

MAGNUSON

SUPERCHARGERS

Installation Instructions for:

Radix

Intercooled Supercharger System

1999 - 2002

Chevrolet Silverado & GMC Sierra Trucks
Suburban 2500 & Yukon XL 2500



*** PREMIUM GASOLINE FUEL REQUIRED ***



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

Magnuson Products LLC
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INSTALLATION MANUAL

Magnuson Products LLC Radix Intercooled Supercharger System GM 4.8, 5.3 & 6.0 Liter Engines

We encourage you to read this manual thoroughly before you begin work, for a few reasons:

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.

Review our limited warranty with care.

NOTE: This vehicle IS NOT compatible with E85 fuel. You can use only premium gasoline fuel 91 Octane or better, Ethanol is NOT compatible with the engine after supercharger install.

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!

Tools Required

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

IMPORTANT

Our Magnuson 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, for which we naturally can't be responsible. Magnuson Products LLC 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. 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.

Magnuson Products LLC strongly recommends the following:

- Clean your engine compartment before starting any engine disassembly.
- You must have a clean fuel filter - check and replace as needed before installation.
- You must have a clean air filter - this system comes with a new air filter for your convenience.
- OE type/Stock spark plugs and stock plug gap is recommended.
- Start with and use only 91 octane gasoline fuel or higher.
- Drive belt is a Gates #K061120.

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

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

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



Use only premium gasoline fuel, 91 octane or better.

MAGNUSON

SUPERCHARGERS

PREMIUM GASOLINE FUEL REQUIRED

1. Start the supercharger installation by relieving the fuel pressure. **Exercise extreme caution and common sense when working around gasoline. Extinguish all open flame or other sources of ignition and be sure to perform the following steps in an area with adequate ventilation. Personal protection in the form of eye protection and fuel resistant gloves are strongly recommended.**

2. Relieve the pressure in the fuel tank by removing the fuel filler cap.



3. On the right (passenger) side of the intake manifold, locate the fuel pressure test port. **CAUTION! The fuel in the system is under pressure! Relieve the pressure in the fuel system by depressing the check valve with a screwdriver and collecting the fuel with a shop towel.**



4. With an 8mm wrench disconnect the (-) negative battery cable. **Make sure the cable is far enough away from the battery that it does not accidentally touch the battery and make connection during the installation.** (Wrap negative cable connector with electrical tape.)



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



6. Open radiator petcock and drain coolant into a clean drain pan. Save coolant for reuse later on.



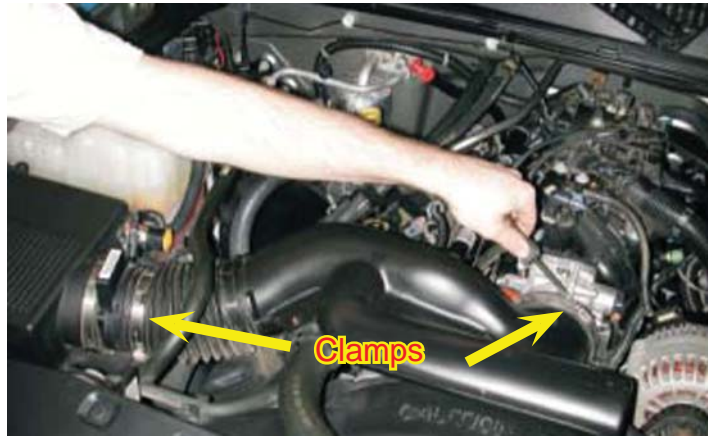
7. Remove the plastic sight shield bolt using a 10mm socket wrench.



8. Lift plastic shield from top of engine.



9. Using an 8mm nut driver loosen the two large hose clamps holding the air cleaner duct assembly.



10. Remove the duct assembly by lifting it out. Sight shield and duct assembly will not be re-used.



11. Unplug the electrical connector to the MAF sensor.



12. Firmly grasp the air intake box and pull up removing it from the vehicle.



13. To prevent foam from escaping, insert the black plastic plug supplied into the hole located in the upper edge of the right (passenger) side wheel well.



14. Locate the can of expansion foam in your kit. Follow the directions on the back of the can. Insert the end of the straw into the hole and dispense the foam into the hole for 10 to 12 seconds. In the existing hole that is just to the rear of the slot that the coolant tank sits in, again dispense the foam into the hole for 10 to 12 seconds. You will not need the entire can. Do not attempt to over fill the fender. **(NOTE: Do not disturb foam for 8 hours.)** Noise levels will be drastically reduced when foam has set.



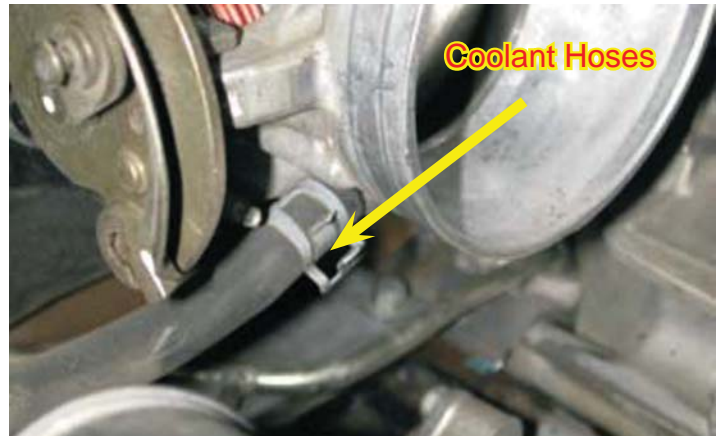
15. Remove the throttle and cruise control cables from the throttle body assembly. Later model vehicles have Intake Air Control (IAC), and Throttle Position Sensor (TPS) plugs in addition to the cables.



16. Using a pair of pliers, squeeze the plastic retainers on the throttle and cruise cables, and remove from the bracket.



17. Using a long pair of pliers, remove the coolant hoses from the bottom of the throttle body.



18. Remove the (PCV) vent hose from the throttle body or intake manifold on passenger side of the vehicle (depending on the year.)



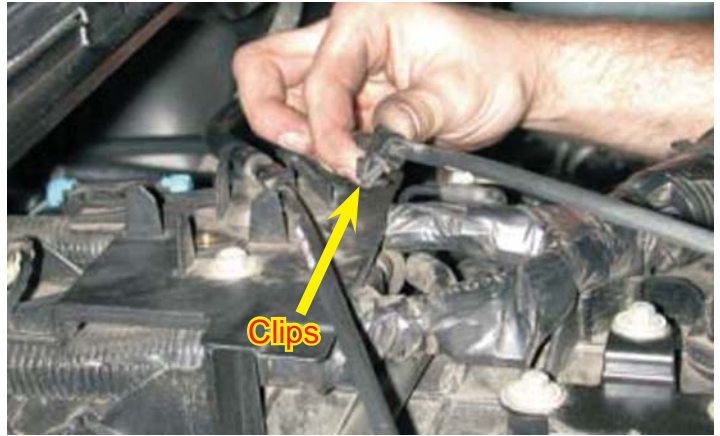
19. Using a 10mm socket wrench remove the 6mm bolt holding the (EGR) tube to the intake manifold. **NOTE: Some vehicles may not have a (EGR) system, skip steps 19 and 20.**



20. Grab the (EGR) tube and pull it out of the intake manifold as shown. Make sure you have the rubber O-ring out of the manifold.



