# 2011-2014 Ford Mustang V6 Intercooled System

# **Installation Guide**

PROCHARGER®
SUPERCHARGER SYSTEMS

**The ULTIMATE Power Adder™**

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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.

Revised 011/15 Part Number PMFT1A-001 Rev.F Printed in the USA

# Introduction

Congratulations on purchasing your ProCharger® 2011-2014 Ford Mustang V6 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.

***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.*

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

## Required Tools and Supplies

- ⅜" Socket Set (standard & metric)
- ½" Socket Set (standard & metric)
- ½" Impact Gun
- ½" Breaker Bar and 4" Extension
- #20 Torx Wrench
- Open End Wrench Set (standard & metric)
- 5/16" Nut Driver
- ⅜" Hex Bit Set (allen head)
- Flat Screwdrivers
- Phillips Screwdrivers
- Plier Set
- Soldering Iron and Solder
- Heat Gun
- Ford Engine Coolant

***Warning:*** *Your supercharged Mustang must always be run on 91 octane or better gas. The best way to insure this is to run the tank near empty (below 1/4) and fill with 91 octane for several tanks prior to installing the supercharger.*

# Table of Contents



**PLEASE PROCEED TO THE TUNING SECTION FOR COMPLETE SYSTEM INSTALLATIONS. TUNING THESE VEHICLES IS A MULTI STEP PROCESS THAT SHOULD BE INITIATED BEFORE SYSTEM INSTALLATION BEGINS. PLEASE ALLOW 24 HOURS TO RECEIVE YOUR MODIFIED TUNE FILE. CONTACT ATI WITH ANY QUESTIONS REGARDING TUNING FOR**

# Tuning

***Note: This section only applies to full systems, which include a hand-held tuner. If you do not have a full system, additional tuning will be required before starting the vehicle.***

## inTune Programmer

***Warning:*** *Voltage fluctuations are a common cause of reflashing failure. Be sure your battery is fully charged, remove the cooling fan and fuel pump fuses, keep the stereo off, and do not open or close any doors or windows while reflashing.*

***Warning:*** *During a reflashing, either stay in the vehicle or open a window prior to reflashing to prevent getting locked out.*

1. Remove the inTune programmer from its box and review the included instructions for updating your device.

   1) Connect the inTune programmer to your PC with the provided USB cable. Allow the device to load drivers to the PC.

   2) Run the inTune updater software.

2. Connect the inTune programmer to the OBD-II port located below the steering column using the OBD-II cable included with your programmer.

3. Upload your stock tune from the ECM to the inTune programmer:

   1) Select **Tune Vehicle**

   2) When prompted turn the key to the on position without starting the engine

   3) Select Advanced Tune

   4) Select Install Standard Tune

   5) Select Modify Stock Tune

4. Follow the on screen prompts. Your original backup will be saved.

   1) Select Backup Only

5. Connect the inTune programmer to your PC with the provided USB cable. A window will appear showing the inTune as an additional storage device.

   1) Select Open Files

   2) Select Tunes

   3) Select VIN Folder

   4) Click and drag the Original Backup file to your PC's desktop or hard drive

6. Email the **Original Backup** file to tuning@procharger.com with the ProCharger serial number in the subject line.

7. You will receive the tune for your vehicle within 24 hours. Save the modified tune to your desktop or hard drive.

8 Connect the inTune programmer to your PC and open the inTune drive:

1) Click and drag the ProCharger Tune file from your desktop or hard drive to the inTune drive.

2) Allow the file time to load, do not disconnect before the file has finished loading

9 Connect the inTune programmer to the OBD-II port located below the steering column.

10 Download the modified tune from the inTune programmer to your vehicle:

1) Select **Tune Vehicle**

2) Select **Advanced Tune**

**3) Install Custom Tune**

**4) Select Procharger**

**5) Select Apply Tune**

11 Follow the on-screen prompts:

12 The ProCharger tune will now be written to your vehicle. This process can take several minutes.

***Troubleshooting:***

*•If the programmer fails to install the tune to your vehicle for any reason, it will enter into "VEHICLE RECOVERY MODE." Reprogram the vehicle with the "RESTORE VEHICLE" option before attempting to install the ProCharger Tune again.*

# Fuel System Purge

1. Open the fuse box cover. Remove the fuel pump fuse located in position #13 by pulling the fuse up.

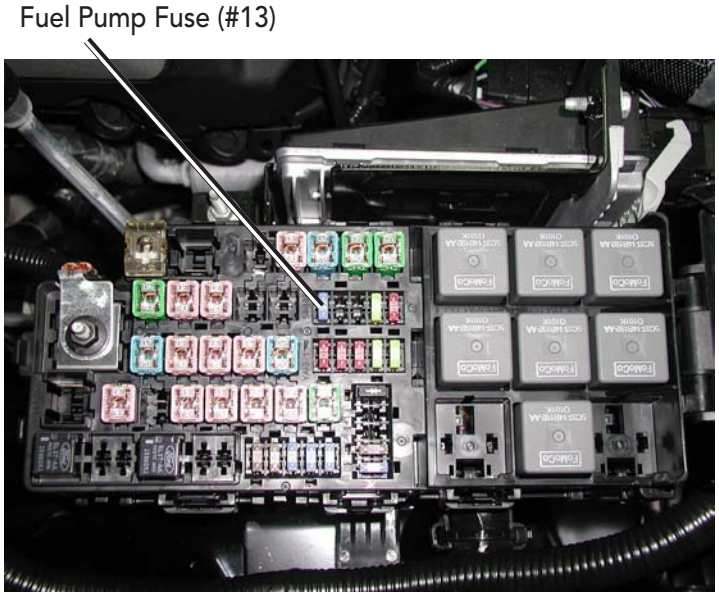
2. Turn the ignition to the "on" position, and crank the engine for 5-10 seconds to purge fuel pressure from the fuel rails.

3. Lower both windows ½" to allow the door to close correctly after the battery is disconnected.

4. Turn the ignition off.

5. Disconnect the battery ground using an 8mm socket.

6. Replace the fuel pump fuse.




Fuel Pump Fuse Removal

# Bumper Cover Removal

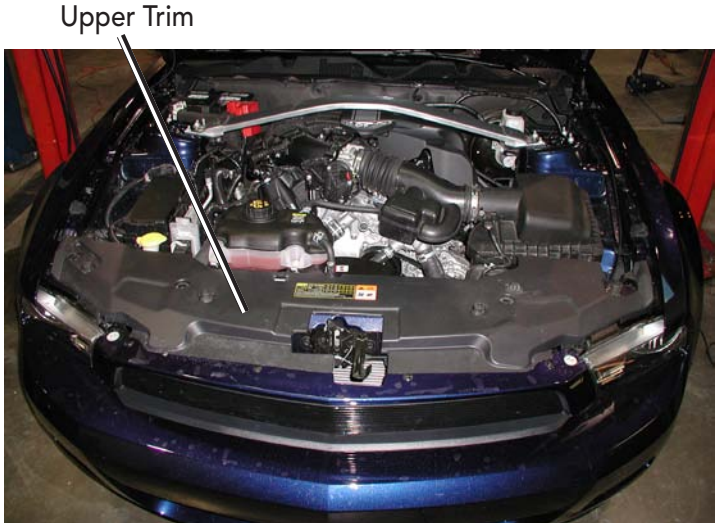
1. Remove the upper trim piece by removing the (8) push pins.

2. Raise the vehicle.

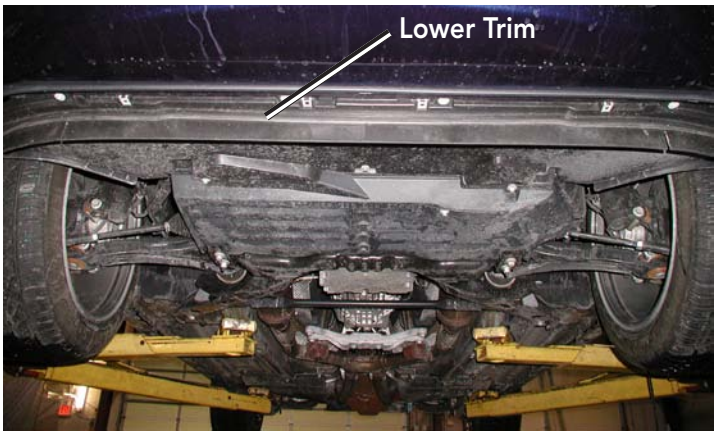
***Tech Tip:*** *Removing the front wheels allows for extra room for front fascia removal. Use a 21mm socket and impact tool to remove the front wheels if desired.*

3. Remove the lower trim by removing the (9x for 2011-2013 model years, 12x for 2014) fasteners securing it to the vehicle with a 7mm socket.

4. Remove the inner fender well screws (2x per side for 2011-2013 model years, 3x per side for 2014), with a 7mm socket.



Upper Trim Piece



Lower Trim Piece


Inner Fender Well Screws (2011-2013 Shown)

5 Lower the vehicle.

6 2011-2013 MODEL YEARS:

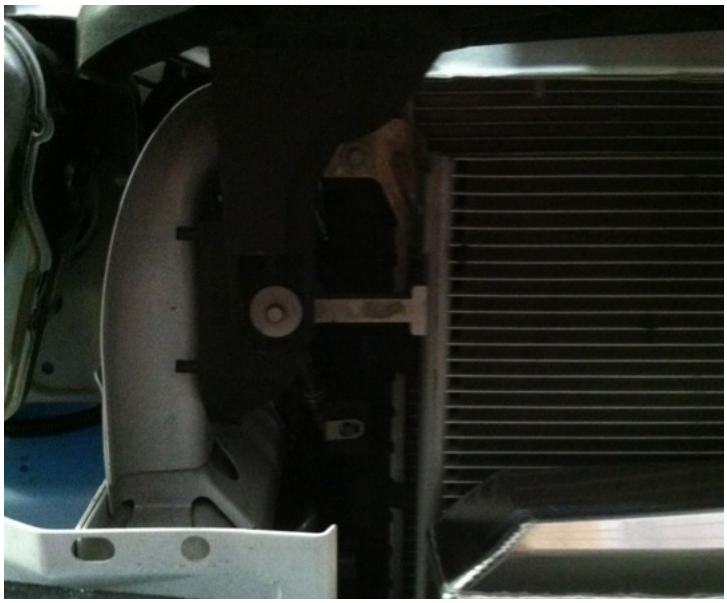
Remove the (2) top bumper cover bolts using an 8mm socket.

2014 MODEL YEAR

Remove the (4) top bumper cover bolts using an 10mm socket.

