

MAGNUSON

SUPERCHARGERS

Installation Instructions for:
**2007-10 JEEP Wrangler 3.8L V-6
INTERCOOLED SUPERCHARGER SYSTEM**



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

*** PREMIUM FUEL REQUIRED ***



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

INSTALLATION MANUAL

Magnuson Supercharger Kit JEEP Wrangler 3.8L V-6 Engine

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

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

Use only premium fuel, 91 octane or better.

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

Our Magnuson Supercharger kits are designed for engines in good mechanical condition only. Installation on high mileage or damaged engines is not recommended and may result in engine failure, for which we are not responsible. Magnuson Superchargers 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.**

A new fuel filter is recommended at the time of supercharger installation

Stock spark plugs and stock plug gap is recommended

Drive belt = Dayco# 5061075

Tools Required:

Metric wrench set

¼" - 3/8" and ½" drive metric socket set (Standard & Deep)

3/8" and ½" drive Foot pound and inch pound torque wrenches

Phillips and flat head screwdrivers

Fuel line quick disconnect tools (included in kit)

Small or angled 3/8" drill motor

Drain pan

Hose cutters

Hose clamp pliers

Safety glasses

Metric Allen socket set 3/8" drive

Shop vacuum cleaner

Blue Loctite

Right Angle drill for pinning crank pulley. Helpful Tool: Air or electric impact wrench.

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SUPERCHARGERS

Use only premium fuel, 91 octane or better.

1. Jeep Wrangler 3.8L V-6 Install. These instructions assume a factory-stock starting point. **NOTE: We found this installation easier by removing the wheels from the vehicle while on a lift. Protect your transfer cases and hubs, do not allow bearing on the floor (We placed blocks under the axles to allow spring compression).**



2. The first real step in the installation is to flash your computer to calibrate for the new supercharger with your new Diablo tuner. Follow the instructions in the supplied Diablo tuning manual. Locate your EO sticker and follow the instructions for placing the sticker on your supercharger. **NOTE: For now, the customer will have to read the stock file from the vehicle using the tool, and must email the file to calibration. Here the file will be modified and emailed back to the customer for install in the car.**



3. **IMPORTANT:** Your supercharger system requires that you use 91 Octane fuel or better. Make sure that you have used any existing fuel and filled up with 91 Octane fuel or better before beginning.



Performance

4. Use a 12mm wrench to disconnect the negative battery terminal, then a 10mm wrench to disconnect the positive battery terminal. Stock batteries have a base locking tab/clamp at the front-bottom of the battery. Remove using a 10mm socket. Once removed, take the battery out of the vehicle and set aside where it cannot be damaged.



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



6. Unplug the IAT sensor connection to the intake air tube.



7. Remove the air tube from between the throttle body and the factory air box.



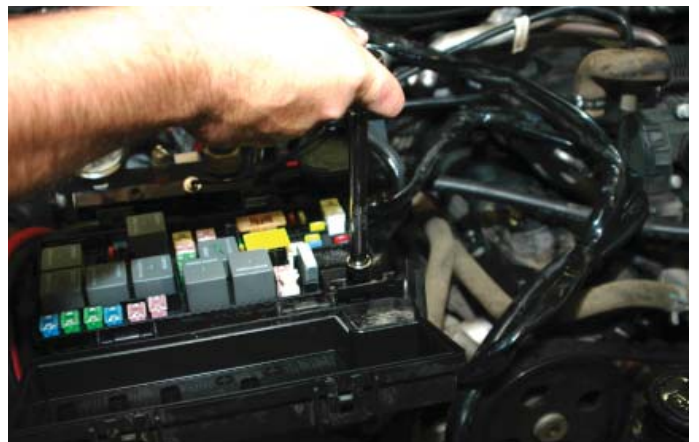
8. Remove both ends of the PCV Vent tube running from between the passenger side valve cover and the air box and set aside for later use.



9. Pull up on the factory air box to dislodge it from the rubber mounting grommets on the passenger side of the engine compartment.



10. Use a 13mm wrench to disconnect the power cable to the fuse center.



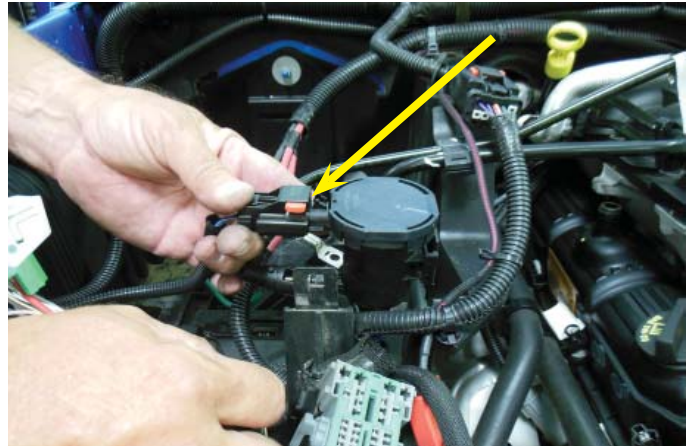
11. Depress the four locking tabs on the fuse center and pull up to lift off the mounting posts.



12. Disconnect all seven electrical plug connections to the bottom of the fuse center, and remove the fuse center from the vehicle. Set aside where it will not be damaged for later re-installation.



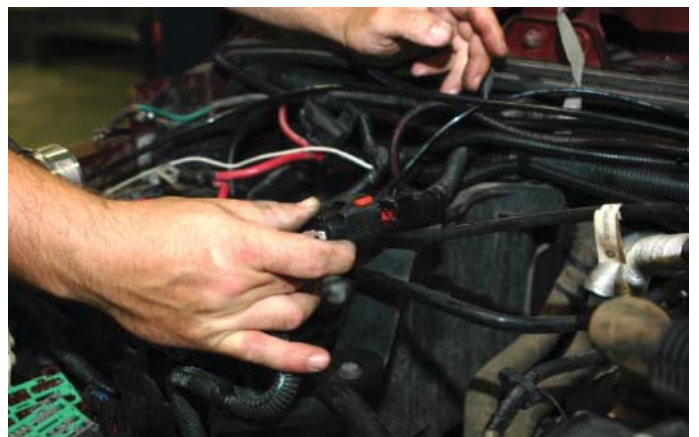
13. Disconnect the electrical connection to the EVAP sensor.



14. Remove both ends of the EVAP tube on the passenger side of the engine and set aside.



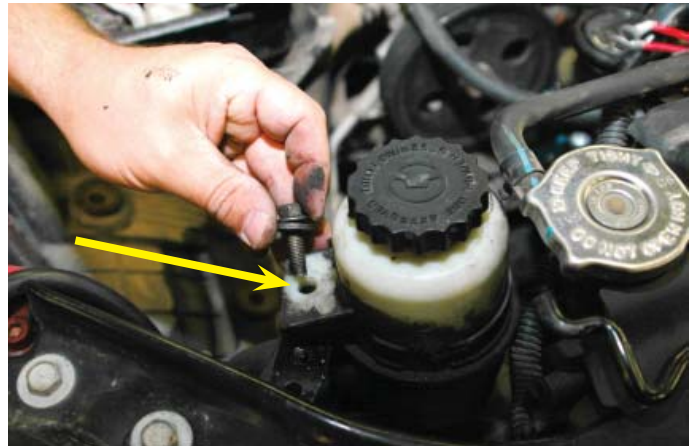
15. Disconnect the electrical connection of the harness on the passenger side near the back of the battery tray.



16. Disconnect the bottom EVAP sensor tube, pull the EVAP sensor off the mounting post of the battery tray and set aside for later installation.



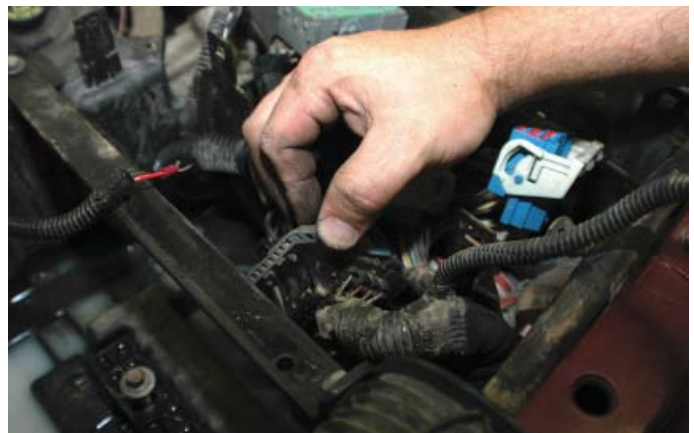
17. The battery tray, fuse center, and air box mounting tray needs to be removed from the vehicle. To facilitate this, first use a 10mm wrench to remove the bolt holding the power steering reservoir to the cross frame support at the passenger side of the radiator. This will allow it to be moved out of the way.



18. Remove the four bolts and three nuts holding the tray assembly to the frame using a 10mm wrench.



19. Use a pry tool to disconnect all wiring harness tie-down trees from the battery tray.



20. Pull all the connectors that went to the fuse center up, over and toward the fender to gain some room and avoid overusing four letter words (expletive-deleted).