21. Remove the throttle and cruise control cables from the plastic plate on top of the engine. Remove the small plastic clips from the cables. (Skip this step if your vehicle has a fly by wire system, and has no cables.)



22. Open the large electrical harness retainer clip, then using a 10mm socket wrench remove the bolts holding the plastic wire harness retainer to the intake manifold.



23. Disconnect the following electrical connectors. Eight fuel injectors, Manifold absolute pressure sensor (MAP), Evaporative emission canister purge solenoid (EVAP), Alternator and Knock sensor.



24. Disconnect the eight fuel injector connections by gently pulling up on the gray plastic release trigger on the connector and then pulling firmly on the connector itself.



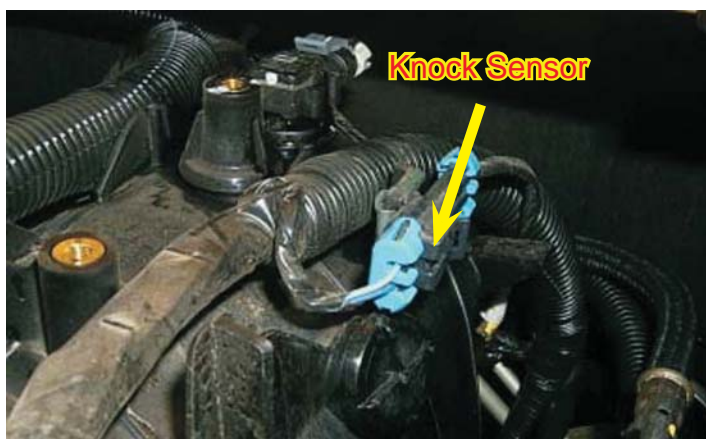
25. On late model vehicles, disconnect the Idle Air Control (IAC) and Throttle Position Sensor (TPS) connectors from the throttle body by releasing the locking tabs first, then squeeze and pull the connectors free. These connectors will need to be extended later.



26. At the rear of the of the intake manifold disconnect the Manifold Absolute Pressure (MAP) sensor connector by gently raising the gray plastic retaining clip and then pull the connector free.



27. Disconnect the engine knock sensor connector and steel-mounting clip from the intake manifold by prying it free with a small screwdriver. Next gently raise the black plastic retaining clip and then pull free the connector from the harness.



28. Disconnect the evaporative purge solenoid EVAP connector by raising the black plastic retaining clip and then pull free the connector itself.



29. Lift the electrical harness from the top of the engine and set off to the side.



30. Disconnect the (EVAP) vent tube from the solenoid by squeezing the retainer, and then release the tube from the solenoid. Follow the same procedure on the other end of the (EVAP) vent tube and remove the tube from the vehicle.



31. Remove the positive crankcase vacuum hose (PCV) from the intake manifold on driver side.



32. Disconnect the small vacuum hose from the rear passenger side of the intake manifold, if so equipped.



33. Remove the power brake booster hose from the booster by pulling out on the check valve. (Some vehicles have hydraulic assist brakes and do not have this hose.)



34. With the fuel line disconnect tool supplied, remove the fuel lines from the fuel rails. **Caution! The system may be under pressure. Avoid open flame or other sources of ignition.**



35. Using an 8mm socket wrench remove the ten intake manifold bolts.



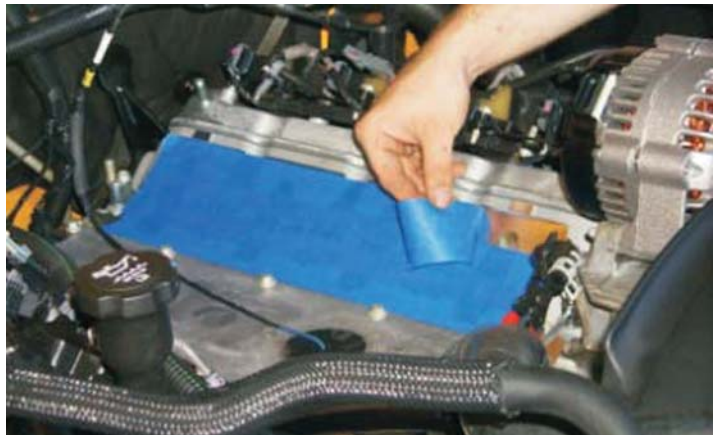
36. Carefully remove the intake manifold assembly and set aside.



37. Using a vacuum cleaner, remove any dirt or debris from the intake port area. **(Be careful not to get any dirt in the intake ports.)**



38. Cover the intake ports with tape or clean rags to keep dirt and objects from entering the engine. **(Remember, be clean.)**



39. Remove the small plastic clips from the knock sensor electrical harness. **The intake manifold will not clear if this step is missed.**



40. Using a 15mm wrench, remove the steel bracket from the rear of the driver side cylinder head. This will not be reused.



41. Using a 10mm socket wrench, remove the two or four coolant vent pipe bolts. **(Some models have a small pipe in the front and some have a large pipe that goes from the front to the back.)**



42. Remove the vent pipe assembly. **(Make sure that the O-ring gaskets did not stick to the cylinder heads, if so remove them.)**



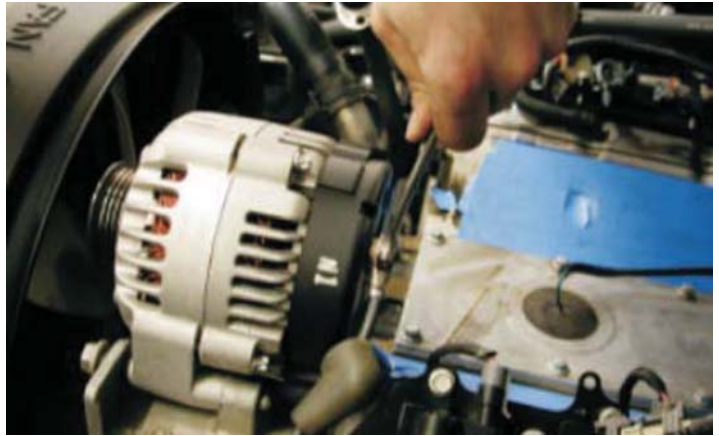
43. Using a 15mm tensioner wrench or breaker bar, remove the stock serpentine belt from the vehicle. The belt will not be reused.



44. Using a 15mm socket wrench or wrench remove the three bolts holding the factory belt tensioner to the bracket and remove the tensioner.



45. Using a 10mm wrench disconnect the battery positive terminal from the back of the alternator.



46. With a 15mm socket wrench remove the two bolts holding the alternator to the alternator bracket. Remove the alternator.



