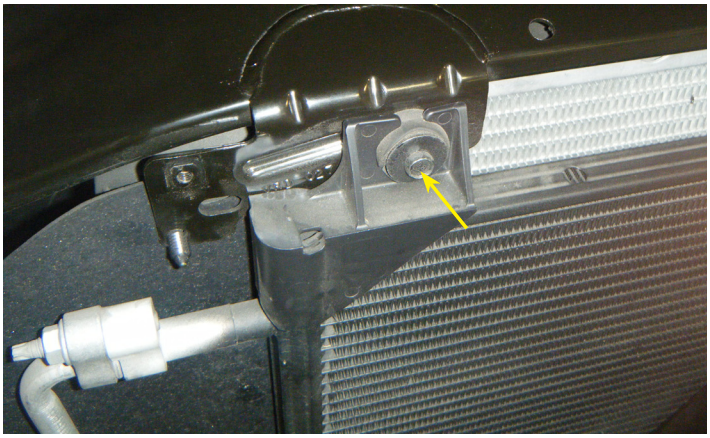
137. Using a drill and a step bit, drill a 0.5” hole in the center of your marks.



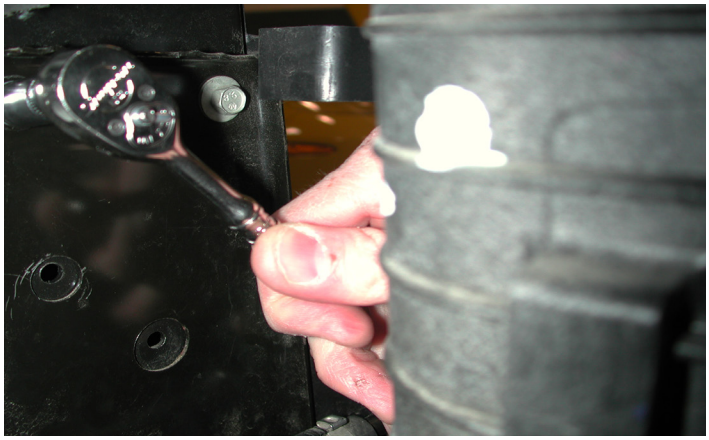
138. Install the ambient temperature sensor as shown. The sensor element should be facing the passenger side of the vehicle.



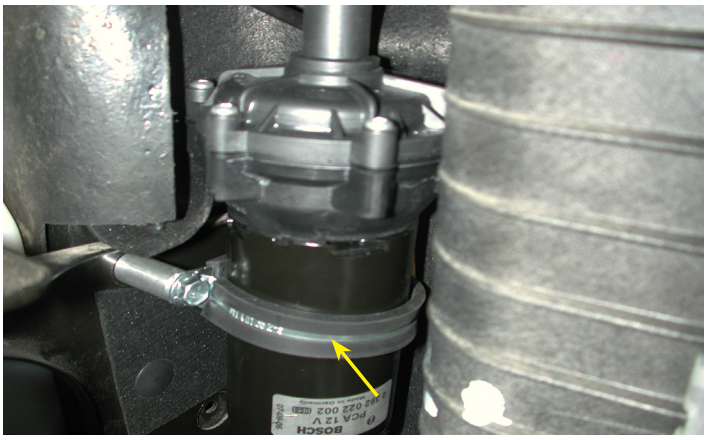
139. Install the wiring harness as shown.



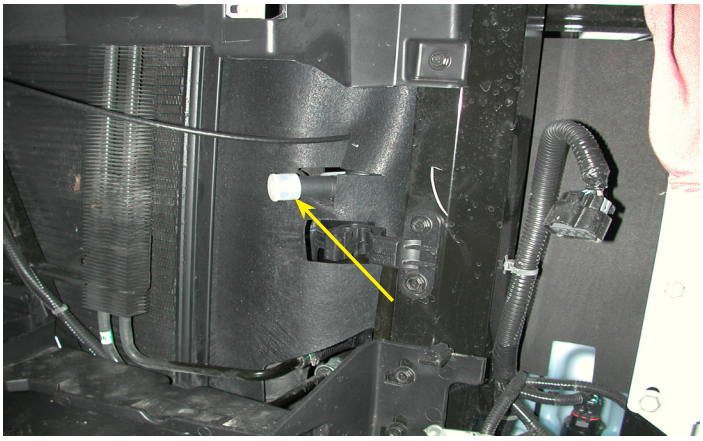
140. Remove the eight (8) bolts on the upper radiator support and then remove the upper radiator support brackets on each side.



141. Using a 10mm socket wrench, remove the bolt shown. This is behind the driver side headlight retaining clip and part of the radiator support.

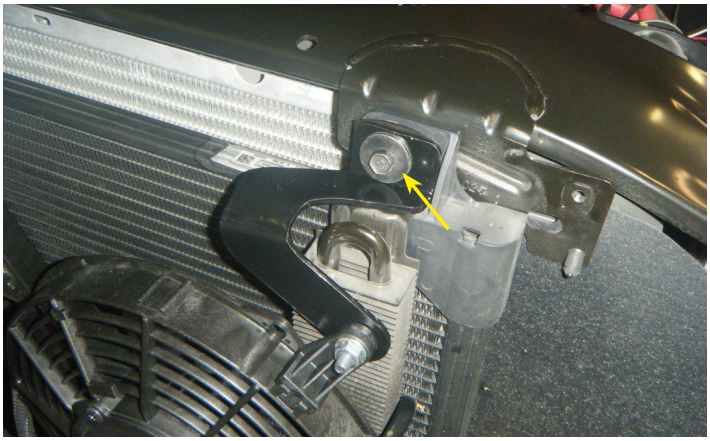


142. Locate the Adel clamp and put it on the intercooler pump as indicated. Then, using the 6mm x 55mm bolt and the supplied 25 mm spacer, install the intercooler pump to the radiator support.

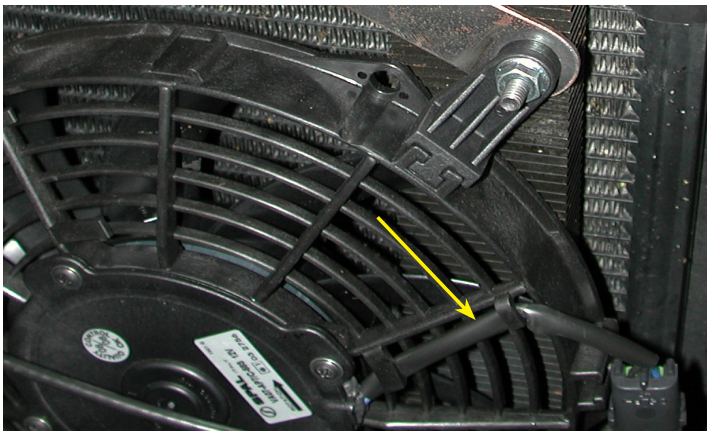


143. Make sure the outlet of the pump is running through the cutout already in the factory splash guard. Angle it toward the passenger side.

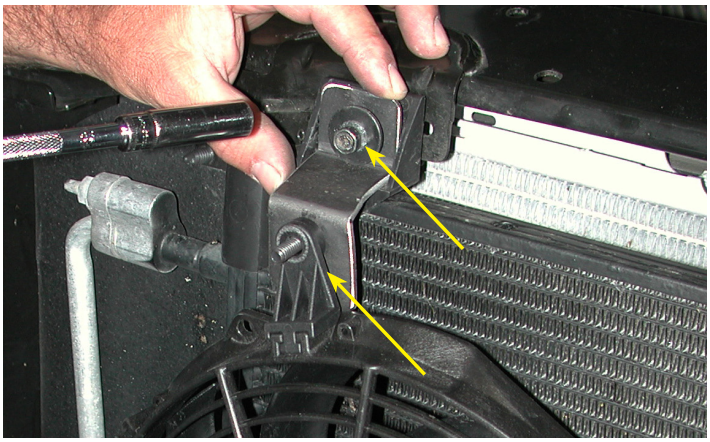
144. Using a 10mm socket wrench, remove the bolt shown that holds the top of the power steering cooler in place. Save this bolt for the next step. Do not remove the cooler.



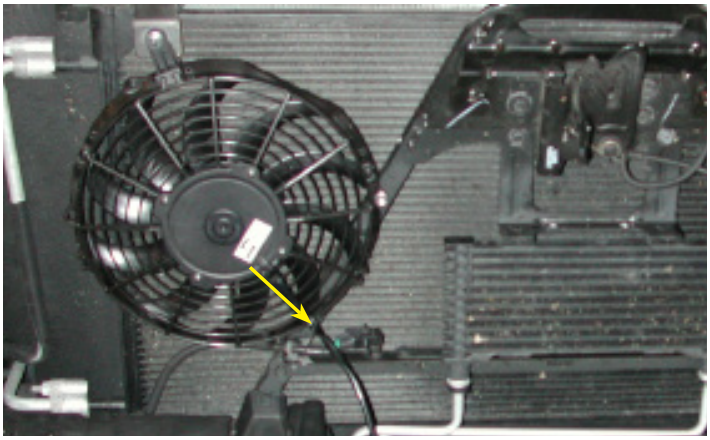
145. Using a 10mm socket wrench, install the driver side fan bracket (L960160607) as shown on the driver side using the factory bolt.



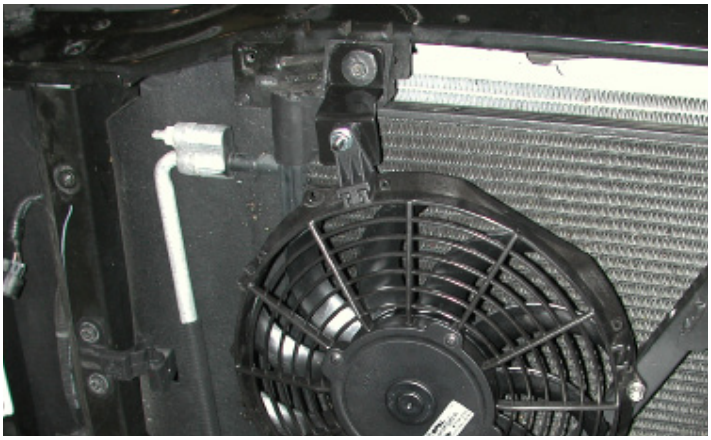
146. Install one of the plastic fan mounting tabs onto the 9” (225 mm) fan as shown. Note the position of the mounting tab in relation to the wiring harness. Secure the fan to the bracket with one of the 1/4-20 Spinlock nuts.



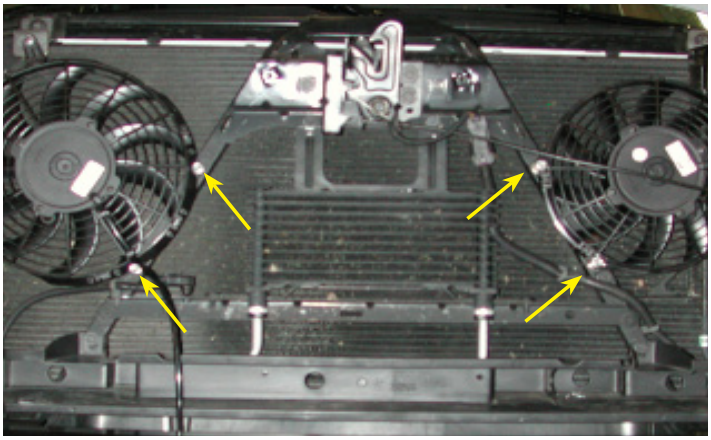
147. Using a 10mm socket, remove the bolt that secures the passenger side upper corner of the AC condenser. Use the factory bolt you just removed to secure the passenger side fan bracket (L960150607) and the position mounting feet.



148. Install the remaining plastic fan mounting feet onto the 10” (255 mm) fan. Note the position of the mounting tab in relation to the wiring harness. It should be roughly 180 degrees away from the harness as shown.

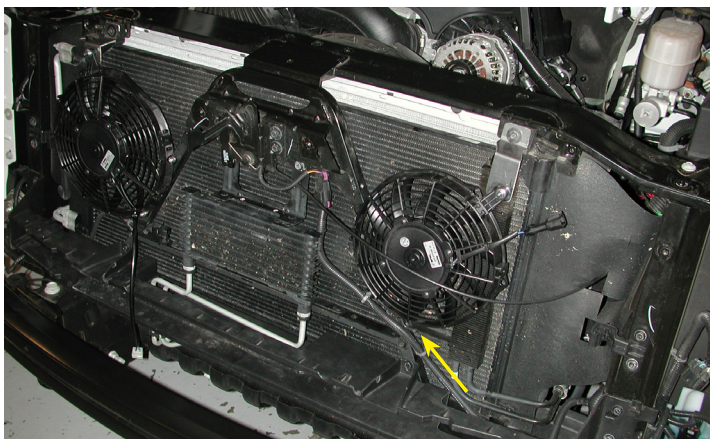


149. Using a 10mm socket wrench secure the fan to the bracket using one of the supplied 1/4-20 Spinlock nuts.



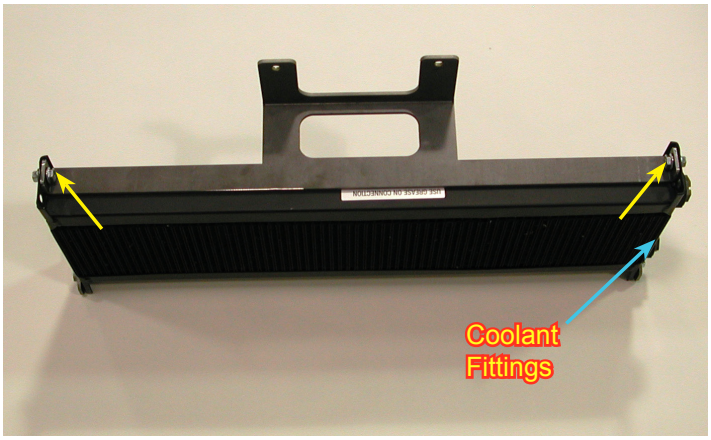
150. Mark with a center punch the location of where the fan shroud mounting holes overlap the factory front support structure as shown on the left (yellow arrows).

