

2015+ F-150 5.0L HO/Stage 2 Intercooled System **Installation Guide**



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.

INTRODUCTION

Congratulations on purchasing your ProCharger® 2015+ F-150 5.0L HO/Stage 2 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.

 **Warning:** Your supercharged F-150 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.

Required Tools and Supplies

- 3/8" Socket Set (standard & metric)
- 1/2" Socket Set (standard & metric)
- 1/2" Impact Gun
- 1/2" Breaker Bar and 4" Extension
- T20 Torx Bit
- Open End Wrench Set (standard & metric)
- 5/16" Nut Driver
- 3/8" Hex Bit Set (allen head)
- Flat Screwdrivers
- Phillips Screwdrivers
- Plier Set
- Reciprocating Saw (Stage 2 Only)
- Ford Engine Coolant



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

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 *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.*

TUNING



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



Note: 2017 model years will include a Bully Dog BDX programmer rather than an SCT. Follow the same steps listed.

- 1 Plug your sct X4 handheld into the vehicles OBD2 port.
- 2 Scroll to select vehicle info, press continue.
- 3 Record the vehicles strategy. E-mail the vehicle strategy along with the serial number from the back of the SCT X4 and the serial number of your ProCharger to tuning@procharger.com. When you receive your new custom tune file from tuning@procharger.com, save the attached file to your computer's desktop.
- 4 Before connecting your X4 to your PC, go to www.sctflash.com and click on the "Support" tab on the top of the page. Select the your device name, select "Downloads". Under the section called "Updater", you can click on Download Now. Click "Download Now".
- 5 Using the provided USB cable, connect your device to the back of your computer. (Allow roughly 30 seconds for the drivers to install). Using the shortcut icon on your desktop, open the SCT Device Updater software that you just installed.
- 6 Select "Load Custom Tune File" from the Basic Operations menu followed by clicking on "Locate Custom Tunes." Select the desired tune from the list of tunes.
- 7 Your tune will appear under "Available Tunes" on the left window within the Updater. You will need to transfer it to the X4 by using the arrow button in the middle of the SCT Updater. Press "Program" when ready to transfer the custom tune to the X4. Once the file is transferred to your device you may take it to your vehicle to install the custom ProCharger tune.
- 8 Plug your SCT X4 handheld into the vehicles OBD2 port. Select "Program Vehicle", select the "ProCharger Custom Tune".
- 9 Follow the on screen prompts to continue and complete loading the custom ProCharger tune.



Tech Tip: Helpful link:

<https://www.sctflash.com/support/knowledge-base/loading-custom-tunes-on-my-sct-x4>



Note: Tuning your vehicle correctly is extremely important and is necessary for proper vehicle operation and safety. If you have any questions regarding tuning your vehicle or with any steps outlined in these instructions, call a technical service representative at (913) 338-2886.

FUEL SYSTEM PURGE

Stage 2 Systems Only

HO Systems, proceed to next section

- 1 Open the fuse box cover in engine bay. Remove the 20 amp fuel pump fuse located in position #56 by pulling the fuse up.
- 2 Crank the engine for 5 seconds to purge the fuel pressure from the fuel rails.
- 3 Turn the ignition off.
- 4 Replace the fuel pump fuse.

Fuel Pump Fuse (#56)



Fuel Pump Fuse Removal

GETTING STARTED



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

(A) Factory Air Filter Box

(B) Factory Inlet Pipe

Getting Started

- 1 Disconnect the negative battery cable from the battery using an 10mm.
- 2 Disconnect the (2) vent hoses from the intake tube.
- 3 Unclip the (2) retainers and remove the upper portion of the air filter box.



Disconnect Vent Hoses From Intake Tube

- 4 Loosen the (1) hose clamp using a 7mm socket on the throttle body.
- 5 Remove the upper portion of the airbox and intake tube assembly from the vehicle.



Loosen Throttle Body Clamp

- 6 Remove the lower portion of the airbox from the vehicle by removing the (1) bolt using a 13mm socket from the fender and (2) push clips on the front core support.



Remove Lower Portion of the Air Filter Box

- 7 Remove the upper radiator shroud from the vehicle by removing the push pins.



Remove Radiator Shroud

- 8 Remove the (1) push pin from the top of the headlight trim on both the driver and passenger side. Remove (2) 7mm screws from inside the wheel well. Swing the headlight trims out from the vehicle.



Tech Tip: Be careful not to scratch the trim in the middle of the headlight.



Headlight Trim Removal

- 9 Unplug the IAT sensor and the active shutters motor from behind the grille on top.