47. With a felt tip marker, make a mark 1 3/4" from the 90 degree corner of the air injection tube. **(NOTE: If your vehicle does not have air injection skip steps 47-53.)**



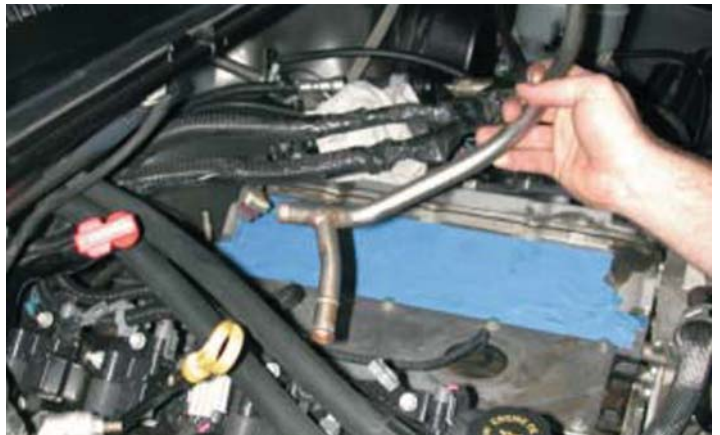
48. Using a tubing cutter, hack saw or cut off wheel, cut the air injection tube in half on the 1 3/4" mark made in step 47. Use a file to remove any sharp edges on the tube.



49. Disconnect the two air injection hoses from the other end of the tube and save the factory hose clamp for a later step.



50. Remove the cut off air injection tube from the vehicle. (The tube will not be reused.)



51. Using the new supplied 90 degree 5/8 molded hose cut 2" off the short end and cut 3" off the long end of the hose. Using the factory hose clamp removed in step 49, install the short end of the hose to the air injection tube as show in the picture above.



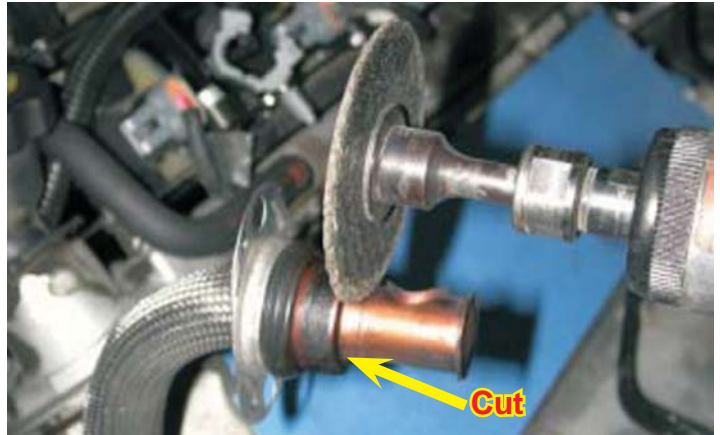
52. Install the supplied 5/8 plastic tee to the air injection system as shown in the above picture. No hose clamps are needed.



53. Route the modified air injection hose assembly as show in the above picture.



54. If your vehicle does not have EGR system skip steps 54-55. Cut the end of the (EGR) tube off with a cut-off wheel or hack saw. **Make sure not to damage the O-ring seal.**



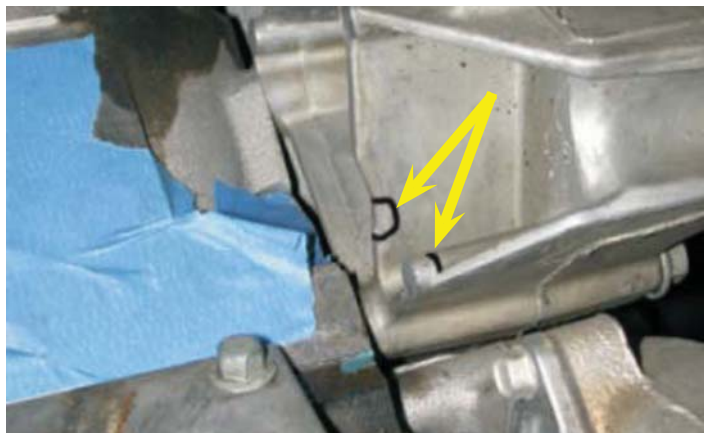
55. File any sharp edges from (EGR) pipe. When finished the (EGR) pipe should look like this.



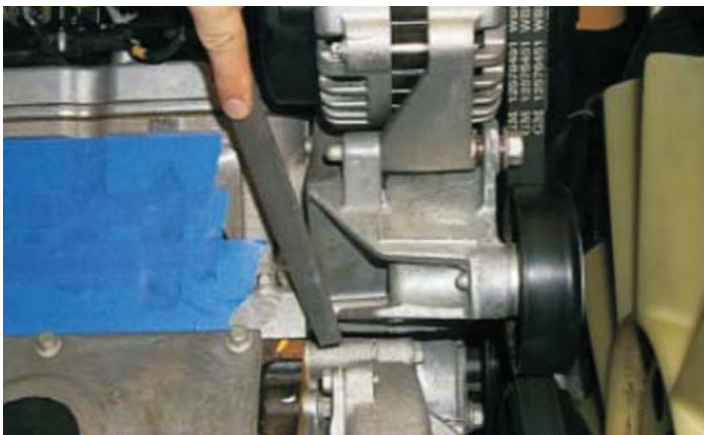
56. Take the new supplied coolant vent pipe and test fit to the front of the cylinder heads. Check for clearance between the pipe and the alternator bracket as shown.



57. Use a felt tip marker and mark the alternator bracket where the coolant vent pipe hits as shown.



58. Using a file or die grinder, remove material from the alternator mounting bracket marked in the previous step. Once clearance is achieved, recheck with the new vent pipe. **Ensure that the vent pipe does not touch the alternator bracket.**



59. Using the stock bolts removed in step 41 install the new coolant vent pipe supplied. Ensure that the O-ring seals are installed correctly. Torque the bolts with a torque wrench and 10mm socket to 106 in-lbs.



60. Using the new supplied 16" x 3/8" PCV vacuum hose, connect one end to the PCV valve as shown and lay the other end of the hose off to the driver side, out of the way. (To be connected in a later step.)



61. Install the intake manifold gaskets supplied onto the supercharger manifold. **Ensure that the gaskets are fully seated into the reliefs in the manifold.**



62. Remove the stock MAP sensor from the stock intake manifold by pulling back on the two tabs and lifting the sensor out. **Ensure that the orange MAP sensor seal is not damaged, as it will be used.**



63. Put some lubricant on the MAP sensor seal and press the MAP sensor into the provided hole in the supercharger manifold as shown.



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



65. Remove the stock fuel pressure regulator from the fuel rail by disconnecting the vacuum hose, pulling off the spring clip and pulling the regulator out. **Be careful not to lose any of the small O-rings on the regulator.**



66. Make sure that the two O-rings and the screen filter is complete as shown.



67. Using a small amount of grease or oil lubricate the two O-rings on the fuel pressure regulator and push it into the new supplied fuel manifold as shown.



68. Using a pair of C-clip pliers install the new supplied C-clip into the fuel manifold as shown. **(Make sure that the clip seats into the machined groove in the manifold.)**



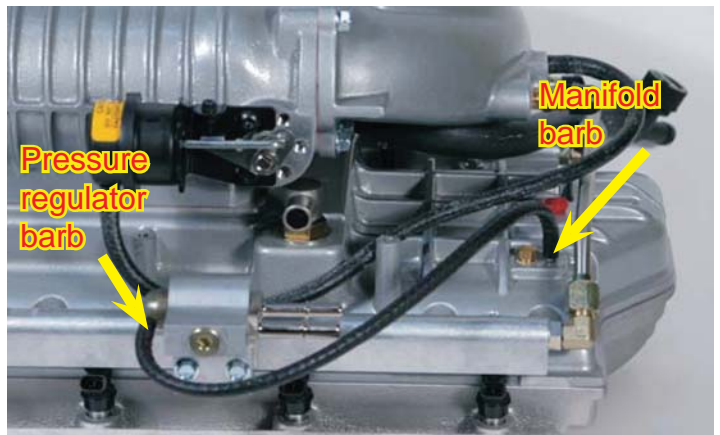
69. Apply a small amount of grease to the new supplied fuel manifold O-ring and set in the machined recessed area on the new driver side fuel rail as shown.



