

# 2011-2014 Dodge 6.4L Challenger High Output Intercooled System **Installation Guide**





The **ULTIMATE** Power Adder™

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TORQUE SPECIFICATION CHART	 GRADE 5			 GRADE 8		
	Thread Size	Torque (lb.ft.)			Torque (lb.ft.)	
1/4-20	11	8	7	16	12	10
1/4-28	13	10	8	18	14	11
5/16-18	23	17	14	33	25	20
5/16-24	26	19	15	36	27	22
3/8-16	41	31	25	58	44	35
3/8-24	47	35	28	66	49	39
7/16-14	66	49	40	93	70	56
1/2-13	101	75	60	142	106	85
1/2-20	113	85	68	160	120	96

## INTRODUCTION

Congratulations on purchasing your ProCharger® Dodge 6.4L Challenger 2011-14 Intercooled System. Read this entire manual before you attempt to install your ProCharger kit. It is imperative that you follow all of the instructions in the order they appear in this installation guide. If you have any questions regarding any aspect of this installation, call us at (913) 338-2886.

For best results, we recommend reviewing the installation instructions beforehand, and following the installation instructions closely and in sequence. A detailed packing list has been provided to assist you in identifying the components of your ProCharger system.

### Required Tools and Supplies

- 3/8" & 1/2" Socket Sets (standard & metric)
- Open End Wrench Set (standard & metric)
- 3/8" Hex Bit Set (allen head)
- Flat Screwdrivers
- Phillips Screwdrivers
- Plier Set
- Right Angle Drill
- Coolant
- Power Steering Fluid
- Pipe Thread Sealant



**Warning:** *Your supercharged Challenger must always be run on 91 octane or higher gas. Do not run vehicle at wide-open throttle if you have less than 1/4 tank of gas.*

You should also have the following gauges available to properly check the finished installation and monitor your vehicle's performance (especially for testing):

- Manifold Boost Pressure Gauge
- Fuel Pressure Gauge
- Wide Band Oxygen Sensor and Gauge

Gauges should be of a type that can be read from the cockpit while performing a wide-open throttle road test. Cockpit or hood-mounted gauges are preferable. In order to obtain usable readings, the gauges should measure pressure at the intake manifold and fuel rail. IF VEHICLE DOES NOT MAINTAIN PROPER FUEL PRESSURE (50-65 PSI), DECREASE THROTTLE APPLICATION IMMEDIATELY. In some cases, extra vehicle modifications can strain the stock fuel pump. If your vehicle has difficulty retaining adequate fuel pressure, contact ATI ProCharger about the availability of an upgraded fuel system.

The engine on which the ProCharger® is to be installed should retain the factory compression ratio. If it has been modified in any way, please consult ProCharger staff before proceeding with the installation. This supercharger system is intended for use on STOCK, strong, well-maintained engines/transmissions. Installation on a worn or troublesome powertrain should be reconsidered. ATI PROCHARGER WILL NOT BE HELD RESPONSIBLE FOR DAMAGE TO A VEHICLE'S POWERTRAIN. ATI ProCharger is not responsible for ECM tuning/programming on non-stock vehicles. ATI PROCHARGER recommends verifying that your vehicle has current ECM updates from the vehicle manufacturer before installation.

For best performance and reliability, always use premium grade fuel (91 octane or higher) and listen closely for signs of detonation, which might sound like ball bearings rolling around in a tin can. IF DETONATION SHOULD OCCUR, OR IF YOU ARE UNSURE WHETHER WHAT YOU'RE HEARING IS DETONATION, DECREASE THROTTLE APPLICATION IMMEDIATELY and please consult ATI ProCharger staff. Detonation should not be an issue with a properly installed intercooled supercharger system, though OEM factory-shipped engine and parts inconsistencies are possible on any vehicle.

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**Tech Tip:** *Installing spark plugs that are one heat range colder than stock and gapping your plugs to .035" is recommended..*

# STOCK COMPONENT REMOVAL



Completion of this section will configure the vehicle for system installation:

- (A) Factory Air Filter Box
- (B) Intake Air Temp. Sensor
- (C) PCV Tube
- (D) Plastic Engine Cover(s)

**!** **Warning:** Read and understand all safety precautions in this manual before installation. Failure to comply with instructions in this manual could result in personal injury, property damage, and/or voiding your warranty.



## Engine Air Filter

- 1 Disconnect the battery ground.
- 2 Remove the engine cover(s).
- 3 Remove the IAT (Intake Air Temperature) sensor.
- 4 Remove the PCV Hose from the intake assembly.
- 5 Remove the engine air filter assembly bolt with a 10mm socket.
- 6 Loosen the band clamp from the air filter assembly to throttle body connection with an 8mm nut driver.
- 7 Remove the entire air filter assembly from the vehicle.
- 8 Remove the radiator cavity covers (2x) by pulling up and towards the center of the vehicle.



Remove Air Filter Assembly Bolt



Radiator Cavity Cover(s)



Air Filter Assembly/Cavity Covers Removed

## Underside Body Cladding

- 1 Raise the vehicle.
- 2 Remove the front wheels from the vehicle. Use a 22mm socket for lug removal.
- 3 Underneath the vehicle, remove the six panel fasteners, three in each front fender well, with a flat head screwdriver.
- 4 Underneath the vehicle, remove the four 10mm bolts and remove the back cladding.
- 5 Underneath the vehicle, remove the seven 7mm bolts and four panel fasteners from the front cladding. Remove the front cladding from vehicle.



Front Fender Well Panel Fasteners



Underside Body Cladding



Underside Body Cladding Removed

## Front Fascia

- 1 Remove the ten panel fasteners from the top side of the front fascia.
- 2 Remove the lower six (three on each side) panel fasteners connecting the front fender wells to the front fascia.
- 3 Remove the two 10mm bolts (one on each side) from the lower fascia. Midway up the fascia, from the back side, remove the two 10mm nuts (one on each side).
- 4 Remove the remaining two 10mm nuts (one on each side) from the front fascia, located on the top corner of the fascia, accessed from the engine bay.
- 5 On the passenger's side of the vehicle, disconnect the wiring harness running to the front fascia. This will eliminate having to unplug the fog lamps and turn signals separately.
- 6 Remove the front fascia from the vehicle by pulling out on each side, unsnapping the fascia, then pulling the fascia straight off the front of the vehicle.



Lower Fascia Connections (Pass. Side)

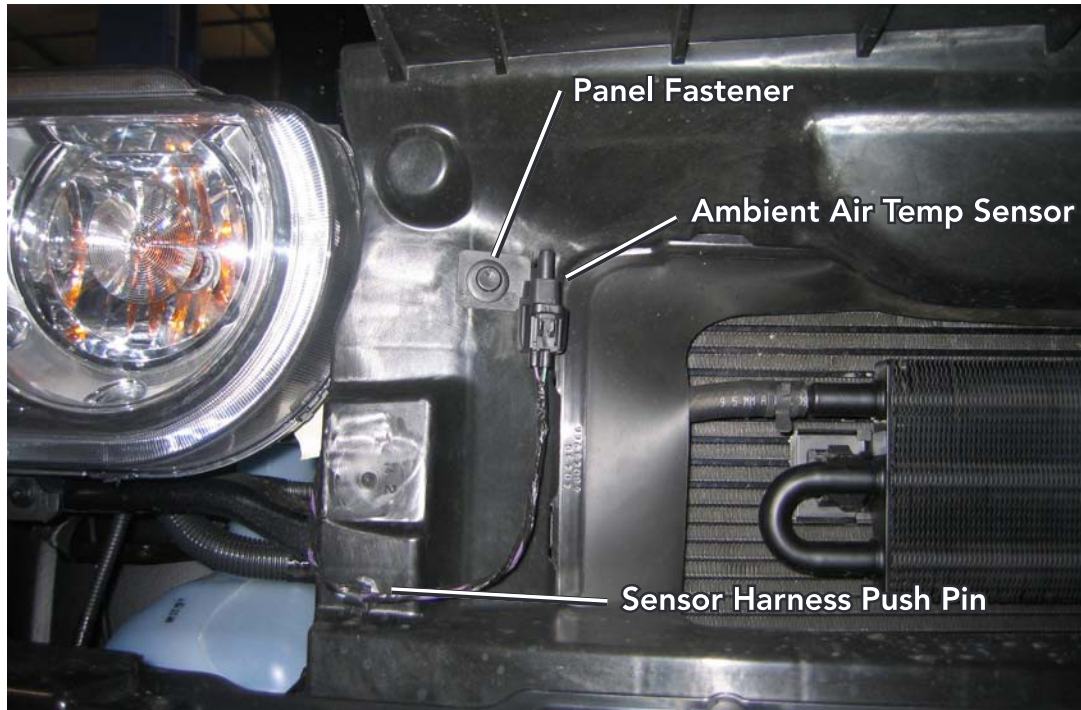


Top Fascia Connections (Driver's Side)



Disconnect Front Fascia Wiring Harness





Radiator Shroud Removal

- 7 Remove the plastic radiator shroud located behind the front bumper (this shroud will not be re-used). Remove the three lower panel fasteners, the panel fastener holding the ambient air temp. sensor to the shroud, and pull the push pin securing the ambient air temp. sensor wiring harness to the shroud.
- 8 Remove the plastic shroud located on the driver's side of the vehicle by removing the four panel fasteners securing it to the vehicle.



Driver's Side Plastic Shroud Removal

## Power Steering Components

- 1 Remove the power steering cooler from the condenser by placing the appropriate tool behind the brackets and prying off (both sides). Do not damage the condenser core. Remove the plastic brackets from the cooler, they will not be reused.
  - 2 Unclip the power steering line on each side of the cooler from the plastic clips, located on each side of the radiator.
  - 3 Disconnect the rubber lines from the cooler.
- ✓ **Tech Tip:** *If possible, plug the ends of the cooler lines to retain fluid in the system. This will make bleeding the system of air easier.*
- 4 Remove the serpentine belt.
  - 5 Remove the factory automatic belt tensioner using a 15mm socket (some vehicles require a 16mm socket); this will be reused later in the install.



Power Steering Cooler Removal

3/8" Ratchet to Loosen Factory Belt Tension

Factory Belt

15mm Bolt to Remove Tensioner



Factory Belt and Tensioner Removal



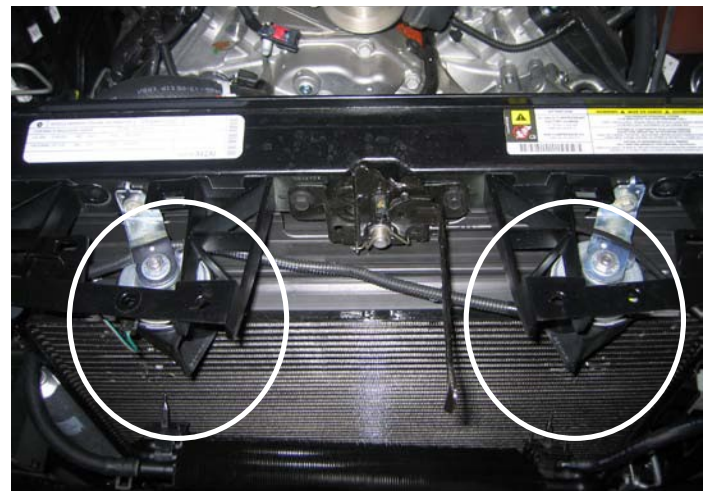
- 6 Using a 13mm wrench, remove the three bolts securing the power steering pump assembly to the front of the engine.
- 7 Pull the assembly up to access the back of the pump. Remove the three 10mm bolts that secure the power steering reservoir to the pump. Pull the reservoir away from the pump, separating the two. The connection is made with an o-ring bung, be careful not to damage or lose the o-ring. Drain the excess fluid into a container. The reservoir will no longer be used, remove it and the line that was attached to the cooler on the passenger's side.
- 8 Using the factory hardware, re-install the pump onto the vehicle in its stock location.
- 9 Using a 10mm socket, remove the factory horns and horn brackets (one on each side). Unplug the wiring harnesses from the horns and remove the horns from the brackets using a 13mm wrench. The brackets will no longer be used, however, retain the factory hardware for later use.