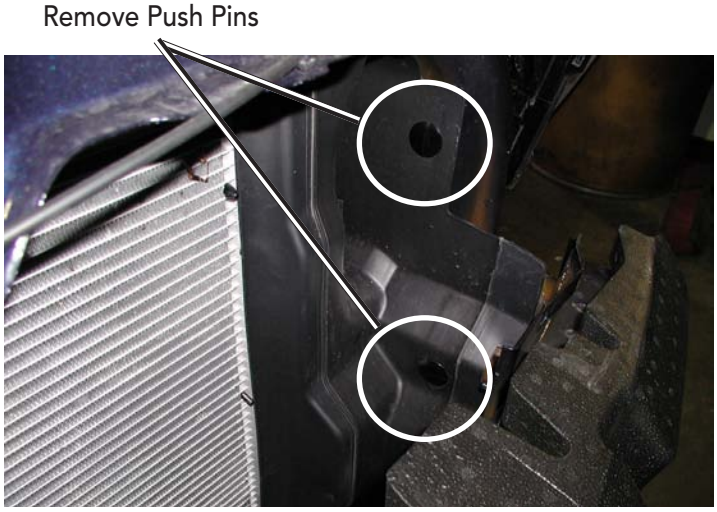
Top Bumper Cover Bolts (Passenger's Side)

8 For 2014 model years, remove the drivers and passenger side fascia support brackets (see image at right) which are each retained with 2x 10mm bolts. Discard the drivers side bracket, it will no longer be used. The passenger side bracket will be reinstalled in a later step.



8 Remove the bumper cover by pulling it out at each wheel well. Pull the bumper cover forward several inches and unplug the fog lights and side markers. Unclip the ambient air temperature sensor from the fascia. Set the bumper cover aside and out of the way.

9 Remove the driver's and passenger's side plastic radiator shrouds by removing the push pins (2 per side) and pulling the shrouds out the front of the vehicle.



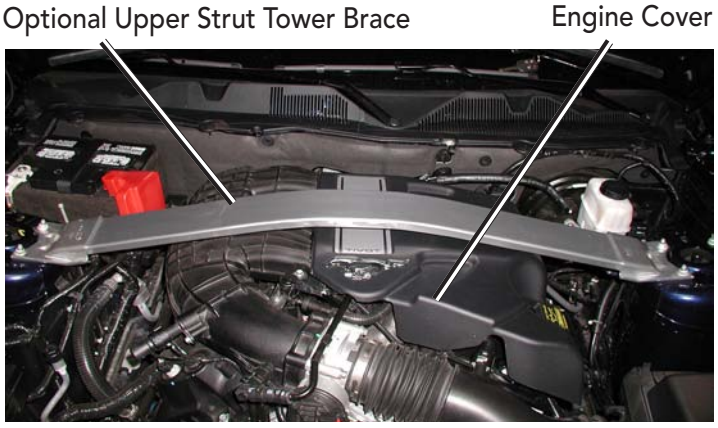

Plastic Radiator Shroud (Driver's Side Shown)

# PCV, Air Inlet and Box Removal

***Tech Tip:*** *Some vehicles are equipped with an upper strut tower brace. Use a 13mm socket to remove the (4) fasteners securing the brace and remove the brace from the vehicle.*

1. Pull straight up near the center of the engine cover to release the two ball and socket pins from the intake and remove the engine cover from the vehicle.

2. Remove the passenger's and driver's side PCV lines. Rotate the gray retainer clip in each connector and pull off the lines.

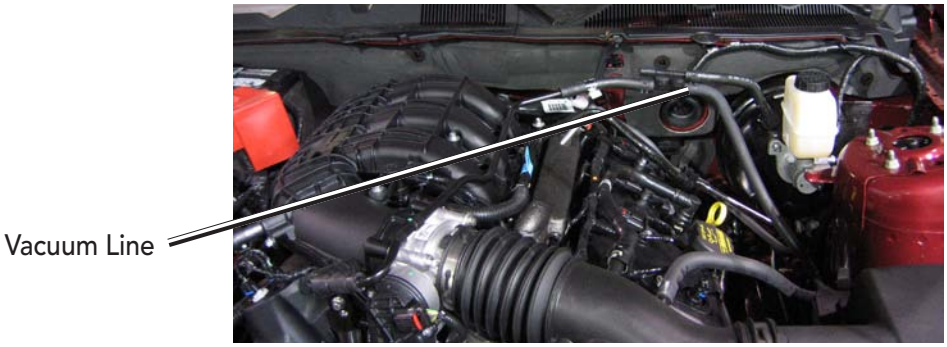


Engine Compartment

3. **For Automatics Only:** Remove the vacuum line connected from the fitting near the brake booster and firewall to the air intake tube.

PCV Line (Driver's Side)


PCV Line (Passenger's Side)



Remove Vacuum Line (Automatic Only)

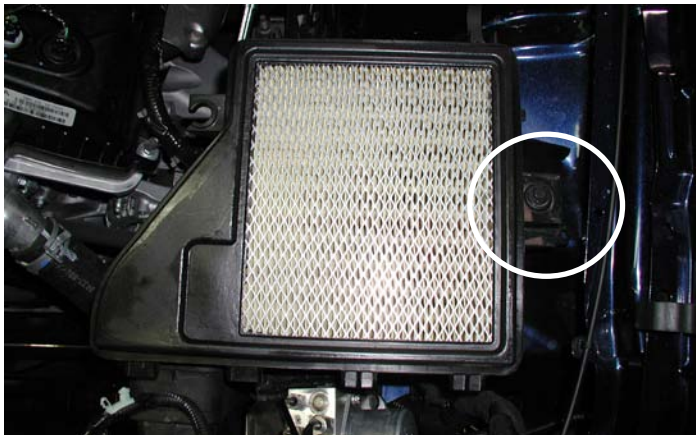
4. Using a 5/16" nut driver, loosen the inlet connection to the throttle body and airbox and remove the air intake tube.

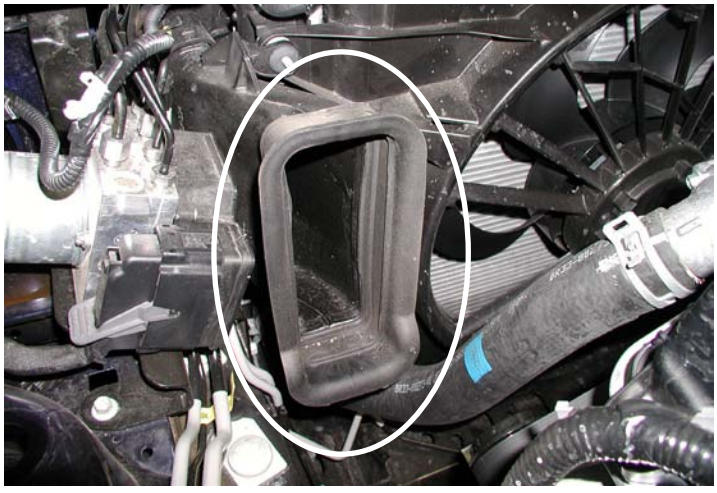
5. Unplug the wiring harness for the MAF sensor and unclip the wiring harness from the airbox cover.

6. Unclip the cover to the airbox. Remove the airbox assembly from the vehicle. Using a 10mm socket and extension, remove the fastener securing the lower portion of the airbox to the vehicle. Lift the lower portion of the airbox up and out of the vehicle at this time.

7. Remove the cold air inlet from the vehicle.

Loosen Air Inlet Connections

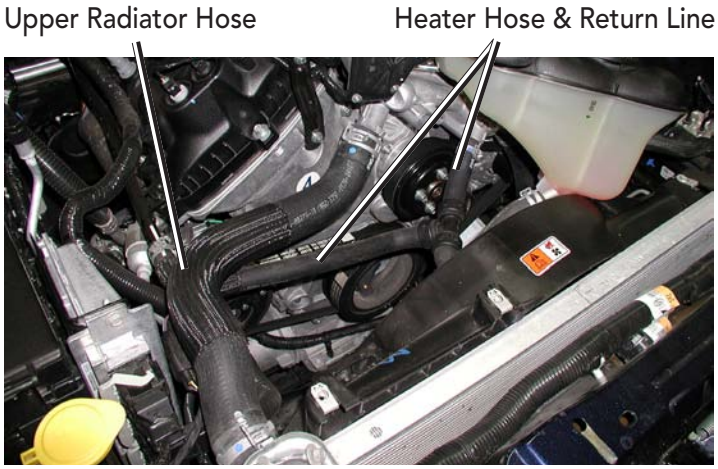

Lower Airbox Fastener


Cold Air Inlet

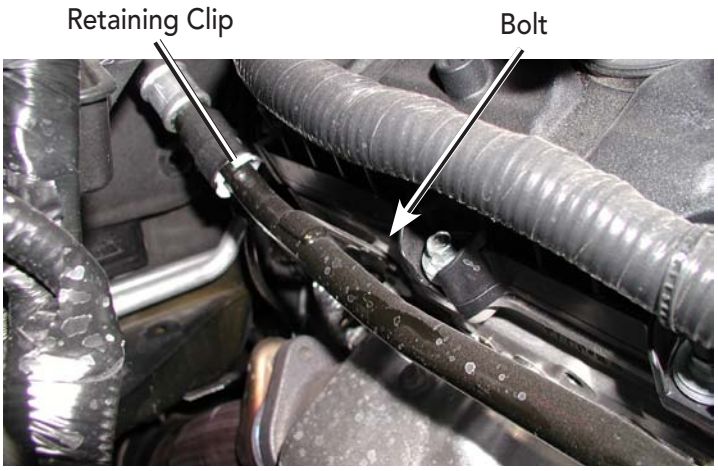
# Coolant System Preparation

1. Drain the coolant system.
2. Disconnect the overflow line on the coolant tank from the engine.
3. Remove the (2) bolts securing the coolant tank using a 10mm socket.
4. Position the coolant tank as shown and remove the upper radiator hose.
5. Disconnect the heater hose from the metal line on the passenger's side of the engine and the return line on the front of the engine.
6. Disconnect the overflow hose from the radiator and remove the coolant reservoir from the vehicle.
7. Unbolt the metal heater line from the passenger's side of the engine using a 10mm socket.
8. Remove the heater hose assembly from the engine/thermostat housing.

Coolant Tank Bolts



Upper Radiator Hose,
Heater Hose & Return Line



Metal Heater Line

9 Disconnect the metal heater line from the firewall heater hose by pushing in the tabs on the retaining clip and pulling the line out.

10 Remove the plastic retaining clip from the metal heater line by carefully prying up the tabs and sliding it off. The clip will be reused.