70. Install the assembled fuel manifold to the driver side fuel rail using the two new supplied 6mm bolts. Using a 10mm socket wrench torque the bolts to 106 in-lbs. **(Be careful not to pinch the O-ring.)**



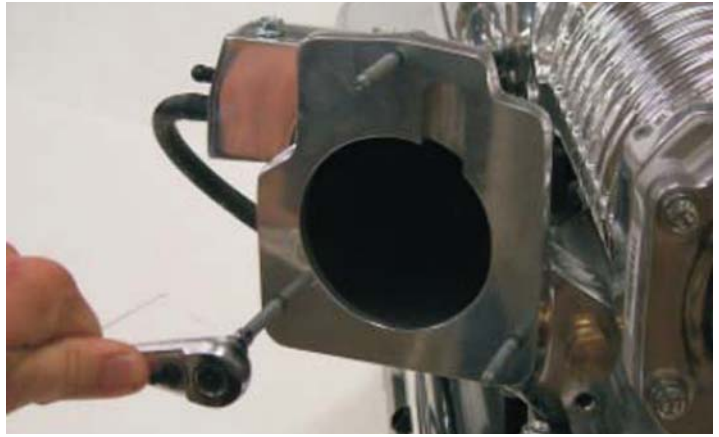
71. Using the small 3/16" hose supplied, connect one end to the small barb on the pressure regulator. Connect the remaining end of the hose to the barb at the left rear of the supercharger manifold.



72. Using a 10mm socket wrench remove the stock throttle body from the stock intake manifold. Next using a #5 internal Torx socket remove the three mounting studs from the stock intake manifold.



73. Install the three studs removed in the previous step into the new supercharger inlet manifold using a #5 internal Torx socket and wrench.



74. Remove the EVAP solenoid from the stock manifold with an 8mm socket wrench.



75. Lubricate the O-ring with the supplied grease and press the EVAP solenoid into the hole on the new supercharger intake manifold.



76. Secure the EVAP solenoid on the front of the intake manifold with the OEM mounting bolt using an 8mm socket wrench.



77. Remove factory GM idler with a 15mm socket wrench.



78. Using a soft hammer, knock the factory bolt loose from the idler pulley. The bolt retainer and spacer will not be re-used. **NOTE: The bolt, dust cover and idler will mount to new tensioner bracket.**



79. Here is the new tensioner support bracket and hardware. The new bracket will locate in the original tensioner location. **NOTE: The different fasteners and their locations. Install the 90mm idler and spacer on the idler support bracket. Torque the mounting bolt to 40 ft-lbs.**



80. In the original tensioner location, install the new tensioner support bracket. Torque all mounting fasteners to 40 ft-lbs. **NOTE: The tensioner will come pre-installed on our new bracket. The tensioner was removed for photo clarity in this picture.**



81. Remove the long oil-filler neck from the valve cover by rotating it 180 degrees counter clockwise and pulling it out.



82. Install the short oil filler neck supplied by inserting it into the valve cover and rotating it 180 degrees clockwise. Transfer the oil fill cap from the long neck to the new short one.



83. 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.)**



84. Using an assistant, carefully lower manifold assembly into place, being careful not to damage gaskets.



85. Remove the ten spilt looms that support the fasteners. Start all ten bolts by hand.



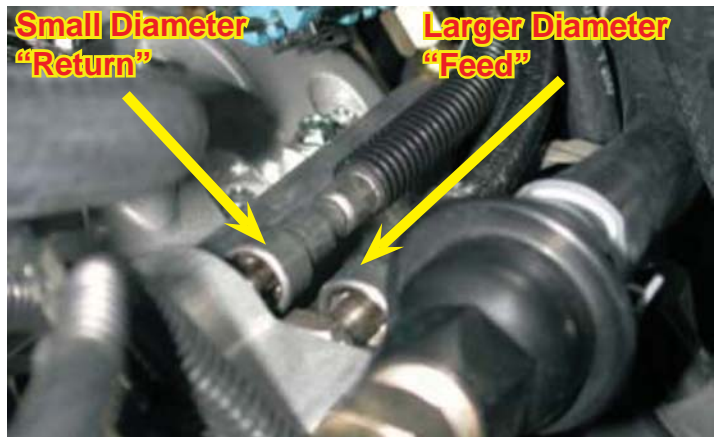
86. Torque all ten bolts gradually and evenly to a torque of 106 in-lbs, using a center-out, criss-cross pattern.



87. Route fuel hoses to regulator.



88. 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.**



89. Using supplied gasket, mount throttle body using stock nuts and torque to 106 in-lbs..



90. Fasten throttle cable bracket and install both cables.



91. Install both cruise control and throttle cables & PCV hose. Check for smooth cable operation.



92. If your vehicle is EGR equipped (see steps 54 & 55), remove the 3/8" NPT plug and thread on the EGR relocation manifold. Feed the EGR tube to this manifold, re-use seal and fasten using OE hardware.



93. Remove the wiring harness from the original bracket.



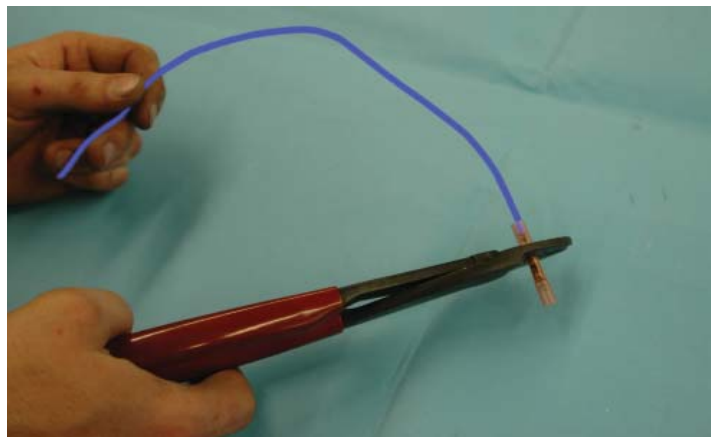
94. Route the wiring harness over the left side fuel rail and attach it to the supercharger manifold as shown, using the Adel clamp and bolt supplied.



95. Plug in the electrical connectors for the following components, the Fuel Injectors, Map Sensor, Knock Sensor and EVAP Solenoid.



96. For late model vehicles, you must extend the Throttle Position Sensor (TPS), and Idle Air Control (IAC) plugs, by first pulling back the factory Split Loom from the plugs. Cut the wires in a staggered pattern, each wire 1" shorter than the adjacent wire. This keeps the wires from having all connectors in one place. Strip off 3/8" of the insulation from each cut end, and crimp on a provided crimp/shrink connector as shown in this generic picture.