Power Steering Pump & Reservoir Separated



Power Steering Reservoir & Line Removed



Factory Horn Locations

### Cooling System

- 1** Place a container under the cooling system drain cock located on the passenger's side, bottom of the radiator. Turn the drain cock and allow all of the coolant to drain before proceeding. Removing the cap on the coolant reservoir can help accelerate this step. Once all the coolant has drained, close the drain cock.
- 2** Remove the two 10mm bolts fastening the coolant reservoir to the vehicle.
- 3** Lift the coolant reservoir up and place it on top of the strut tower sheet metal out of the way for the ProCharger head unit installation. The tank will be removed in a later step.



Remove Coolant Reservoir Bolts



Lift Reservoir Out of Way



# POWER STEERING RELOCATION

## Power Steering Reservoir

- 1 Locate the power steering system bag. Slide the factory o-ring that was found on the connection from the factory power steering reservoir to the pump, onto the supplied adapter. Bolt the adapter to the pump using the provided M8 -1.25 x 16mm bolt and washer.

✓ **Tech Tip:** *Be careful not to damage the o-ring when installing the adapter into the pump. Adding a small amount of oil to the o-ring will help during install.*

- 2 Insert the supplied 5" section of 5/8" hose over the adapter. Secure with a #10 hose clamp.
- 3 Remove the front intake manifold bolt on the driver's side. It will not be reused.



Pump Adaptor and O-Ring



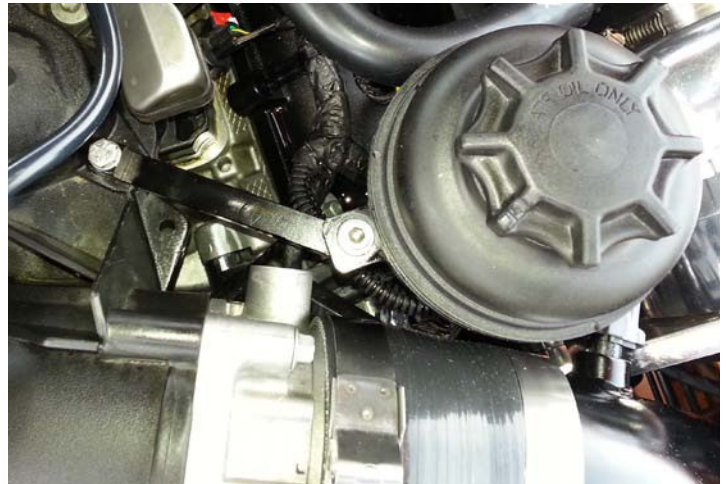
Adapter and Hose Mounted

## Power Steering Relocation

- 4 Using the supplied M6 x 110mm bolt and washer, mount the lower reservoir bracket in this location.
- 5 Mount the provided upper bracket to the lower bracket with the 1/4-20 x 1" SHCS and washer
- 6 Locate the new power steering reservoir supplied with the kit. Set it loosely in the upper bracket.
- 7 Route the supplied 3/8" hose from the small port on the reservoir to the front of the vehicle. Run it towards the driver's side and under the driver's side headlamp. This will be connected to the cooler in a later step. Secure the hose at the reservoir with a #6 hose clamp.
- 8 Position the large port on the reservoir in line with the 5/8" hose coming up from the power steering pump.
- 9 Placing your fingers under the upper bracket for support, carefully push the reservoir down into the bracket. Trim the 5/8" hose if needed. Secure the hose to the reservoir with a #10 hose clamp.



Lower Reservoir Bracket Mounting Location



Upper Bracket And Reservoir Mounting Location

✓ **Temporarily reinstalling the engine covers will aid in positioning the reservoir.**

✓ **Tech Tip: Be certain the 5/8" line is not pinched and has the smoothest routing possible. Any restriction in this line will cause power steering pump noise.**

## Power Steering Line

- 1 Remove the line from the bottom of the power steering pump. Reroute it behind the A/C line and away from the path of the belt. Reinstall the line.
- 2 From under the car, remove the 10mm screw that holds the power steering line to the top of the frame.
- 3 Pull the line towards the oil pan and rotate the bracket to face the rear side of the frame.
- 4 Drill a 13/64" hole in the frame where the bracket will be mounted.
- 5 Install the 10mm screw in the new location.
- 6 Use zip ties to keep the line away from the path of the accessory belt.

Reroute behind the A/C line



Power Steering Hose Rerouted



Power Steering Line Bracket's  
New Location



## CRANK PULLEY PINNING

1 Remove the factory fan assembly by removing the two 10mm bolts located on each side of the fan assembly, accessible from the top of the vehicle. Loosen the four 13mm radiator support bolts but do not remove. Disconnect the electrical connection to the fan. Lift the fan up off of the lower supports, then out the bottom of the vehicle for removal.

2 Remove the 21mm crank pulley bolt.

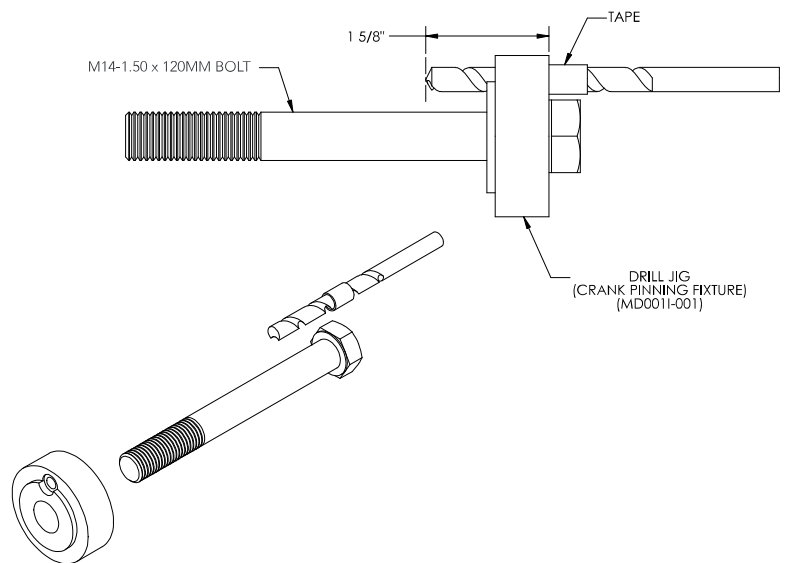
✓ **Tech Tip:** Use an impact for ease of removal. If not available, remove the access cover to the transmission and use a sufficient tool to lock the transmission in place for bolt removal.

3 Place the drill jig onto the crank pulley, and tighten it into place using the supplied M14-1.50 x 120mm hex head bolt and washer.

4 Tape the supplied 1/4" HSS drill bit 1-5/8" from the tip. Using this taped bit, drill a hole in the crankshaft and harmonic balancer, stopping at the tape edge. The hole will be centered on the OD of the crankshaft. Do not drill deeper than .800" into the face of the crankshaft.



Factory Crank Pulley and Bolt



Crankshaft and Harmonic Balancer Drill Jig



- 5 Remove the pinning tool and set aside. Clean the chips from inside the drilled hole and the surrounding area thoroughly.
- 6 Install the supplied 1/4" OD x .75" long stainless steel dowel pin in the hole. Reinstall the crank pulley bolt and tighten to 129 ft-lbs.
- 7 Replace the fan assembly into the vehicle. Tighten the four 13mm radiator support bolts. Tighten the two 10mm bolts to secure the assembly. Reconnect the wiring harness to the fan.



Drill Jig Installed



Drilling the Crank



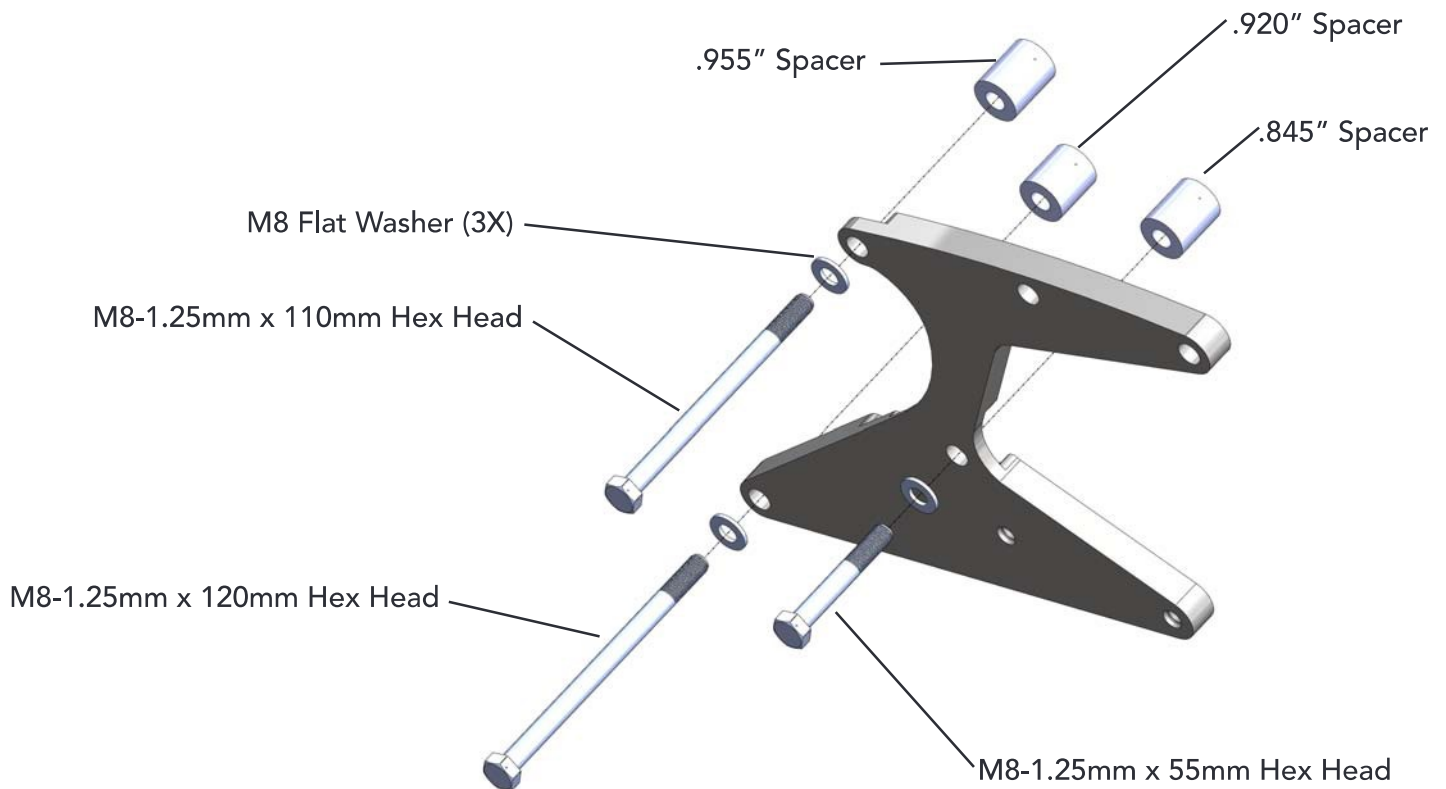
Crank Pulley Pinned to Crankshaft

## SUPERCHARGER BRACKET ASSEMBLY

- 1 Remove the three bolts used to mount the sub-bracket with a 13mm socket.
- 2 Install the sub-bracket using the three mounting locations from step 1. Each piece of hardware and tube spacer is a different length, refer to the illustration below for proper locations. Install the bracket loosely.