11 Disconnect the top heater hose at the firewall. The hose is held by the same style retaining clip as the other end. It may be necessary to use a pick or small screwdriver to release one side of the retaining clip while holding in the other side by hand.

12 Rotate the firewall heater hose from it's original position and re-install as shown, routing it around the side of the engine and clear of the steering column.

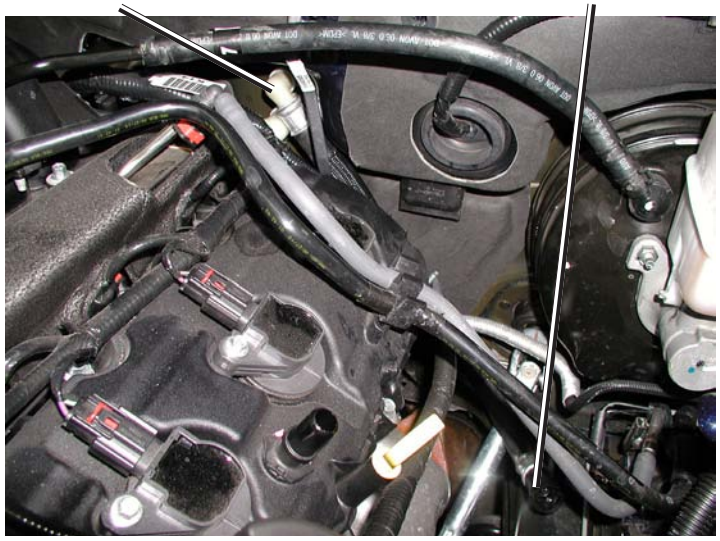
Heater Line Retaining Clip


Firewall Heater Hose

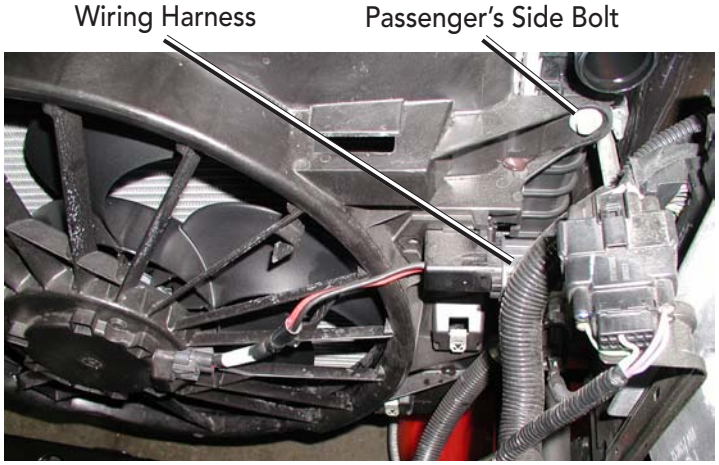
Firewall Heater Hose Connectors

13 Disconnect the electric fan wiring harness.

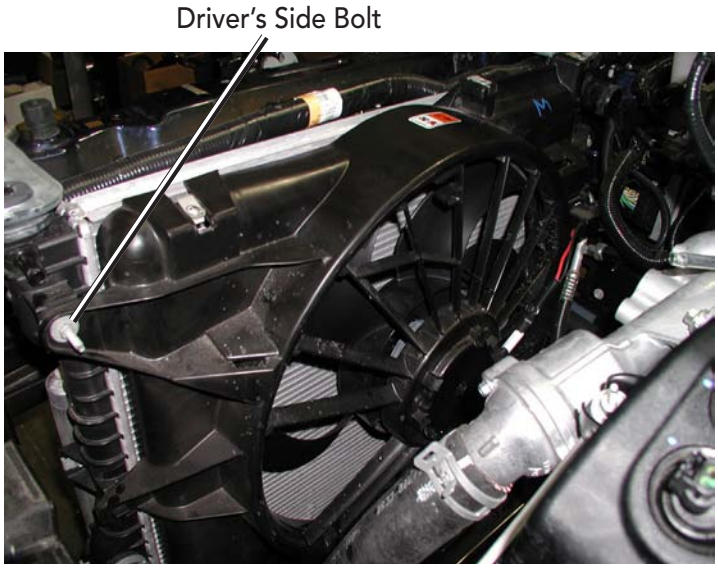
14 Remove the electric fan bolts from passenger's and driver's side and remove the electric fan.




Firewall Heater Hose Rotated




Disconnect Wiring Harness & Remove Bolt




Remove Bolt (Driver's Side)

# Fuel Injectors

**Full Systems Only**

***Tech Tip:*** *Tuner kits do not include fuel injectors. Contact ATI ProCharger for correct size and availability of upgraded injectors.*

1. If you have not already done so, depressurize the fuel system by completing the steps outlined in section 1 of this manual.

2. Disconnect the fuel supply line on the driver's side near the rear of the engine. Remove the red clip from the fitting, push in the fitting release button as shown and pull off of the line.

3. Disconnect the fuel return line on the front of the engine near the throttle body. Push in the fitting release button as shown and pull off of the line.

***CAUTION: The fuel system should be de-pressurized, but some fuel may leak out when the lines are disconnected. Take the necessary precautions to avoid injury or fire.***

Engine Compartment

Disconnect Fuel Supply Line

Disconnect Fuel Return Line

4. Disconnect the vacuum line from the brake booster.

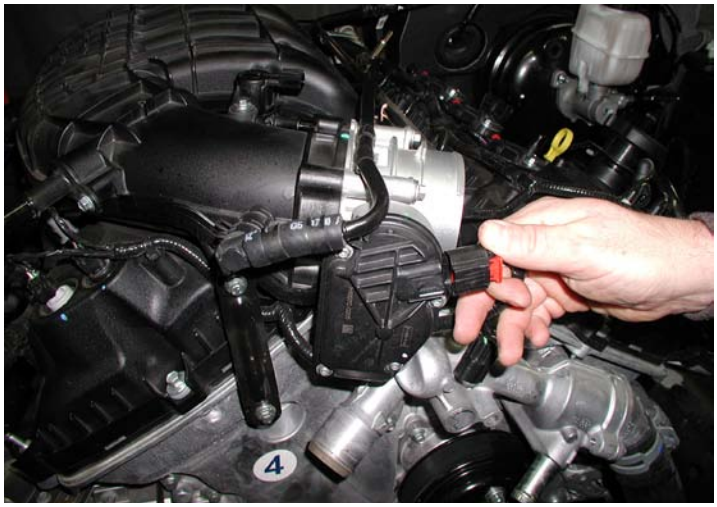
5. Remove the driver's side fuel rail insulator.

6. Disconnect the fuel pressure wiring harness on the front of the engine near the throttle body.

7. Disconnect the throttle wiring harness on the front of the throttle body.


Disconnect Vacuum Line From Brake Booster & Remove Fuel Rail Insulator

Disconnect Fuel Pressure Wiring Harness



Disconnect Throttle Wiring Harness

8. Unclip the wiring harness attached to the intake at the rear of the engine.

9. Remove the bolt in the bracket supporting the upper intake manifold to the engine front cover using an 8mm socket.

10. Remove the (7) bolts securing the upper intake manifold and remove the upper intake manifold.

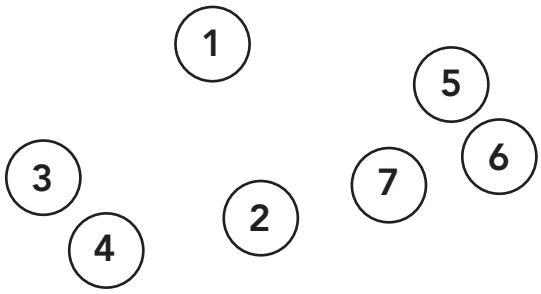
11. Cover the lower intake manifold ports.

Unclip Wiring Harness From Intake


Remove Front Bracket Bolt

**Torque Specifications**

*When re-installing the intake manifold, torque the fasteners, **in sequence** (as shown below), to 89 in-lbs. Then, tighten each fastener, **in sequence**, an additional 45°.*




Remove Upper Intake Manifold

12. Remove the passenger's side fuel rail insulator.

13. Disconnect the wiring harness from each injector.

14. Remove the fuel rail attaching bolts with an 8mm socket (4X).

15. Remove the fuel rail assembly as one piece with the injectors still attached and place it on a clean work surface, making sure to support the assembly to avoid damaging any of the components.

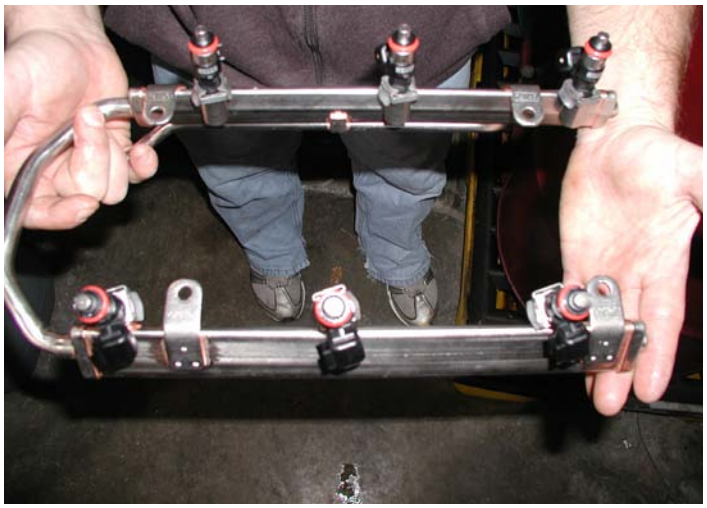
16. Spread the injector retainer clips to release each injector from the fuel rail. Remove the old injectors and set aside. Lubricate each new injector o-ring seal with several drops of clean engine oil.

17. Install the retainer clips onto the new injectors. Push each injector into the fuel rail injector socket with the electrical connector facing outward. The retainer clip should lock onto a flange on the fuel rail positioned as shown.

18. Properly align and install the fuel rail assembly back into the vehicle. Secure the assembly using the factory hardware (4X).

19. Re-install the electrical connectors to each fuel injector and re-install the fuel rail insulators. Re-install the upper intake manifold (torque specs on previous page), connect the fuel and vacuum lines as well as wiring harnesses disconnected in the previous steps.