Carefully drill four(4) 3/16” holes (two per fan) into the “A” shaped frame. Only drill through the front face of the frame, do not drill all the way through the frame.

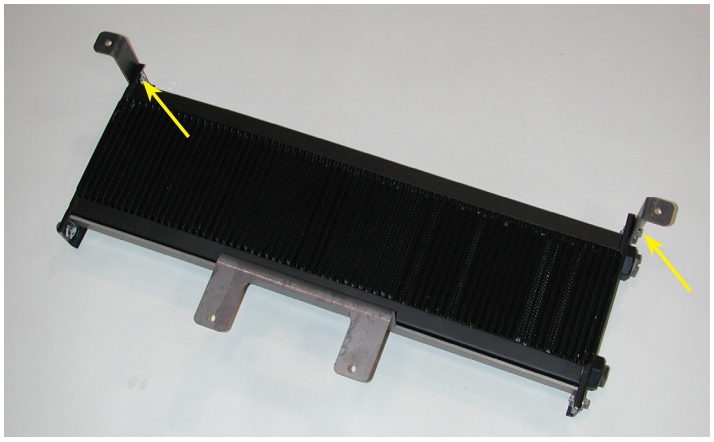


151. Secure the fans to the “A” frame using the supplied self tapping screws (AV12351 & AV12354). On the driver’s side use the longer 30mm screws along with the supplied 1/4” thick round spacers for the smaller 9” (225mm) fan. Install the spacers behind the fan shroud holes in order to align the fan properly.

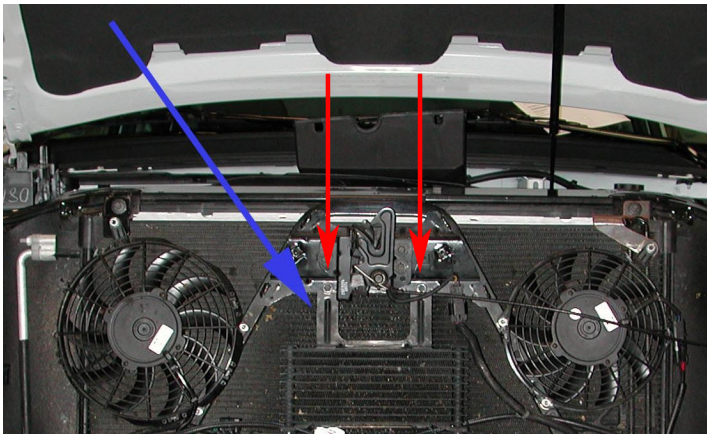
The fasteners shown in the images are silver for better visibility in the images and are not the self tapping fasteners supplied.



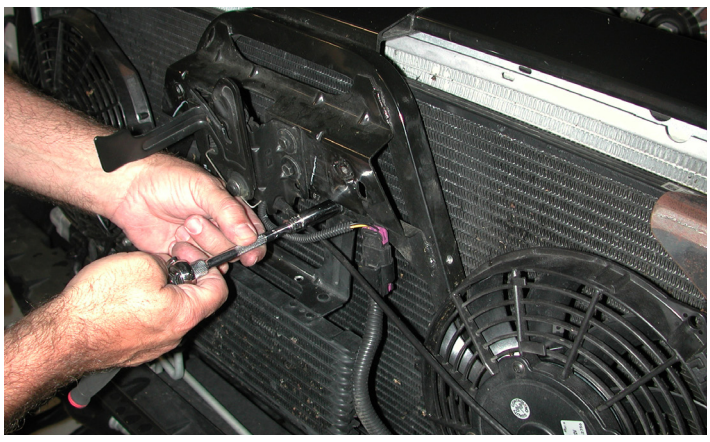
152. Attach the upper heat exchanger bracket to the top of the heat exchanger using two of the supplied 1/4-20x3/4” bolts and Spinlock nuts. Do not fully tighten the bolts so you can make adjustments later on. Make sure the bracket is installed on the heat exchanger as shown so that the coolant fittings exit on the driver side.



153. Now attach the two lower heat exchanger brackets to the heat exchanger as shown using four (two per side) of the 1/4-20x3/4” bolts and Spinlock nuts. The screw holes will need to be drilled out of the A frame to secure the heat exchanger to the vehicle.

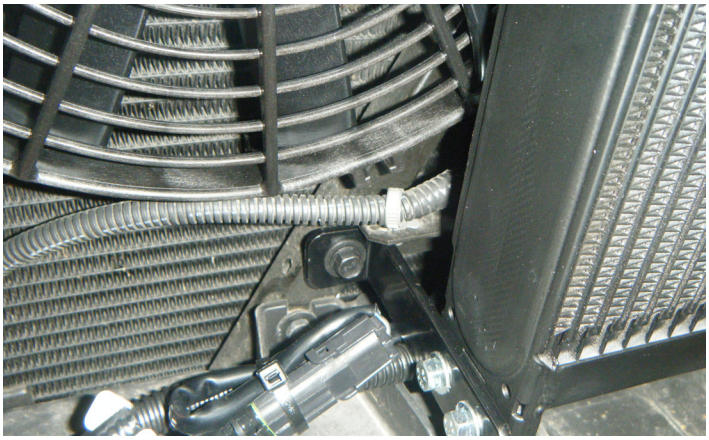


154. During the 2009 model year GM changed the mounting bracket for the transmission cooler. If your vehicle does not have the bracket shown in this image (see the blue arrow) then you will need to install the supplied extruded M6-1.0 U-nuts onto the factory bracket in the two locations marked with the red arrows.

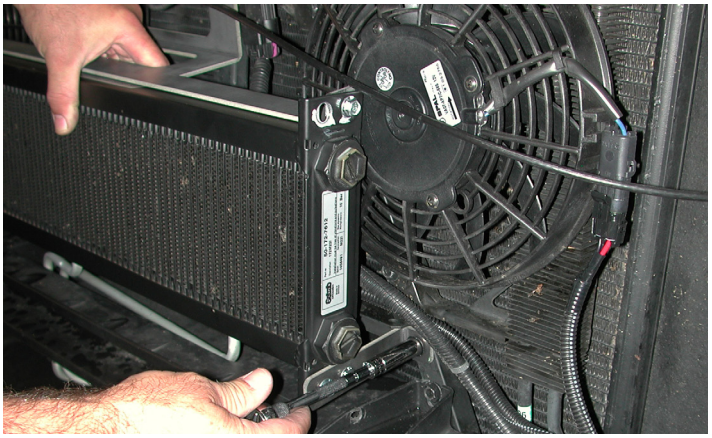


155. If your vehicle has the bracket shown in the previous step, remove the two bolts that secure the top of the transmission cooler to the hood latch mechanism as shown on the left. You will re-use these bolts.

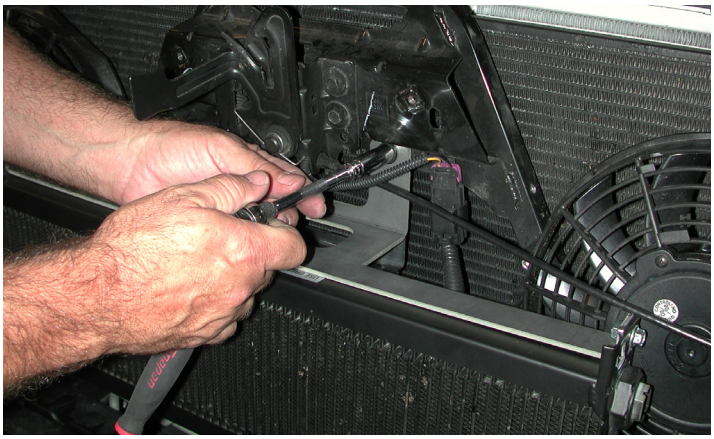
If your vehicle does not have this bracket then you can skip this step.



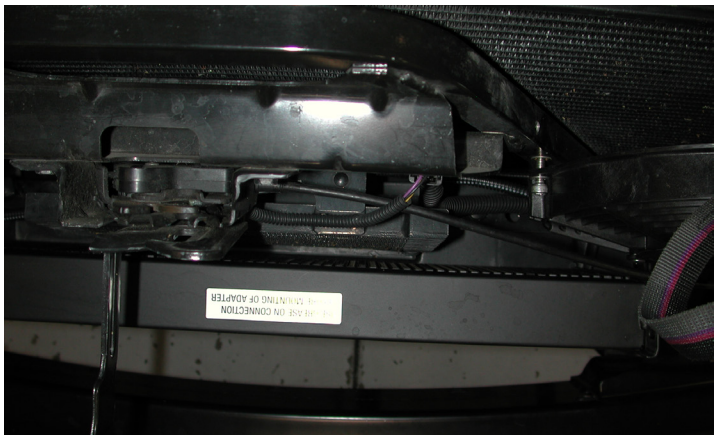
156. Using a 3/16” drill bit, drill the holes indicated on the A frame and install the self tapping screws into the A frame.



157. Mount the heat exchanger and bracket assembly as shown. Secure the lower heat exchanger brackets using the bolts you removed in the previous step.

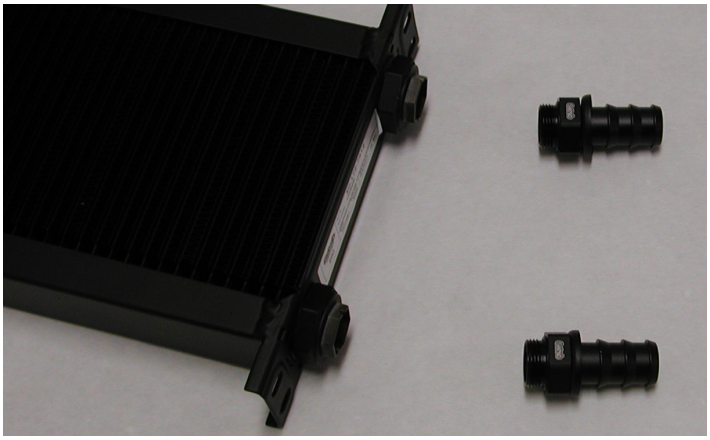


158. Now secure the upper heat exchanger bracket using the stock bolts you removed from the bracket or the supplied M6x1.0x25 mm cap screws (if your vehicle is not equipped with the brackets).

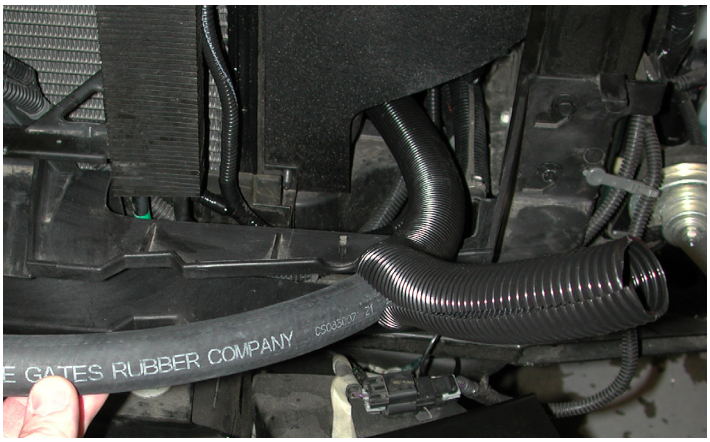


159. Looking from above the radiator, make sure you provide enough clearance between the intercooler heat exchanger (intercooler fluid radiator) and the factory automatic transmission fluid cooler.

160. Position the intercooler heat exchanger so that it clears the transmission cooler and the auxiliary fans. The holes in the upper bracket are slotted to allow you to move the top of the heat exchanger. Once in position you can now tighten the upper bracket fasteners.