97. Using the color coded wires provided in the 31-12-00-007 addendum kit, strip off 3/8" off of the ends of all the wires. **Match the color coded wires to the matching wires on the removed plugs, as well as the harness ends, and crimp on the wires with the provided crimp/shrink connectors.**



98. Use a heat gun (or hair dryer set on high) to shrink the connectors to the wires. **It is not adequate to just crimp the wires together! You MUST shrink the connectors down to seal them from moisture contamination and possible oxidation.**



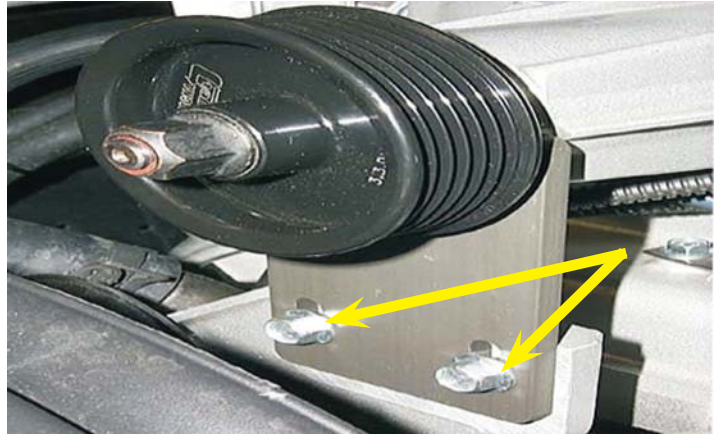
99. When done, use the provided split loom to cover over the extended plugs, some electrical tape at the junction to the old harness and at the plug ends, connect the plugs to the throttle body from whence they were removed earlier.



100. Attach one end of the 1/4" coolant hose supplied to the new steam vent pipe and the other end to the barb on the bottom of the throttle body with the clamps supplied. Attach the original steam vent hose and clamp from the radiator to the remaining barb on the bottom of the throttle body.



101. Mount the nose support and torque the fasteners 15-17 ft-lbs.



102. Reinstall the EVAP tube on the EVAP solenoid at the front of the supercharger manifold. Route the tube under the supercharger nose and along the inside of the driver-side fuel rail to connect to the EVAP barb between the cylinder head and the firewall.



103. Install the Radix information sticker on the black plastic radiator cover below the GM factory-warning sticker.



104. Install alternator on the stock bracket and torque the fasteners to 40 ft-lbs.



105. Reattach the battery cable to the alternator terminal.



106. Using belt routing decal, install belt. Please double check the routing before moving to the next step. Put belt routing diagram sticker over the GM belt routing diagram.



107. Using a screwdriver, remove the four screws that secure the top cover to the base of the air box assembly.



108. Remove and discard the stock paper air filter.



109. Install K&N air filter components and reassemble the air box assembly. Reinstall the completed unit on the vehicle.



110. Here is the air tube and its components.



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



112. Use Teflon paste or tape on the threads and install the brass barb into the threaded port in the bottom of the air tube with a 14mm wrench. **Do not over tighten!**



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



114. 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.



115. Attach the PCV hose from the right (passenger) side valve cover to the brass barb on the bottom of the air tube. Connect the PCV hose from step 60 to the remaining barb next to the power brake hose connection on the back of the inlet manifold. Connect the power brake hose to the control valve shown in step 33.



116. Remove fender to firewall brace bracket to gain access to the fuse relay panel, on driver side.



117. Firmly grasp the relay centers cover and lift off.



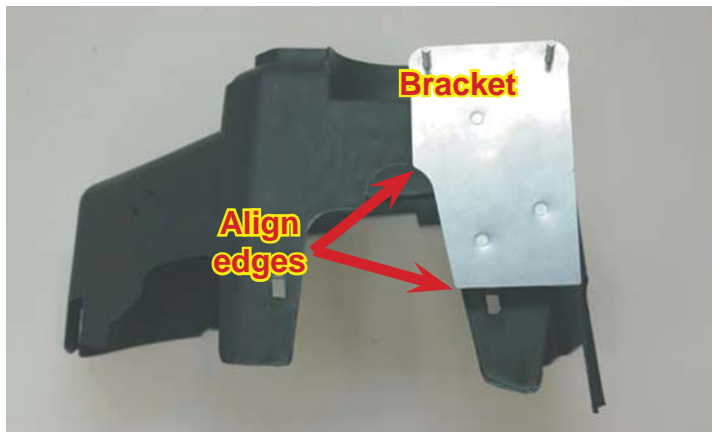
118. Pull back on the two tabs holding the relay centers main cover off.



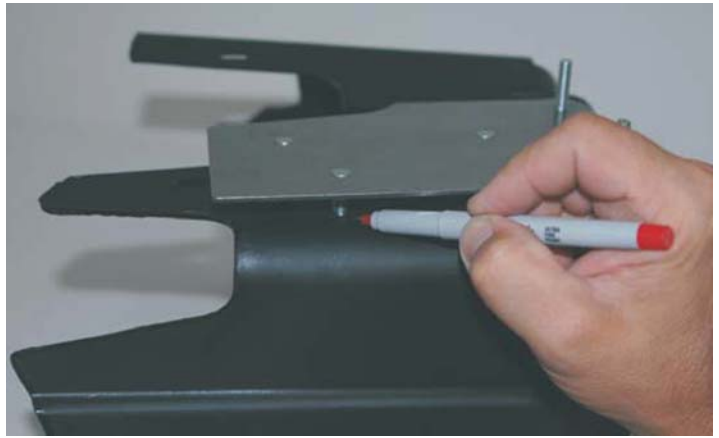
119. Lift the cover off and set aside for modification.



120. Position the intercooler reservoir bracket on the engine side face of the main cover. Align the cut-away of the cover with the edge of the bracket



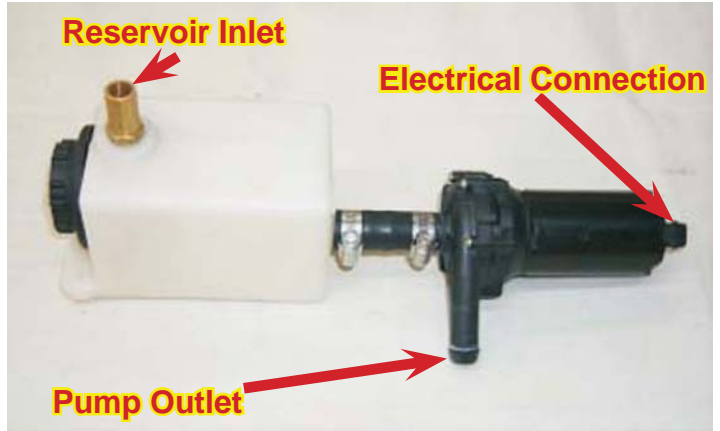
121. Mark the location of the three mounting studs on the cover and then drill 1/4" holes in these locations.



122. Place the reservoir bracket in location on the holes. Secure the bracket on the inside of the cover with the three nuts supplied. Tighten the nuts with a 10mm socket wrench.



123. Assemble the components of the inter-cooler reservoir/pump assembly as shown in this picture. **NOTE: The hose and electrical connections and orient the pump as illustrated.**



124. Install the reservoir/pump assembly on the two reservoir bracket studs with the supplied nuts. Tighten the nuts securely.