Remove Fuel Rail Mounting Bolts (4x)


New Fuel Injectors Installed
Onto Fuel Rail Assembly

***CAUTION: Never re-use fuel injector o-ring seals, as they lose elasticity over time and could cause a fuel leak and/or potential fire.***

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

# Crank Pulley

1. Using an impact tool and 18mm socket, remove the factory balancer bolt.

2. Install the crank pinning jig as shown with the included hardware and tighten with an impact tool and 19mm socket.

3. Set the drill depth by wrapping the supplied 1/4" drill bit with tape 1-5/8" from end.

4. Drill the crank, stopping at the edge of the tape on the drill bit.

5. Using an impact tool and 19mm socket, remove the crank pinning jig.

6. Clean the chips from inside the drilled hole and surrounding area thoroughly.

7. Install the supplied 1/4" x 3/4" dowel pin into the drilled hole.

***Tech Tip:*** *The pin needs to sit flush with the end of the snout or the crank pulley won't sit flush.*

Remove Factory Balancer Bolt

Install Crank Pinning Jig

Install Crank Dowel Pin

***Tech Tip:*** *The factory balancer may require relief around this area in order to install the crank pulley. Clean the area thoroughly before installing the crank pulley.*

8 Mount the supplied crank pulley to the factory balancer. The crank pulley uses a cam lock design to ensure the pulley locks in place and does not freely spin. With the cams loose, slide the pulley onto the balancer, making sure the cam locks are aligned properly between the factory balancer spokes. Rotate the crank pulley clockwise until the cam locks stop it from rotating.

***Tech Tip:*** *Be sure the crank pulley is installed so it has minimal rotational play. Mount with the cam locks indexed so the further center distance between cam locks is in the same spoke pocket (see image to right for proper orientation).*

9 Slide the factory crank bolt washer onto the supplied M12 - 1.5 x 75mm bolt. Using a 19mm socket, torque to 35 ft-lbs, then tighten the bolt an additional 90°.

10 Tighten the (6) cam lock bolts with a 1/2" socket.

Crank Pulley Spokes


Back View of Crank Pulley and Cam Locks Installed


Crank Pulley Installed

# ProCharger Brackets and Head Unit

1. Remove the (3) pieces of hardware indicated in the image at right using an 8mm and 10mm socket.

2. Remove the pre-assembled sub-bracket from the main bracket.

***CAUTION: Failure to install the spacers in their designated locations (see right) will result in pulley misalignment and thrown belts.***

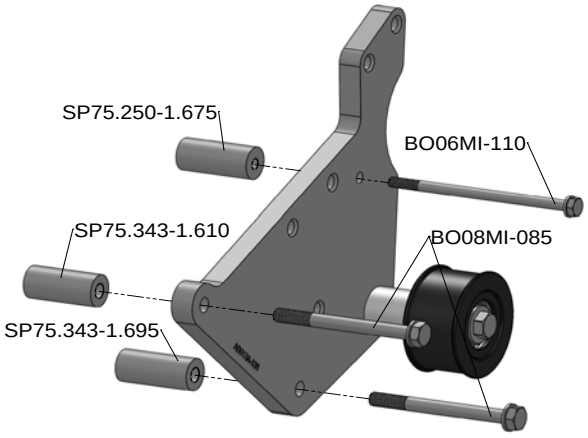
3. Position the sub-bracket behind the upper radiator hose connection and install the inner spacer and M6 - 1.00 x 110mm bolt loosely.

4. Install the outer spacer (the shorter of the two remaining spacers) and M8 - 1.25 x 85mm bolt loosely.

5. Install the lower spacer and M8 - 1.25 x 85mm bolt loosely.

6. Tighten all three bolts using a 10mm and 13mm socket.


Remove Factory Hardware




Sub-Bracket Mounting Diagram

Sub-Bracket Installed

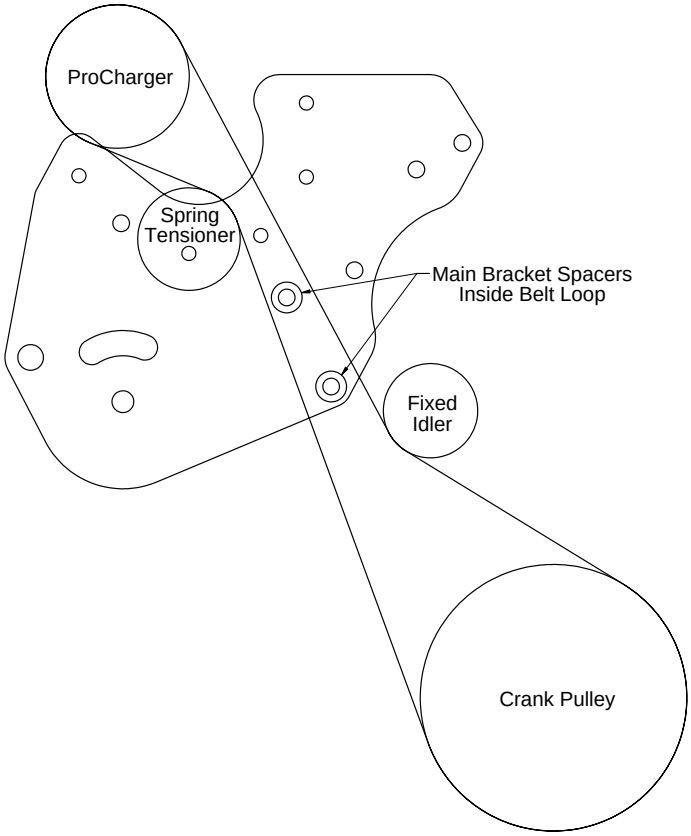
7. Install the supplied belt onto the crank pulley.

8. Install the main bracket loosely using (3) of the supplied spacers and 3/8" - 16 x 3-1/2" SHCS.

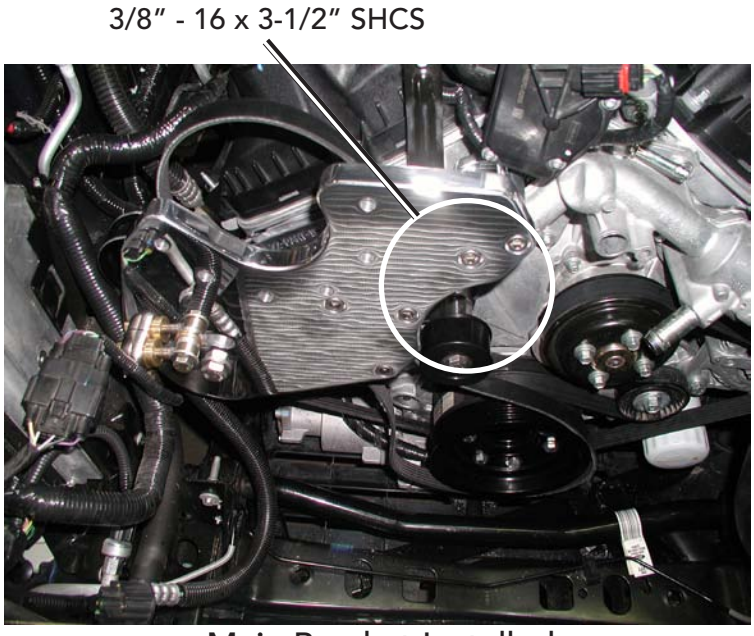
9. Install the remaining (2) spacers and 3/8" - 16 x 3-1/2" SHCS inside the belt as shown in the schematic.

10. Using a 5/16" hex, tighten all (5) fasteners to secure the main bracket.

***Tech Tip:*** *For additional bracket clearance, re-route the A/C lines and trans. cooler hoses (if needed) and zip tie to the frame.*




ProCharger Belt Schematic

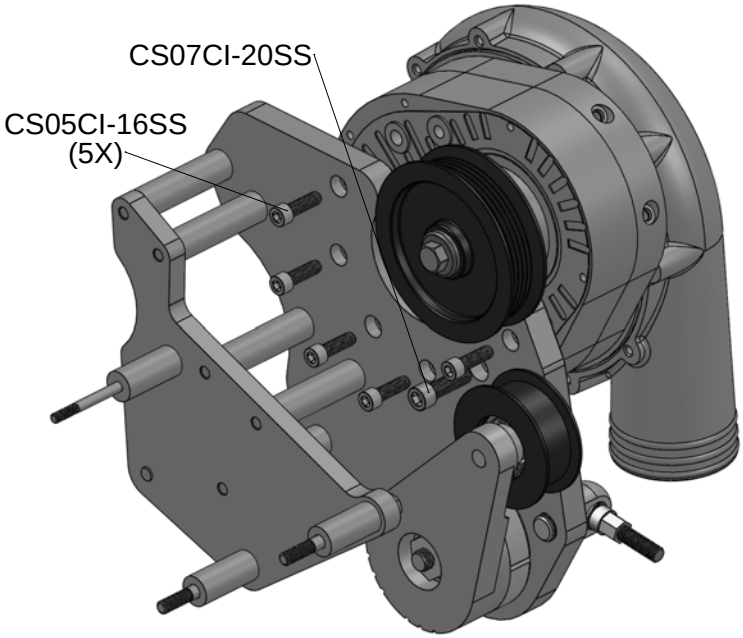



Main Bracket Installed

11 Remove the oil fill reminder tag from the head unit. Fill the supercharger with (1) 6 ounce bottle of the supplied blower oil.

***Tech Tip:*** *The belt may be easier to install if you slip the belt onto the ProCharger pulley before you install any fasteners.*

12 Mount the ProCharger onto the main bracket using the provided (5) 5/16 - 18 x 1" and (1) 3/8 - 16 x 1-1/4" SHCS's. Tighten the fasteners.