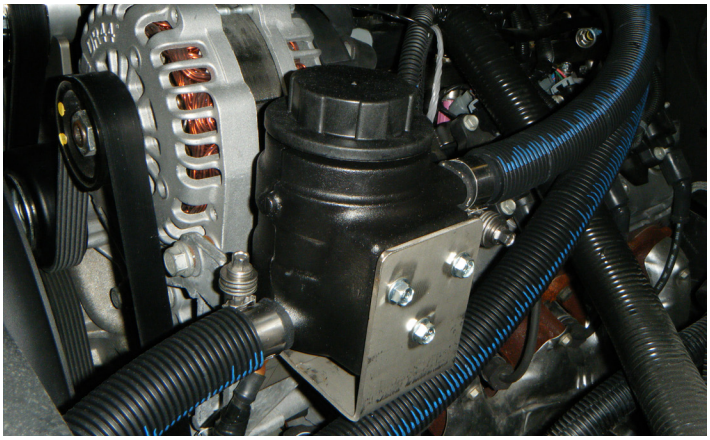


161. Remove the plastic plugs from the side of the heat exchanger. Apply a light coating of oil or assembly lubricant to the threads of the M22 fittings and install them in the heat exchanger.



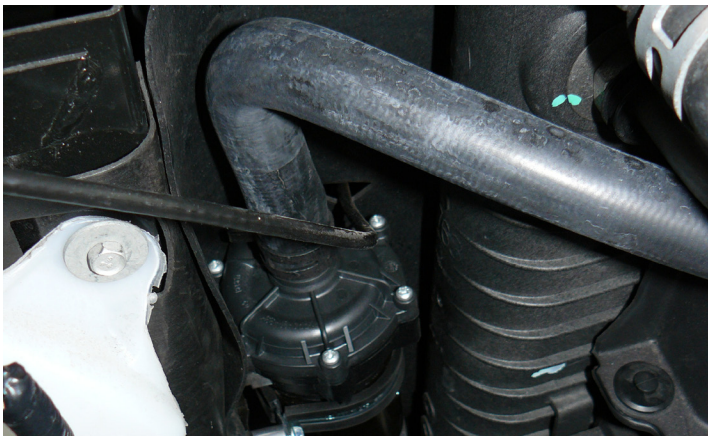
162. Install a 6 ft piece of wire loom on the 70” coolant hose on the supercharger installed in step 66. Now route through the radiator support to the bottom barb on the heat exchanger (cut to length) and install with supplied 27mm constant tension clamp.

163. Image of the stainless steel spring loaded constant tension clamps (part # 54205K11) that will be used to secure the hoses to the coolant reservoir.

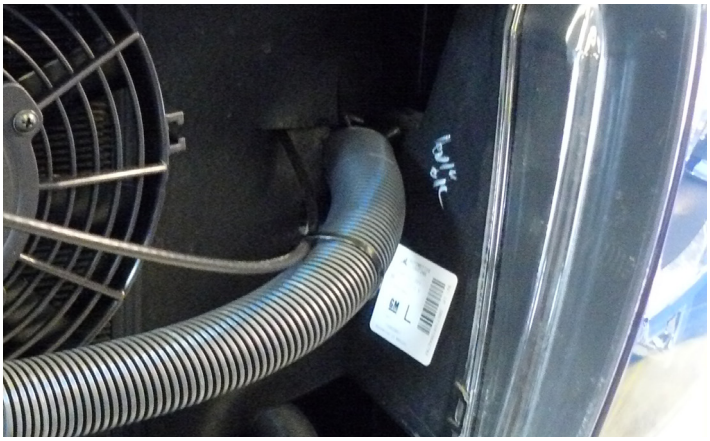


164. Because the intercooler coolant fluid reservoir is made of plastic the hoses connected to the reservoir must be secured using the supplied stainless steel spring loaded constant tension clamps (part # 54205K11).

165. Cut 40” of loom off the remaining 6 foot section of loom. Install it on the 40” hose coming off the back of the supercharger and route the hose to the intercooler reservoir tank (cut to length).



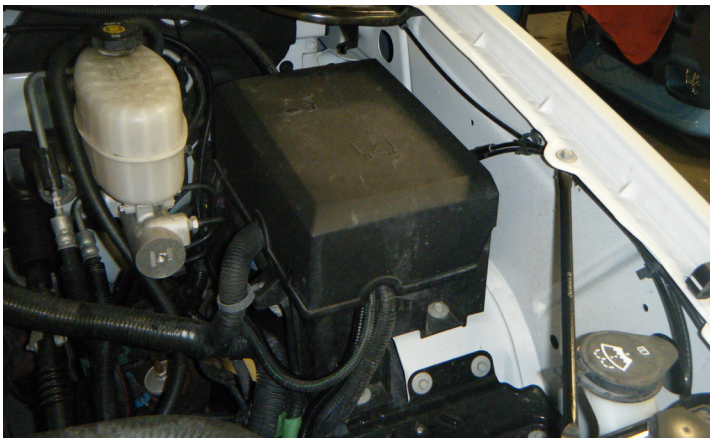
166. The remaining 3/4 hose with the 90 degree bend (part # 9820) will go from the intercooler reservoir to the top of the intercooler fluid pump (pump inlet). Install the 90 degree end on the pump and cut the other end to length so it installs on the reservoir. Secure the hose on the pump with a 27mm constant tension clamp and secure the hose to the reservoir with one of the stainless steel spring loaded constant tension clamps (part # 54205K11).



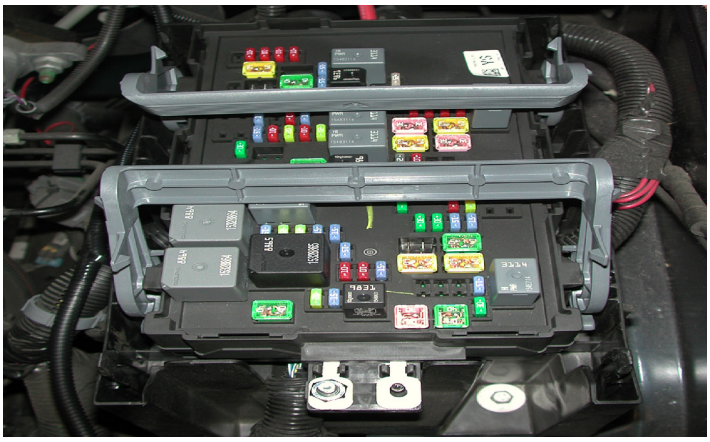
167. On the remaining 15” of the ¾” hose, cover with the remaining section of loom. At the front of the vehicle, attach one end to the outlet barb on the intercooler pump. Secure the hose to the pump with a supplied 27 mm constant tension clamp.

168. Route the hose directly to the upper intercooler heat exchanger hose fitting. Trim to fit and secure the hose to the fitting with the supplied 27 mm constant tension clamps.

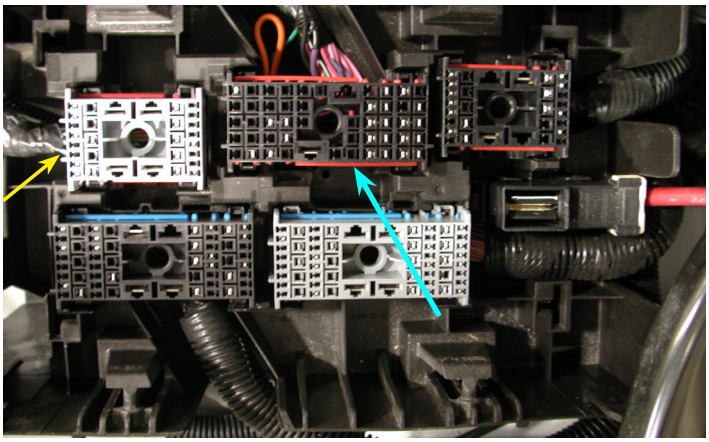
169. Remove the fender to firewall support bracket with a 13mm socket. This is located on the driver rear side of the engine compartment directly over the fuse box.



170. Remove the fuse block cover. Refer to page 62 for the full wiring diagram of the water pump.



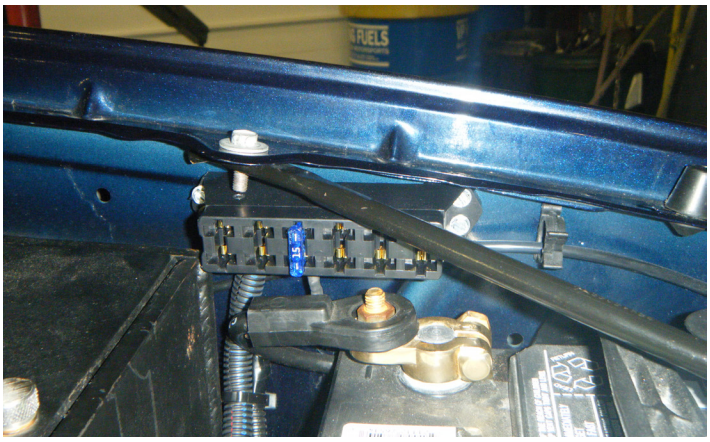
171. Un-clip the gray locking tabs securing the underhood fuse block. Remove it from the base by folding the gray retaining bars together while lifting straight up until the panel detaches from the connectors in the base. At this point move the gray retaining bars away from each other and continue to lift until the fuse panel is free from the base.



172. Image of fuse block base and connectors with the fuse panel removed.

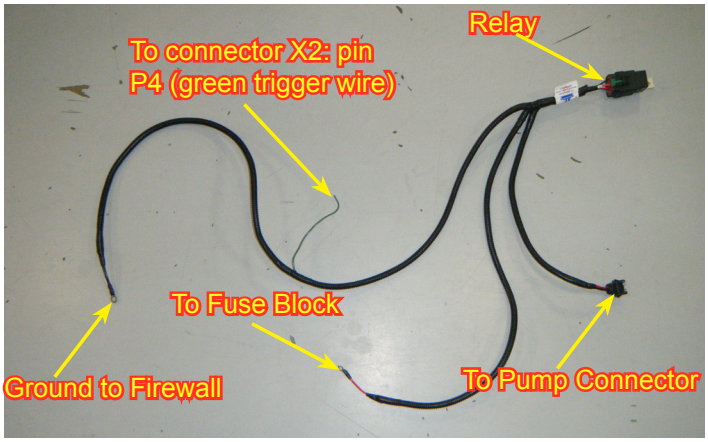
The yellow arrow shows the position of the X1 connector that will be removed in the following steps. The light blue arrow shows the position of connector X2 used for connecting the fan wires.

173. Install the supplied 22” long section of 1/4” high temperature loom to the red wire on the supplied fuse block.

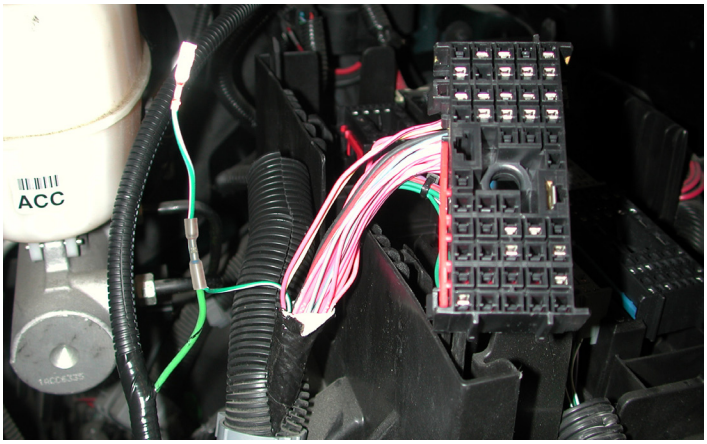


174. Mount the supplied fuse block to the inside of the driver’s front fender by drilling two holes (#31 drill) through the fuse block mounting tabs and then use a 7mm socket to secure with the two M4 x 30mm silver screws. Be careful not to drill too deep. Apply the fuse panel label decal to the fuse cover.

175. Using an insulated connector crimping tool, strip about 1/4” off of the main power wire and crimp the insulated eyelet connector onto the wire. Attach the main power wire from the supplied 6 position fuse block to the stud in the factory fuse box using the M8 nut. Since not all vehicles come equipped with a M8 nut on the stud from the factory, a M8 nut has been provided in case one is not already there.

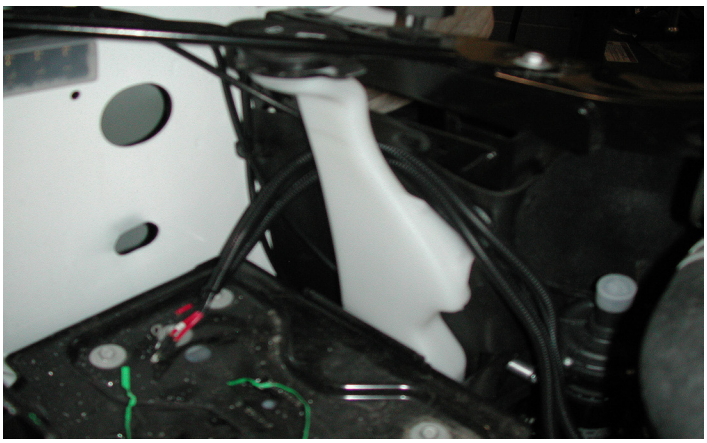


176. This is the wiring harness for the intercooler water pump. See page 62 for the full wiring diagram of the water pump system.