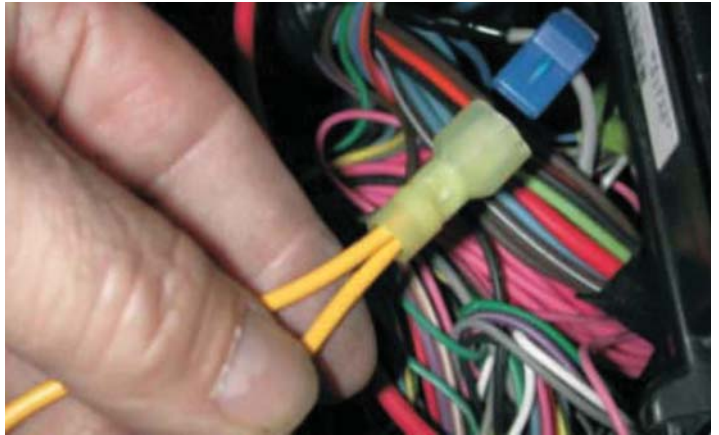
125. Install the intercooler pump harness starting at the relay center. Cover the red and black wires that lead to the intercooler coolant pump connector with the split loom supplied. Tuck the relay under the factory GM wiring so that the relay center cover base will cover it. Route the harness with the coolant pump connector down and forward along the factory GM harness.



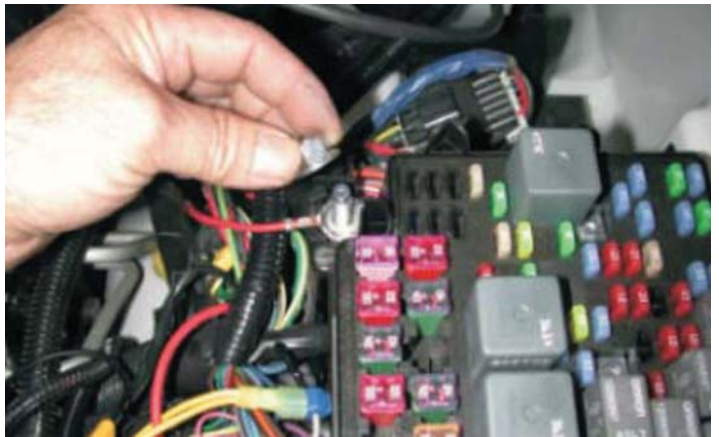
126. In the wiring below the fuse/relay center, locate the gray fuel pump wire that goes from the relay center down the frame towards the rear of the vehicle. Use a 12 volt automotive test light or voltmeter to check that you have the correct wire. With the battery temporarily connected, switch the ignition on and your test light should glow for about 3 seconds and then go out when you have located the correct wire. Install a T-tap connector onto the gray fuel pump wire.



127. Connect the yellow wire from the relay into the T-tap connector installed in the last step.



128. Using a 13mm socket wrench remove the positive terminal nut from the lug. **(Caution - make sure the battery is disconnected.)**



129. Install the positive terminal from the relay to the positive lug as shown. (This is the wire with the fuse holder in it.)



130. Using a 10mm socket wrench, remove the nut from the body ground stud on the firewall as shown.



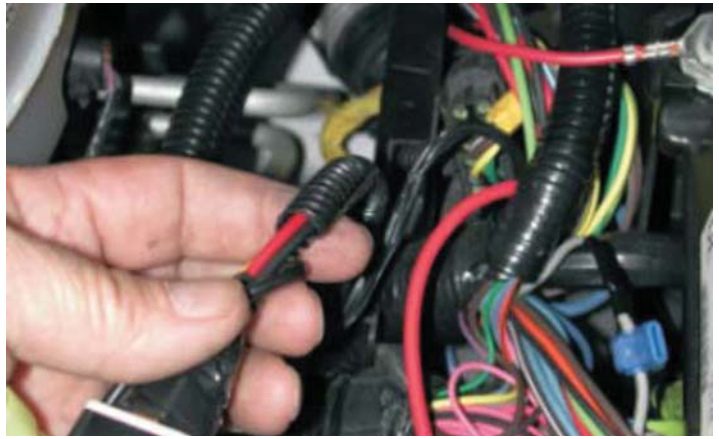
131. Locate the single black ground wire from the relay, strip the insulation back ¼" from the end and then firmly crimp the ring terminal on the end. Install the black wire with its ring terminal on the body ground stud from the previous step and secure it firmly with the original nut.



132. Install the intercooler electrical connector into the bottom of the coolant pump. Secure the wiring as necessary with the Tie-wrap straps supplied.



133. Install the wiring harness for the fuel pump in the same location as you did for the intercooler pump wiring harness. Attach the extra yellow wire from the intercooler pump relay onto the male spade terminal marked "85" on the bottom of the fuel pump relay. Attach the ring connector from the fused power wire in the same location as you did for the intercooler pump relay in step 125. Attach the black ground wire ring connector in the same location as you did in step 130. Route the black and red split loom covered wires down and along the inside of the left frame rail to the fuel filter location.



134. Reinstall the relay center cover complete with the reservoir and pump installed. **(Be careful not to pinch any wires.)**



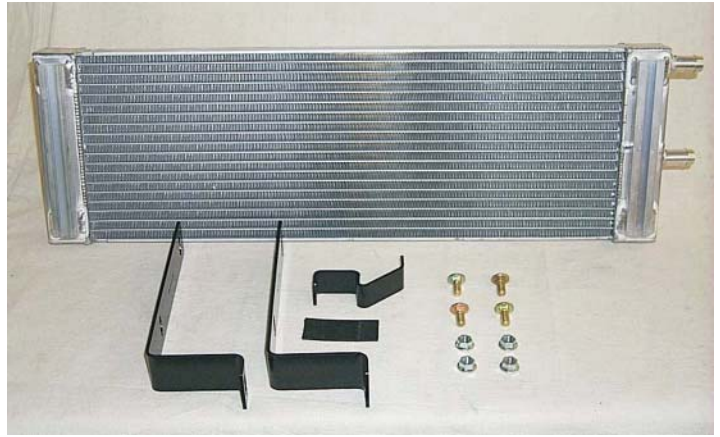
135. Reinstall the fuse/relay cover by aligning it up and pushing down on it.



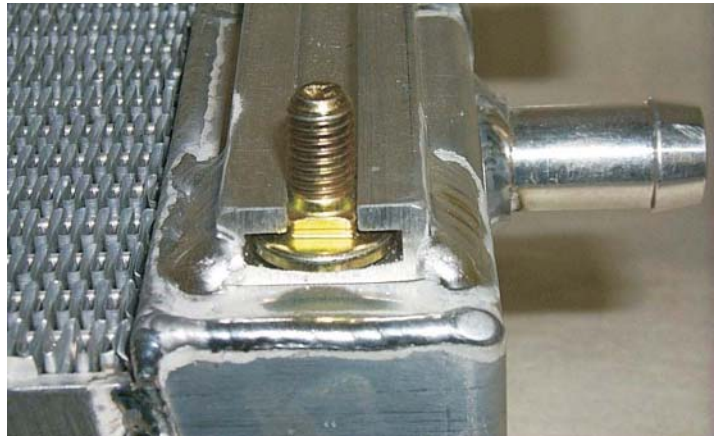
136. Reinstall fender to firewall brace.