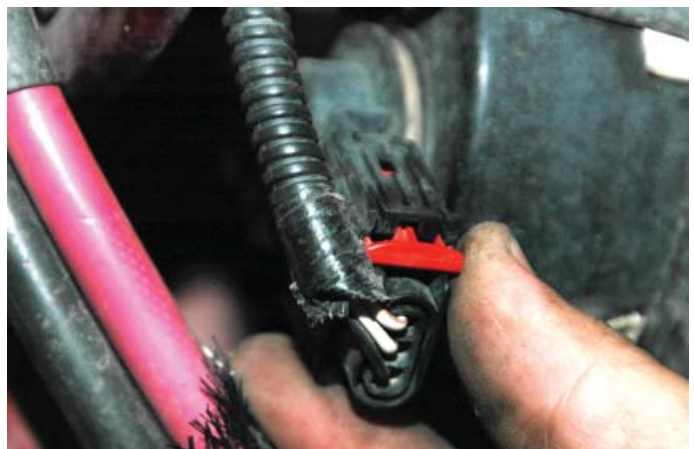
21. Pull the battery tray assembly out of the vehicle and set aside for parts removal.



22. There are six twist (or push-pin depending on model year) rivets that look like Phillips head screws on top of the grille. Using no downward pressure, unscrew the rivets. If they spin as opposed to coming out, place a pry tool under the head and lever as you unscrew the center posts and allow extraction of the rivets completely. Use a pry tool to pull out push pin rivets.



23. Disconnect the turn light plugs from the lamps in the grille.



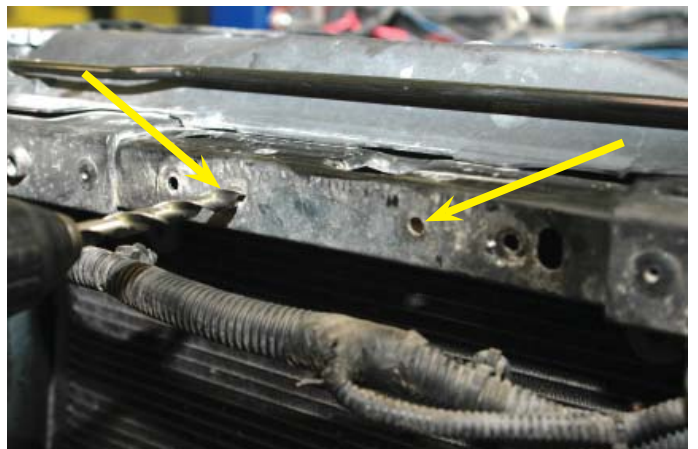
24. Pull out carefully on the bottom of the grille to unsnap the pins from the slots on the mounting frame. Set the grille aside where it will not be damaged for later reinstallation.



25. At the front face of the upper cross frame support, by the hood latch hole there is a wiring harness crossing over from side to side. Use a pry tool to pop the two “tree” connectors from the holes of this harness.



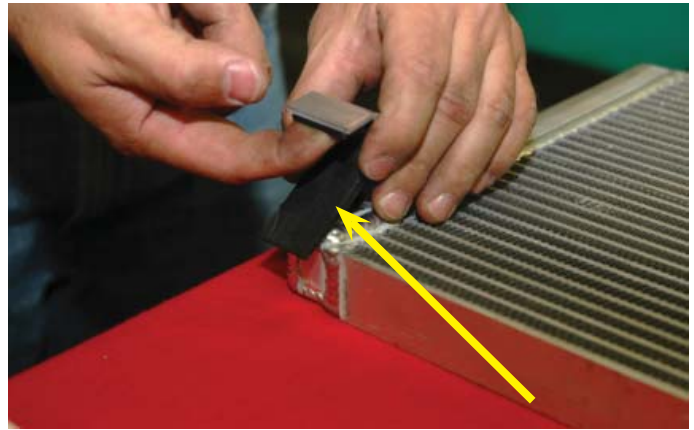
26. There are two additional holes near the center of this cross frame on the front face. Open these holes with a 3/8” drill bit as shown.



27. Press the provided RIV nuts into these holes. The RIV nuts expand and lock in place by crushing in when the bolt is inserted and tightened. You can do this now, or you can wait until the Heat-Exchanger is installed in a later step.



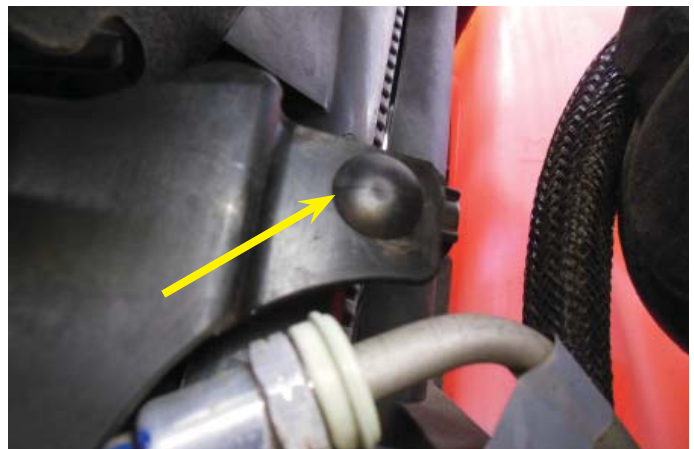
28. Cut the provided adhesive backed rubber strips into two 3" pieces. Attach the adhesive strips to the bottom "hooks" on the intercooler heat-exchanger. On the backside of the heat-exchanger, cut the supplied adhesive backed foam to create a seal around the perimeter of the heat-exchanger. Wipe surface with lacquer thinner to ensure adhesion.



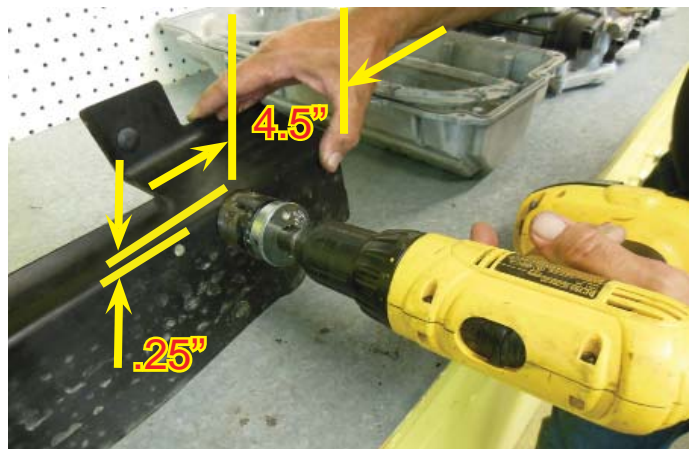
29. The intercooler heat-exchanger is going to mount in front of the existing heat-exchanger/radiator. Below the cross frame and in front of the radiator is a plastic drip tray that requires modification. First, remove the factory splash shield by prying out the push rivets, and where applicable twisting the Phillips head twist rivet to allow the rivets to be pulled out. Set aside for later re-installation.



30. Remove the drip tray from the vehicle by prying out the five push pins, one on either side and three on the bottom flange, so the modification can be performed outside the vehicle (This view is from the driver side wheel well).



31. Measure over from the driver side of the tray toward the center 4-1/2" and drill a 1-1/2" hole in the bottom of the tray. **NOTE: How this hole will extend onto the vertical surface of the tray 1/4" up (photograph view) and 1/2" back. Use a hole-saw and cut the remaining tab on the front face using a razor knife.** Alternately, drill a hole in the bottom, and another on the face and connect the holes using a razor knife. Replace the drip tray using the removed push/twist pins.



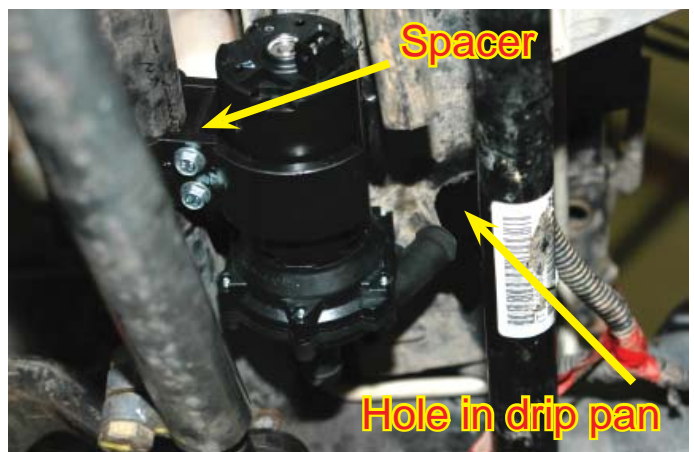
32. Test fit the heat exchanger in place, verifying that the two holes in the top mounting flange match up to the two RIV nuts, and that the bottom hose barb of the heat-exchanger matches up with the hole in the drip-tray. Modify your hose barb hole as necessary. With this in place, put a star lock washer between the top flange mounting holes and the RIV nuts. Tighten the bolts down spreading the RIV nuts and locking them in place. Remove the bolts and heat exchanger from the vehicle temporarily.