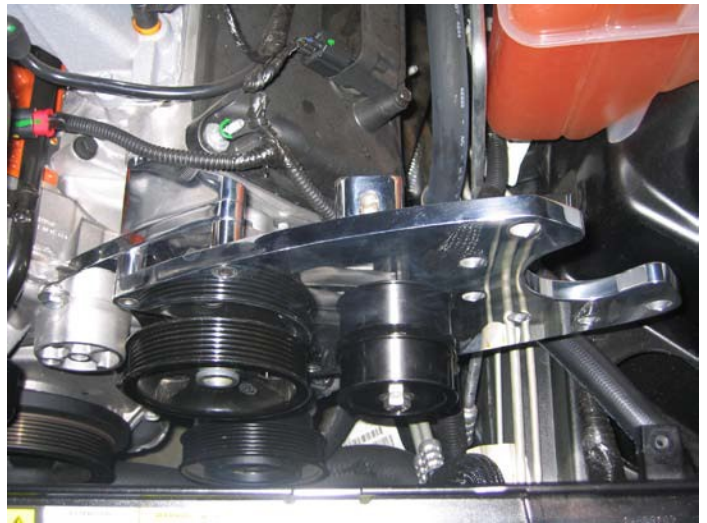


Remove 13mm Bolts For Sub-Bracket Install

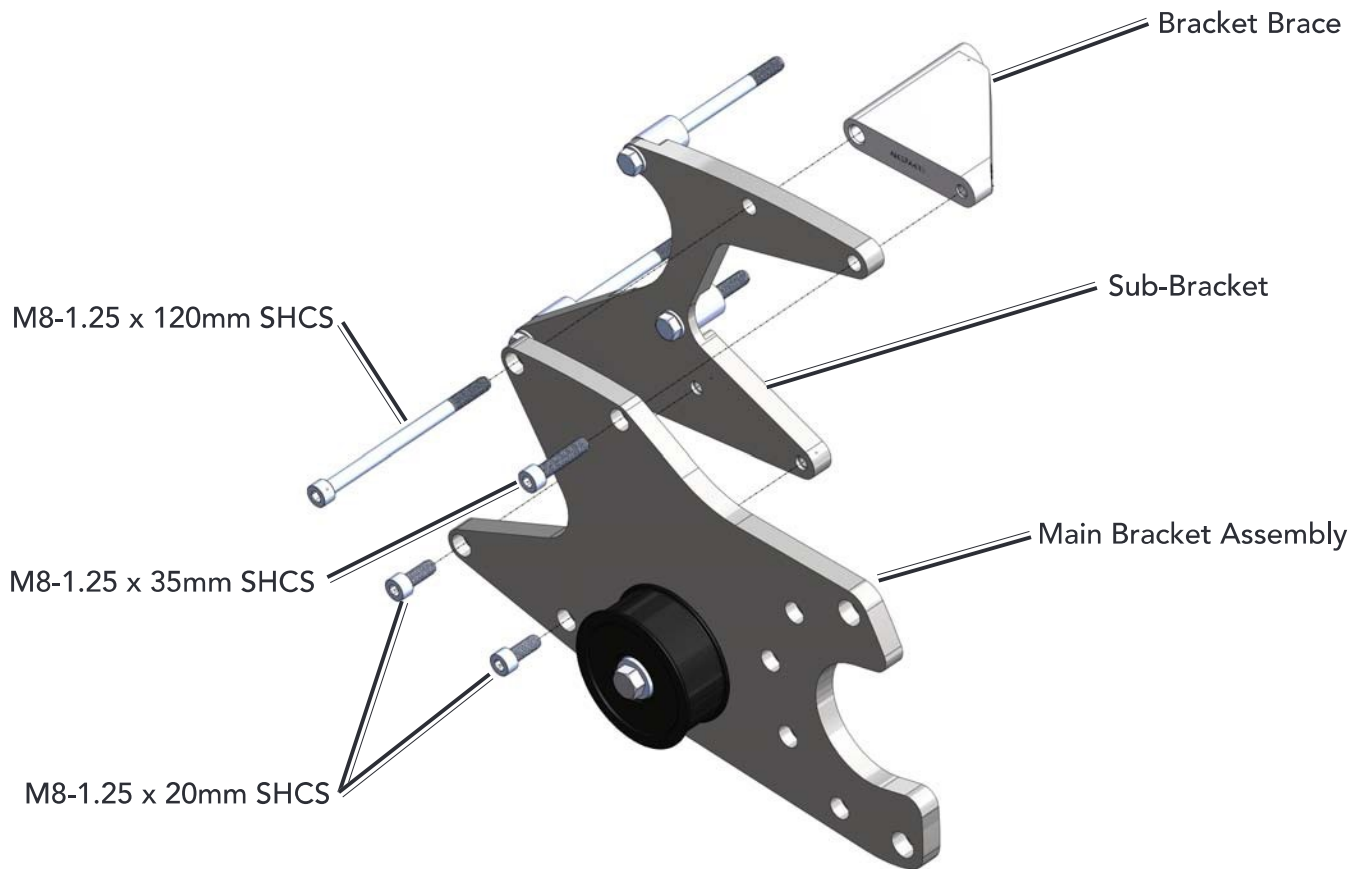


Sub-Bracket Installation

- 3 Install the main bracket by inserting the 120mm bolt through the bracket, the sub-bracket, the bracket brace, and thread into the cylinder head. Install the remaining three fasteners.
- 4 Tighten the sub-bracket bolts. Complete the bracket installation by tightening the main bracket SHCS's.



Main Bracket Installed



Main Bracket Installation



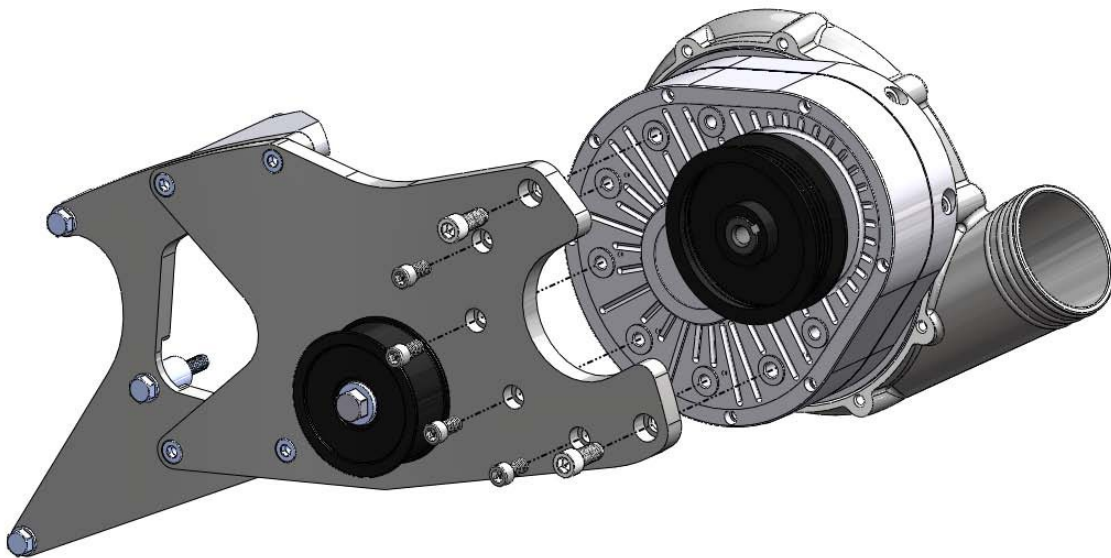
# PROCHARGER HEAD UNIT

## ProCharger Installation

- 1 Remove the ProCharger oil fill reminder tag from the head unit.
- 2 Use a zip tie to hold the A/C line to the valve cover to provide clearance for the head unit.
- 3 Fit the supercharger into the bracket.
- 4 With the two  $\frac{3}{8}$ -16 x 7/8" SHCS, start mounting the supercharger onto the bracket. Thread in the remaining four  $\frac{5}{16}$ -18 x 5/8" SHCS. Tighten all SHCS.
- 5 Fill the head unit with one of the supplied bottles of ProCharger supercharger oil. You will need to remove the fill plug/dipstick using a flat headed screwdriver. After filling the head unit with oil, replace the fill plug/dipstick.