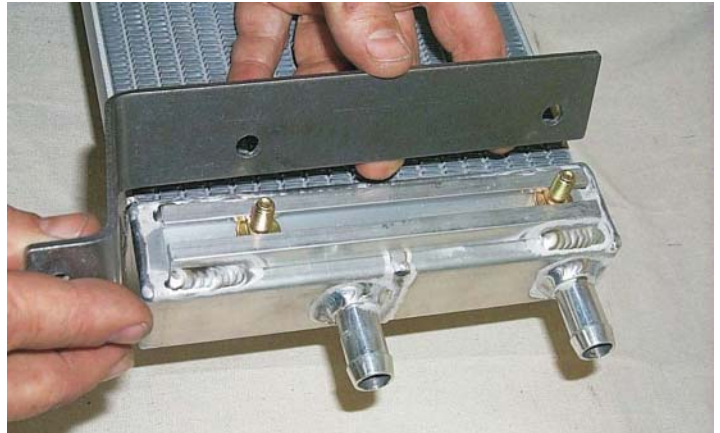
137. Here is the intercooler and its mounting components.



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



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



140. Torque the mounting nuts to 18 ft-lbs.



141. Assemble the upper mounting clamp with its adhesive backed rubber strip. Peel the backing tape off the rubber strip and apply the strip supplied to the inside of the jaws on the mounting clamp.



142. Remove the seven push-lock fasteners that secure the black plastic radiator cover. Do this by prying up on the center of the fastener with a small straight blade screwdriver.



143. Remove the seven fasteners completely.



144. Remove the radiator cover.



145. Remove the grille assembly by first removing the upper retaining bolt with a 10mm socket wrench.



146. Pull out on the grille assembly at each of its six corners to release the snap-in fasteners.



147. Remove the grille assembly.



148. Remove the stock cross member bolts from the radiator brace bolt at each end with a 10mm socket wrench.



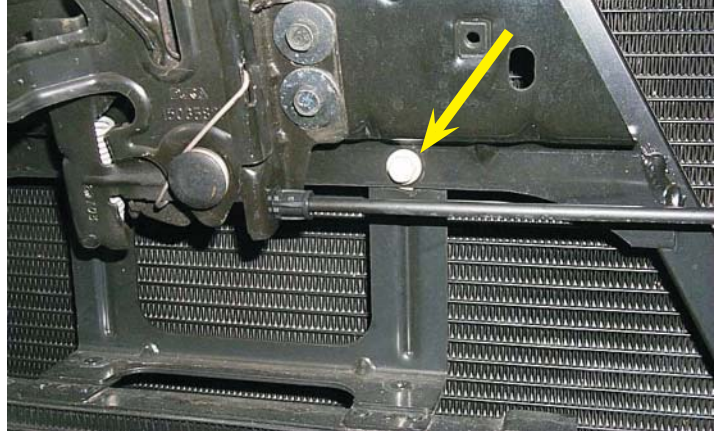
149. Replace the cross member bolts with the rubber mounts supplied. Tighten the mounts securely by hand only.



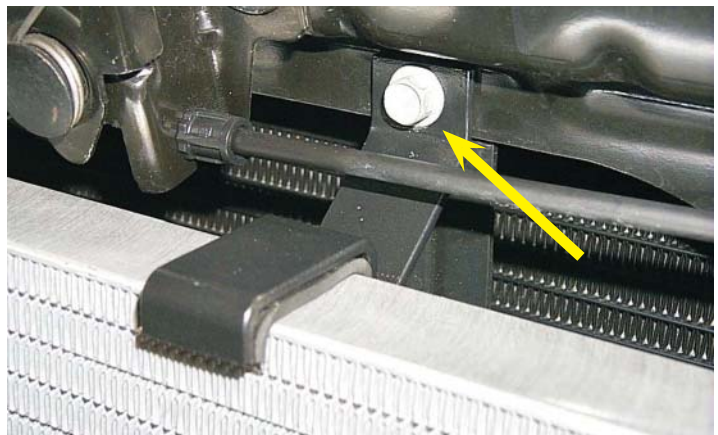
150. Install the heat exchanger onto the studs of the rubber mounts and secure it with the nuts supplied and a 10mm socket wrench.



151. Remove the bolt located below and to the right of the hood latch with a 10mm socket wrench.



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



153. Here is the heat exchanger mounted.

NOTE: The hose barbs are on the driver side.



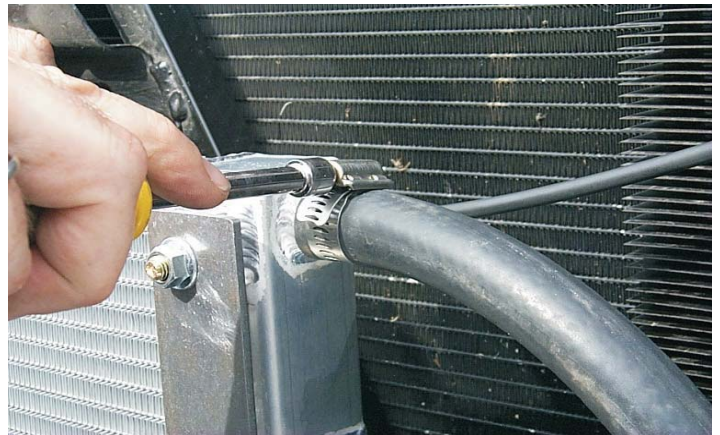
154. Start at the intercooler barb on the left side of the supercharger; attach one end of the length of the 5/8" hose with a #10 clamp. Run the hose forward and down beside the left side of the radiator.



155. In the rubber weather shield beside the radiator, make a slot or hole for the hoses from the intercooler to pass



156. Continue the hose to the upper barb on the top of the heat exchanger. At this point cut the hose and push it on the barb. Secure it with a #10 clamp.



157. From the remaining length of hose, attach one end to the lower barb of the heat exchanger. Route the hose through the slot in the weather shield and on to the outlet barb out the intercooler pump. Cut the hose and secure both ends with #10 clamps.



158. From the remaining length of hose, connect one end to the inlet barb of the intercooler reservoir with a #10 clamp.



159. Cut the remaining end of the hose to length and connect it to the "T" connection on the supercharger with a #10 clamp.



160. Reinstall the grille assembly by snapping the six corners back in place and installing the upper retaining bolt with a 10mm socket wrench. Install the radiator cover by inserting the seven push-lock fasteners back in their holes and pressing the center of the push-lock fasteners down to secure them. Locate your vehicles fuel filter, usually located on the inside of the driver side frame rail. At this time we recommend that you replace the fuel filter.



161. Using 5/8" and 13/16" wrenches, disconnect fuel line from filter. Use rags to soak up and fuel. (Be sure to dispose of rags properly.) **Do not lose small O-ring on fitting.**



162. Use a small amount of grease to lubricate the O-ring threads of the OE fitting. Carefully bend the tube to run parallel to frame rail and direct into pump discharge fitting.



163. Using 21/64" drill carefully drill through bottom of frame rail. Clean up chips, deburr the hole and fasten pump with supplied hardware.



164. While supporting the pump using back-up 7/8" wrench, tighten fuel line fittings. (Make sure adapter does not get loosened.)