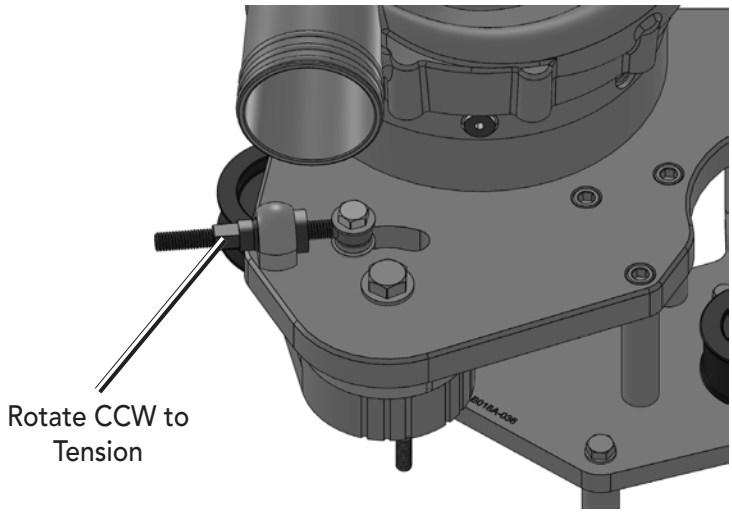



ProCharger Head Unit Installation

ProCharger Head Unit Installed

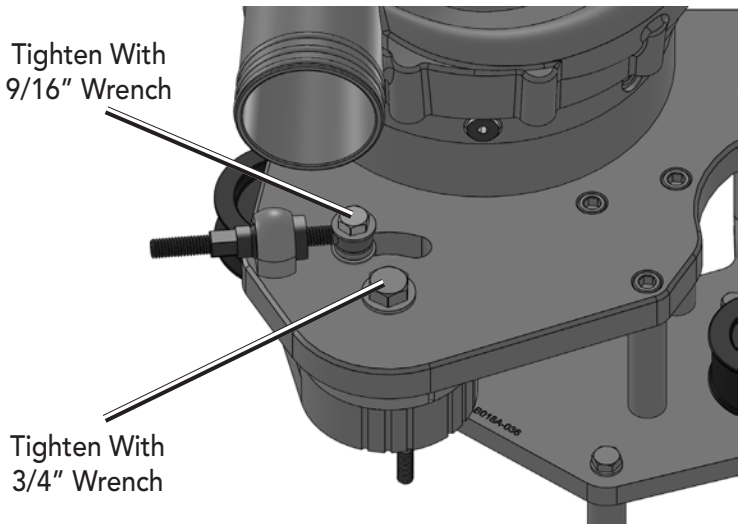
13 Tighten the belt by rotating the brass tensioner collar counter-clockwise until the first set of etched marks on the tensioner body align.

14 Tighten the (2) front tensioner bolts to secure the tensioner into place using a 3/4" wrench and 9/16" wrench.



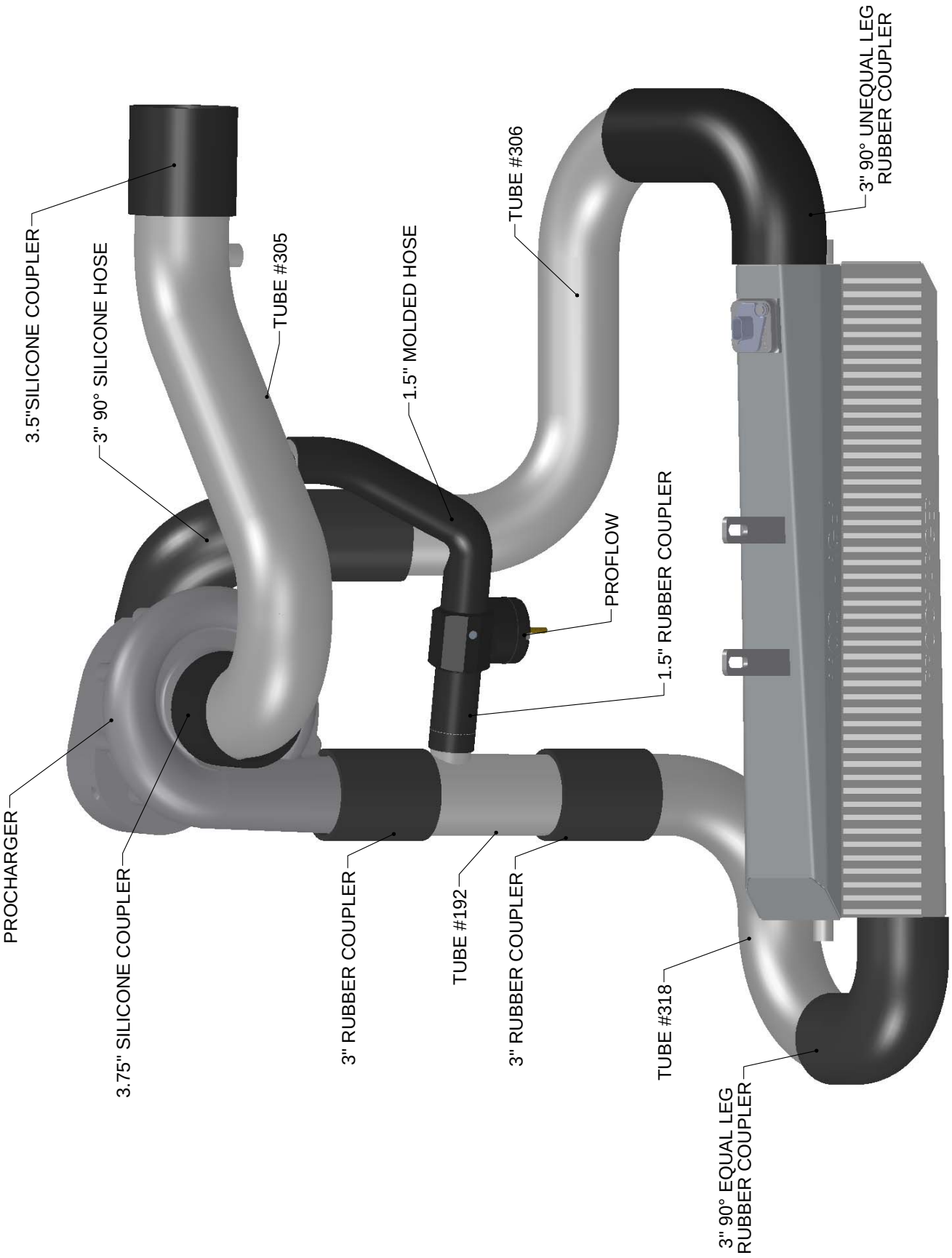

Tension Belt


Proper Tensioner Position




Tighten Front Tensioner Bolts

# 3 Core Intercooler Schematic



# Intercooler

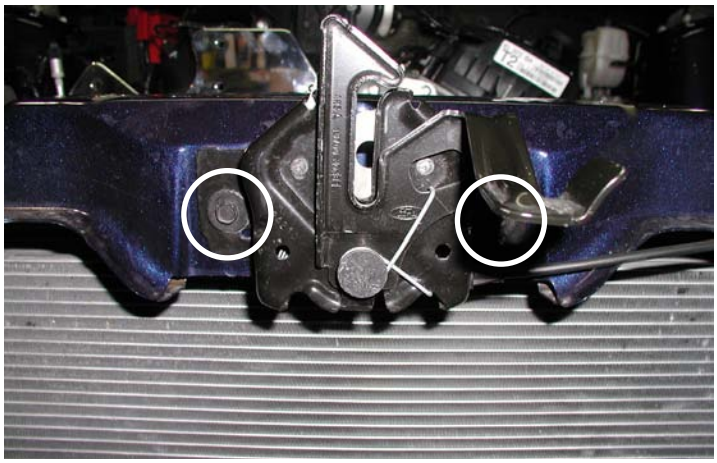
***Tech Tip:*** *Be sure to mark the position of the hood latch bracket before removal for proper reassembly.*

1. Remove the (2) fasteners securing the hood latch to the vehicle using a 10mm socket.

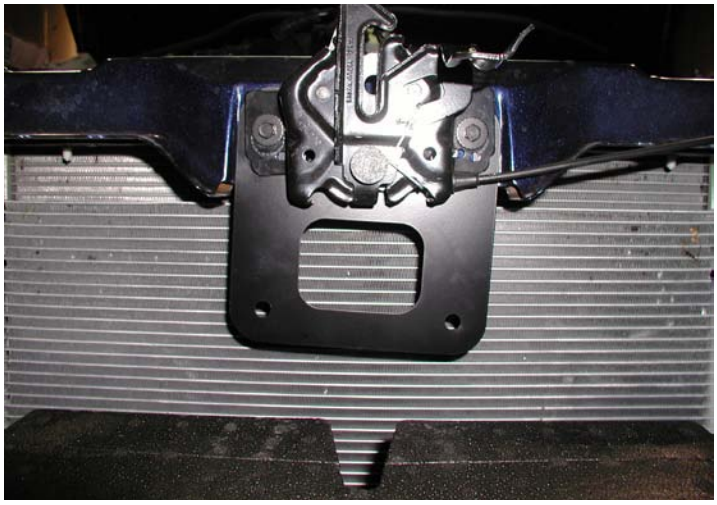
2. Install the upper bracket behind the hood latch and re-install the (2) fasteners removed in the previous step but **do not tighten**.

***Tech Tip:*** *For proper bolt alignment, the upper bracket **will not** be level. It should appear slightly crooked when viewed from the front (as shown at right).*

3. Remove the mass airflow sensor (MAF) from the factory airbox assembly using a T20 torx bit. Slide the sensor out of the assembly and slide it into the supplied intercooler. Tighten the sensor to the intercooler using the supplied M4 - .7 x 12mm bolts and a 7mm socket (found in the intercooler hardware bag).



Remove Hood Latch Bolts (2x)



Upper Bracket Installed

MAF Sensor Installed

4. Locate the lower intercooler brackets. Place a spacer on the back side of the longest bolt holding the bumper onto the vehicle on the driver's side. Slide the bracket onto the bolt end and loosely secure using the provided M8 washer and lock nut.

5. Repeat the previous step for the passenger's side.

***Tech Tip:*** *Leave the I/C brackets loose and test fit the fascia before tightening the brackets. The intercooler should sit as low as possible without touching the bottom of the fascia.*

6. Slide the intercooler into position so the (2) upper tabs are behind and aligned with the holes of the upper mounting bracket.

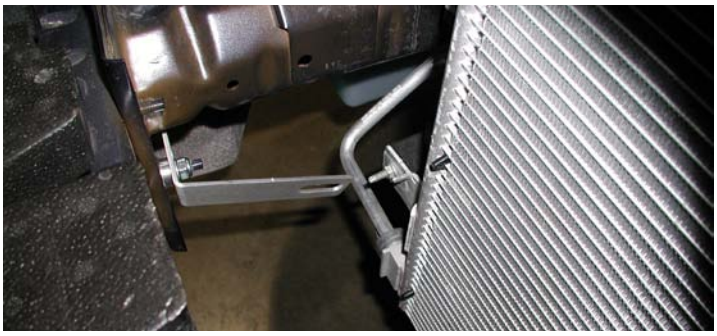
7. Install a 3/8" - 16 x 1" HHCS and washer into the lower intercooler mounting bracket on the driver's and passenger's side.