IAT and Active Shutter Motor Plugs

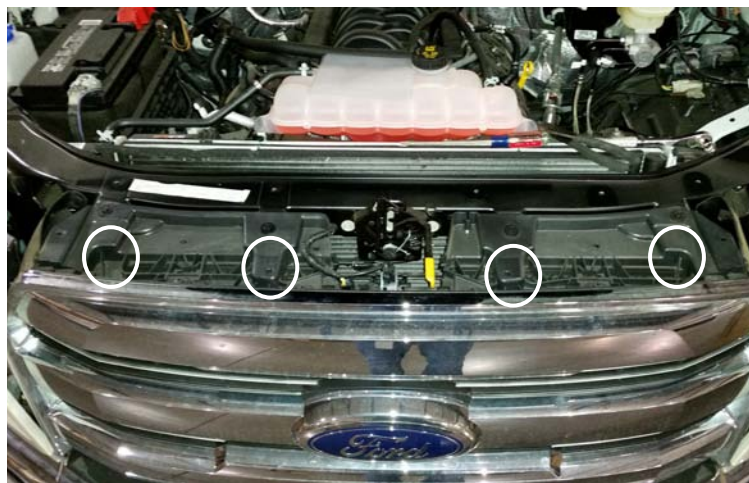
Getting Started

- 10** If equipped with a front camera, remove the vacuum line from the grille by compressing the push lock fitting.



Vaccum Line Removal

- 11** Remove the (4) 10mm screws from the top of the grille support.



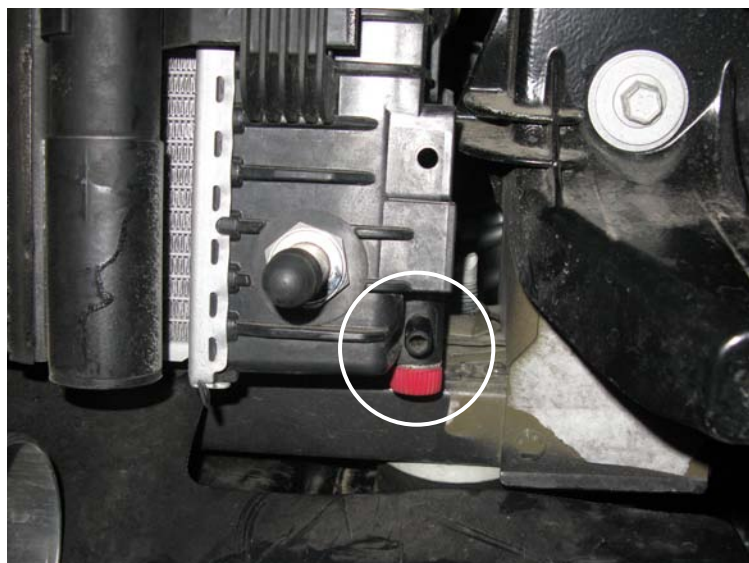
Remove Upper Grille Screws

- 12** Remove the (2) 8mm screws from the bottom sides of the grille support.



Remove Side Grille Screws

- 13** Remove the cap on the coolant tank. Place a rubber hose on the 3/8 nipple on the bottom driver side of the radiator. Drain the coolant in the cooling system by twisting the drain cock when all coolant has drained, tighten the drain cock.



Radiator Drain Cock

- 14** Remove the driver side PCV line located on the driver side valve cover.



Driver Side PCV Line Removal

Getting Started

- 15** Remove the (3) push pins in the grille from both the driver and passenger side air deflectors located between the headlights and the radiator.



Tech Tip: These can be removed from the vehicle after the grille has been taken out.

- 16** Remove the grille from the vehicle.



Remove Passenger Side Air Deflectors



Remove Driver Side Air Deflectors

COOLING SYSTEM

- 1 Disconnect the lower radiator hose from the water pump housing.



Disconnect Lower Radiator Hose

- 2 Install the supplied 1-1/2" diameter section of coolant hose with the supplied coupler as shown. This will extend the lower radiator hose to clear the bracket spacer installed later. Secure with (2) #24 hose clamps and factory hose clamp (note position of tabs on top to clear bracket installation).



Extend Lower Radiator Hose

✓ **Tech Tip:** It may be necessary to trim the factory radiator 1" to prevent a kinked hose.

- 3 Remove the upper radiator hose assembly. The spring clip on the lower plastic fitting must be released (pry on one end of clip with small screwdriver then slide clip out).