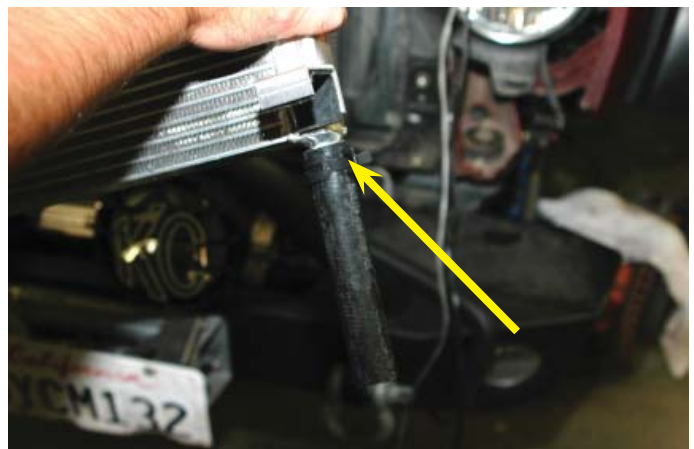
33. Cut two strips of the adhesive backed rubber to 2" in length. The IC pump installs in the slightly larger lobes of the two halves of the mounting bracket to be separated by the supplied spacers. Press the adhesive backed rubber into those larger lobes.



34. Press the supplied RIV nuts onto one bracket (they will pull in when you start tightening the bolts), and sandwich the IC pump with the spacers between the two halves, to the cross frame support tube using the supplied bolts on the driver side. Align the discharge barb of the IC pump to point to the hole you created earlier in the drip pan below the radiator/ heat-exchanger.



35. Cut a 6" section of the 4" x 60" x 3/4" 90° elbow hose from the straight end. Connect one end of the 6" piece of hose to the lower barb on the heat-exchanger and secure in place with a provided spring clamp.



36. Carefully feed the hose through the hole in the driver side bottom of the drip tray toward the discharge hose barb on the intercooler pump as you lower the heat exchanger into position. The free end of the hose will remain loose for now.



37. Connect the free end of the hose from the heat exchanger to the discharge barb on the intercooler pump using a supplied spring clamp.



38. Cut the provided 4" x 36" x 3/4" 90° elbow hose to leave 1-1/2" on the short leg. Connect the short leg of the elbow to the intercooler pump inlet hose barb using a provided worm gear clamp. Feed the straight end up and slightly back toward the coil pack in the engine compartment on the driver side.



39. Locate and connect the plug from the intercooler wiring harness to the plug connection on the intercooler pump. Route the remaining wire harness along the lower cross frame tube and up on the passenger side of the engine compartment toward the fuse center location. Secure the harness to the cross frame support tube with the provided zip-ties.



40. Remove the bolts from the coil pack mounting bracket on the driver side of the vehicle.



41. Mount the provided Reservoir Mounting Bracket over the coil pack mounting bracket with the provided bolts and spacers, securing both the coil pack mounting bracket and the reservoir mounting bracket in position.

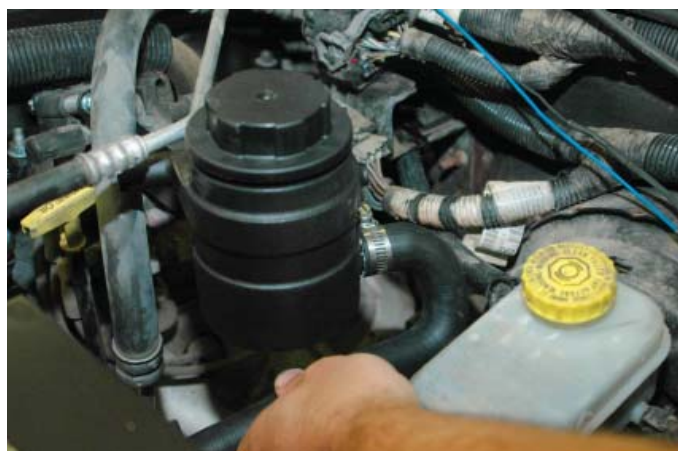


42. Mount the intercooler reservoir with the provided bolts to the reservoir mounting bracket and tighten in place securely.

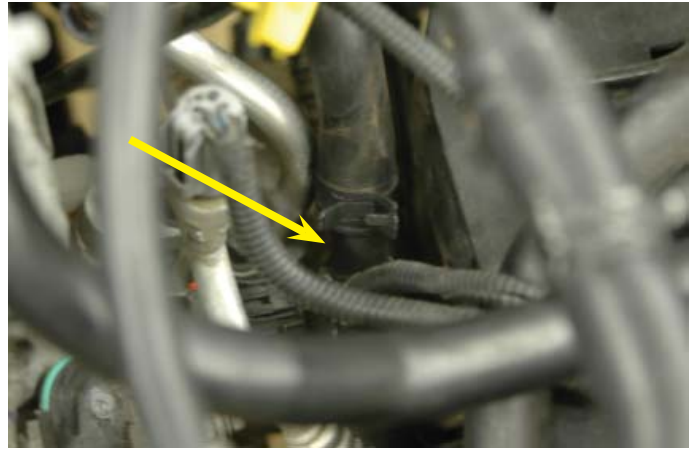


43. Cut the short leg of the supplied $\frac{3}{4}$ " "J" hose to 1-1/2" in length as measured on the inside of the curve and connect to the rear reservoir hose barb with the provided worm gear clamp on the "U" end of the hose. Cut the other end of the hose leaving 7" remaining on the long leg of the hose. This hose will route down below the reservoir and forward.

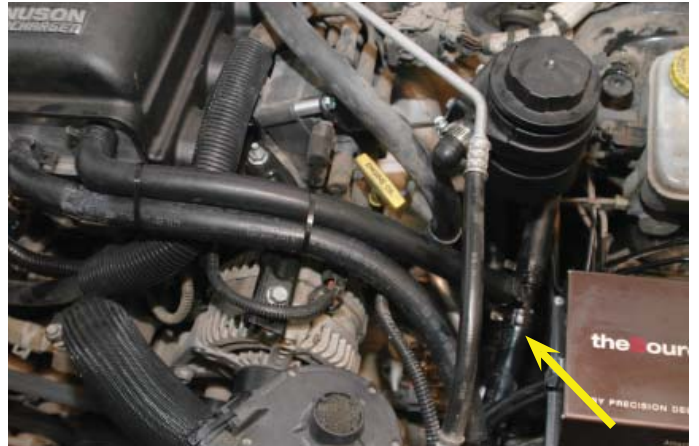
IMPORTANT: It's important to use only the supplied worm gear clamps on the reservoir.



44. Connect a supplied coupling (“T”-Connector) to the end of the “J” hose you just installed using a provided spring clamp.



45. Cut to fit and join the hose you installed on the intercooler pump inlet hose barb earlier to the coupling (“T”-Connector) on the end of the “J” hose you installed on the hose from the rear reservoir hose barb.



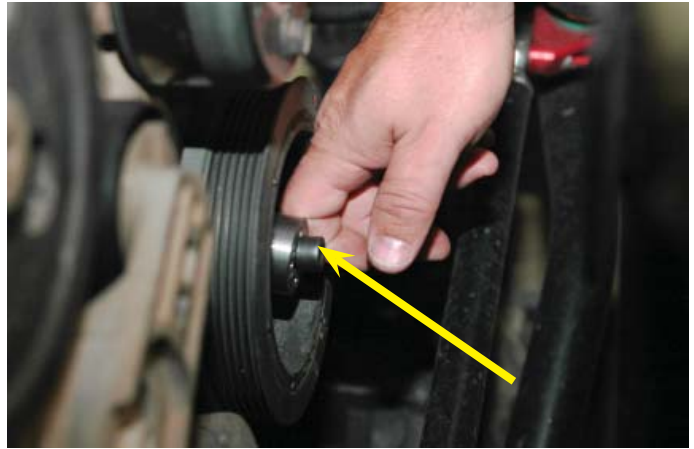
46. The next set of steps is pinning the crank. This prevents the crank pulley from spinning on the crankshaft. These are the crank pinning kit components.



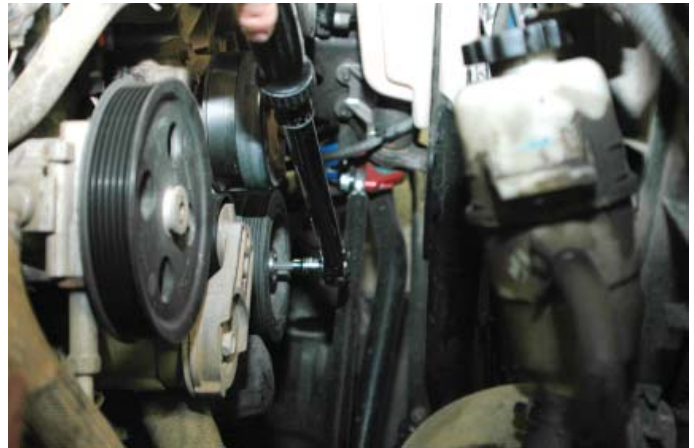
47. Remove the crank pulley bolt using a 15mm wrench.