8. Install 3/8" - 16 x 1" HHCS's with washers and locknuts into the upper intercooler mounting bracket.

9. Tighten all fasteners to secure the intercooler using a 9/16" and 13mm socket.

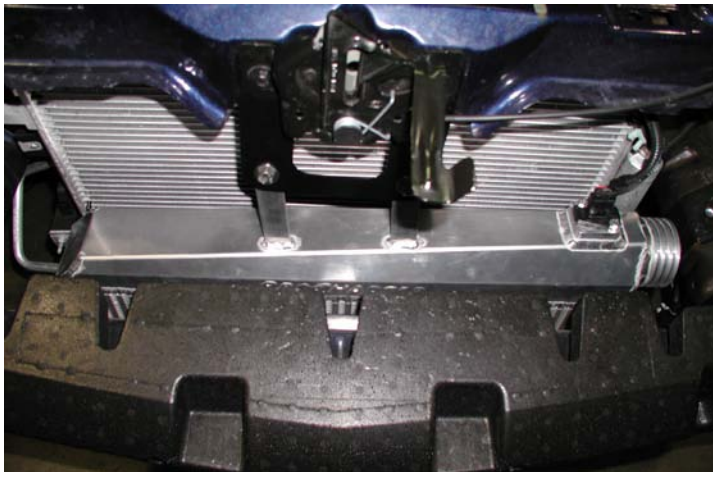
10. Plug the MAF Sensor harness into the sensor at this time.

Lower Intercooler Bracket Installed
(Driver's Side)



Lower Intercooler Bracket Installed
(Passenger's Side)

Lower Intercooler Bolt Installed
(Driver's Side)

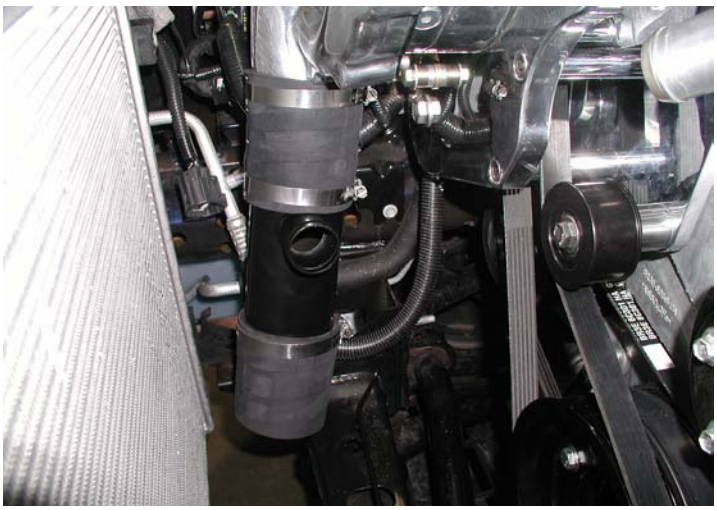


Intercooler Mounted

# Intercooler Tubing

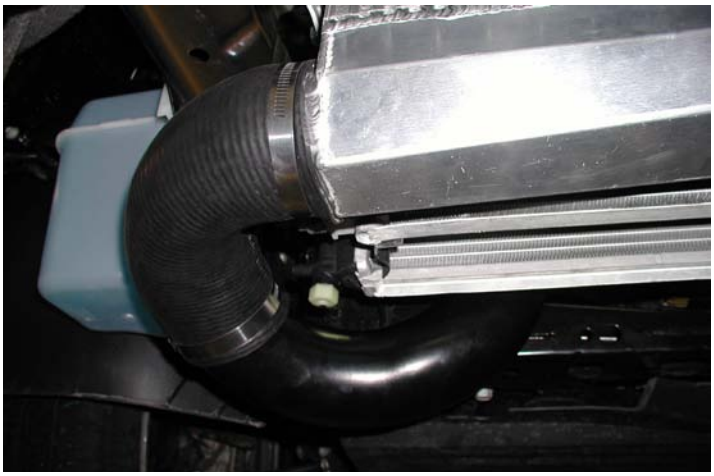
***Tech Tip:*** *Secure each coupler connection with a #52 hose clamp with the exception of the throttle body elbow connection, which utilizes t-bolt clamps. It is best practice to slide the hose clamp over the coupler, keeping it loose until all of the connections have been made and adjusted. Due to differences in installation, rubber couplers may need additional trimming for proper fitment.*

1. Install one of the 3" straight couplers onto the discharge of the ProCharger.
2. Install surge tube #192 into the 3" straight coupler.
3. Install the second 3" straight coupler onto the other end of surge tube #192.
4. Install tube #318 into the 3" straight coupler.
5. Install the equal leg length 3" 90° rubber coupler onto tube #318 and the intercooler inlet.



Blower Discharge Coupler/Tube #192

Tube #318



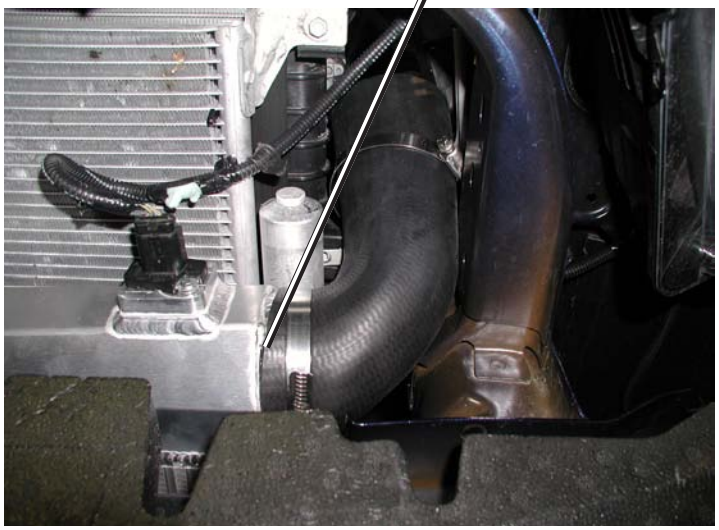
Intercooler Inlet

6. Trim the short leg as needed on the unequal leg length 3" 90° rubber coupler and install onto the intercooler discharge.

7. Install intake tube #306 into the 3" 90° rubber coupler.

8. Trim the short leg of the 3" 90° silicone coupler as needed and install onto intake tube #306 and the throttle body using the 3.25" t-bolt clamps.

Trim Short Leg of 90° Coupler as Needed



Intercooler Discharge

Intake Tube #306

Trim Short Leg of 90° Coupler as Needed

Throttle Body Elbow

# Vacuum Manifold and Surge Valve

1. **For Automatics Only:** Mount the supplied 3/8" vacuum cap to the open end of the factory fitting as shown in the image to the right.

2. Locate the 3/8" ID brake booster hose that runs along the back side of the engine near the firewall. The line is connected to the brake booster located on the driver's side.

3. Using a hose cutter, remove a 3-1/2" long section of the hose.

4. Assemble the vacuum manifold (found in the surge valve bag) using the provided barb fittings and plugs. Install the supplied vacuum manifold and securely clamp in place using the supplied #6 hose clamps, making sure that there are no vacuum leaks at the splice points.

***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.*

Vacuum Cap Installed

Vacuum Manifold Installation (Automatic)

Vacuum Manifold Installation (Manual)

Vacuum Line Routing

5. Attach the supplied 3/16" vacuum hose to one of the 3/16" barb fittings on the installed vacuum manifold, then route as shown up to the surge tube (#192) installed earlier. Attach a boost gauge to the other 3/16" barb fitting. If you are not going to use a boost gauge, remove the 3/16" barb fitting that isn't being used and replace with the supplied pipe plug.

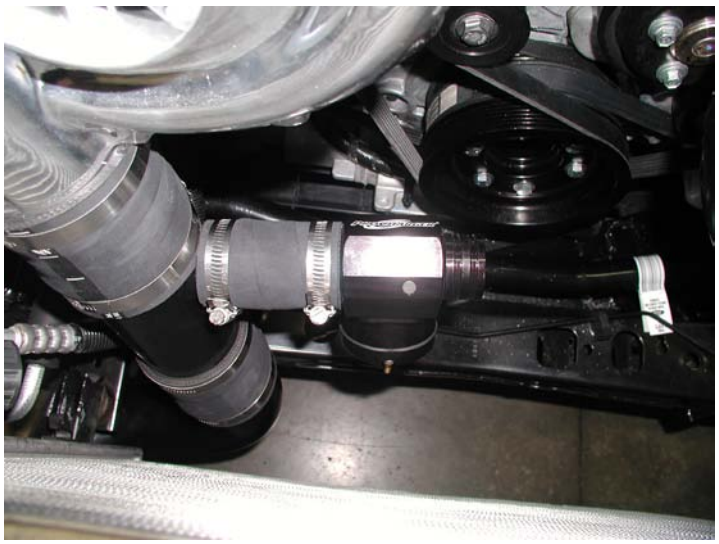
6. Secure all vacuum hoses to their fittings with zip ties.

7. Slide the supplied 1-1/2" rubber straight coupler and (2) #24 hose clamps onto the surge tube.

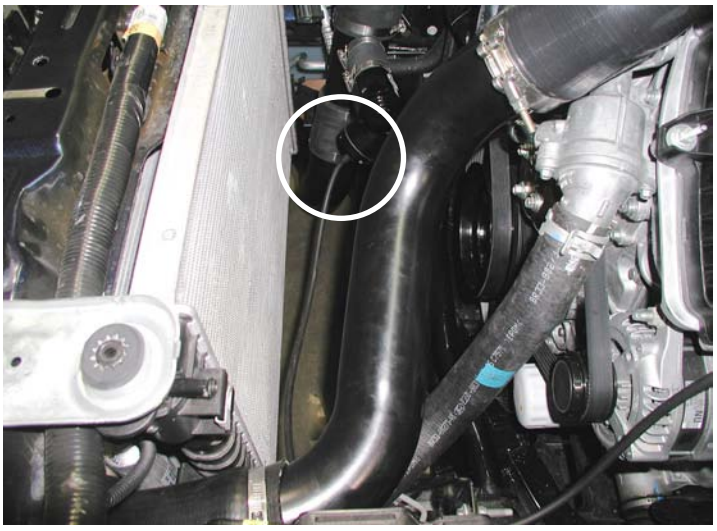
8. Slide the surge valve onto the open end of the coupler. Secure the connections with the provided #24 hose clamps.

9. Attach the vacuum line to the fitting on the surge valve.

Vacuum Line Routing



Surge Valve Installed



Attach Vacuum Line to Surge Valve

# Cooling System

1. Mount the supplied fan to the supplied fan shroud using (4) 1/4 - 20 x 3/4" bolts, (4) 1/4 - 20 nylock nuts, and (8) 1/4" washers. Note orientation of the fan wiring harness on the left side of the assembly.