ProCharger Head Unit Installed

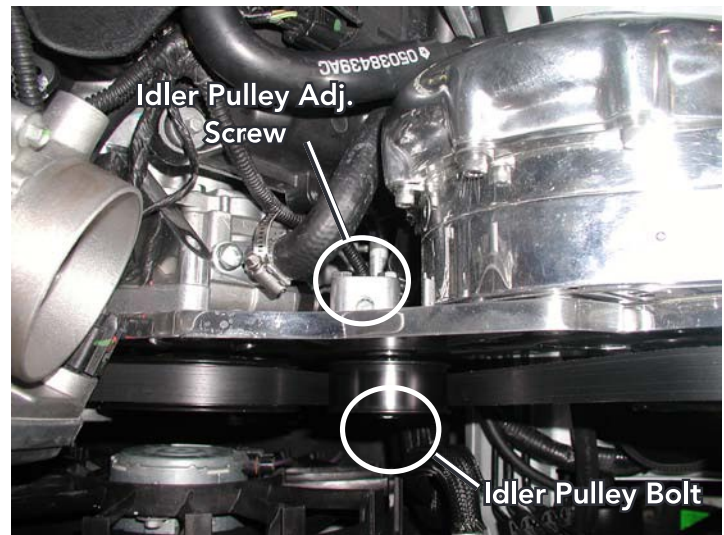


ProCharger Head Unit Hardware

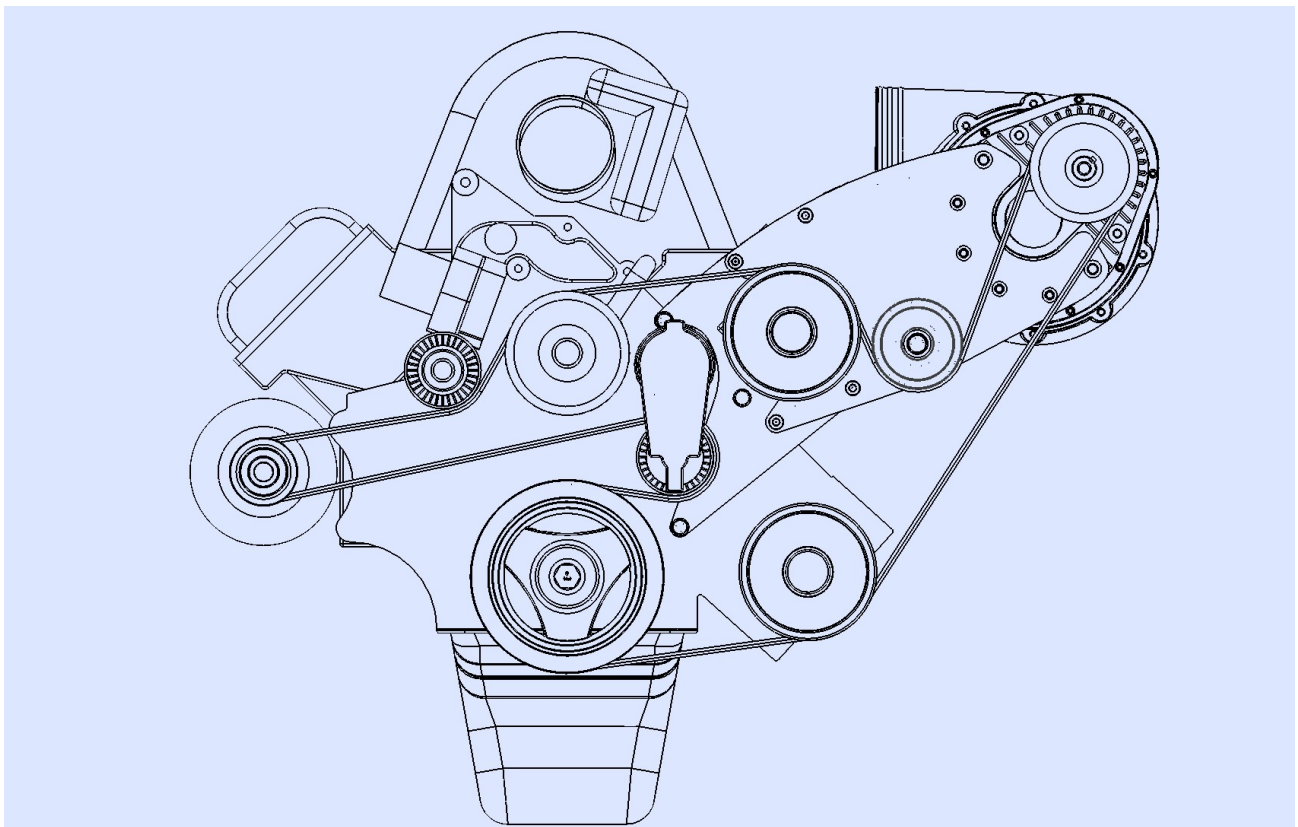


## SERPENTINE BELT

- 1 Re-install the factory tensioner with the pulley aimed straight down and tighten the 15mm bolt.
- 2 Install the serpentine belt as shown below.
- 3 Tension the serpentine belt by adjusting the idler pulley adjustment screw using a 5/16" hex bit.
- 4 Using a 5/8" wrench, tighten the bolt at the front of the pulley to lock the idler pulley in place.



Serpentine Belt Installed



Serpentine Belt Path

## INTERCOOLER

1 Assemble the intercooler brackets (see below for proper orientation). The offset portion of the intercooler brackets goes towards the back, to push the intercooler out from the vehicle to gain room from the condenser. Use the (4) M6 x 25mm bolts and washers for assembly.

2 Mount the brackets to the vehicle using the two M8 x 60mm bolts and washers for the lower connections, and the two M6 x 20MM bolts and washers for the upper connections.

✓ **Tech Tip:** If the body holes do not allow for proper bracket mounting, drill out the top hole to a larger size.

3 Mount the horns with the factory hardware (13mm bolts and washers) onto the supplied horn relocation bracket in the orientation shown at right. Point the horns down to avoid filling with water.

4 Mount the intercooler to the brackets using the four 3/8-16 x 1" bolts and washers. Before installing the passenger's side upper bolt and washer, slide the horn relocation bracket between the bolt and intercooler bracket. Tighten the assembly. See the image at right for reference.



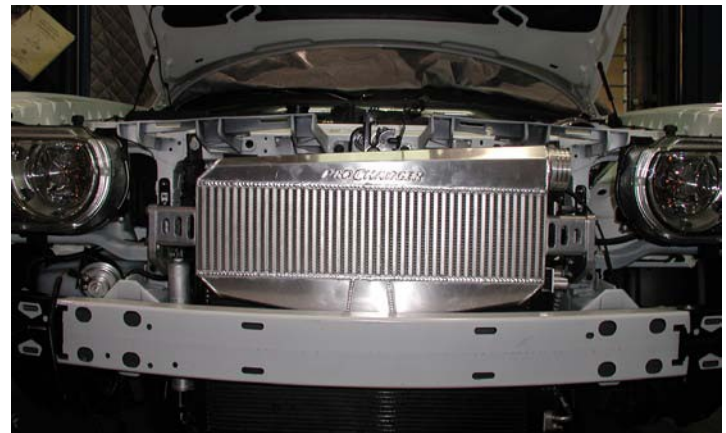
Driver's Side Intercooler Brackets



Pass. Side Intercooler & Horn Relocation



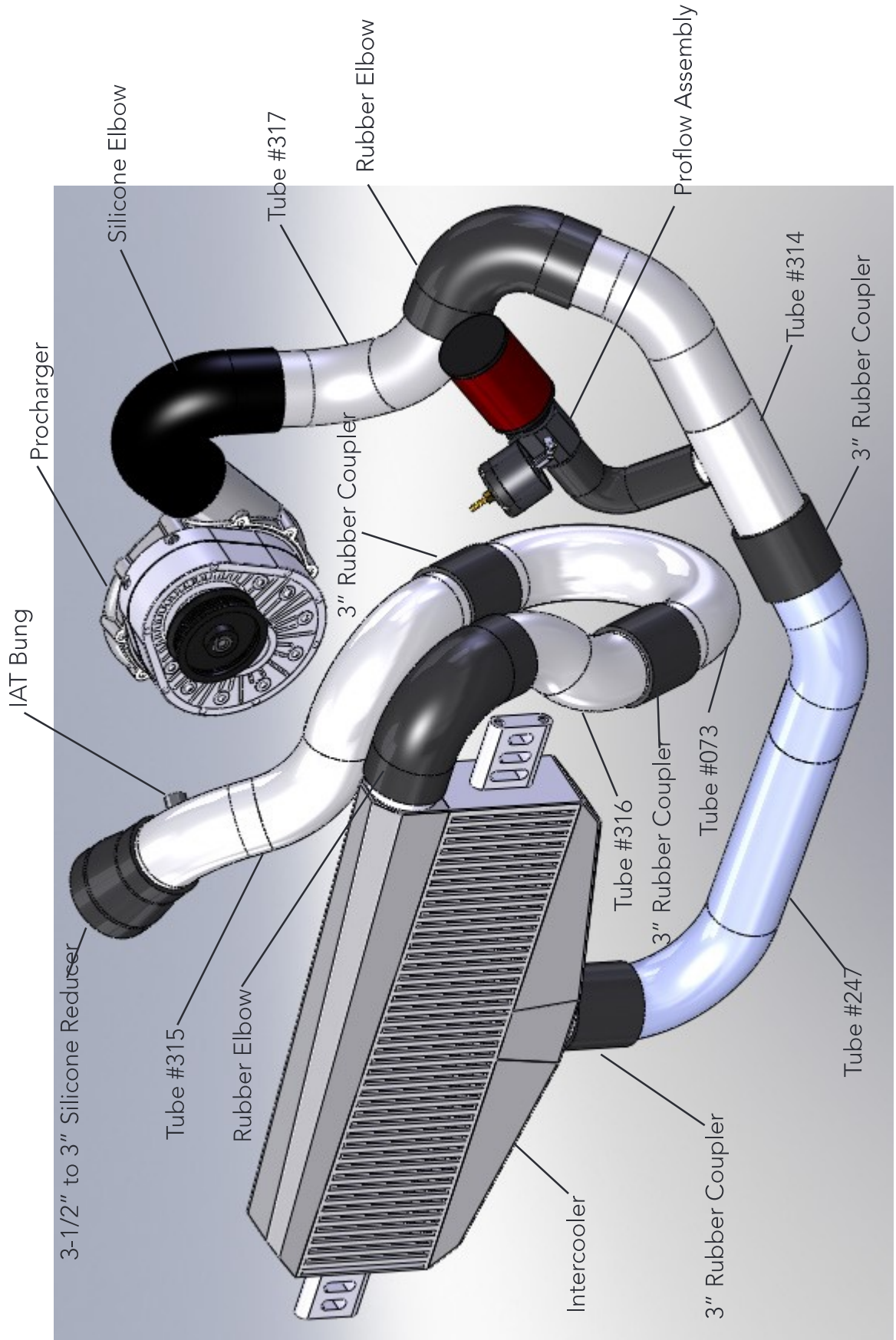
Intercooler Brackets



Intercooler Installed

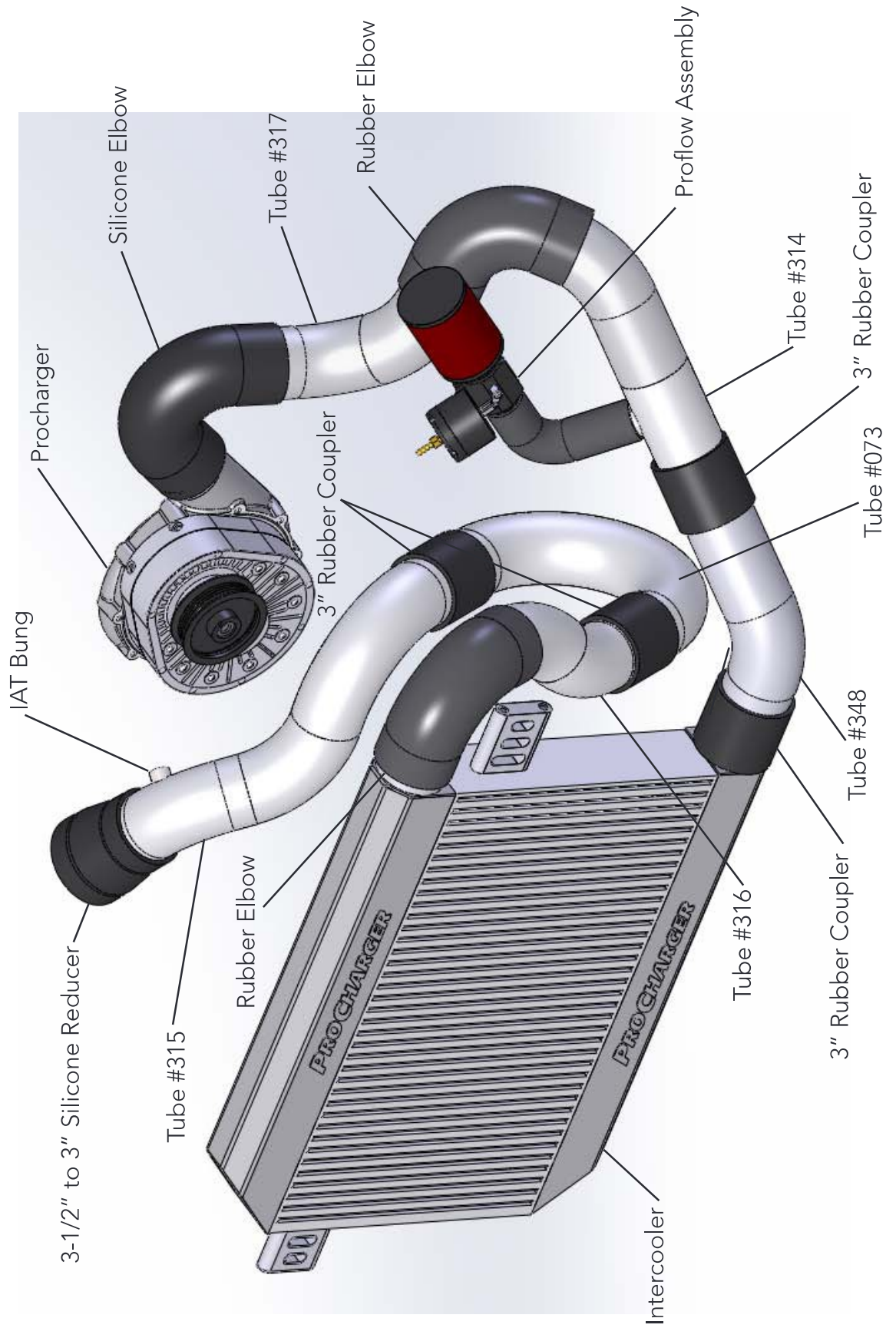


# STAGE 2 INTERCOOLER AND TUBING SCHEMATIC





# RACE INTERCOOLER AND TUBING SCHEMATIC



✓ **Tech Tip:** For easy adjustments, leave the clamps loose until the entire tube and hose assembly has been installed. Some trimming of rubber couplers may be needed. #52 hose clamps are used for all connections except on the silicone hoses.