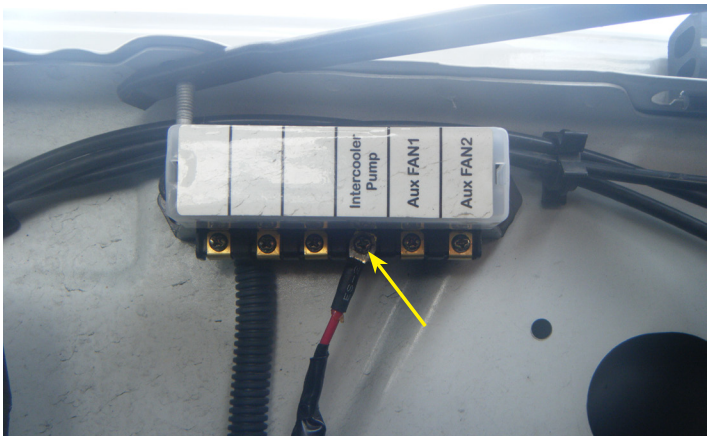


177. Take the green trigger wire from the intercooler's water pump relay, cut and strip about 1/4" of the insulation from the end of the wire and connect it to the dark green/white wire to connector X2, pin P4 of the under hood fuse block. Using the supplied crimp connectors and a heat gun, shrink and seal the protective plastic. See the diagram on page 63 for connector numbers. The connector is shown un-pinned; however, it is not necessary to un-pin the connector to splice the wires.

178. Mount the intercooler pump relay to the left hand side of the upper fan shroud by drilling one (1) 1/4" holes and secure it with the supplied push-lock rivets. Connect the eyelet to stud #1 with the pump eyelet.

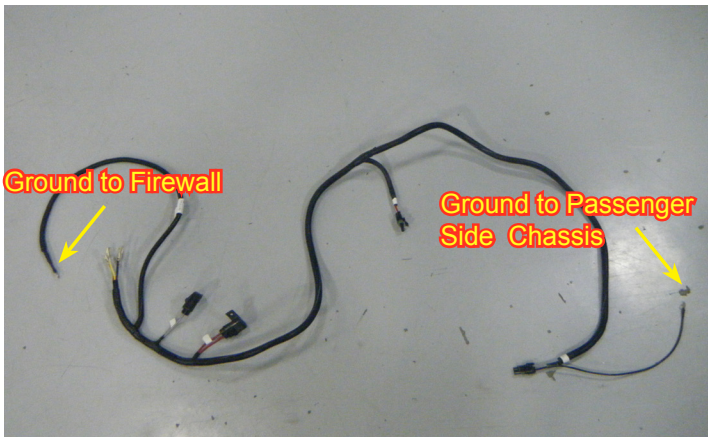


179. With the relay mounted, route the red power wire up and behind the windshield washer bottle and over to the fuse block.

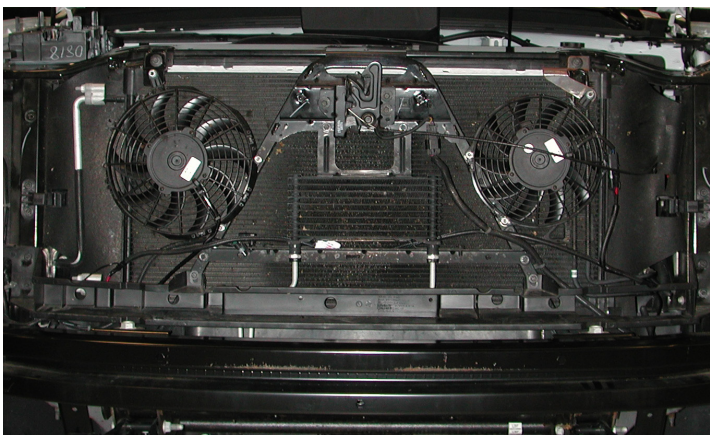


180. Hook the wire up to the fuse block in the position labeled intercooler pump.

181. Route the electrical plug for the intercooler pump between the ECM and the fender well through the radiator support and connect the plug to the pump.

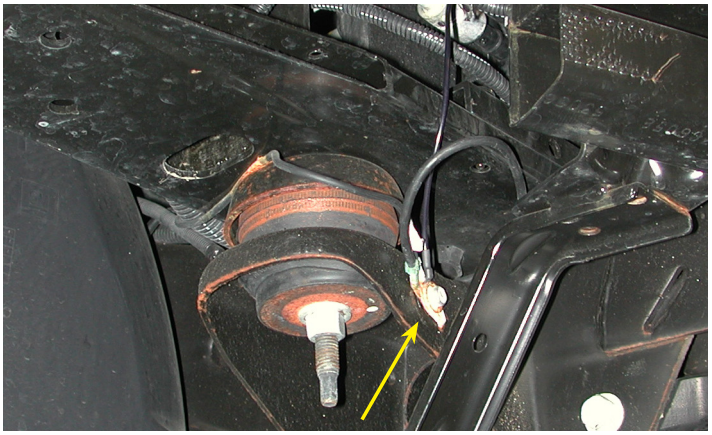


182. This is the new wiring harness to the fans. It will be grounded in two (2) places. See page 61 for the full wiring diagram of the fan system.

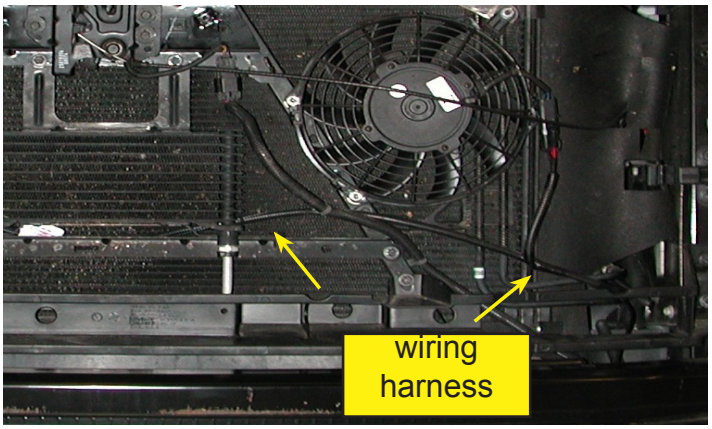


183. Connect the wiring harness to the fans.

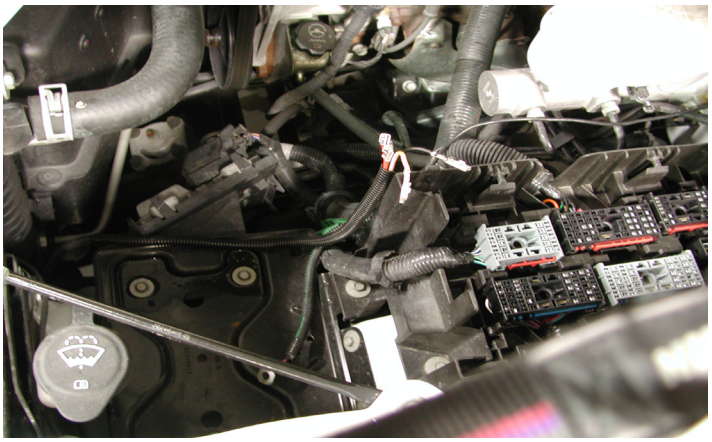
Fan 1 is the driver side fan (225 mm or 9 in).
Fan 2 is the passenger side fan (255 mm or 10 in).



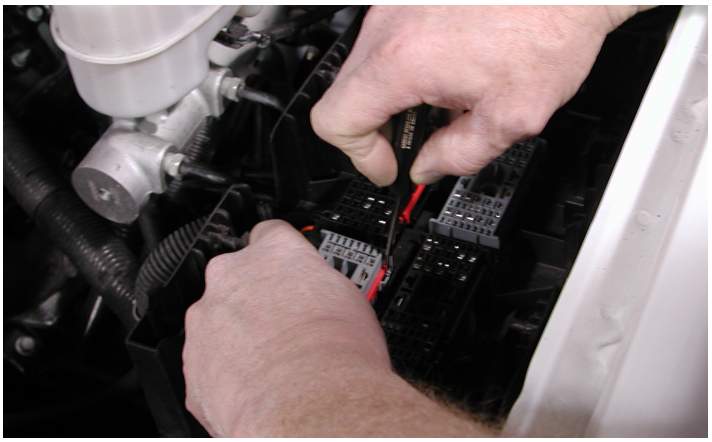
184. Connect the ground wire from the fan harness to the frame of the vehicle on the passenger side using the existing factory ground bolt found in front of the wheel well next to the end of the bumper beam as shown.



185. Route the wiring for the fans through the radiator support and along the front of the truck. Zip tie the harness along the way to hold it in place.

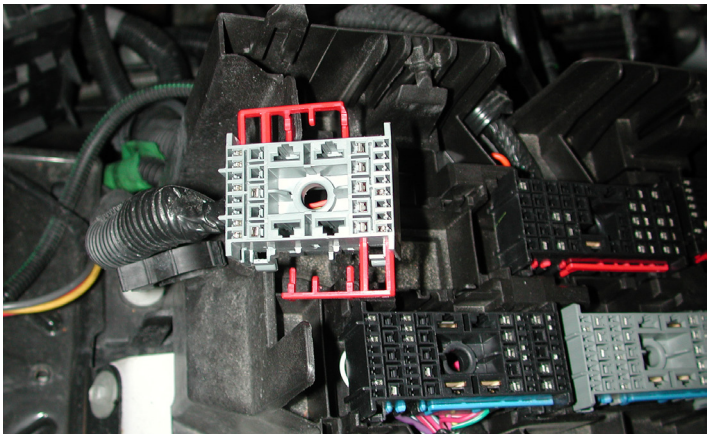


186. Bring the fan harness wires that you routed past the radiator in the previous step up to the fuse and relay block on the driver side. Secure the harness in place with Zip ties.

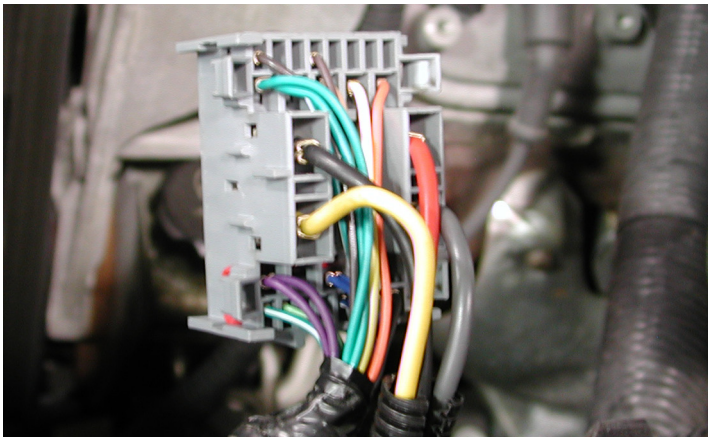


187. Using a pin depressor tool or a small screwdriver, remove connector X1 from the fuse block base (see fuse block diagram on page 64 for connector numbers).

Connector X1 is the gray connector in the left (passenger side) front corner of the fuse block base as shown in step 188.



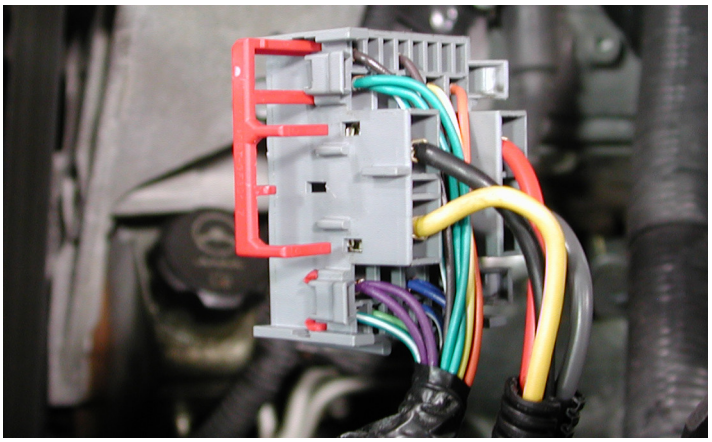
188. Remove the terminal retainers (red plastic clips) from both sides of the connector.



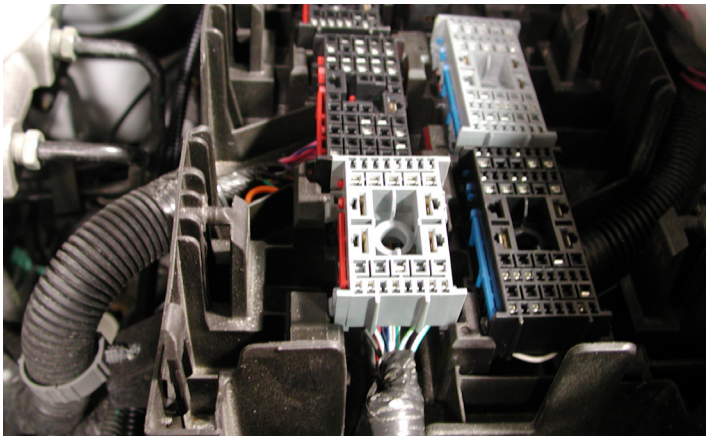
189. Snap the fan wiring harness terminals into the proper connector cavities.