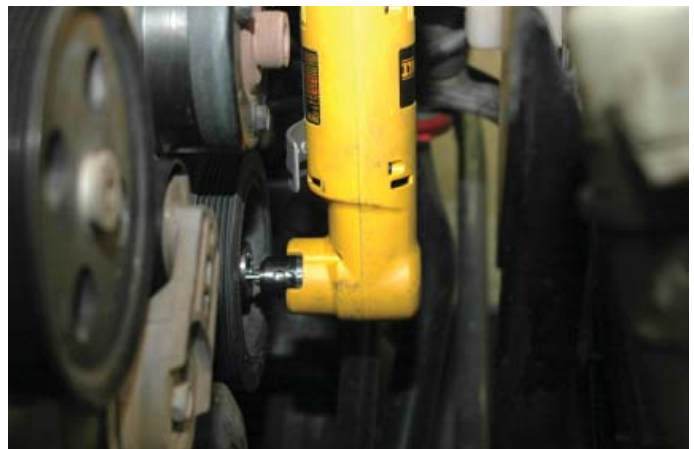
48. Install the provided drill guide using the provided bolt.



49. Torque the bolt holding the drill guide to 20 ft-lbs.



50. Use the provided drill bit to drill the two holes necessary using the drill guide holes with the dimples adjacent to the holes. Drill completely to the point where the flutes of the drill bit have just disappeared into the drill guide.



51. Blow the holes out to remove debris



52. Loosen the drill guide bolt and rotate 90° to align the other two holes in the drill guide with the holes you just drilled. Use the drill bit to verify the alignment, and keep in place while you tighten the drill guide back down. Use the provided reaming bit to ream the two holes out that you just drilled.



53. Remove the drill guide and once again blow the holes out to remove debris.



54. Place a bead of the provided Green Loctite on the provided crank pins and tap them into the two holes you just prepared. Use a nail-set, or drift, to ensure that the pins are completely set in the holes and the bolt will not be making direct contact with the pins at all.



55. Replace the OEM crank bolt and torque to OEM specifications of 40 ft-lbs.



56. Disconnect the PCV vent tube from between the intake manifold and the driver side valve cover at the coupling.



57. Disconnect the throttle body control plug from the throttle body receptacle.



58. Remove the OEM throttle body from the intake manifold using an 8mm 12-point socket and set the throttle body aside for later installation on the new supercharger inlet.



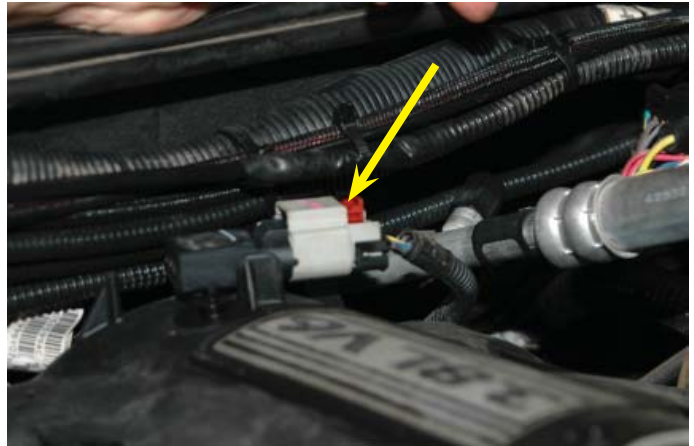
59. **Optional: Remove fender for easier access. Use a 10mm wrench to remove the five bolts holding the fender to the vehicle. Then pull the fender off disengaging the remaining snaps.** ALL: Remove the EGR tube at the front of the intake using an 8mm wrench. The other end of the tube mounts on the EGR valve, behind the passenger side head and is accessible through the passenger side wheel well. Disconnect here as well, retain the bolts for later use.



60. Remove the mounting bracket bolt near the back of the head using a 13mm wrench. Remove the tube, this will not be reused.



61. Pull out on the red locking pin and disconnect the MAP Sensor plug from the back of the driver side of the intake manifold.



62. Disconnect both ends of the hose from the brake booster to the hose barb at the back of the intake manifold on the passenger side. Remove the tree clamp securing the hose to the firewall. Remove the hose from the vehicle. This will not be reused.

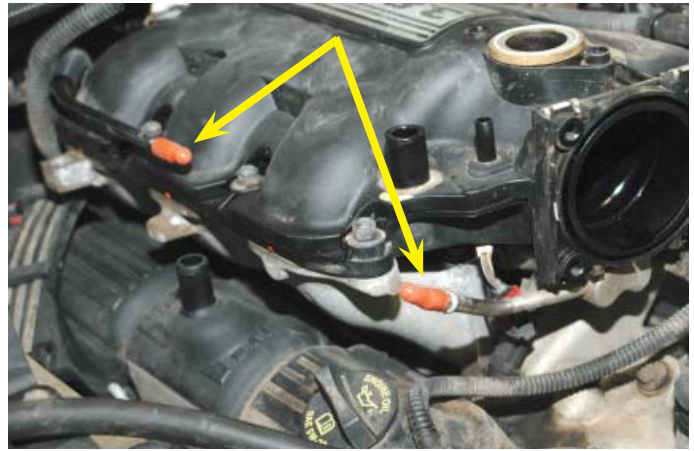


63. Remove the fuel line safety clip at the fuel manifold barb. Use the provided fuel line removal tool (in the fuel line repair kit) to remove the fuel line section between the barb on the fuel manifold and the hard barb near the back of the passenger side of the engine. First press the line onto the barb, then push the tool over the hard line and into the fitting firmly. This will release the spring clip allowing the line to be pulled free.

NOTE: In-between models may have a different connector but they remove with the same tool. Post 2010 vehicles do not require a removal tool. Release the blue locking clip and depress the white release clip. CAUTION: There may be residual pressure on the line, protect your eyes with safety glasses. Use shop rags to capture fuel spill and dispose of properly.



64. We've provided a couple of caps to minimize the dribble from the fuel line. Push the caps in position on the tube ends. Use shop towels or rags to collect any residual fuel and dispose of properly.



65. Remove the eight 10mm bolts holding the top of the intake manifold to the intake manifold runners.



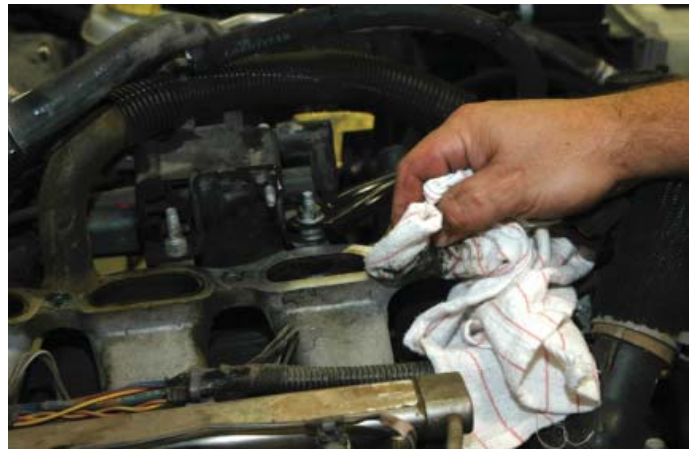
66. Remove the intake manifold top section from the vehicle and set aside.



67. **IMPORTANT: Carefully vacuum off the lower intake manifold ports.**



68. Wipe the port surfaces clean with alcohol, lacquer thinner or some other non-petroleum based solvent.



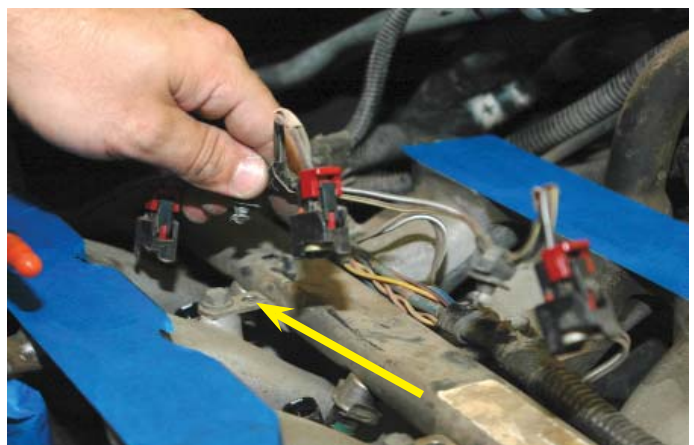
69. Cover the exposed ports with tape or shop towels to protect the ports from contamination.



70. Pull up on the red locking tabs to release the clips of the injector connectors, squeeze the lock-tab and pull the connecting plugs off the injectors.



71. Pull the injector wiring harness mounting tabs free from the mounting holes.



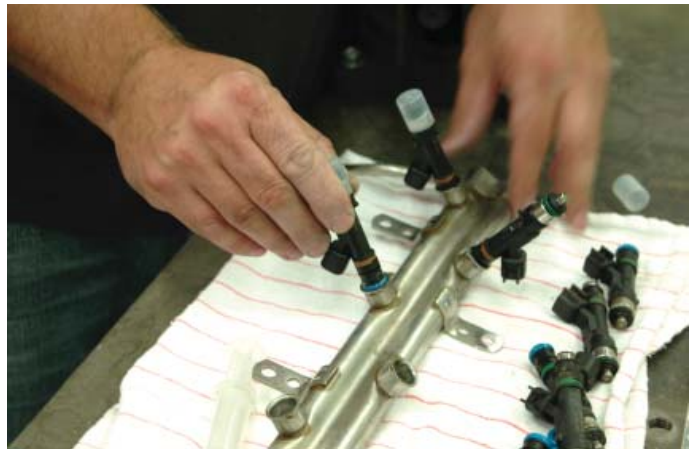
72. Remove the four bolts holding the fuel line to the manifold using a 10mm wrench.