5 Slide the silicone 135° elbow onto the discharge of the Procharger. Slide tube #317 into the open end of the elbow, secure each connection using the supplied 3.25" t-bolt clamps. Use a 7/16" socket to tighten.

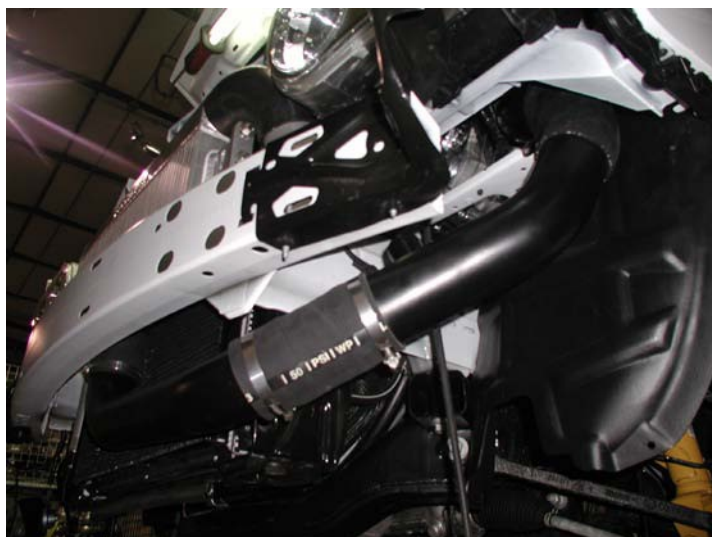


Blower Discharge Connection

6 Slide one of the 90° rubber elbows onto the open end of tube #317.

**For race intercooler option, proceed to step 8.**

7 From under the vehicle, slide one of the 3" rubber couplers onto the bottom bung of the intercooler. Slide tube #247 onto the open end of the rubber coupler, followed by another section of 3" rubber coupler.



Stage 2 Intercooler Lower Tubing

**For stage 2 intercooler, proceed to step 9.**

8 From under the vehicle, slide one of the 3" rubber couplers onto the bottom bung of the intercooler. Slide tube #348 onto the open end of the rubber coupler, followed by another section of 3" rubber coupler.

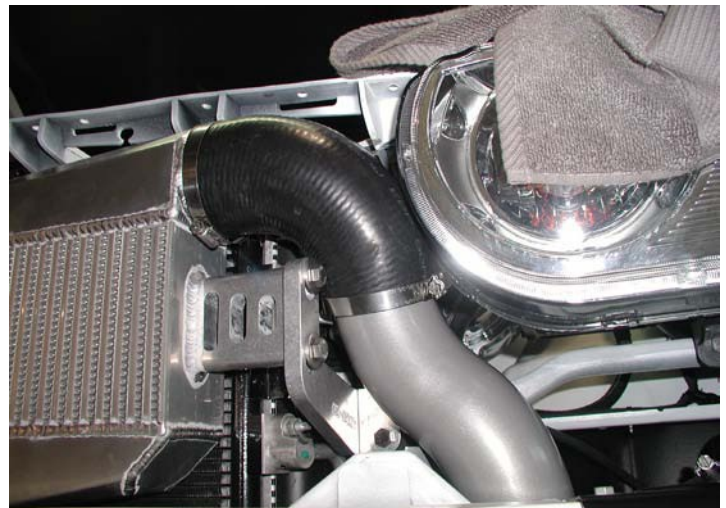


Race Intercooler Lower Tubing



## Intercooler

- 9 To complete this section of tubing, slide the surge tube (tube #314) between the two open ends of rubber coupler. Secure each connection with a #52 hose clamp.
- 10 Slide one of the 90° rubber elbows onto the discharge of the intercooler. Slide tube #316 into the open end of the hose. Slide one of the 3" rubber couplers onto the open end of the tube.
- 11 Slide tube #073 into the open end of the hose coupler, followed by the final section of 3" rubber coupler. This hose should protrude up through the sheet metal and into the engine compartment.
- 12 Slide the 3-1/2" to 3" silicone reducer onto the throttle body. Use a 3.75" t-bolt clamp for the throttle body connection, and a 3.25" t-bolt clamp for the hose connection.
- 13 Complete the connection by sliding the throttle body tube (tube #315) into the open ends of each hose. It may be easiest to rotate the tube when installing it into the tubes to gain clearance from the cooling fan and supercharger bracket assembly.
- 14 Tighten all connections at this time.
- 15 Slide the intake air temperature sensor into the bung located on tube #315. Rotate the sensor to lock it into place. Zip tie the wiring harness out of the way.



Tube #316 Installed



Throttle Body Tube (#315) Installed



Stage 2 Intercooler and Tubing Installed



**Tech Tip:** Install the provided rubber tape between surfaces that may rub or vibrate.



## POWER STEERING COOLER

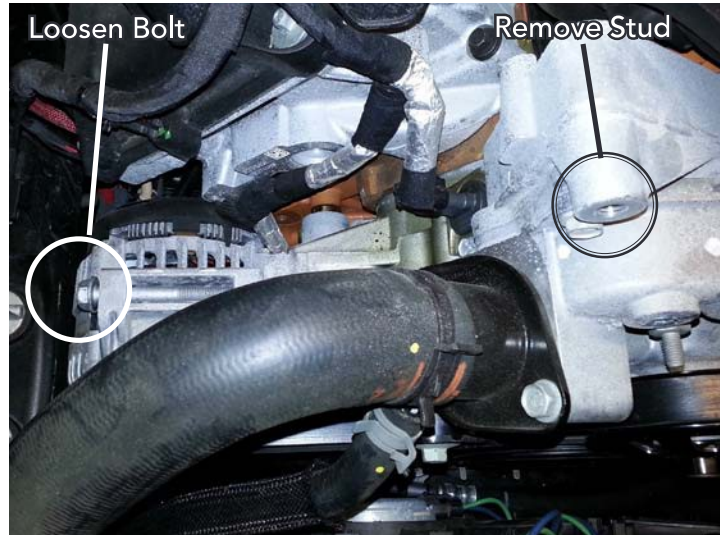
- 1 Locate the supplied power steering brackets and hardware.
- 2 Mount the brackets to cooler's factory mounting tabs using the 3/8" bolts, washers, and nuts. The larger washers should be used on the cooler side.
- 3 Mount the cooler flat and horizontal between the frame and the radiator, underneath the fan.
- 4 The brackets will mount to the factory nuts in the frame using the factory hardware. The factory bolts will need to be removed to reinstall the undercladding in a later step.
- 5 Once the cooler is mounted, reroute the cooler lines to the cooler. It may be necessary to trim some length off of the lines for proper fit. Re-install the clamps.
- 6 Fill the power steering reservoir to the indicated full level. Place the cap back onto the reservoir.



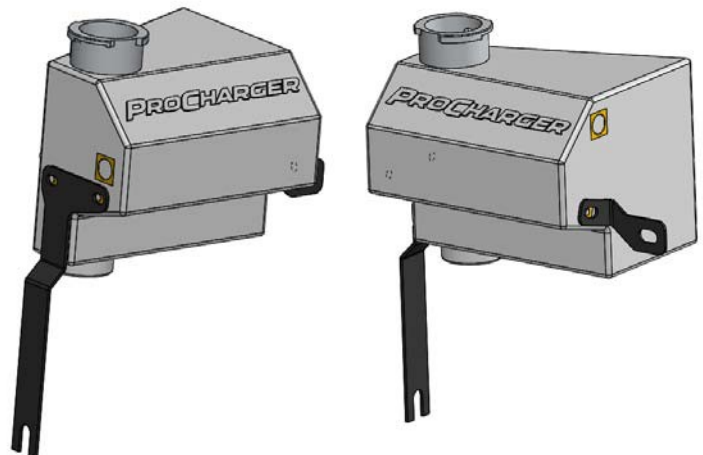
Relocated Power Steering Cooler

# COOLANT RESERVOIR RACE INTERCOOLER

- 1 Remove the stud on the front cover of the engine with a 15mm wrench. Loosen but do not remove the top alternator bolt with a 16mm wrench (see image at right).
- 2 Mount and tighten the 3/4" 90° brass barbed fitting onto the bottom of the new reservoir aimed towards the passenger's side of the vehicle, clearing the ABS module and lines. Repeat with the 3/8" straight barb fitting and install this onto the side of the reservoir. Install the final 3/8" 90° brass barb fitting onto the back of the tank and aim it down and towards the passenger's side of the vehicle. Use thread sealant to ensure a proper seal on these connections.
- 3 Install the brackets onto the coolant tank (shown to the right) using the provided 1/4" bolts and washers.
- 4 Mount the reservoir, sliding the slotted bracket between the head of the upper alternator bolt and alternator unit. Align the upper bracket with the hole in the front cover where the stud was removed. Using the factory hardware, secure the reservoir to the vehicle.
- 5 The hoses running to the factory coolant reservoir must be removed in order to install the new coolant reservoir. The easiest and cleanest way to do this swap is to empty the factory coolant reservoir (if not already completed), and crimp the two hoses running to the reservoir.
- 6 Press the factory clamps together and pull the 3/4" and 3/8" factory coolant lines off of the factory coolant reservoir. Remove the reservoir from the vehicle, it will no longer be used.



Hardware Removal for Remote Coolant Reservoir



Remote Reservoir Brackets Mounted



Remote Reservoir Mounted

- 7 The lines must be lengthened to reach the outlet on the new reservoir. Install the 3/4" x 3/4" barbed fitting onto the 3/4" factory coolant line. Slide the supplied section of 3/4" hose onto the open end of the barb. Secure connections with #12 hose clamps.
- 8 Run the 3/4" coolant line under the blower, along the bottom of the cooling fan, and up the passenger's side of the vehicle. Slide it onto the 3/4" barbed fitting on the bottom of the new reservoir. Secure the connection with a #12 hose clamp.
- 9 Install the 3/8" x 3/8" barbed fitting onto the 3/8" factory coolant line. Slide the longer supplied section of 3/8" hose onto the open end of the barb. Secure connections with #6 hose clamps.
- 10 Run the factory 3/8" line under the front of the intake manifold and to the side of the reservoir and slide the hose onto the barbed fitting. Secure the connection with a #6 hose clamp.
- 11 Slide the short section of 3/8" hose onto the open barb on the back side of the reservoir. Route the hose around the back of the reservoir, and down towards the ground. Secure the hose to the filler neck with a #6 hose clamp.
- 12 Verify that all of the coolant lines and power steering lines are not kinked, and all have clearance from belts and pulleys. Zip tie lines for protection.
- 13 Fill the reservoir to line indicated on the label found on the side of the reservoir.