- C1 gray wire
- C2 yellow wire
- D1 red wire
- D2 black wire

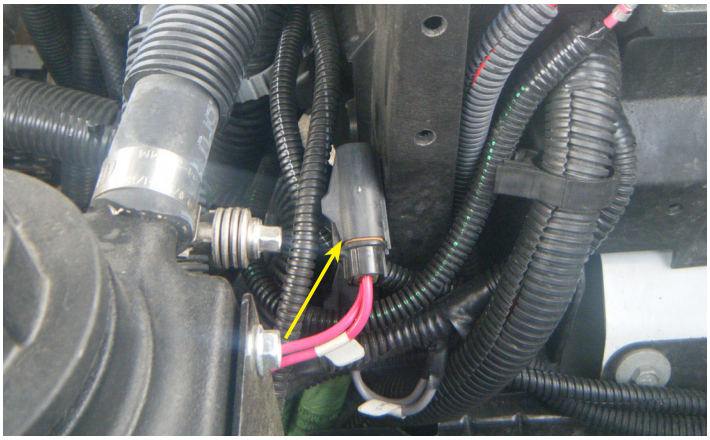
See page 63 for the diagram of the cavities. Keep in mind the image at the top of page 63 is the underside of the fuse panel so it is a reverse image. The image of connector X1 is as viewed from the top.



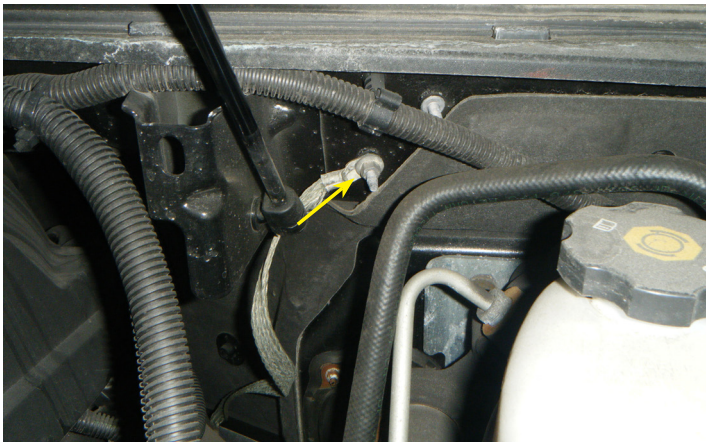
190. Re-install terminal retainer clips on the X1 connector.



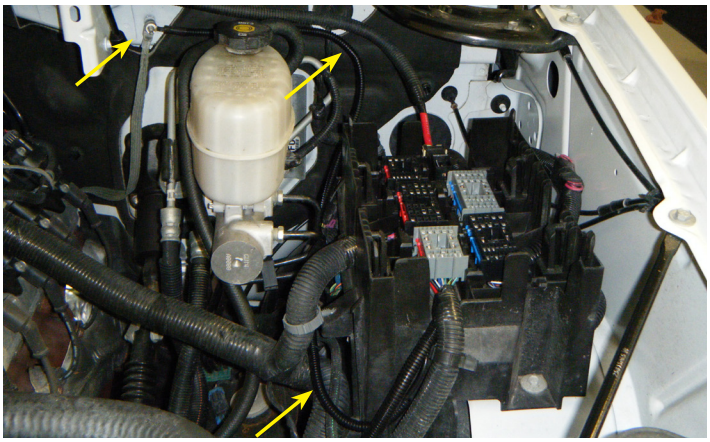
191. Snap connector X1 back into the base of the fuse block.



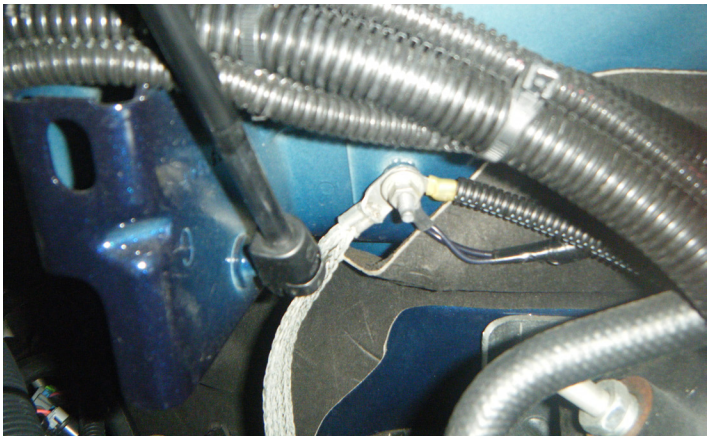
192. Mount the fuse holders in the wiring harness to the side of the base of the fuse block. Carefully drill 1/4” holes and secure the fuse panels with the supplied push-lock fasteners. 15 amp blade type automotive fuses are already installed in the fuse holders



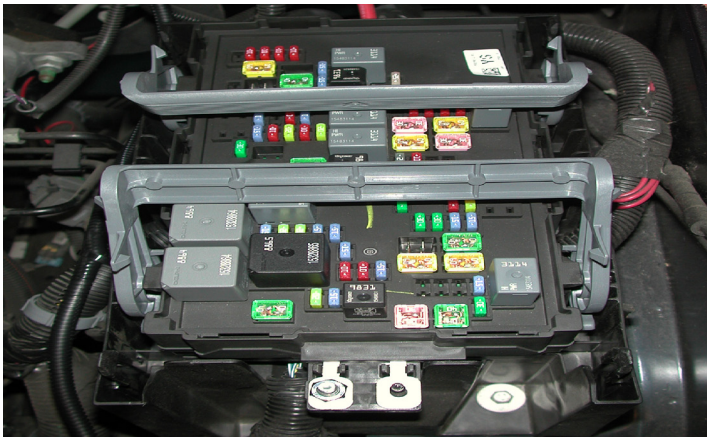
193. With a 10mm socket wrench, remove the nut securing the ground cable to the firewall.



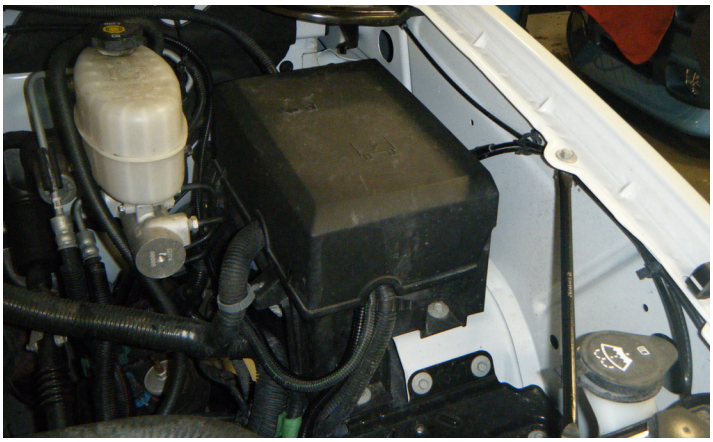
194. Route the black ground wire from the fan wiring harness back alongside the fuse block to the firewall and across the brake booster to the ground stud.



195. Connect the ground wire from the **fan harness** *and* **the intercooler pump harness** to the stud and re-install the factory nut.



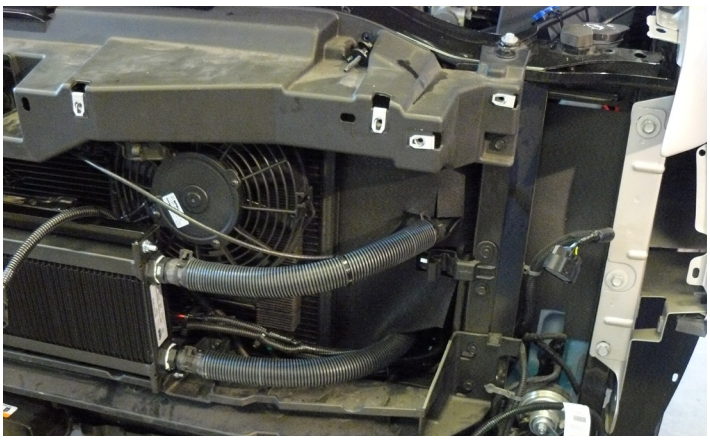
196. Re-install the fuse panel onto the fuse block base. With the gray retaining bars spread apart, carefully move the bars back together while pressing the fuse panel into the fuse block base. At this point you should be able to engage the fuse panel into the connectors in the fuse block base. Continue to press down while moving the retaining bars back apart until the fuse panel is latched in place.



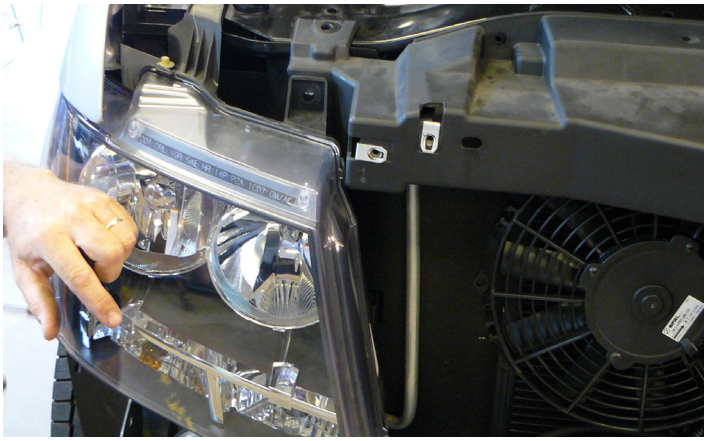
197. Re-install the underhood fuse block cover.

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

199. Re-install the lower fan shroud, fan and upper radiator shroud.

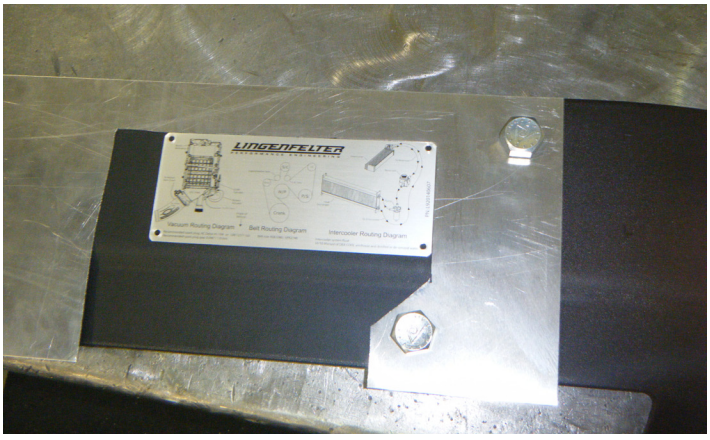


200. Re-install the upper radiator cover.



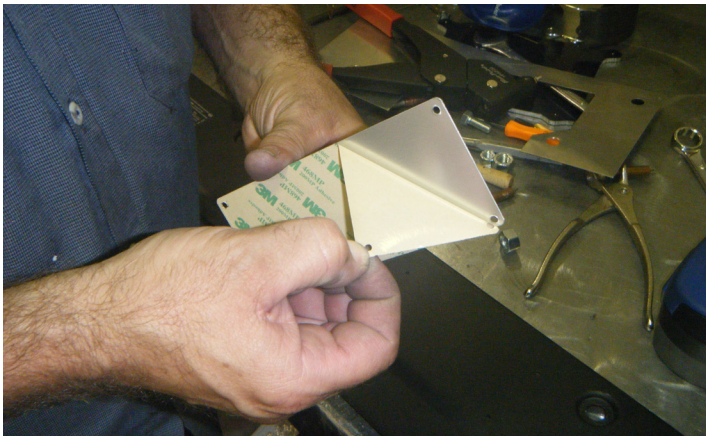
201. Re-install the headlights.

202. Re-install the front fascia on the vehicle using the stock hardware.

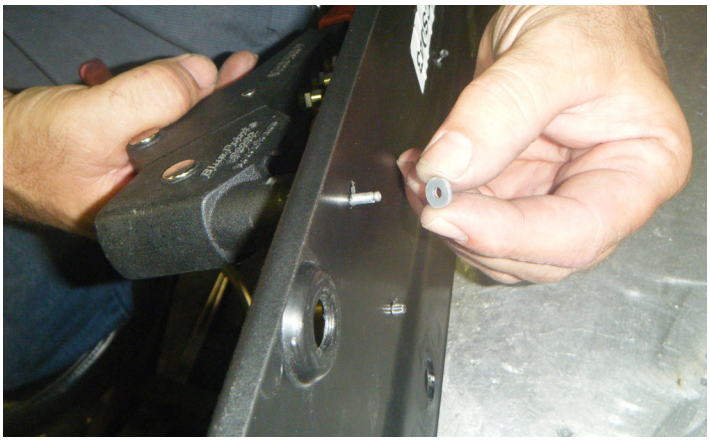


203. Using a straight edge rule or equivalent, place the LPE belt routing placard on the radiator support cover so that it is square to the edge of the cover as shown.