2. Unplug and remove the fan controller from the factory fan.

3. Mount the fan controller to the fan shroud using the supplied 1/4 - 20 x 5/8" BHCS and washer.

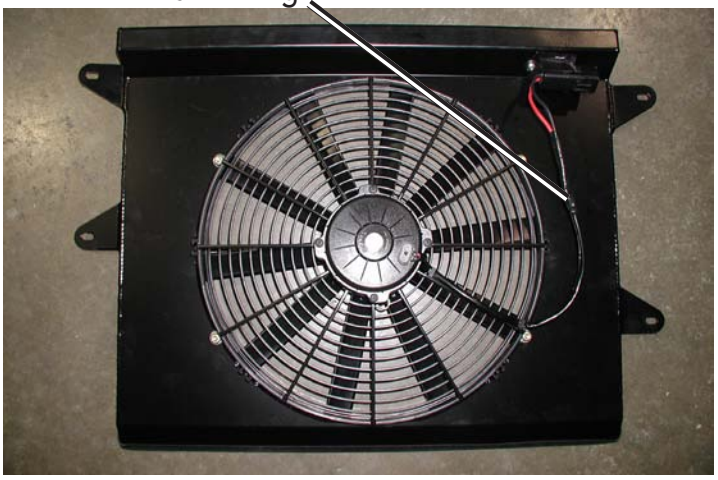
4. Connect the fan to the fan controller:

   **a**. Modify the fan's spade terminals to fit into the stock fan controller by removing the spades from the fan plug using a small flat blade screwdriver. Plug into the fan controller harness (red into red and black into black). Secure and insulate the spade terminals using electrical tape.

   **Or**

   **b**. Cut, strip, and solder together the fan and fan controller wires (red on red and black on black). Insulate solder joints using heat shrink insulation or electrical tape. Secure wires away from belts with zip ties.

5. Install the fan shroud in the same manner as the factory fan shroud and secure using the factory retaining bolts.



Fan Shroud & Fan Assembly


Shroud & Fan Installed (Passenger's Side)


Shroud & Fan Installed (Driver's Side)

6 Install the upper radiator tube as shown using the (2) supplied 1-1/2" 90° rubber couplers and (4) #24 hose clamps.

***Tech Tip:*** *Test fit the rubber couplers and tube, then trim rubber couplers as needed to install.*

7 Assemble the 3/8" NPT coolant "T" fitting with (2) 3/8" NPT x 5/8" brass barb straights and (1) 3/8" NPT x 5/8" brass barb elbow as shown using thread sealant on each pipe fitting.

8 Cut a 3" to 4" section of the supplied 5/8" heater hose and install onto the lower connection on the front of the engine, securing with a #10 hose clamp.

9 Install the assembled coolant "T" fitting with the 90° fitting on the bottom facing the front of the vehicle into the 5/8" heater hose and secure using a #10 hose clamp.

Upper Radiator Tube Installed

Coolant "T" Fitting Assembled

Coolant Fitting Installed

10. Install the retaining clip removed from the metal heater line earlier onto the supplied brass heater hose fitting.

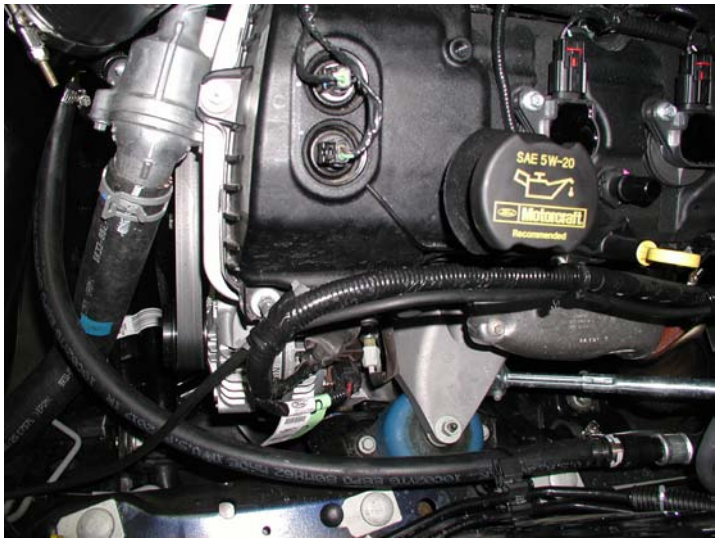
11. Install the assembled heater hose fitting into the heater hose attached to the firewall that was rotated earlier.

12. Attach the supplied 5/8" heater hose to the fitting, secure with a #10 hose clamp and route it to the front of the engine to the coolant "T" fitting installed earlier.

13. Trim the 5/8" heater hose as needed and install it onto the straight barb fitting on the side of the coolant "T" and secure with a #10 hose clamp.

Heater Hose Fitting Assembled

Heater Hose Fitting Installed




Heater Hose Installed

14 Install the (3) supplied brass hose barbs [(2) 3/8" NPT x 3/8" brass barb elbows for upper connections and (1) 1/2" NPT x 5/8" brass barb elbow for lower coolant line connection] into the coolant reservoir. Be sure to use a thread sealant on pipe threads.

15 Mount the coolant reservoir to the sheet metal radiator shroud using the (2) 1/4 - 20 x 5/8" BHCS's and washers as shown in the image at right.

16 Trim as needed and attach the remaining 5/8" heater hose to the elbow fittings on the bottom of the coolant reservoir and coolant "T" fitting and secure with #10 hose clamps.

Coolant Reservoir Assembled

Coolant Reservoir Installed

Lower Coolant Line Installed

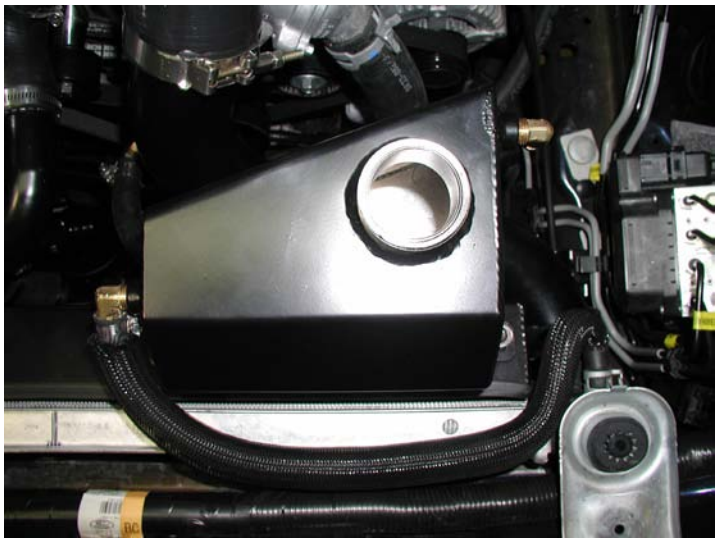
17 If not already done, remove the factory radiator overflow hose.

18 Cut the factory coolant reservoir coolant hose to fit the supplied coolant reservoir. Be sure the hose is long enough to securely attach to the coolant reservoir tank.

19 Install the trimmed radiator overflow hose on the radiator and coolant reservoir as shown and secure with #4 hose clamps.

Remove Factory Radiator Overflow Hose


Trim Factory Radiator Overflow Hose

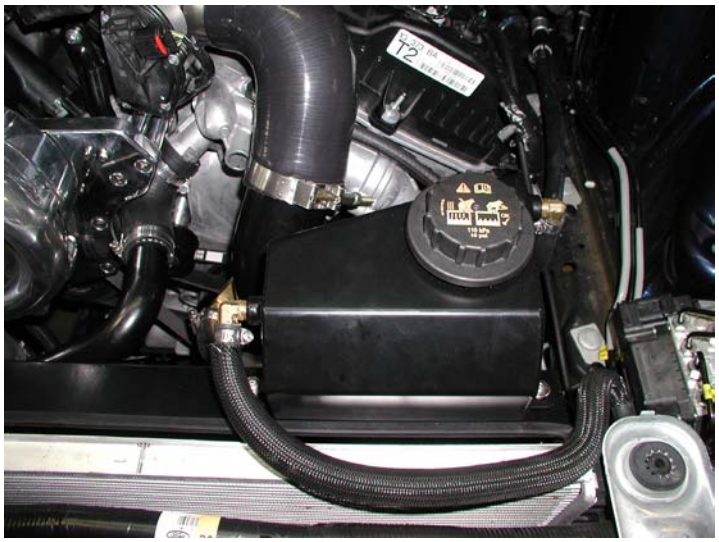

Radiator Overflow Hose Installed

20 Install the supplied 3/8" heater hose to the top fitting on the front of the engine and to the driver's side elbow on the coolant reservoir and secure with #4 hose clamps.

***Tech Tip:*** *Before proceeding, verify the coolant lines are clear of belts and pulleys.*

21 Fill the coolant reservoir with the proper coolant mix or recovered coolant, if saved during preparation. Place the factory cap onto the coolant reservoir. Additional coolant may need to be added after intial startup and the vehicle has been run through a heat cycle.

Upper Coolant Hose Installed



Fill Coolant System and Install Factory Cap

# Air Inlet and Filter

1. Install the 3-3/4" straight silicone coupler onto the ProCharger inlet and secure with a 4.00" t-bolt clamp. Slip the 3.75" t-bolt clamp onto the silicone coupler.

2. Locate the surge bag and the supplied molded 1-1/2" hose. Trim ends as needed and install as shown onto the surge valve, securing with a #24 hose clamp.

3. Locate the PCV bag. Install the 3/8" NPT x 5/8" brass barb elbow fitting into the inlet tube as shown using thread sealant on the pipe threads.

ProCharger Inlet Coupler Installed

Surge Return Line Installed

PCV Fitting Installed

***Proceed to step #10 if installing a cold air inlet.***

4. Re-install the factory airbox and secure with the factory hardware using a 10mm socket.

5. Install the supplied air filter in the airbox.

6. Install the factory airbox cover and latch to secure.

7. Mount the supplied MAF cover onto the factory airbox cover and secure using the factory MAF sensor hardware and a T20 torx bit.

8. Install the air inlet tube into the ProCharger inlet coupler.

9. Install the supplied 3" straight silicone coupler onto the inlet tube. Rotate the inlet tube into position and slide onto the airbox cover. Secure with (2) 3.38" t-bolt clamps.

***Warning:*** *Do not overtighten the t-bolt clamp on the airbox cover.*

***Proceed to step #15 to finish inlet installation.***

Factory Airbox and Air Filter Installed

Factory Airbox Cover & MAF Cover Installed

Air Inlet Tube Installed

***Perform steps #10-14 only if installing a cold air inlet.***

10. Install the air inlet tube into the ProCharger inlet coupler.

11. Install the supplied 3" straight silicone coupler onto the inlet tube with a 3.38" t-bolt clamp.

12. Install the cold air inlet elbow tube into the silicone coupler with a 3.38" t-bolt clamp.

13. Install the supplied air filter onto the end of the inlet elbow and secure with the included hose clamp.

14. Position the inlet tubes as desired and tighten all t-bolt clamps.

15. Attach the surge return line to the inlet tube and secure using a #24 hose clamp.

Cold Air Inlet Installed

Surge Return Line Attached

# PCV System

1. Install the (2) supplied 1/2" NPT x 5/8" straight plastic barb fittings into the supplied 1/2" NPT check valve.

2. Test fit and trim (2) of the supplied 5/8" molded hoses in order to install the check valve on the passenger's side of the engine.