Coolant Hose Routing



Pressure Relief Line Routing and Fill Line

- 14 Install the new supplied 16 psi cap on the coolant tank.



**Warning:** Overfilling the coolant reservoir can cause permanent damage to the reservoir. Fill only to the indication line on the side of the reservoir.

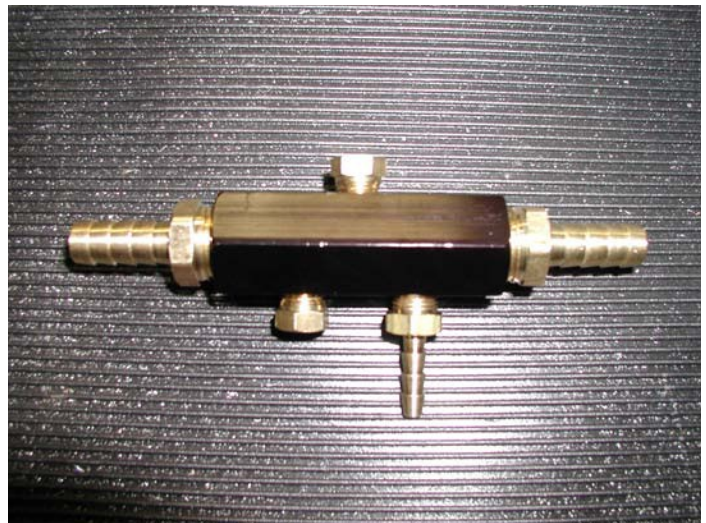


# VACUUM MANIFOLD

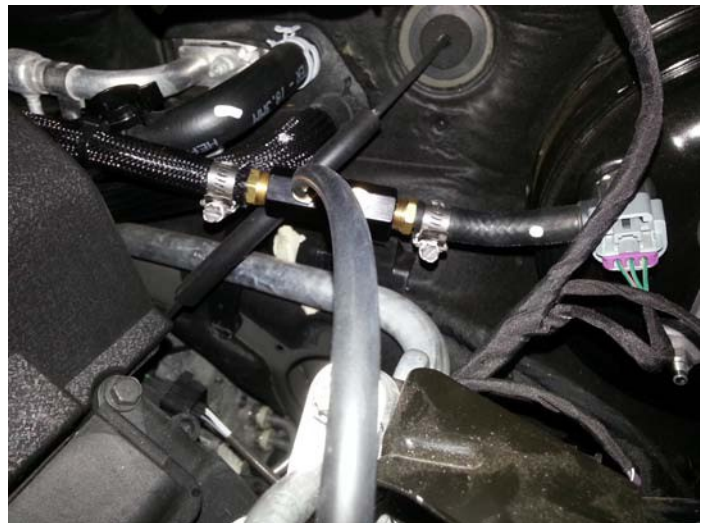
- 1 Assemble the supplied vacuum manifold as shown. If you have or are installing a boost gauge, do not install the plug, use an additional barb fitting. Thread each fitting into the manifold. Thread the 3/8" barbed fittings onto each end of the manifold.
- 2 Locate the brake booster hose on the driver's side near the firewall. Remove a 3-1/2" section of this hose in order to place the manifold in-line.
- 3 Mount the manifold by sliding each barbed fitting into the open ends of the brake booster hose. Secure the connections with the provided #06 hose clamps.
- 4 Be sure the brake booster hose connections are tight; verify the connection to the booster did not come loose as well.

**!** **Warning:** *Improper clamping of the splice into the brake booster hose could cause a vacuum leak and could cause the power brakes to become inoperable. Use extreme caution in installing the vacuum manifold to prevent any possible leaks.*

- 5 Using the provided 3/16" vacuum line, connect one end onto the barb located on the surge valve, and route it to the open barb located on the vacuum manifold. Be sure to zip tie the line for clearance from moving components, as well as the exhaust manifold.



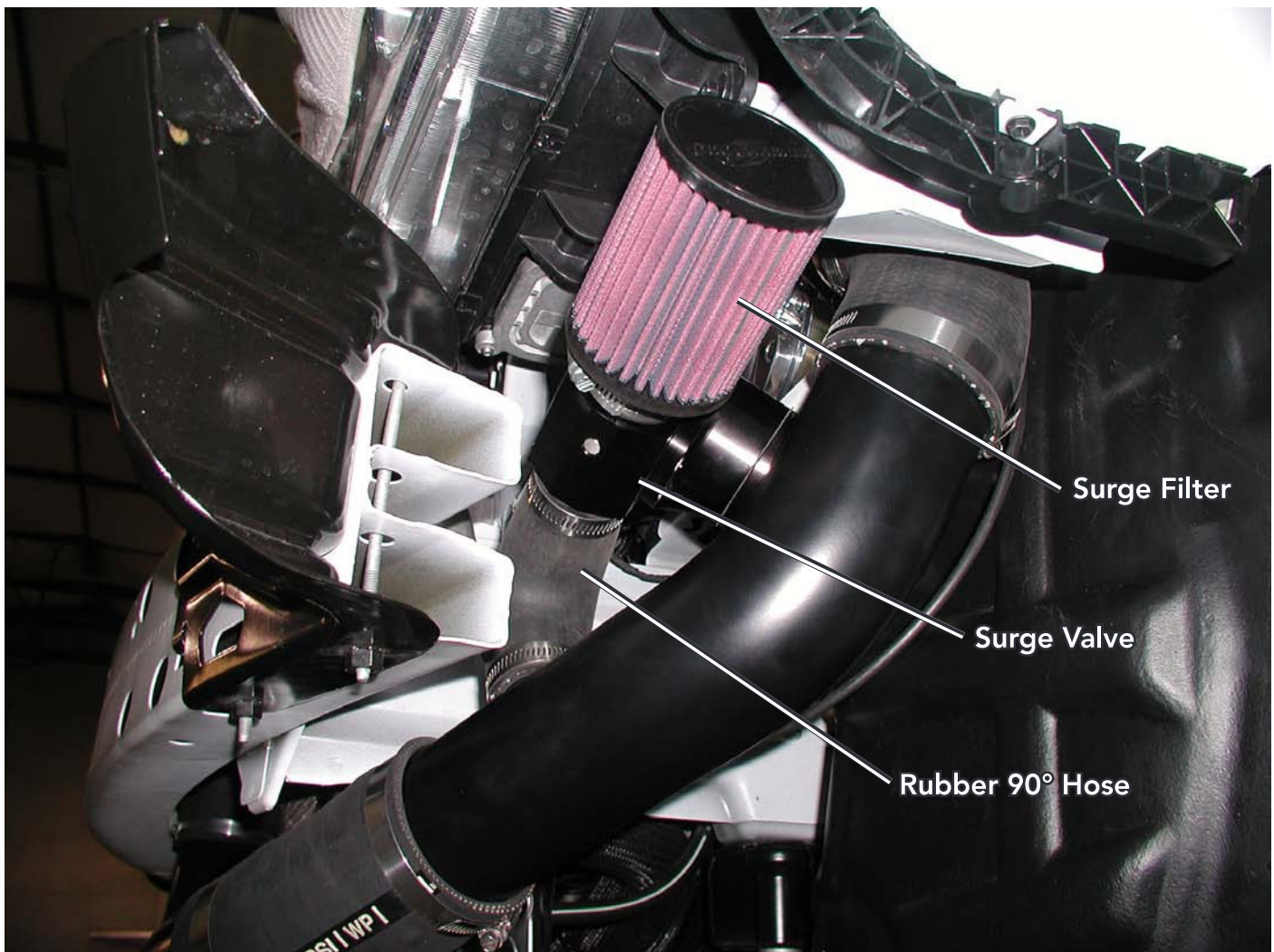
Vacuum Manifold Assembled



Vacuum Manifold Installed

## SURGE SYSTEM

- 1 Slide the provided 90° rubber elbow onto the open 1-1/2" bung located on the surge tube (tube #314).
- 2 Slide the surge valve onto the open end of the rubber elbow in the orientation shown below. Place the filter onto the end of the valve.
- 3 Secure the connections with #20 hose clamps.
- 4 Using the provided 3/16" vacuum line, connect one end onto the barb located on the surge valve, and route it under the blower. Connect it to the open barb located on the vacuum manifold. Be sure to zip tie the line for clearance from moving components, as well as the exhaust manifold.



Surge System Assembly



# FUEL SYSTEM

## Fuel Injectors

- 1 Reconnect the battery.
- 2 Remove relay 46 from the panel in the trunk.

✓ **Tech Tip:** Check your owners manual to ensure you are pulling the proper relay. Some models require the removal of the #6 20 amp fuse located in the trunk for power to the fuel pump to be off.

- 3 Crank the engine for 15 seconds.
- 4 Disconnect the battery.
- 5 Unclip the wiring harnesses from each injector. Remove the four 10mm bolts securing the fuel rails to the manifold. Pull the fuel rails up off of the manifold to gain access to the fuel injectors.
- 6 Remove the fuel injector retaining clips from the injectors and rails. Remove the injectors by pulling them straight out of the rails.
- 7 Install the new injectors, followed by the factory retaining clips.
- 8 Push the injector and rail assembly into place, and tighten the rails. Re-install each wiring harness to each injector.

Relay 46



Electrical Panel



Fuel Rails Installed



## Map Sensor

- 1** Use a 7mm to remove the factory MAP sensor located on the passenger's side of the intake manifold. Remove the electrical harness by sliding the red retaining tab back and disconnecting it from the sensor.
- 2** Remove the o-ring from the factory MAP sensor and install it onto the supplied MAP adapter fitting. Insert the MAP adapter into the intake manifold and tighten using the factory screw.
- 3** Install the new supplied MAP sensor into the MAP adapter fitting with the (2) supplied M4 screws and tighten with a 7mm. Connect the electrical harness to the new MAP sensor.



MAP Adapter Installed



New MAP Sensor Installed

### Fuel Pump

6.4L ONLY

- 1 Make sure the ignition is off and the key is removed from the ignition.
- 2 Pull up on both sides of the rear seat cushion to remove.
- 3 Remove the plastic cover over the pump. Disconnect the fuel pump electrical connector.
- 4 Use a hammer and a punch to rotate the fuel pump locking ring counterclockwise.
- 5 Pull the fuel pump lid up to gain access to the (2) electrical connectors. Disconnect them.
- 6 Push the clip on the fuel pump feed line to disconnect it from the pump.



Fuel Pump Cover

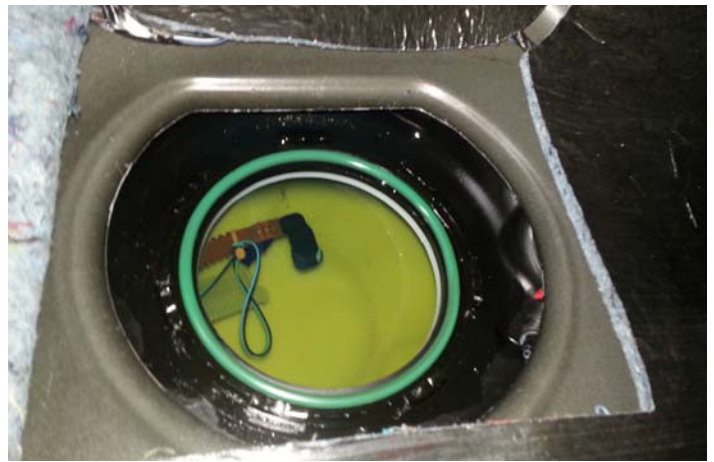


Fuel Pump Locking Ring



Electrical Connectors Under Pump Lid

- 7 Pop the (2) plastic lines off the top of the pump.
- 8 Pull up on the fuel pump basket assembly and remove it from the tank.