73. Remove the fuel manifold and injectors assembly by pulling up carefully and slide out from under the wiring harness.



74. Pull the locking clips free on the injectors and replace the factory injectors with the new injectors supplied with your kit. Re-engage the locking clips locking the injectors on the fuel manifold.



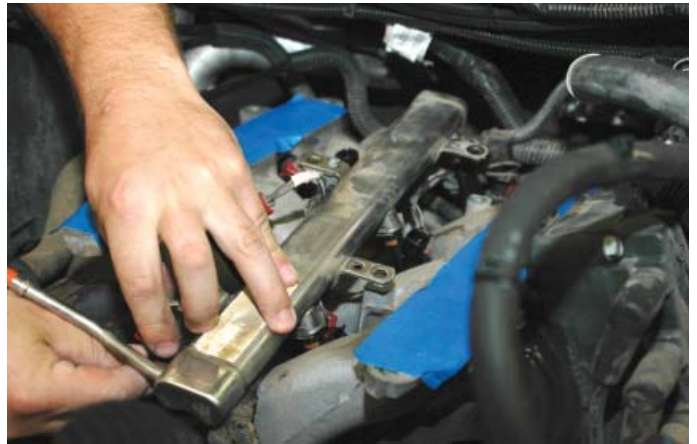
75. Push the injector harness down between the intake manifold runners. Make sure your injector plugs are accessible by swinging them toward the intake runners. Separate the throttle body wiring from the harness and cover with a section of split loom provided.



76. Replace the fuel manifold over the harness. Do not bolt the manifold down yet.



77. First connect all your fuel injectors to the plugs from the harness while there is some wiggling room.



78. Now replace the OEM bolts holding the fuel manifold in place. Torque the bolts down to 106 in-lbs. Verify your torque wrench settings.



79. There is a clamp between the heater hoses on the passenger side of the engine compartment tying the hoses to the head. Remove this mount and clamp.



80. Cut the existing EVAP tube on the passenger side, behind the engine three bends from the EVAP solenoid connector, and 2" past that bend.



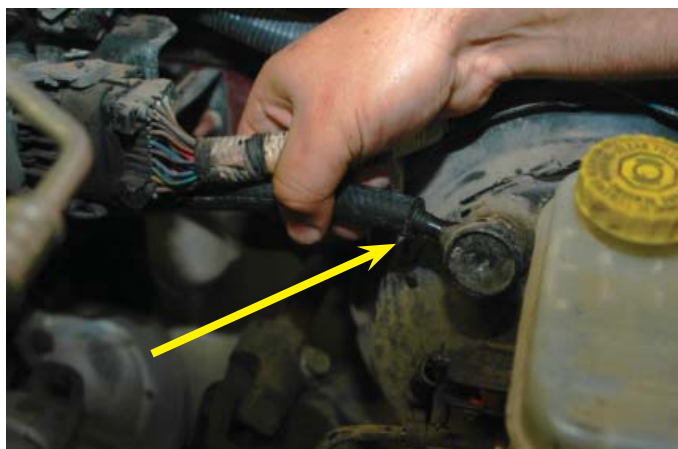
81. Use a heat gun, or a hair dryer set on high to heat the bare end of the tube and insert the provided coupling (hose mender) into the tube. **Use care while doing this, the heat can easily over-bake the tube and make it too pliable to push the metal coupling into the tube.** We found good gloves necessary, and heating the coupling a bit as well made the process easier.



82. There is a clamp holding the heater hoses to the firewall on the passenger side. Pull the hoses down further through the clamp (toward the bottom of the car) to create a bit more slack, and place 3" sections of the provided split loom over the hoses as they will pass under the back of the supercharger (as seen in this post-install picture).



83. Install the brake booster hose on the hose barb at the brake booster and run behind the engine to the passenger side of the vehicle.



84. Verify that the O-Ring on the inlet (installed at the factory) is still in place. If not, put a thin bead of the provided Lubriplate lubricant on the provided throttle body O-ring and insert in the groove of the supercharger inlet.



85. Install the removed throttle body on the supercharger inlet using the provided mounting bolts. Torque the bolts to 106 in-lbs. Verify your torque wrench settings!



86. Insert the provided grommet into the hole below the intercooler hose barbs on the new supercharger assembly. Remove the IAT sensor from the OEM intake manifold, place a bead of the provided Lubriplate lubricant on the O-ring and press into the new supercharger manifold Grommet. Secure in place with provided hold-down bracket and screw.



87. Lubricate the O-ring of the provided MAP sensor with the provided Lubriplate lubricant and install in the rear of the supercharger manifold. Tighten in place with the provided M5 Phillips head screws.



88. Remove the O-rings from the stock intake manifold ports, clean and inspect for damage. Place a bead of the provided Lubriplate lubricant on the O-rings and insert into the mating port grooves on the supercharger manifold assembly.



89. Remove the tape from the lower OEM intake runners.



90. Wipe the surfaces clean with some alcohol, lacquer thinner or some other non-petroleum based solvent to remove any tape residue or debris.



91. With the help of an assistant or two, carefully guide the supercharger manifold assembly into position, guiding the assembly to have the existing hard fuel line barb through the cavity between the inlet tubes and support frame of the assembly. Before locating completely in position, connect the MAP sensor harness plug to the sensor on the assembly. We found it easier to sit on the radiator cross frame member while doing this. Your inside leg can rest on the lower cross frame support, with your outer leg on the bumper. **Make sure the O-rings do not get dislodged from the grooves.**



92. Install and torque the eight manifold bolts down to 106 in-lbs using a center-out, criss-cross pattern in multiple steps. Don't just immediately tighten to 106 in-lbs.



93. Install the 5/8" breather hose on the hose barb below the supercharger plenum. You can see this barb behind the lower plenum support framework. This hose runs around the back of the supercharger and then to the front of the Jeep toward the airbox.



94. Re-attach the OEM fuel line between the rear hard-line barb and the barb coming off the injector fuel manifold. **Note: There are variations in the fuel line setup between years. Your vehicle may not look like this image. Pull on the connections, the line should not be removable without the use of a fuel line removal tool.**



95. Re-attach the fuel line locking clip on the fuel manifold connection. **Note: 2010 vehicles have integrated locking clips. It's very easy to break the clips and they are not servicable. Replacement lines run about \$75.**



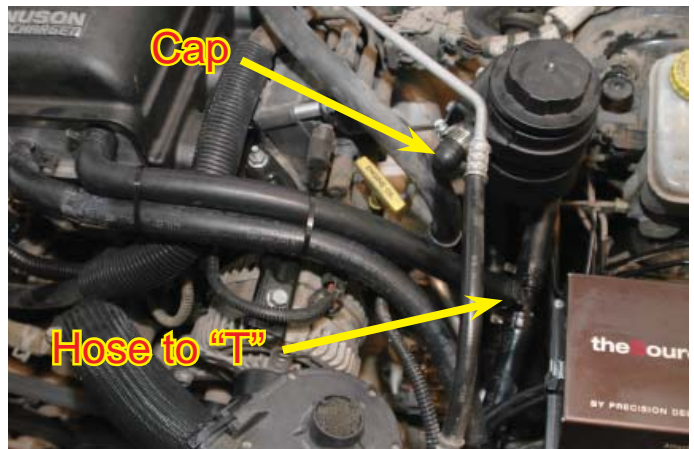
96. Connect the IAT harness plug to the IAT sensor on the supercharger assembly.



97. Cut the short end of a provided 4" x 18" x 3/4" 90° elbow hose to leave 1" on as measured on the inside of the curve. Connect the short end to the driver side hose barb on the supercharger intercooler.



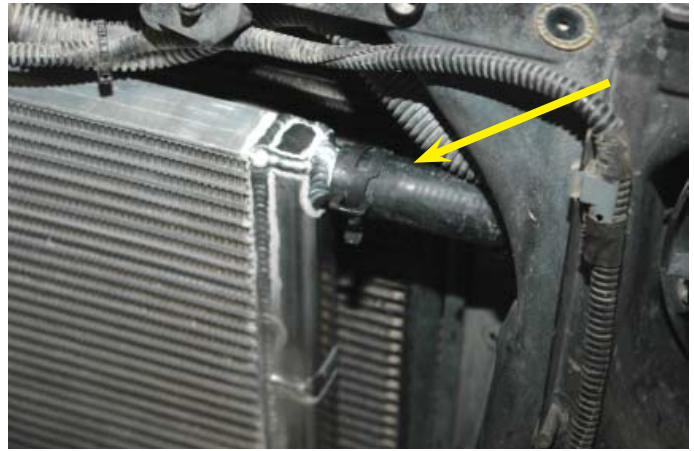
98. Route the other end over to the "T"-Fitting installed earlier, cut to fit and secure in place with a provided worm-gear clamp. Place the provided cap on the forward-upper reservoir hose barb and secure in place with the provided clamp. **IMPORTANT: It's important to use only the supplied worm gear clamps on the reservoir.**



99. Cut the short end of the provided 4" x 60" x 3/4" 90° elbow hose provided to leave 2" on the short end as measured on the inside of the curve. Connect the short end of the installed to the passenger side hose barb on the supercharger intercooler. Secure in place with a provided spring clamp.