3. Install the (2) trimmed 5/8" molded hoses and check valve with the arrow pointing towards the upper intake manifold. Secure with (4) #8 hose clamps.

4. Trim the remaining 5/8" molded hose and attach to the driver's side of the engine. Secure with a #8 hose clamp.

5. Trim the other end of the 5/8" molded hose and attach it to the inlet tube fitting. Secure with a #8 hose clamp.

Check Valve Installed

PCV Hose Installed

# Finishing Up

1. Modifying the lower trim piece may be required in order to clear the lower tube. Hold the lower trim piece up to the vehicle and mark the area to trim.

2. Modify the lower trim piece as shown. Multiple test fits and trims may be required to ensure the best fit.

3. Re-install the lower trim piece with the factory hardware, (9x) using a 7mm socket.

4. Inspect the belts and pulleys for clearance from all wires and hoses. Adjust and secure any hoses or wires that may be caught or abraded by the belts or pulleys. Verify the belt is properly tensioned.

5. For 2014 model years, reinstall the passenger side fascia support bracket using the factory hardware at this time.

Lower Trim Piece Modification

Lower Trim Piece Modified

Lower Trim Piece Installed

6. Using the factory hardware, re-install the front bumper cover. Plug the harnesses for the fog lights and turning signals back into the proper locations on the front bumper cover at this time. Clip the ambient air temperature sensor back onto the bumper cover as well.

7. Re-install the wheels at this time if removed.

8. Re-install the upper plastic trim using the factory hardware.

9. Re-install the engine cover by aligning the cover over the engine and pushing downward until the cover snaps into place.

10. If your vehicle was equipped with an upper strut tower bar, re-install this component at this time using the factory hardware.

11. Reconnect the battery.

**CONGRATULATIONS! YOU HAVE COMPLETED THE INSTALLATION OF YOUR NEW PROCHARGER SUPERCHARGER SYSTEM. READ THE FOLLOWING PAGES CAREFULLY FOR OPERATION AND MAINTENANCE INSTRUCTIONS, AS WELL AS WARRANTY INFORMATION.**

# 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/or personal injury!

## Belt Replacement

The serpentine belt, which turns your ProCharger supercharger, will stretch after initial run-in, and should be re-tightened 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 purchased 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 the drain plug after every oil change. Drain the oil by removing the drain plug. Clean off the 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.*

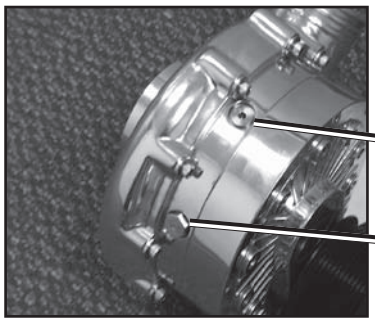
## Oil Change Intervals

The first oil change should be performed at 500 miles and at 6,000 mile intervals thereafter. Drain oil by removing the drain plug. Clean drain plug after every oil change. ***The drain plug should be firmly tightened after changing the oil.***

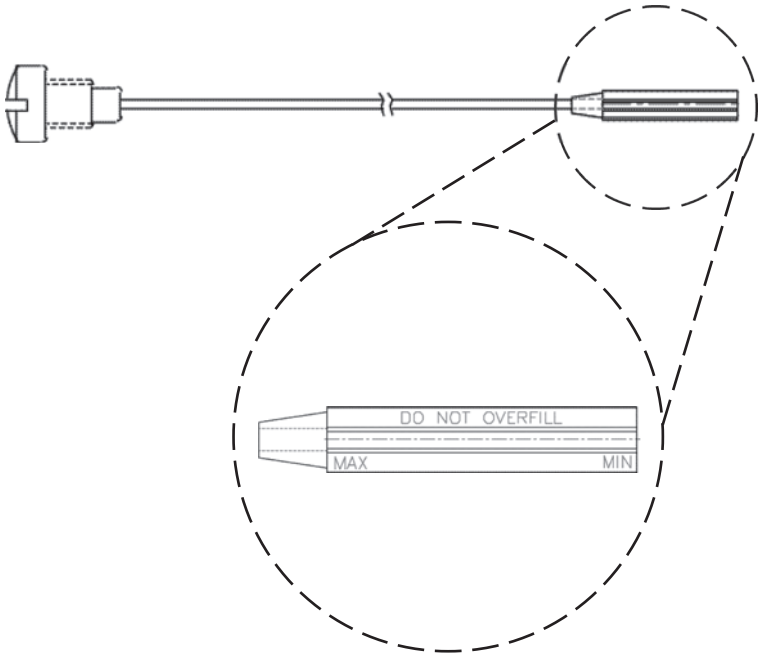
## General

When removing the dipstick, 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.

***Warning:*** *The supercharger contains no oil from the factory. The unit must be filled prior to use.* Use only ATI supplied oil in your ProCharger. The ATI oil has been specially formulated for the bearings in the ProCharger and use of oil other than that supplied by ATI will void your warranty.







# 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**

# ProCharger Extended Coverage

The ProCharger Extended Coverage Program extends the ProCharger warranty coverage for your supercharger an additional twenty-four (24) months, for a total of thirty-six (36) months or three years of coverage. This extended coverage applies to parts for the ProCharger supercharger head unit only and does not include other system components. With your extended coverage registration, you will receive two (2) additional boxes of ProCharger Supercharger oil.

Under the extended coverage program, Accessible Technologies, Inc. (ATI) will repair or replace any component within the supercharger head unit which is found to be defective. Only the supercharger head unit itself is included in the extended coverage.

Service under the extended coverage program is obtained through the same process as described in the Limited Warranty.

Race kits are not eligible for the ProCharger Extended Coverage Plan.

To qualify for the ProCharger Extended Coverage:

- Only the original owner of the ProCharger supercharger is eligible.
- Completion of the Extended Coverage Registration Form is required, along with a $99 registration fee. This form must be completed in its entirety, and must be submitted along with payment within 30 days from the date of original purchase from your local dealer or date of shipment from the factory.
- Participants must have a ProCharger P-1SC, P-1SC-1, P-1X, C1, or C2 supercharger head unit using the maximum warranted boost level. All terms and conditions within "The Limited Warranty" apply. Acts resulting in disqualification include but are not limited to the following:
  - Disassembly or modification of the ProCharger supercharger.
  - Removal or attempted removal of the ProCharger drive pulley(s).
  - Removal or attempted removal of the ProCharger supercharger serial number plate.
  - Removal or attempted removal of the compressor housing or transmission case.
- Participants agree to properly maintain the ProCharger supercharger and provide proof of compliance with the following recommended maintenance:
  - Change the ProCharger supercharger oil after the initial break-in period of 500 miles (automotive) or 15 hours (marine).
  - Change the ProCharger supercharger oil every 6,000 miles after the initial break-in period.
  - Use only the specified amount of ProCharger Supercharger oil in the ProCharger supercharger.
  - Inspect and clean the magnetic drain plug at every ProCharger supercharger oil change.
  - Check the ProCharger supercharger oil level frequently.

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# ProCharger Extended Coverage Program Registration Form

Return this completed form and a $99 check within 30 days of original purchase.

Name:_____

Address:_____

City:_____

State:_____ Zip:_____

Daytime phone:_____

Evening phone:_____

E-mail:_____

Age ☐ 18 - 24 ☐ 25 - 34 ☐ 35 - 44
☐ 45 - 54 ☐ 55 and up

Income ☐ $15,000 - $29,000 ☐ $30,000 - $44,000
☐ $45,000 - $69,000 ☐ $70,000 and up

What magazines do you read?

- ☐ Car & Driver
- ☐ Car Craft
- ☐ Chevy High Performance
- ☐ Four Wheel and Off Road
- ☐ Hot Rod
- ☐ Motor Trend
- ☐ Muscle Mustangs and Fast Fords
- ☐ GM High-Tech Performance
- ☐ 5.0 Mustang
- ☐ Super Street
- ☐ Mustang Monthly
- ☐ Truck Trends
- ☐ Popular Hot Rodding
- ☐ Road & Track
- ☐ Super Chevy
- ☐ Truckin'
- ☐ Street Truck

Date of Purchase:_____

Purchased From:_____

ProCharger Serial #:_____

Vehicle Year:_____

Vehicle Make:_____

Vehicle Model:_____

Please rank in order of importance starting with 1 being most important.

Which information sources most influenced your decision to purchase a ProCharger system?

___ Magazine advertising
___ Dealer recommendation
___ ProCharger Brochures
___ Witnessed performance on a car
___ Test drive
___ Magazine editorials
___ Friends
___ Conversations with ATI technicians
___ Web Site (please specify)_____
___ Other (please specify)_____

What most influenced your decision to purchase a ProCharger system?

___ Reliability
___ Standard warranty
___ Extended coverage warranty
___ Performance
___ Quiet operation
___ Removability (ability to return car to stock)
___ Cost
___ Ease of Installation

Who installed your ProCharger system? ☐ Self ☐ Dealer ☐ Other _____

Have you own a forced induction system previously? ☐ Yes ☐ No
If yes:
Supercharger: Brand(s)_____ Vehicle(s)_____

Turbocharger: Brand(s)_____ Vehicle(s)_____

I have read and understand the policy for the ProCharger Extended Coverage Program. I have not and will not modify my ProCharger supercharger in any way during my participation in the extended coverage program. I have read and answered all questions on this form. I have enclosed my check for $99, payable to ATI, for enrolling my ProCharger supercharger (serial number indicated above) in the extended coverage program for an additional twenty-four (24) months beyond the standard limited warranty period of twelve (12) months.

Signature_____ Date_____

Mail this completed registration form with a $99 check to ATI at: 14801 West 114th Terrace, Lenexa, KS 66215. If you have any questions, contact us at techserv@procharger.com or (913) 338-2886 8:30 AM - 5:30 PM CST, Monday - Friday.

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**Accessible Technologies, Inc.**
**14801 W. 114th Terrace**
**Lenexa, KS 66215**
**Phone: 913.338.2886**
**Fax: 913.338.2879**
**techserv@procharger.com**


**Part Number PMFT1A-001 Rev. F**