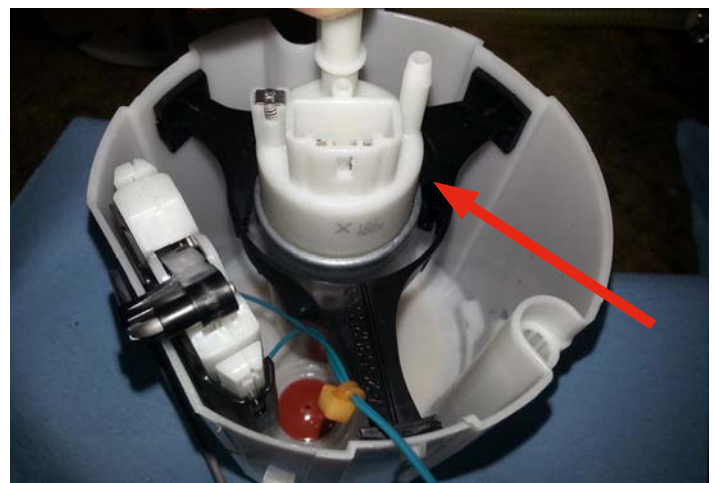
Fuel Pump Removed

- 9 Disconnect the fuel pump electrical connector.
- 10 Remove the plastic pump cover by pulling out on the (3) locking tabs.



Cover Locking Tab

- 11 Use a pick tool to pry back the fuel pump locking tabs and slide the pump up as far as it can go.
- 12 Reach into the basket and pop the fuel pump sock and the blue plastic siphon part. Remove pump from basket.



Fuel Pump Locking Tabs



## Fuel System

- 13 Trim fuel pump locking tabs to accept the new larger fuel pump.



Trimmed Tabs

- 14 Use a pick tool to compress the locking tabs on the fuel pump spade connectors. Slide the spade connectors out of the connector housing



Spade Connectors Removed

- 15 Snap the new fuel sock onto the new pump.



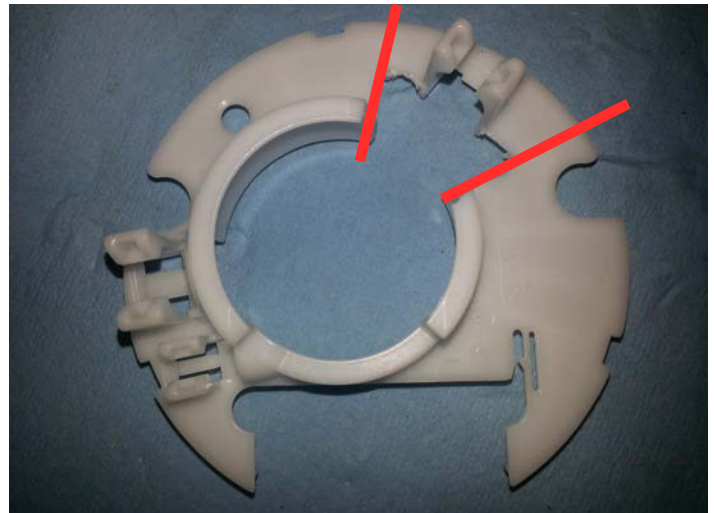
New Fuel Sock Installed

- 16** Insert the new pump into the fuel basket, oriented as shown.



Fuel Pump Orientation

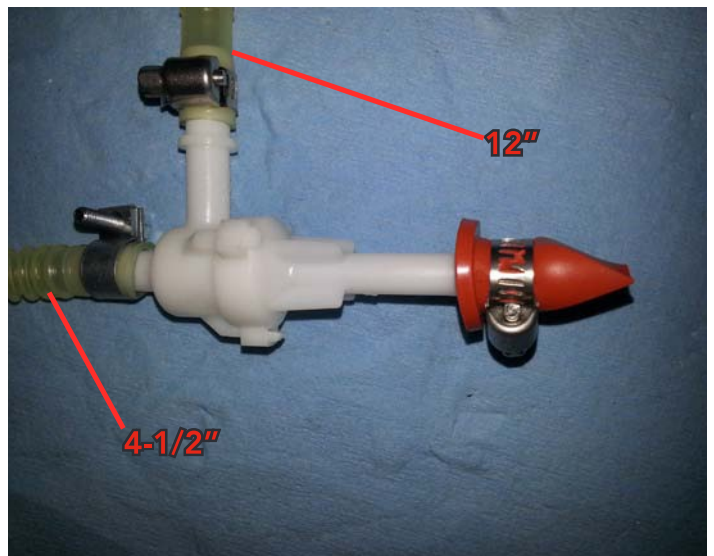
- 17** Trim the pump cover as shown (trim where the red lines are shown). Removing the section in between the two lines. Reinstall the cover.



Cut and Remove Pump Cover Section

- 18** Trim the siphon tube back to where the ribs end. Connect the orange rubber damper to the end of the siphon tube. Secure with a hose clamp.

- 19** Connect the 12" section of flexible fuel hose to the perpendicular barb on the jet siphon. Connect the 4-1/2" section of flexible hose to the parallel barb on the siphon. Secure with hose clamps.



Siphon Tube Trimmed & Damper Installed

## Fuel System

- 20 Insert the supplied brass "T" into the open end of the 4-1/2" section of flexible hose on the siphon tube.
- 21 Locate the supplied sections of submersible 3/8 fuel hose. Slide the 1-1/2" section onto the perpendicular barb of the "T". Slide the 2" section of hose onto the parallel barb of the "T". Secure with hose clamps.
- 22 Slide the aluminum adapter into the open end of the 2" hose. Secure with a hose clamp.
- 23 Slide the jet siphon into the fuel basket. The orange damper should be pointing downward.

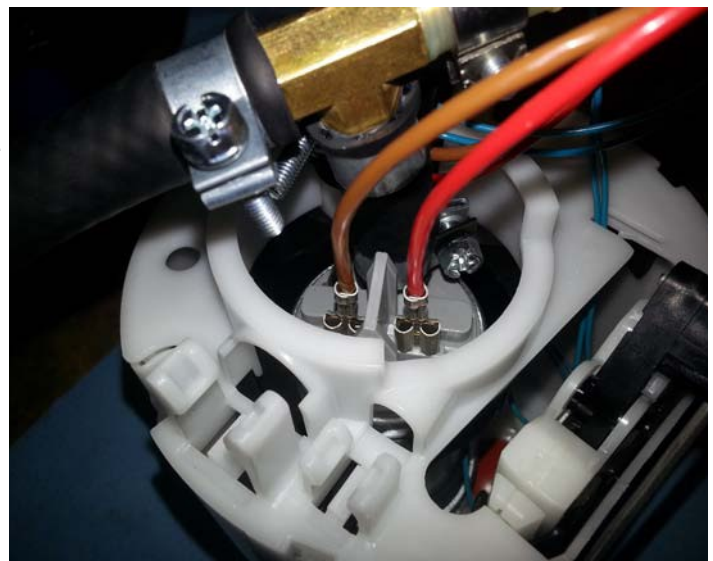


Fuel Hose Routing



Jet Siphon Installed in Basket

- 24 Slide the shorter section of rubber 3/8 hose over the fuel pump outlet. Secure with a hose clamp.
- 25 Connect the fuel pump wires. The orange wire is positive (+), the brown wire is negative (-).



Pump Hose & Wiring Connections



- 26 Drill a small hole in the base of the basket. Use a zip tie to attach the 12" section of flexible hose to the basket as shown. This will keep the hose in an optimal position to reach the fuel.



Suction Hose Attached to Basket

- 27 Drop the fuel pump assembly down into the tank.

- 28 Reconnect the factory fuel feed line to aluminum fitting.

- 29 Reconnect the electrical connectors.



Pump Assembly Into Tank

- 30 Line up the lid with the basket and push the lid on.

- 31 Reinstall the locking ring. Make sure it is fully seated.

- 32 Reinstall the plastic cover. Reconnect the electrical connector.

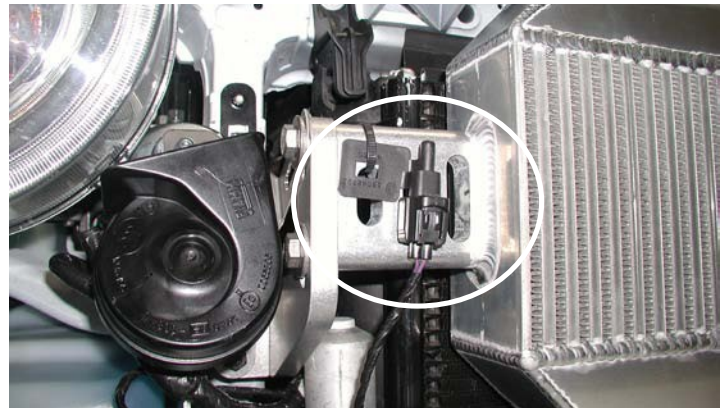
- 33 Reinstall the rear seat cushion.



Reinstall Lid

## FINISHING

- 1 Locate the ambient air temperature sensor on the passenger's side of the vehicle. Zip tie the sensor to the passenger's side intercooler bracket (note the image at right).
- 2 Locate the 4" rubber coupler found in the air inlet bag. Slide the coupler onto the inlet of the supercharger. Make a mark on the inside radius where the factory PCV line will easily connect to the hose. Remove the 4" hose and drill a 3/4" hole at the mark. Slide the provided 3/4" x 3/4" plastic barb into the hole. Cut the factory hose to clear the power steering reservoir and re-install the hose onto the supercharger using a #64 hose clamp to secure. Leave the clamp loose until the entire assembly is test fit.



Ambient Air Temp Sensor Mounted



PCV Line Run To Air Inlet

- ✓ **Note:** The next step is for vehicles without an upper strut brace. For vehicles with a brace, proceed to step 4.

### Air Inlet For Vehicles Without Upper Strut Brace

- 3 Slide the air inlet tube (tube #288) onto the open end of the rubber coupler and secure with a #64 hose clamp. Slide the air filter on last. Rotate the assembly until it lays flat over the top of the driver's side engine cover; proper adjustment allows for ample clearance from the hood liner. Tighten all hose clamps.



Air Inlet Assembly (No Upper Strut Brace)

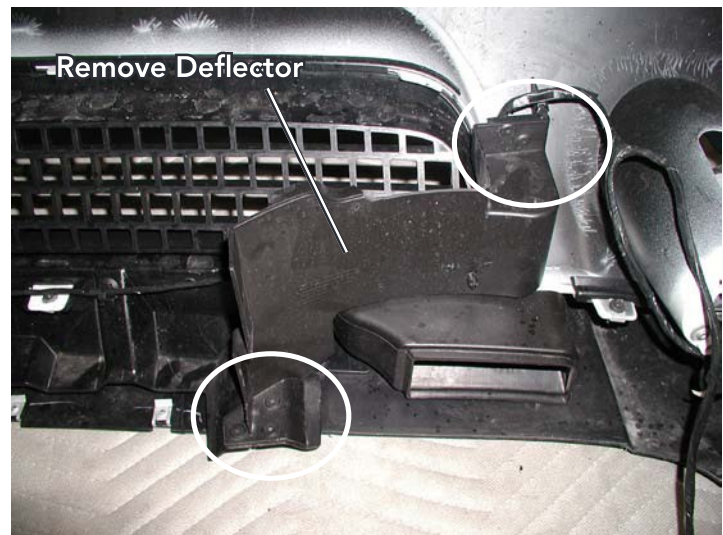


## Air Inlet For Vehicles With Upper Strut Brace

- 4 Slide the aluminum reducer onto the open end of the rubber coupler and secure with a #64 hose clamp. Slide the air filter on last. Rotate the assembly until it lays flat over the top of the driver's side engine cover; proper adjustment allows for ample clearance from the hood liner. Tighten all hose clamps.
- 5 On the back side of the front fascia, the two plastic deflectos must be removed to gain clearance for the intercooler and tubing. Cut the heads off of the five plastic rivets on each deflector (note location on image at right). Unclip the harnesses attached to the deflectors and remove them from the fascia.
- 6 Re-install the front fascia onto the vehicle in the reverse order it was taken off. Connect the wiring harness on the passenger's side of the vehicle that is attached to the fascia. Tighten all hardware.
- 7 Replace the factory underside cladding using the factory hardware.
- 8 Place the radiator cavity covers in position and snap them into place.
- 9 Reconnect the battery.
- 10 Locate the CARB Executive Order sticker included with your system. This sticker must be installed in an underhood location that is readily visible.