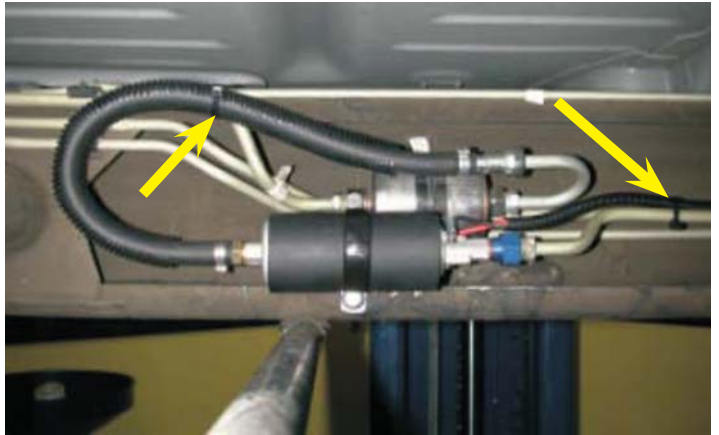
165. Lubricate O-rings and threads of U-bend adapter and install on discharge side of fuel filter. Position as in photo.



166. Wrap inlet hose & fitting around to filter adapter, and "click" into place.



167. Use tie wraps supplied in kit to fasten hose & wires out of harm's way, and to allow smooth bends.



168. Cut the pump wiring loom installed earlier in step 126 so that the black and red wires will reach the new pump.



169. The fuel pump wiring must be hooked up correctly to work, the red Positive wire goes to the "+" post on the pump and the black negative wire goes to the "-" post on the pump. (Double check your installation before moving on.)

NOTE: Do not over-tighten the nuts and break the studs.



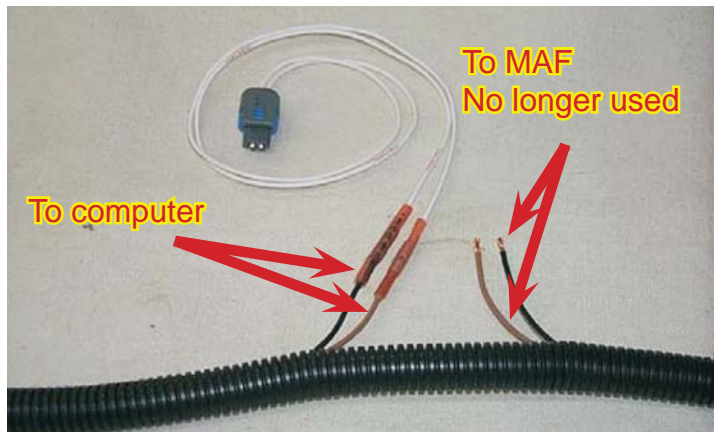
170. Locate MAF cable, pull back flex loom approximately 8 inches. Separate the tan & black wires from this harness.



171. Cut the tan & black wires approximately 1" from the MAF connector.



172. Using the new IAT harness and crimp/shrink connectors supplied, connect either white wire of the new harness to the tan wire, and the other white wire to the black wire that run to the vehicles computer. The wires to the MAF will no longer be used. Strip about 1/4" of insulation from the ends of the black and tan wires to the computer and the IAT harness, crimp the connectors on. Using a heat gun or blow dryer set on HIGH; shrink the insulation on the connectors so that it contracts around the wires completely. **You must shrink the insulation, as crimping the connectors alone is not enough to secure them!**



173. Plug the IAT harness into the IAT sensor located under the supercharger nose.



174. Refill radiator and intercooler system with a 50/50 mixture of coolant and distilled or de-ionized water only. Let run for 5-10 minutes. Bleed system at "T" and at reservoir. Check system periodically for fluid level.



WARNING! Before downloading the new software into your vehicles compute (PCM), make sure to turn off all power consuming accessories: heater, A/C, radio, dome light, etc. Turn off the daytime running lights by applying the emergency brake or by turning the head lamp switch counter-clockwise. Follow the steps below to remove all recommended fuses and any additional power fuses from all aftermarket add-on accessories i.e.: stereo amplifiers, DVD players, TV monitors, MP3 players and anti-theft equipment. Keep all doors closed during programming. Never remove the programming cable during programming and always follow the instructions on the handheld unit display. Failure of any of the above instructions can cause a "NO RESPONSE" from the PCM or permanent damage to the vehicle PCM.

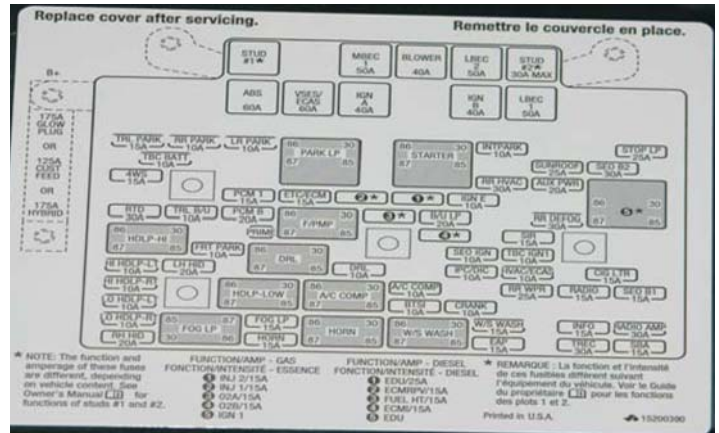
175. Ensure vehicle is off and the keys are out of the ignition. Locate the interior fuse panel inside the driver door as shown.



176. Remove the 10 AMP "SEO ACCY" fuse in the top middle section of the fuse box as shown.



177. Remove the cover from the "Exterior Fuse Panel" located under the hood on the drivers (left) side. Remove the six fuses labeled SEO B1, SEO IGN, INFO, SEO B2, RADIO and RADIO AMP. Download the SuperChips FlashPaq file following the instructions that came with the SuperChips tuner.



178. Vehicle Programming Instructions for the SuperChips FlashPaq:

- **IMPORTANT! To ensure trouble-free programming of your vehicle's computer:**
- **Make sure the vehicle's battery is sufficiently charged.**
- **Turn off all accessories & close doors to prevent unnecessary drain on the battery.**
- **Do not attempt to program your vehicle while a battery charger is connected.**
- **Improper battery voltage will result in failure of the programming process.**
- **Do not disconnect the cable or turn off the ignition during programming.**
- **Apply emergency brake to disable daytime running lights.**
- **Reconnect battery ground (-) cable.**
- **DO NOT DISTURB THE CABLE OR TURN THE IGNITION OFF DURING THIS TIME! IF THE PROGRAMMING IS DISRUPTED YOUR COMPUTER WILL NOT START OR RUN YOUR VEHICLE!**
- **In the event that the vehicle needs to be returned to its original calibration, follow the directions in the instruction manual.**



179. Once programming is completed, ensure the vehicle is off and the keys are out of the ignition. Install the fuses back into their correct locations and reinstall the covers.



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

181. 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. Check & bleed intercooler reservoir as needed.

182. 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. If you have questions about your vehicles performance, please check with your installation facility or call Magnuson Products LLC at (805) 289-0044, Monday through Friday, 8am to 5pm.



Please enjoy your "Magnuson SuperCharged" performance responsibly.

*** PREMIUM GASOLINE FUEL REQUIRED ***

MAGNUSON
SUPERCHARGERS