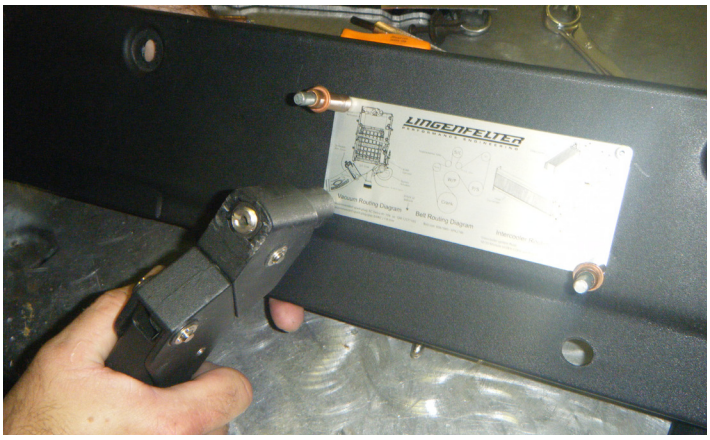
204. Using a 1/8” drill bit, drill the four (4) holes into the support cover to rivet the placard while securing the placard in place by Cleco clamps.



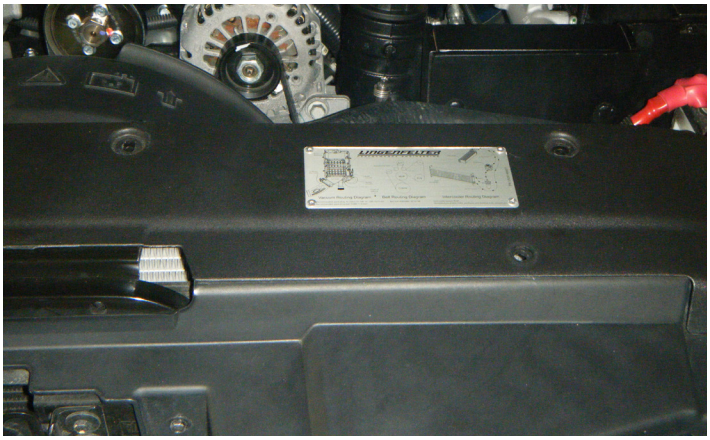
205. Remove the tape cover from the back of the placard. Be very careful when positioning the placard in place as the adhesive is very strong and will be hard to remove once in place.



206. Place the placard into position on the cover and place the rivet into place. Place the back-up washer over the rivet and, using a rivet gun, pop the rivet into the cover.

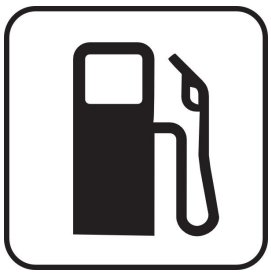


207. Pop all rivets into place as shown.



208. Re-install the radiator support cover on the vehicle using the stock hardware.

209. Refill radiator and intercooler system with a 50/50 mixture of coolant and distilled or de-ionized water only. See page 58 on removing air from your intercooler system. LPE normally uses a different color coolant in the intercooler system to make it easier to identify leaks. The same fluid can be used in both the engine radiator and intercooler radiator.



210. Refill the fuel tank with 91 or higher octane fuel.

211. Install the supplied 91+ octane recommended decals on the fuel door and in the instrument panel area.

212. Install the supplied diagnostic port (DLC port) cover onto the DLC port in the driver foot well. Secure the strap that retains the DLC cover to the vehicle.

This cover is meant to notify dealerships and other service facilities that this vehicle has custom programming installed for the supercharger system and it should not be programmed with the stock GM calibration files when being serviced.

213. REPROGRAM THE VEHICLE

DO NOT RUN THE ENGINE WITH THE STOCK CALIBRATION FILES.

You can reprogram the vehicle using GM dealer reprogramming tools and calibration files supplied by LPE or you can purchase a programming tool from LPE.

You can also send the computer to LPE for reprogramming. On 2007 model year vehicles you MUST send the ECM and TCM to LPE for reprogramming. On 2008-2010 vehicles you only need to send the ECM unless your vehicle has different ratio changes.

If you are programming the vehicle with these programming tools you can skip steps 214 to 217.

If you are removing the ECM (and TCM on 2007 vehicles) to send to LPE for programming, make sure the battery is still disconnected.

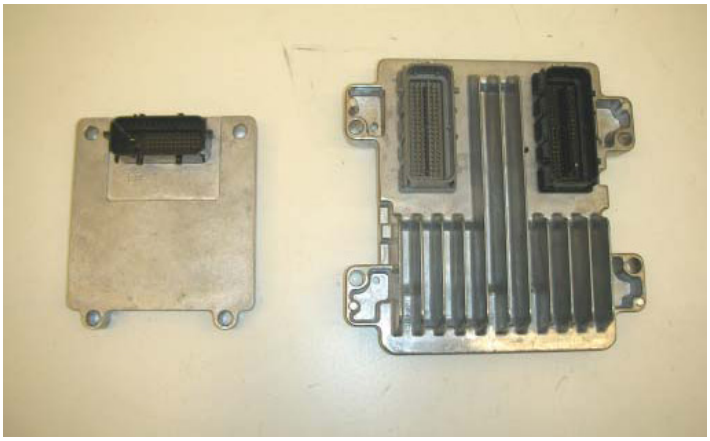
214. With the battery is disconnected, remove the ECM (Engine Control Module).

NOTE: on 2007 model year vehicles, the TCM (Transmission Control Module) must be removed as well.

On 2007 model year vehicles both modules are located on the drivers' side, just below the fuse box and in front of the fan assembly. On 2008-2010 model year vehicles the ECM is found in this location.

215. Disconnect the electrical plug from the modules. First release the orange locking tab (tab is only on the ECM plugs, not the TCM), and then move the connector release arm forward to release the plug.
Disconnect the two plugs on the ECM and, on 2007 model year vehicles, the one plug on the TCM.

Remove the module or, on 2007 vehicles, the modules from the vehicle.



216. Here are the two modules - the TCM on the left and the ECM on the right. On 2007 model year vehicles both modules need to be sent to Lingenfelter Performance Engineering for calibration. On 2008-2010 model year vehicles only the ECM (right) needs to be sent to LPE unless you have made differential ratio changes along with the supercharger installation.

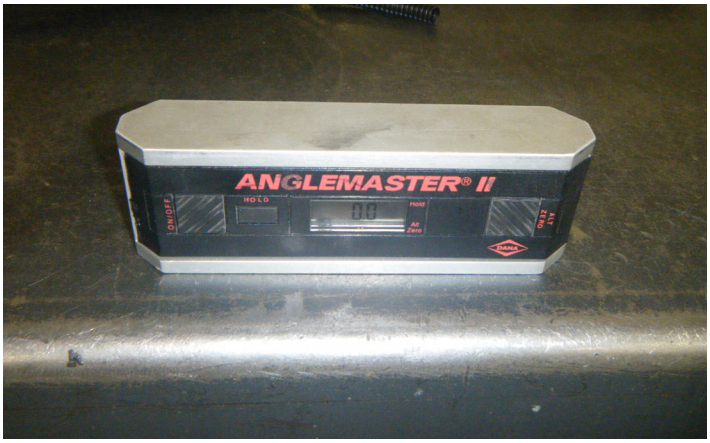
217. Here are the shipping materials supplied to quickly return the vehicle computers to Lingenfelter Performance Engineering.

When you receive the module (or modules) back from LPE, re-install them in the vehicle (making sure the battery cable is still disconnected).

218. Re-connect the battery (or batteries) with a 10mm socket wrench.

219. SKIP this step if you sent the modules to LPE for programming.

If you are programming the vehicle using a programming interface, program the vehicle now. On 2008-2009 model year vehicles only the ECM requires recalibration. On 2007 vehicles make sure you program the ECM and the TCM with the Lingenfelter Performance Engineering supplied calibration files.



220. Using some kind of leveling device (a carpenters level will work fine for this as well), calibrate the level to a flat surface.

221. Place the level on the top of the supercharger as shown. This particular truck has an engine bias of about 5 degrees. The inlet and outlet of the intercooler are in the back of the motor and the air must be evacuated from the inlets. Raise the rear of the vehicle until the angle goes the opposite way (or the bubble if you are using a carpenters level). This will allow the air to rise to the top of the inlet and outlet and evacuate the intercooler.

222. Notice that the bubble has gone to the right side of the level indicating that the engine is now angled downward (Camaro used for illustrative purposes, the procedure remains unchanged). Let the vehicle sit like this for 5 minutes until letting it back down to the ground. This will allow all air to be released from the intercooler.

223. BEFORE STARTING YOUR VEHICLE, MAKE SURE YOU HAVE COMPLETED STEPS 220-222. Start the vehicle for 5 seconds and shut off, check for fuel leaks and fan-supercharger belt alignment. Check radiator and intercooler reservoir levels.

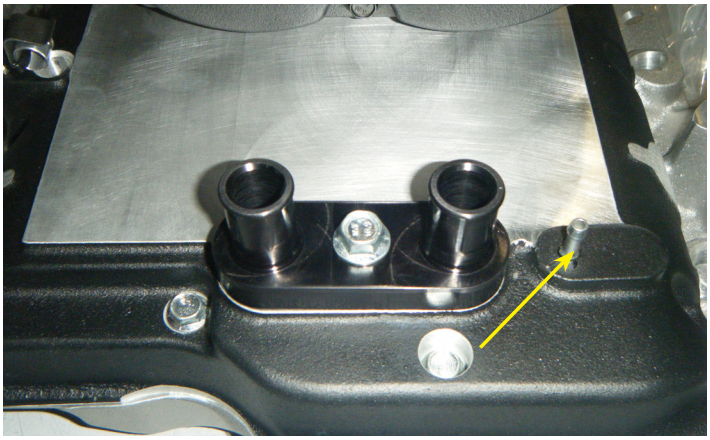
224. Start the vehicle again and let run for 5-10 minutes. Check system fluid level and fuel leaks periodically. Check belt alignment. Shut off engine.

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

Note: The supercharger requires a break-in period of 30 minutes of normal driving. Do not use wide open throttle until the break in period of the supercharger has been reached.

226. 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.

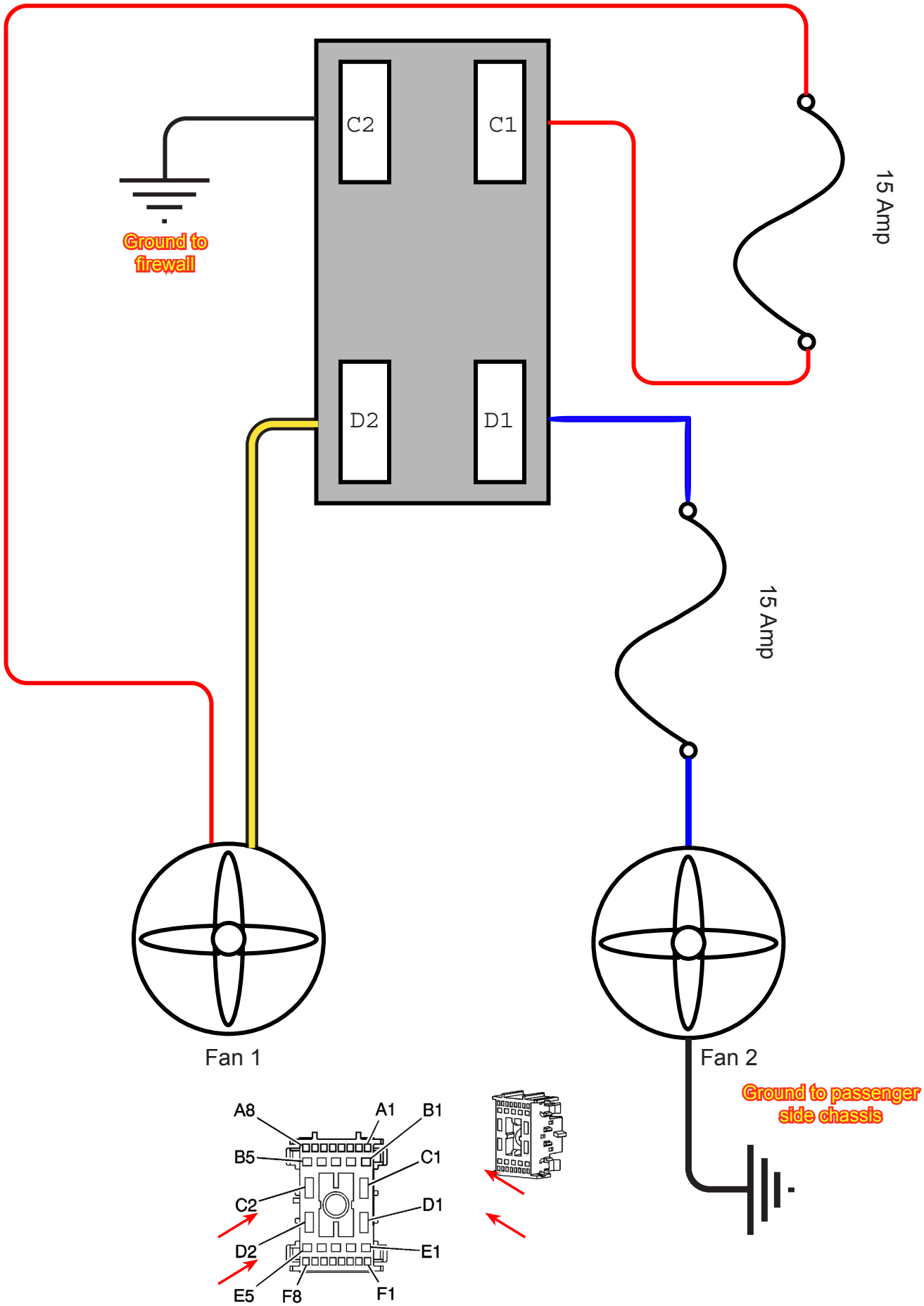
227. Once the break-in procedure has been performed, it is recommended that the engine oil is drained and the oil and filter are replaced with the vehicle's recommended oil grade and filter.