Air Inlet Assembly (With Upper Strut Brace)



Fascia Deflector Removal (Passenger's Side)



### Starting the Vehicle

- 1 Slowly add power steering fluid until the reservoir is full..
- 2 Start the vehicle. Continue adding fluid while rotating the steering wheel left and right.

✓ **Tech Tip: Applying a vacuum to the reservoir will help bleed the system of any air.**

- 3 Let the vehicle go through one heater cycle. This will allow the fluids to settle.

✓ **Tech Tip: The cooling system can be purged to release trapped air in the system by using a 1/4" allen and loosening the set screw located on the front cover at the thermostat (see the image at right). Taking the set screw out will allow hot coolant out, be cautious when attempting this procedure. Be certain to tighten the set screw when finished.**

- 4 After turning the vehicle off, check fluid levels and add the appropriate amount of fluids.



Cooling System Purge Screw



**CONGRATULATIONS! YOU HAVE SUCCESSFULLY COMPLETED THE INSTALLATION OF YOUR NEW PROCHARGER SUPERCHARGER SYSTEM!**

**PLEASE CONTINUE READING THE FOLLOWING PAGES FOR IMPORTANT INFORMATION ABOUT HOW TO MAINTAIN YOUR SC SYSTEM.**

# OPERATION AND MAINTENANCE

## Cold Starting

Never race your engine and ProCharger supercharger when your engine is cold. Allow the water temperature to climb into operating range for several minutes before driving above 2,500 rpm, to ensure adequate oil lubrication.

## Fuel Quality

With a properly installed intercooled ProCharger supercharger system, detonation should not occur. For the best performance and reliability, use premium grade fuel (91 octane or higher). Listen for signs of detonation after refueling, and after replacement or modification of any fuel system component(s). If detonation occurs, reduce the throttle and locate the source.

## Ignition System Maintenance

If your spark plugs are more than a year old or have more than 10,000 miles logged, you should consider changing them before driving your vehicle under load. Spark plug wires should be changed if visibly damaged or when resistance exceeds factory specifications.

## Air Filter Maintenance

Your air filters should be cleaned periodically, potentially as often as every 10,000 miles or 6 months, even though a service interval of 50,000 - 100,000 miles is quoted by the manufacturer under normal driving conditions. A clogged air filter will result in decreased boost levels and vehicle performance. Be sure to re-oil the cleaned filter before re-installing. Always operate your vehicle with an air filter, failure to do so may result in damage to your ProCharger supercharger and personal injury!

## Belt Replacement

The serpentine belt, which turns your ProCharger supercharger, will stretch after initial run-in, and should be retightened after the first hundred miles. Tighten the belt sufficiently to avoid slippage, but do not overtighten. Overtightening the belt could cause damage to the ProCharger supercharger's precision bearings. When re-installing the belt, use the belt routing diagram in this manual. If you reuse a thrown belt and find that it needs frequent re-tightening, the belt is damaged and should be replaced. Gates Micro-V belts can be bought from ATI or from your local parts store.

## ProCharger Oil Change Intervals

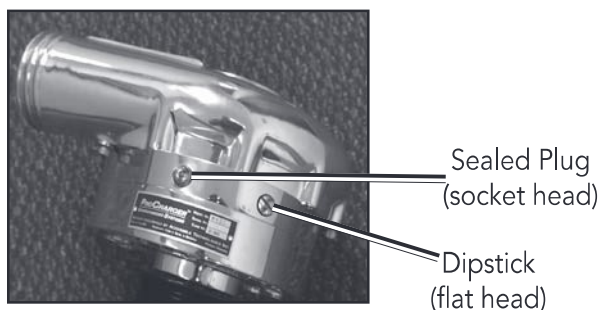
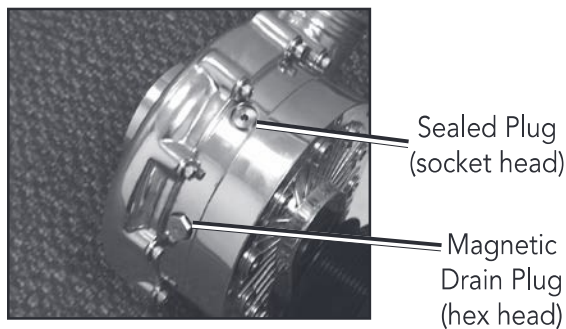
The first oil change should be performed at 500 miles and at 6,000 mile intervals thereafter. Clean drain plug after every oil change. Drain oil by removing the drain plug. Clean off drain plug before re-installing.



## ProCharger Oil Level

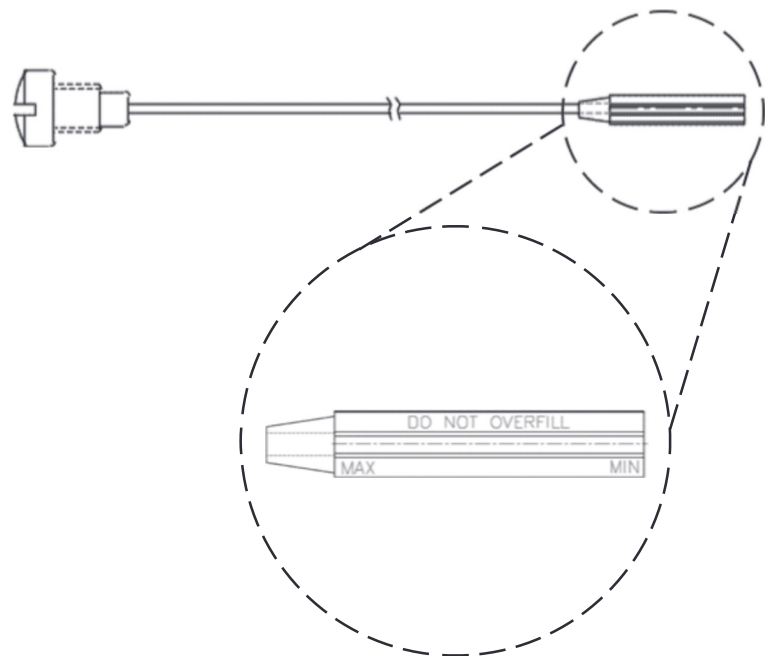
The ProCharger supercharger's oil level must be checked periodically to ensure the proper lubrication. The dipstick can be loosened using a flat blade screwdriver or a coin. When installed, the oil level should remain between the minimum (MIN) and maximum (MAX) indicators at all times.

**!** **Warning:** Filling the ProCharger higher than the maximum level on the dipstick can lead to bearing and seal damage. The supercharger is a sealed unit and should not normally require the addition of oil between service intervals. If excessive usage is noted, the unit should be sent to ATI for inspection and repair. The dipstick fitting should be firmly tightened after changing or checking the oil level.



## General

When removing the warning tag, be sure to retain the nylon washer. A spare nylon washer and o-ring is included. Use only the ATI supplied nylon washer and o-ring when servicing the oil dipstick and drain plug. A discoloration of the oil and residue on the drain plug may occur during the initial oil changes. This is normal and will gradually decrease. For the proper positioning of the ProCharger supercharger, the serial tag should be pointing upwards. Installing the ProCharger supercharger in another position will cause inadequate oiling and supercharger failure. If you have any questions about the maintenance of your supercharger, contact ATI.



# LIMITED WARRANTY

Accessible Technologies, Inc. (ATI) provides a limited twelve (12) month warranty on the ProCharger supercharger against defects in materials and workmanship unless otherwise specified. This limited warranty starts on the date of original purchase from your local dealer, or date of shipment from the factory. This limited warranty coverage is extended only to the original owner and excludes hoses, sleeves, and electronic components manufactured by other companies. IF THE SUPERCHARGER'S DRIVE RATIO IS ALTERED IN ANY WAY FROM THE FACTORY SETTING, WARRANTY COVERAGE IS VOID. USE OF ANY PULLEY NOT MANUFACTURED OR SUPPLIED BY ATI VOIDS ALL WARRANTY COVERAGE.

ATI's warranty obligations are limited to the terms below:

ATI agrees to honor a warranty claim at its sole discretion and only after inspection at the ATI factory. No warranty will be honored if any part of the product is found to have been improperly installed, tampered with, mishandled, or misused in any way. Disassembly of the ProCharger supercharger or removal of the ProCharger supercharger's serial plate voids all warranties. Claims for freight damages should be directed to the freight company.

If ATI's limited warranty applies, your product will be repaired or replaced at ATI's discretion and shipped back. If the limited warranty does not apply, ATI will advise you of the specific reason, cost of the repair, and delivery time. After advising you of this information we will, at your option, either proceed with repairs or return your product to you in the state in which it was received. In either case the product will be shipped to you, insured at replacement value. Therefore, you will pay the return shipping and insurance charges if ATI's limited warranty does not apply to your product.

THE WARRANTY AND REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHERS, ORAL OR WRITTEN, EXPRESS OR IMPLIED. THE DURATION OF ANY AND ALL WARRANTIES ON THE PRODUCTS DISCUSSED ARE LIMITED TO THE PERIOD IDENTIFIED ABOVE. ATI IS NOT RESPONSIBLE IN ANY EVENT FOR DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. No ATI dealer, agent, or employee is authorized to make any modification, extension, or addition to this warranty.

To obtain service under this warranty you must do the following during the warranty period:

Phone ATI (913-338-2886) and provide us with the following information:

- ProCharger supercharger serial number.
- Vehicle year, make, model, engine modifications, and other modifications.
- Description of perceived issue.

If a solution to your issue can not be found after the above phone consultation, you will be assigned a return authorization number (RMA). You must then properly package and ship your product, at your expense, to the ATI factory. The product should be carefully packaged in a rugged box.

**Include the following information inside the box with your product:**

- Copy of your original invoice or receipt.
- Name, address, and daytime telephone number.
- Return authorization number (RMA).
- Vehicle year, make, model, engine modifications, and other modifications.
- Description of perceived issue.

Clearly mark the warranty claim number on the top and one side of the box in characters at least 2" tall. Properly package the product and ship it, prepaid and insured for the retail value of the component(s) being returned, to the following address:

**Accessible Technologies, 14801 West 114th Terrace,  
Lenexa, Kansas 66215**

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**Accessible Technologies, Inc.**  
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**Lenexa, KS 66215**  
**Phone: 913.338.2886**  
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**Accessible Technologies, Inc.**  
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**Part Number PMDG1A-005 Rev. B**