100. Route the long end of the hose forward through the frame, cut to fit and connect the free end to the upper heat exchanger hose barb and secure in place with a provided spring clamp.



101. The two bottom brackets fit over the lower cross frame support member. Align the top mounting bracket with the holes in upper cross frame support face and secure in place with the two bolts you used to install the RIV nuts. Place the provided rubber washers between the upper mounting flange and the RIV nuts and secure in position as shown.



102. Press the wiring harness trees back into the holes from whence they were removed of the upper cross frame support member to re-anchor the wiring harness.

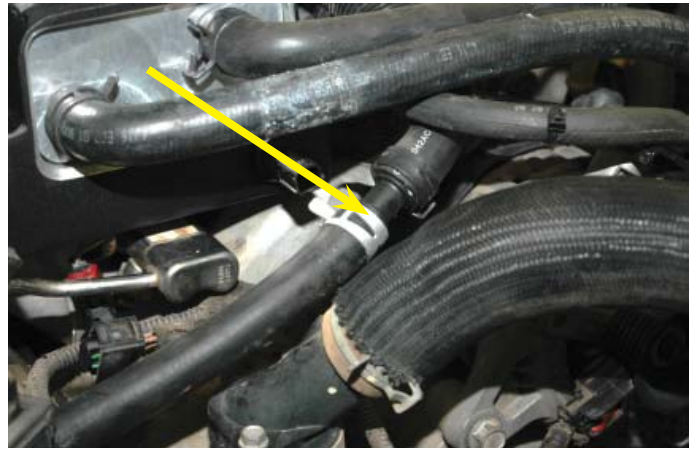


103. Connect one end of the supplied 5/8" straight hose to the hose barb on the driver side of the the supercharger assembly intake manifold. Secure in place with the provided spring clamp.

NOTE: Throttle body removed for image clarity.



104. Cut the OEM PCV vent hose from the driver side valve cover 1-1/2" from the last bend. Connect the free end of the hose you just installed to the end of the OEM PCV vent hose using a provided coupling (hose mender) and the provided spring clamp on the new hose and the stock (OEM) spring clamp on the factory hose.



105. If you didn't do so earlier, we've found it easier to work in the passenger side wheel well area by removing the fender and rubber fender-well. Some require a 10mm wrench, some are held in place with push pins for the most part, and some twist (Phillips-head) plastic rivets. Some modified vehicles may have variations on the theme...some metal fender wells, some aftermarket fenders. It's your call!



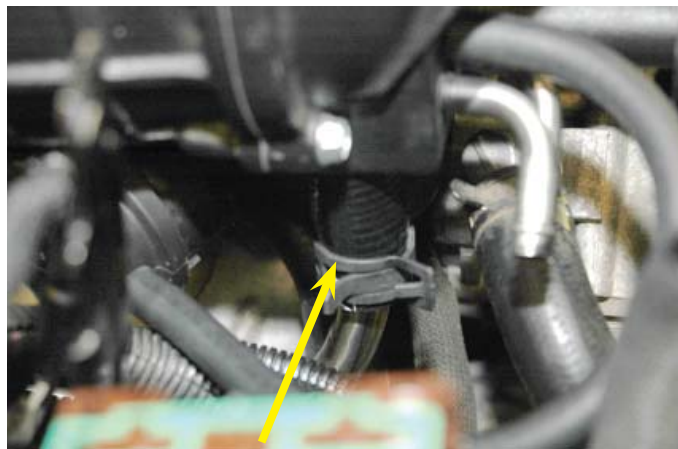
106. Install the provided hose section on the EGR tube with the provided clamp as shown.



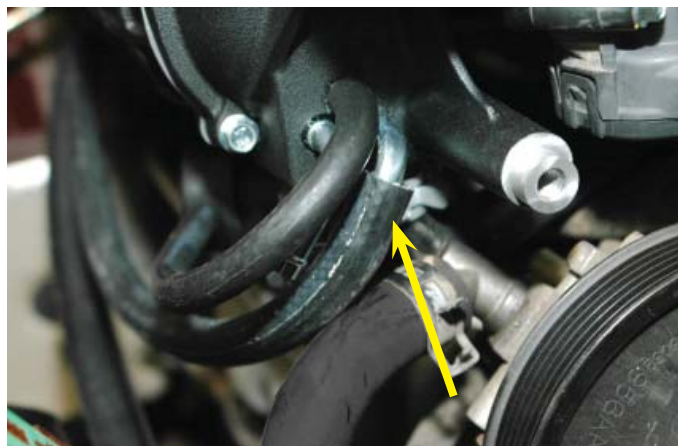
107. Connect and secure the provided EGR tube assembly hard end to the valve on the passenger side, behind the head from whence the OEM tube was removed with an 8mm wrench and the OEM hardware. This is also easily accessible through the wheel well on the passenger side of the vehicle.



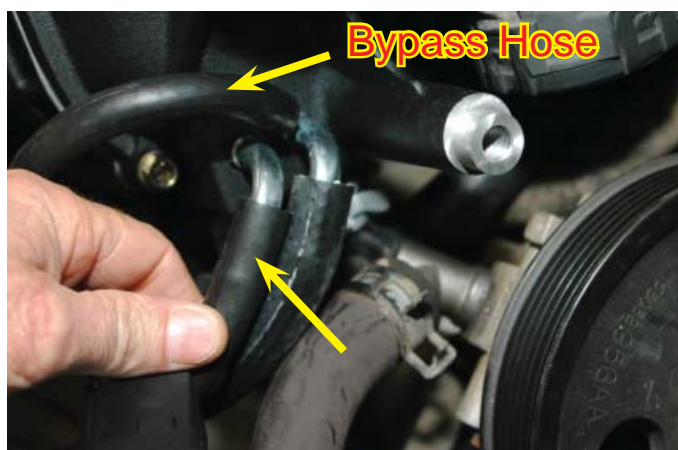
108. Connect the hose end of the EGR tube assembly to the remaining hose barb on the bottom of the supercharger. This is accessible through the wheel well on the passenger side, and can also be done from the top.



109. Connect the free end of the hose you installed on the brake booster earlier to the inside 90° hose barb on the bottom of the supercharger assembly on the passenger side.



110. Connect the 16" section of the provided 3/8" hose to the remaining hose barb on the bottom/front of the supercharger assembly on the passenger side. The bypass hose is pushed out of the way to show this connection in the picture.



111. Remove the factory locking clip from the OEM EVAP solenoid by prying out on the locking tab and pulling the clip off.



112. Install the provided EVAP solenoid fitting on the EVAP solenoid as shown.



113. Use the provided zip ties to tidy up your hoses and harness sections.



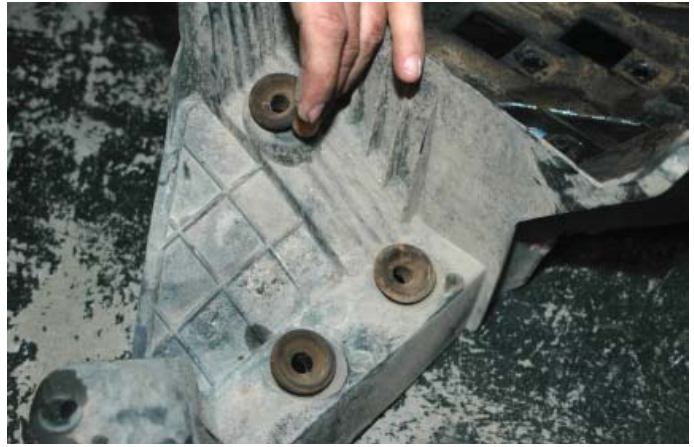
114. Remove the power distribution (Fuse Center) holder from the OEM battery tray.



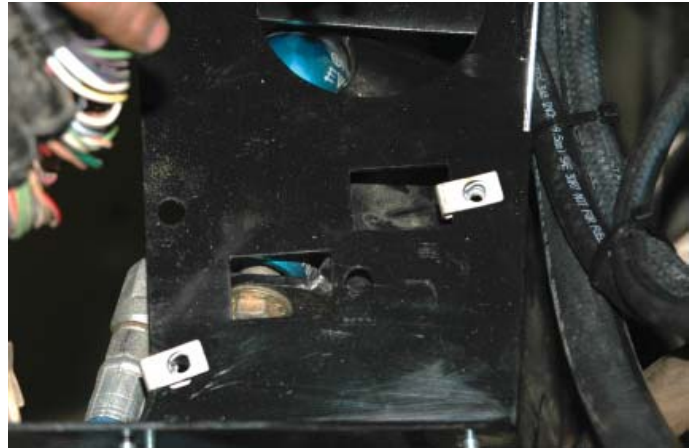
115. Remove the four nut clips from the OEM battery tray.



116. Remove the three air box grommets from the OEM battery tray.



117. Install the four removed nut clips in the slots on the new battery tray at what will be the power distribution (fuse center) location.



118. Install the provided battery tray using the OEM hardware removed earlier.



119. Loosely mount the removed fuse center tray to the new battery tray using the nut clips and OEM bolts. Slide the tray forward to the limit of the slot before tightening in place.



120. The jumble of connectors that went to the fuse center will need a slight modification. Separate the EVAP plug from the white fuse block connector back to the “Y” in the harness. This separated connector will go under the battery tray and route toward the firewall.