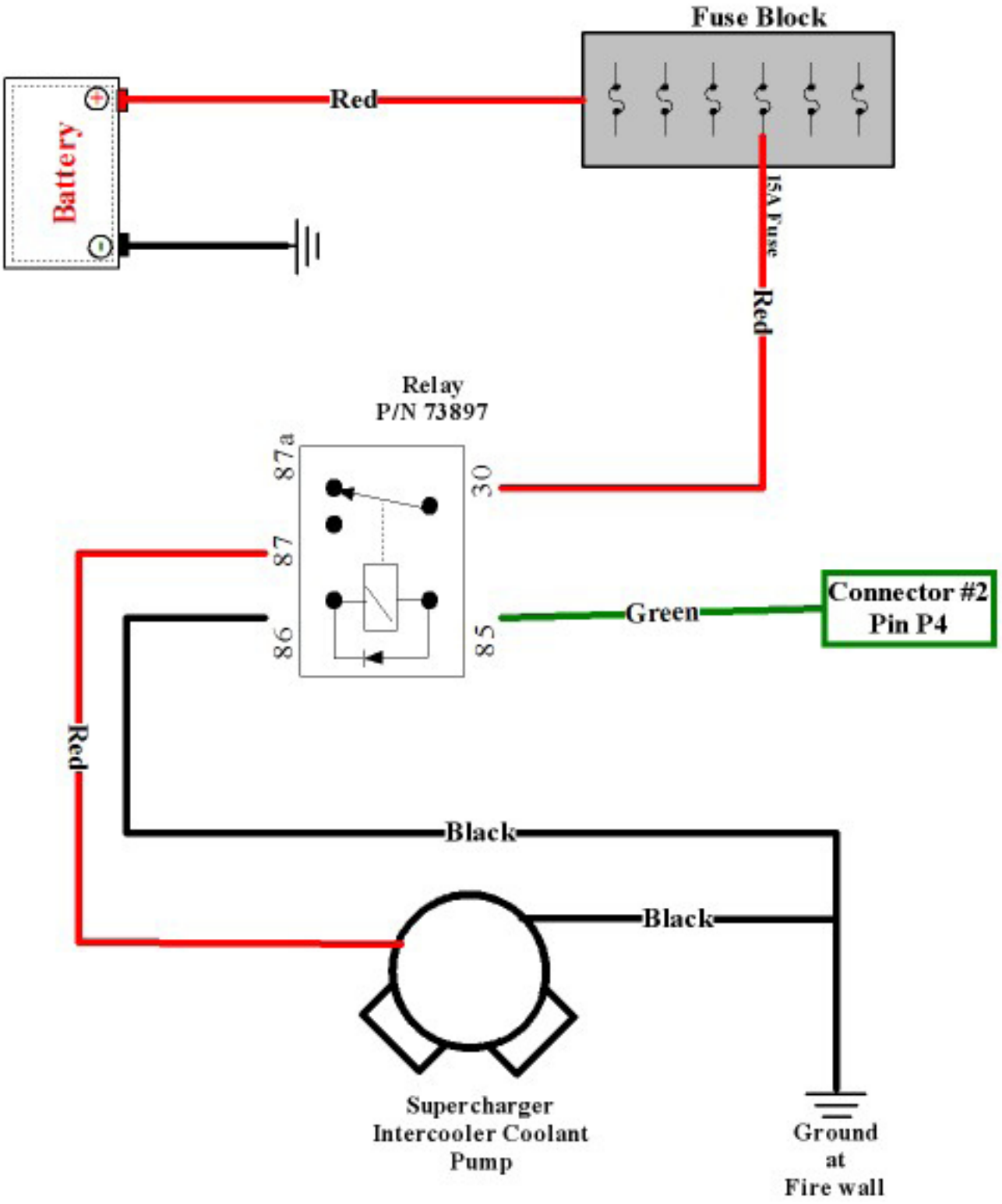


228. If you would like to hook up a boost gauge or measure your boost, the access port is located on the back of the supercharger next to the intercooler inlets on the passenger side as indicated. The access port will come with a black cap on it that must be removed.

229. Congratulations, the installation of your new supercharger and fan system is complete. If there is anything that appears to be wrong with the operation of your vehicle, refer back to your steps and repeat as necessary.

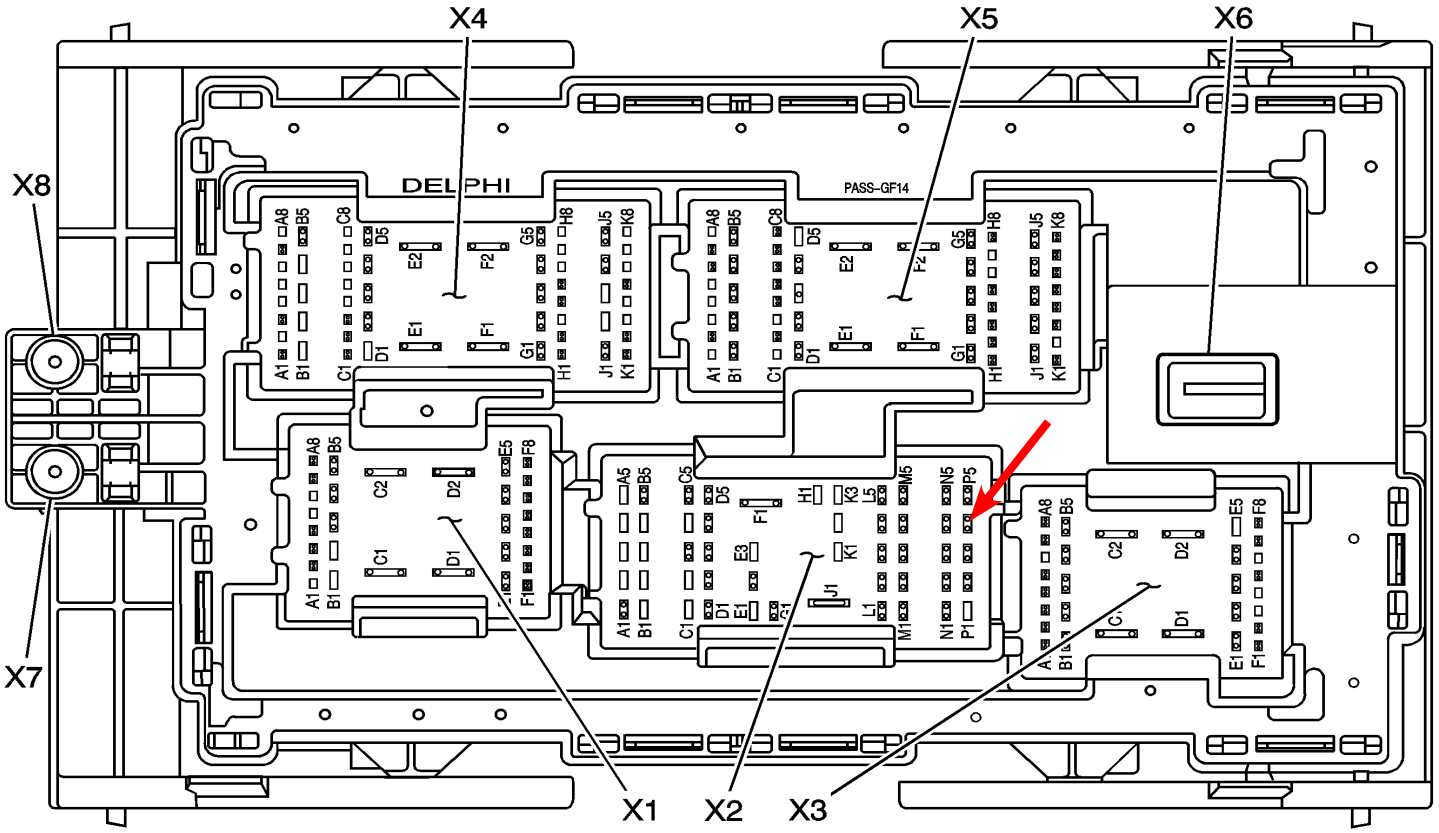
ECM Controlled Twin Fan Wiring Diagram



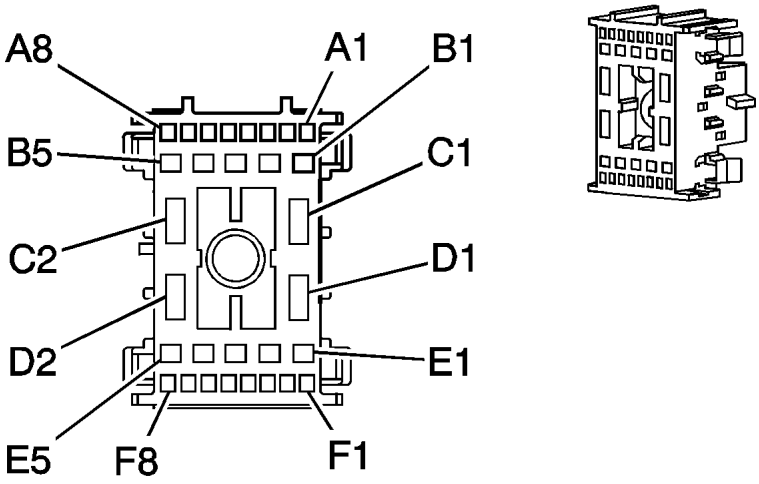


Supercharger Intercooler Coolant Pump Wiring Schematic

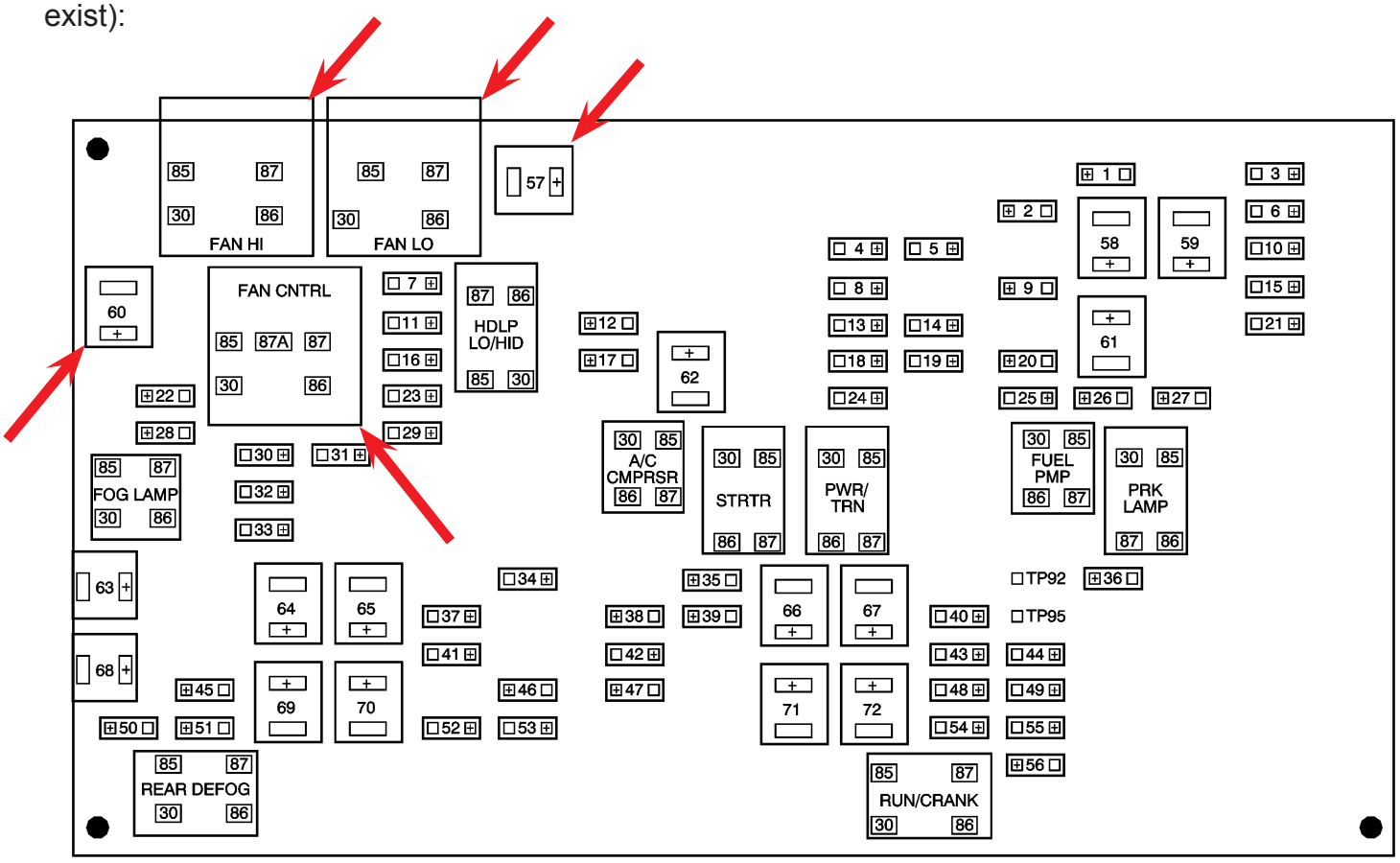
Relay and fuse panel connector underview layout (NOTE - this is the underside of the fuse and relay connector so it is a mirror image of the panel in the vehicle once you have removed this panel from the vehicle:



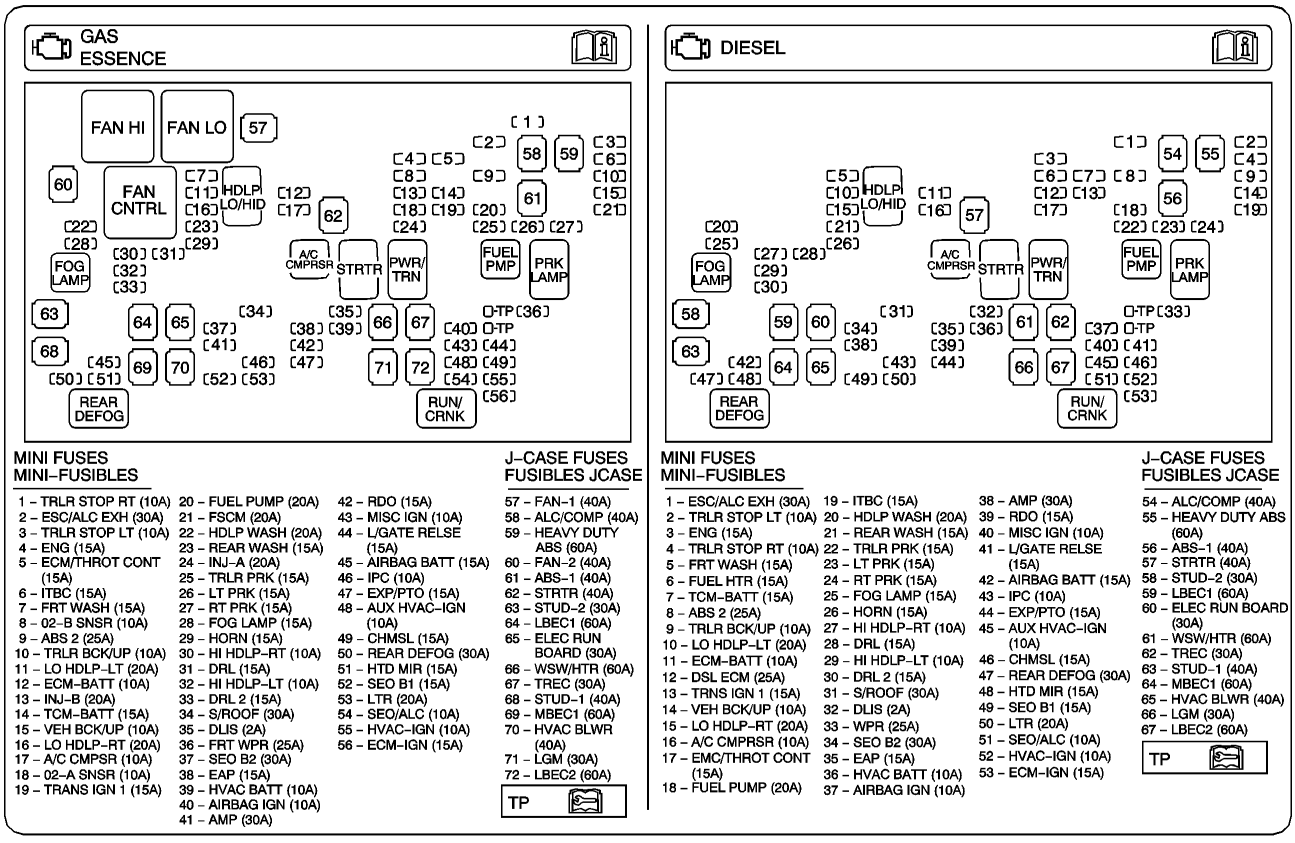
Connector X1



Fuse panel top view (arrows indicate the factory 40 amp fan fuses and relays that should already exist):



Fuse panel decal:



	Quantity	DESCRIPTION	Primary Supplier	Part #	Alternate Supplier	Alt Part #
1	1	FUEL LINE DISCONNECTOR	LPE			
2	10	3/8 FUEL LINE HOSE (FOR FUEL DRAIN)	NAPA	H177	Gates	
3	1	3/8 fuel line quick connect tube (made from JL-20000)	LPE	L750030000		
4	1	7/32-5/8" TENSION CLAMP (FOR USE WITH ADAPTER FITTING AND FUEL LINE)	BARNES	25108		
5	1	CRANK PINNING KIT	LPE	31-14-59-009		
6	1	SUPER CHARGER ASSEMBLY	LPE	MAG011960008BL		
	1	TVS1900 SUPERCHARGER	LPE			
	1	3.6" pulley (two piece design)	LPE	57-00-06-036		
	1	BASE MANIFOLD	LPE			
	1	MANIFOLD LID	LPE			
	1	ALUMINUM IAT PLUG (INSTALLED IN SUPER CHARGER)	LPE	XX09737-0039		
		INSTALL IAT PLUG IN SC/REMOVE IAT SENSOR	LPE			
	1	5/16" rubber cap plug	BARNES	6712		
		INSTALL RUBBER 5/16" VACUUM PLUG ON SC PORT TUBE	LPE			
	1	ALUMINUM MAP SENSOR ADAPTER BUSHING (in bag attached to SC assembly)	LPE			
7	8	FUEL INJECTORS (41# @ 43PSI)	LPE	L730020000	Bosch	0 280 156 030
8	1	LUBRIPLATE 630-AA lubricant	LPE		Lubriplate	L0067-076
9	1	FUEL LINE CROSS OVER TUBE	LPE			
10	2	FUEL LINE CROSS OVER O-RING	LPE		GM	
11	1	INTAKE GASKET SET (INCLUDES TWO GASKETS)	GM	89060434		
12	1	S/C TO CYLINDER 80 MM HEAD BOLT, set of 10	LPE	31-12-00-098		
13	1	copper washer (oil pressure sensor spacer)	LPE			
14	1	LS2 THROTTLE BODY	GM	12570790	AC Delco	217-1617
15	14	3/4" (19.1 mm) HEATER HOSE	NAPA	H152		
16	8	27 MM WIDE BAND CONSTANT TENSION CLAMP	LPE		McMaster Carr	CTB-27ST FK
17	8	GM/DENSO IRIDIUM SPARK PLUG	AC Delco	41-104	GM	12571165
18	40.5	3/8 FUEL LINE HOSE (inches)	LPE		Gates	
19	1	TENSIONER ASSEMBLY	LPE	31-12-00-083		
	1	TENSIONER BRACKET	LPE			
	1	TENSIONER	LPE		Gates	
	1	90 mm IDLER	Dayco	DAY89001	Gates	38012
		INSTALL 90 mm IDLER	LPE			
	1	SHORT SUPERCHARGER DRIVE SNOUT SUPPORT BRACE	LPE			
	1	TENSIONER INSTALLATION PIN (ATTACHED TO TENSIONER ASSEMBLY)	LPE			
		CHECK TO MAKE SURE PIN FITS IN HOLE IN BRACKET	LPE			
	1	TENSIONER BRACKET BOLT	LPE			
20	1	DRIVE BELT	Gates	K061080		
21	1	AIR TUBE ASSEMBLY	LPE			
	1	AIR DUCT	LPE	31-12-00-092		
	1	GASKET	LPE	35-20-53-009	GM	25180042
	1	GM RUBBER CONVOLUTED DUCT W CLAMPS	LPE	25180042	GM	
	1	BLACK LINGENFELTER DOMED DECAL (ON AIR TUBE)	LPE	L920100000		
		INSTALL LINGENFELTER DECAL ON INTAKE AIR TUBE	LPE			
22	1	INTERCOOLER RESERVOIR TANK BRACKET	LPE			
23	1	INTERCOOLER RESERVOIR TANK ASSEMBLY	LPE			

	Quantity	DESCRIPTION	Primary Supplier	Part #	Alternate Supplier	Alt Part #
	1	RESERVOIR	LPE	68-01-03-019		
		INSPECT RESERVOIR TO MAKE SURE NO BLEED FITTING/NIPPLE EXISTS	LPE			
	1	PRESSURE CAP	LPE	68-01-03-002		
	3	M6X12 BOLTS (ATTACHED TO INTERCOOLER RESERVOIR TANK)	LPE			
24	1	WATER PUMP MOUNTING CLAMP, 2-1/4" ADEL CLAMP	LPE		Del City	2036
25	1	WATER PUMP	LPE		Bosch	0 392 022 002
26	1	M6X1.0X45 mm bolt	LPE			
27	1	25MM SPACER FOR WATER PUMP MOUNTING	LPE			
28	1	passenger side fan bracket, CK truck fan system	LPE	L960150607		
29	1	driver side fan bracket, CK truck fan system	LPE	L960160607		
30	1	Intercooler bracket, armored CK truck kit, upper	LPE	L960170607		
31	2	Intercooler bracket, armored CK truck kit, lower	LPE	L960180607		
32	2	M6.3-1.81 x 20mm self tapping screw	AVECO	AV12351		
33	2	M6.3-1.81 x 30mm self tapping screw	AVECO	AV12354		
34	8	1/4-20X3/4 SPINLOCK BOLTS	BARNES	KP24724		
35	10	1/4-20 SPINLOCK NUT	BARNES	34292		
	2	M6x1.0x25 mm cap screw	BARNES	MP1244		
	2	Extruded U nut, M6-1.0 13.5 mm hole	AVECO	AV11864		
36	1	Spal 225 mm fan with WeatherPak connector	SPAL	30100381li		
37	1	Spal 255 mm fan with WeatherPak connector	SPAL	30100374li		
38	2	FAN MOUNTING TABS	SPAL	SPAL-30130032		
39	2	Aluminum Unthreaded Round Spacer 5/8" OD, 1/4" Length, 1/4" Screw Size	McMaster Carr	92511A087		
40	1	HEAT EXCHANGER	SETRAB	SET50-172-7612		
41	2	HEAT EXCHANGER COOLANT FITTING	SETRAB	SET22-M22PL1200		
42	12	Flame Retardant Slit Loom, 1", CUT INTO TWO (2) six foot sections	Del City	1770		
43	1	3/4" (19.1 mm) HEATER HOSE WITH 90 DEGREE BEND	NAPA	9820	GATES	28479
44	2	CONSTANT TENSION WORM GEAR STAINLESS CLAMP, 14-27 mm	McMaster Carr	54205K11	Breeze	CT-9410
45	1	6 GANG FUSE PANEL (65 AMP MAXIMUM CAPACITY)	Del City	DC-73897		
46	2.0	3/8" HI TEMP LOOM, 22 inches	Del City	1764		
47	3	15 AMP BUSS FUSE	NAPA	782-2184		
48	1	6 GANG FUSE PANEL DECAL, WHITE	Shutt	L920050000		
49	2	M4X20 MM SCREW WITH CAPTURED WASHER	GM	11609489		
50	1	FAN HARNESS	TTS	L480110607		
51	1	WATER PUMP HARNESS	TTS	L480120607		
52	3	PUSH FASTENERS	AVECO	AV12567		
53	12	ZIP TIES, 7.5", BLACK				
54	1	M8X1.25 FLANGE NUT	Fastenal	90701		
55	2	ELECTRICAL CRIMP CONNECTOR	Del City	DC-940010		
56	1	BELT ROUTING DIAGRAM DECAL	LPE	91-91-60-003		
57	2	PREMIUM FUEL STICKER, 91+ OCTANE ONLY	LPE	L920040000		
58	1	BLACK DLC PORT COVER AND LABEL	LPE	L450110095		
59	1	EMPTY BOX FOR ECM	LPE			
60	1	LINGENFELTER DECAL	LPE	L920010000		
61	1	INSTALLATION INSTRUCTIONS	LPE			

For additional product installation information and technical support, contact LPE or your LPE products distributor. You can also find technical support and usage discussions regarding this product and many other LPE products in our Internet forums:

http://www.lingenfelter.com/LPEforumfiles

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