121. Near the back of the passenger side, snap the wiring harness mounting “Tree” connectors to the new battery tray. Route the blue connector back to connect to the harness plug just secured, and push the mounting “Tree” connectors into the holes of the new battery tray assembly.



122. Re-connect all the fuse center plugs in their OEM locations and lock down in position with the integrated clamps.



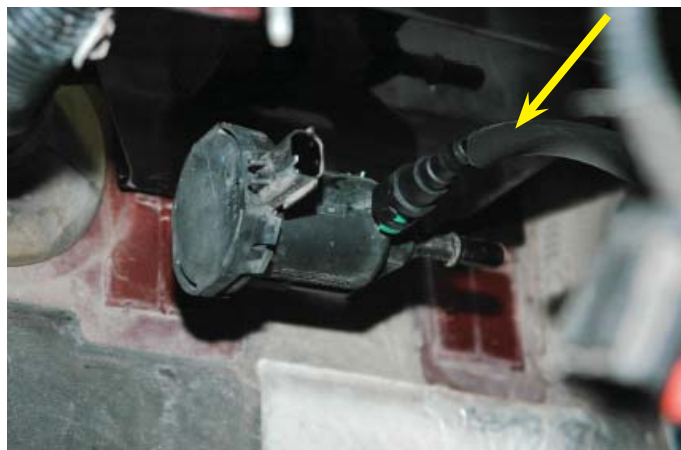
123. Slide the fuse center back into the OEM tray and ensure that the locking tabs engage the posts.



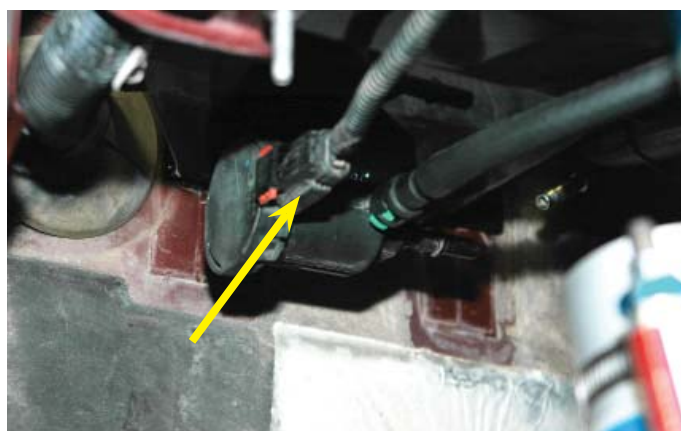
124. Relocate the EVAP solenoid from the OEM location and slide onto the mounting post at the bottom/ rear of the new battery tray as shown. This will easily accessible through the passenger side wheel well.



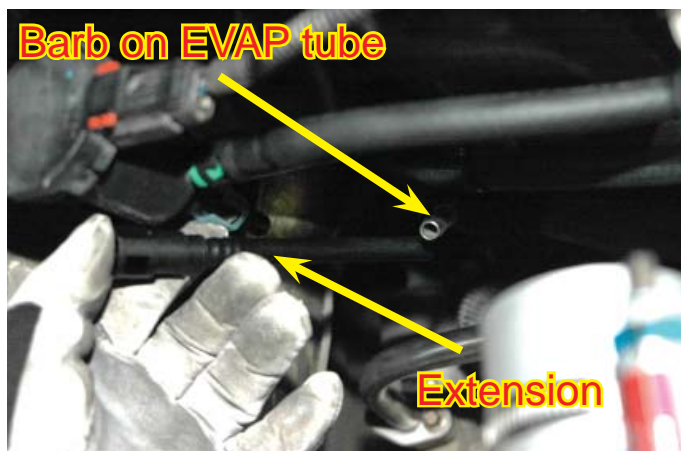
125. Connect one end of the provided 16" EVAP solenoid hose to the hose barb you installed earlier on the EVAP solenoid. No clamp is necessary.



126. Connect the EVAP solenoid control plug to the EVAP solenoid.



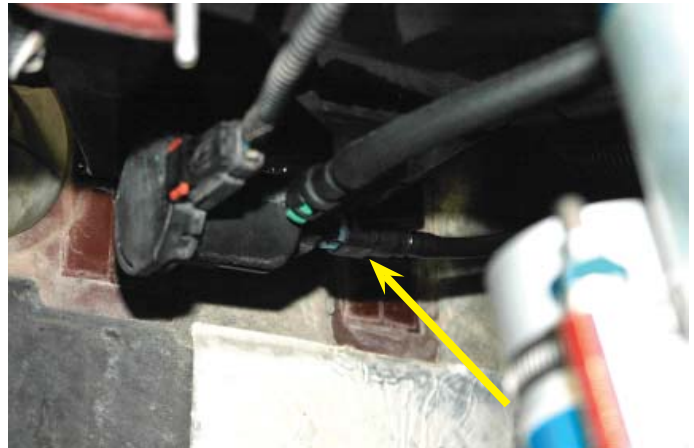
127. Mark the provided EVAP solenoid tube to get the distance from the remaining barb on the EVAP solenoid to the prepared end of the OEM EVAP solenoid tube that you inserted the coupling (hose mender) to earlier using the heat gun or hair dryer set on high.



128. Cut the provided EVAP solenoid tube to fit and use the heat gun (or hair dryer set on high) to soften the end of the tube to allow it to push onto the barb of the coupling installed earlier.



129. Connect the prepared EVAP tube to the remaining barb on the EVAP solenoid.



130. Re-connect the fuse center power cable to the post on the fuse center incorporating the red wire (positive terminal) from the intercooler reservoir wiring harness that you connected to the pump earlier. Tighten securely.



131. Drill a small hole in the rear wall of the fuse center and snake the yellow wire from the intercooler wiring harness through the hole as shown.



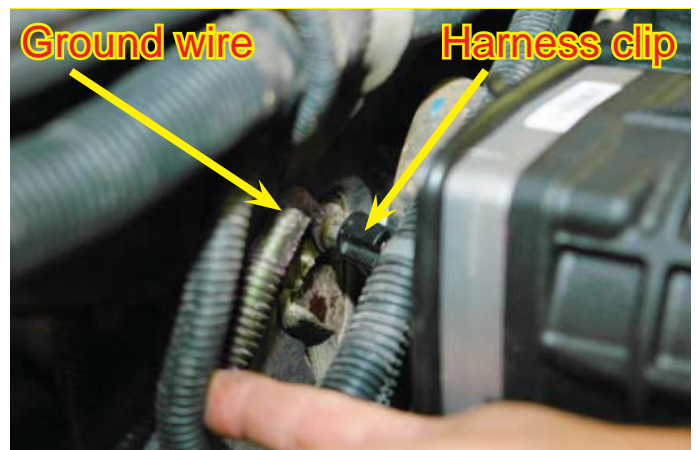
132. Remove the M25 fuse (Fuel Pump 20A) and push one leg of the fuse through the integrated fuse-tap on the yellow wire from the intercooler harness. Replace the fuse in the original location with the integrated yellow wire. **Make sure you verify the fuse by name, there's a diagram with fuse names in the fuse box lid.**



133. Reconnect the body ground by the fuse center incorporating the black ground wire from the intercooler wiring harness.



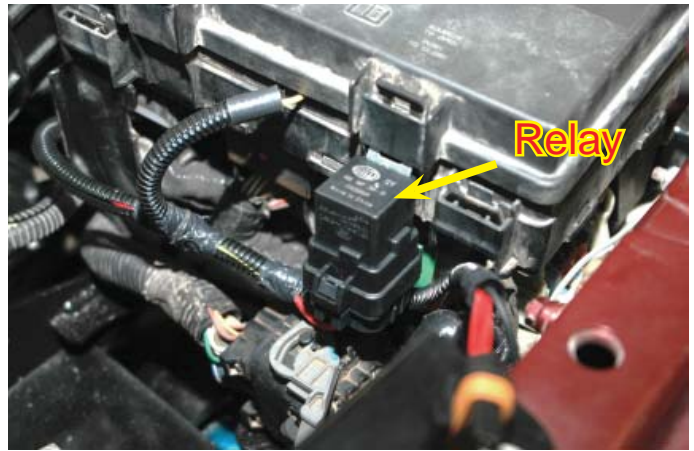
134. Temporarily remove the wiring harness mounting clip from the post of the hood ground. Remove the nut and replace incorporating the OEM rear harness ground to the existing hood ground post on the firewall. Replace the wiring harness mounting clip.



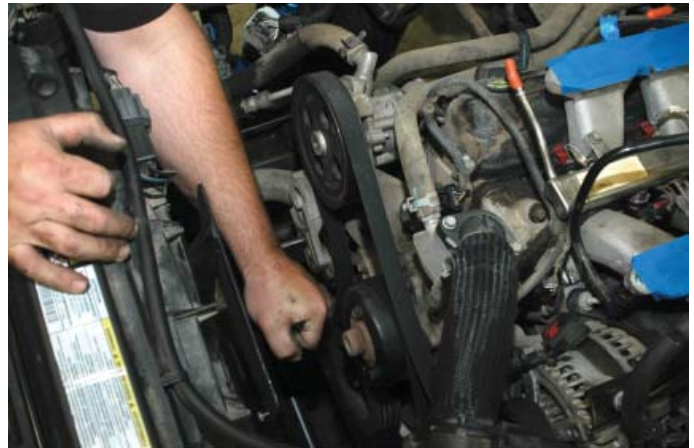
135. Loop excess intercooler harness wires and tie to the power steering hose on the passenger side of the vehicle using the provided zip ties.



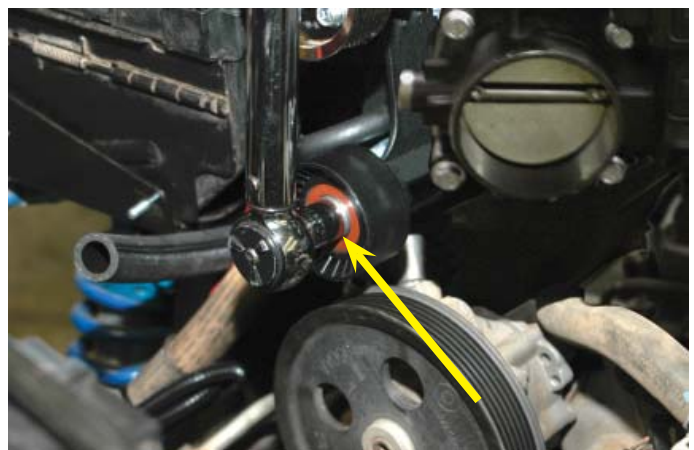
136. Push the intercooler harness relay up into the mounting post on the firewall side, closest to the fender as shown.



137. Use a 3/8" extension to lever on the tensioner and remove the factory accessory drive belt. This will not be re-used.

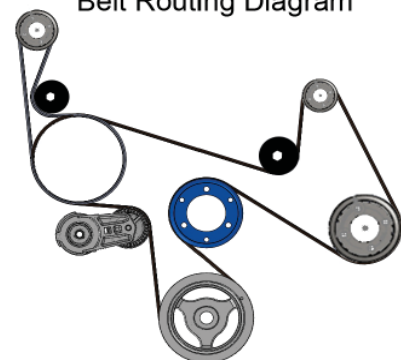


138. Mount the supplied idler pulley to the boss above the power steering pump torque the mounting bolt to 40 ft-lbs. Verify your torque wrench settings.



139. Install the provided accessory belt per the belt routing diagram. Use a 3/8" extension to spring the belt tensioner.

Jeep Wrangler 3.8L
Belt Routing Diagram



140. Install the two provided air box mounting brackets using the OEM mounting hardware removed from the factory air box.



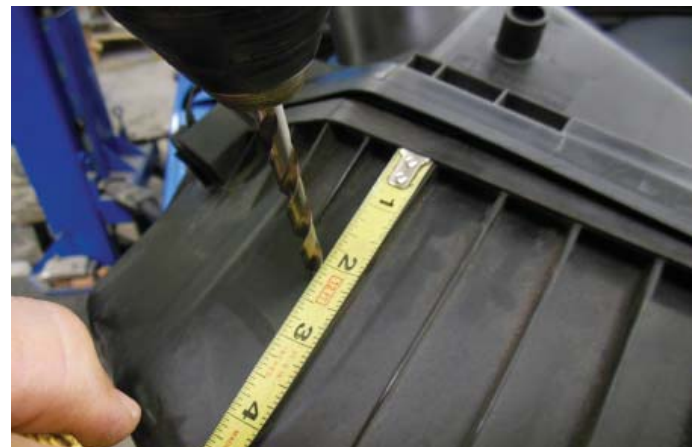
141. Re-mount the power steering reservoir back in its original location using the OEM hardware removed earlier.



142. Push the three air-box mounting grommets into the holes on the provided air box mounting brackets.



143. Drill a 1/4" hole in the side of the airbox as shown, 2" down from the lid. This will serve as an anchor for a zip-tie to the PCV hose.



144. Insert the provided tie anchor in the hole just prepared. Slide a provided zip-tie into the slot for the PCV hose to be secured later.



145. Push the air-box base onto the grommets ensuring that they all engage and hold the box in position.



146. Trim the existing PCV hose barb on the OEM air-box lid down to leave $\frac{3}{4}$ " of the barb on the lid.



147. Trim the short end of the factory PCV 90° elbow hose down to leave $\frac{3}{4}$ " of hose as measured on the inside of the curve, and push onto the air-box lid.



148. Remove the two factory air tube clamps from the OEM intake air tube.



149. Install the clamps loosely on the provided air tube.



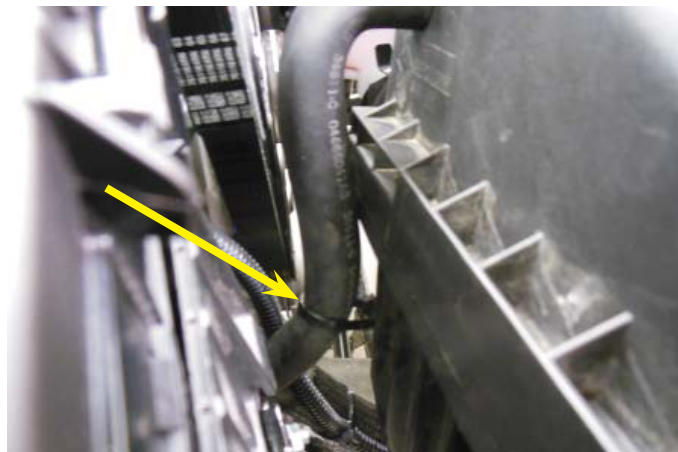
150. Reinstall the factory air filter and mount the air tube on the air-box lid using the OEM clamp. Connect the free end of the air tube to the throttle body as you install the air-box lid on the base. Route the PCV hose down below the air-box.



151. Tighten the air tube clamps on the air-box lid and throttle body, and ensure that all four clips of the lid have properly engaged the hold-down extrusions on the air-box.



152. Route the free end of the PCV hose from the airbox down to the engine side of the airbox mounting brackets. Secure against the side of the airbox using the zip-tie you installed earlier.



153. Connect the free end of the PCV hose to the breather hose installed in step # 93 from the passenger side valve cover. Cut to fit and use the provided coupling (hose mender) and spring clamps. Secure to existing hoses with provided zip-ties.



154. Connect the provided throttle body control plug extension to the existing throttle body control plug.



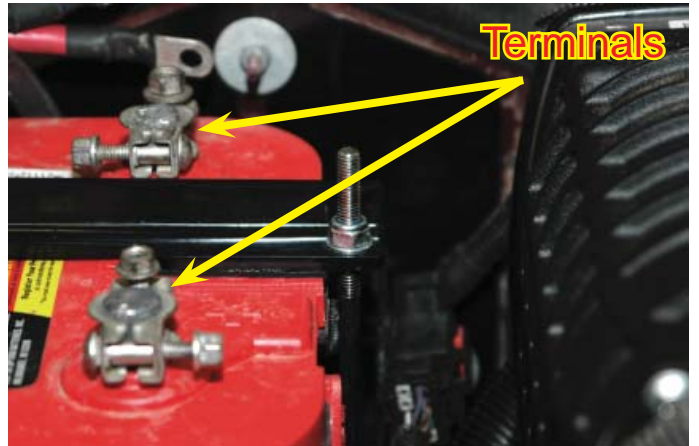
155. Connect the extended throttle body control harness plug onto the throttle body.



156. Replace the battery in the battery tray.



157. Secure in place with the battery hold down bracket. Connect the stock positive cable terminal to the positive battery terminal and the stock negative battery cable terminal to the negative battery terminal.



158. Connect the positive battery cables to the terminal.



159. Connect the negative battery cables to the terminal.



160. If removed earlier, re-attach the fender well shield, fender, and mount the wheels back on the vehicle using the OEM hardware.



161. Fill the intercooler reservoir and system with a 50% coolant, 50% distilled water mixture. There can be air bubbles in the system for a while, so make sure to monitor the fluid levels, especially in the beginning. Install the provided fuse in the intercooler pump harness and cycle the key on and off to activate the pump. Check all connections for leaks and fill to within 1" of the top of the reservoir.



162. Replace the OEM fascia using the OEM hardware.



163. Find a place to loop the cable of the OBD port cover and press the cover over the port.



164. Place a “Premium Fuel Only” sticker on your fuel fill recess as a reminder.



165. Start the vehicle for five seconds and shut off. Check for fuel, coolant, fluid leaks and supercharger belt alignment. Check radiator and intercooler reservoir levels and top off as necessary.



166. After the initial start-up and the engine has come up to operating temperature, recheck the coolant level in the intercooler reservoir. Check all the hose connections.



167. Test-drive the vehicle for the first few miles under normal driving conditions. Listen for any noises, vibrations, engine miss fires or anything that does not seem normal. The supercharger does have a slight whining noise under boost conditions, this is normal. Also during the supercharger break-in, the rotors are self-honing, the noise will reduce quickly.



After the initial test drive, gradually work the vehicle to wide open throttle runs. Listen for any detonation (pinging). If engine detonation is present, let up on the throttle immediately. Most detonation is caused by low octane fuel still in the tank.

PREMIUM FUEL MUST BE USED.



Please enjoy your “Magnuson Supercharger” performance responsibly.

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