Remove Upper Radiator Hose

Cooling System

- 4 Cut the plastic ring clamp to remove, then remove the fitting from the upper radiator hose.

- 5 Re-install the fitting on the motor and secure it with the factory spring clip.



Cut Plastic Ring Clamp to Remove Fitting

- 6 Install the supplied upper radiator hose as shown and secure it with (2) #24 hose clamps.

✓ **Tech Tip:** For proper fitment it may be necessary to bend the A/C line slightly out of the way.



Re-install Fitting and Supplied Radiator Hose

- 7 Remove the (1) heater core hose from the coolant block located on the passenger side just below the crank pulley. Trim 1 1/4" from the heater core hose for clearance. Reinstall the hose.



Heater Core Hoses

FUEL INJECTOR INSTALLATION

Stage 2 Systems Only

✓ **Tech Tip:** Stage 2 Tuner kits do not include fuel injectors. Contact ProCharger for correct size and availability of upgraded injectors.

HO Systems, proceed to next section

- 1 If you have not already done so, de-pressurize the fuel system by completing the steps outlined in section 1 of this manual.
- 2 Remove the two foam insulators from the top of the fuel rails.
- 3 Place a shop towel underneath the fitting on the driver's side fuel rail where the stainless steel fuel supply line and fuel rail join. Push the two tabs on the fitting together and pull the supply line from the fuel rail, being careful to minimize fuel leakage. Unclip hose bracket from fuel rail in front of fitting.

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.

- 4 Disconnect the fuel injector electrical connectors one at a time, labeling them by their corresponding injector location, to ensure proper sequential injector firing order after re-assembly.



Remove Fuel Rail Insulators (2x)



Disconnect Fuel Supply Line



Unclip Hose Bracket From Fuel Rail

Fuel Injector Installation

- 5 Remove the fuel rail attaching bolts with a 10mm socket (4x).
- 6 Remove the fuel rail assembly as one piece with the injectors still attached and place on a clean work surface, making sure to support the assembly to avoid damaging any of the components.
- 7 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.

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.

- 8 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.
- 9 Reclip the electrical connectors to each fuel injector. Plug the supply line back into the rail. Clip the hose bracket onto fuel rail. Re-install the fuel rail insulators.



Remove Fuel Rail Mounting Bolts (4x)



2015-16 Model Years Only Remove Fuel Rail Spacers (4x)



New Fuel Injectors Installed
Onto Fuel Rail Assembly

CRANK PULLEY INSTALLATION

✓ **Tech Tip:** For vehicles utilizing an aftermarket ATI Performance Products balancer (part #918047), refer to the manufacturers installation instructions. The supplied crank pulley mounts to the damper using the (3) supplied 3/8-16 x 2.5" bolts and washers.

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



Remove Factory Balancer Bolt

- 2 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.



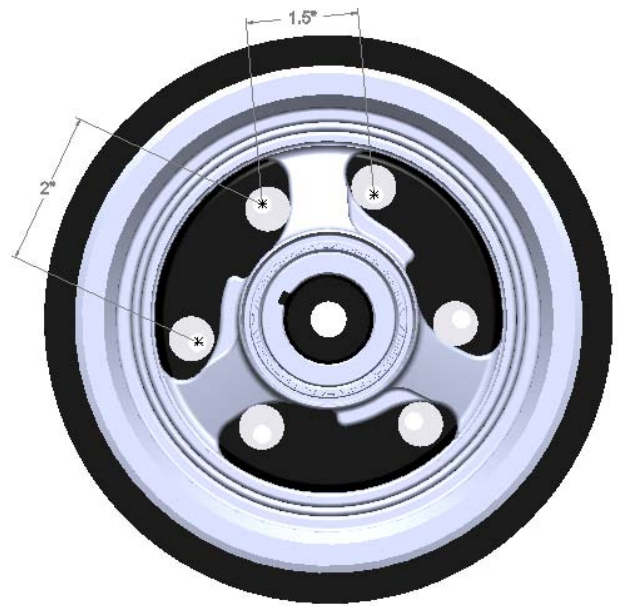
Back View of Crank Pulley and Cam Locks Installed

Crank Pulley Installation



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 at right for proper orientation).

- 3 Slide the factory crank bolt washer onto the supplied M12-1.5 x 120mm bolt and flat washer; using a 19mm socket, torque to 35 ft-lbs, then tighten the bolt an additional 90°.
- 4 Tighten the (6) cam lock bolts with a 1/2" socket.



Detailed View of Proper
Cam Lock Orientation



Crank Pulley Installed

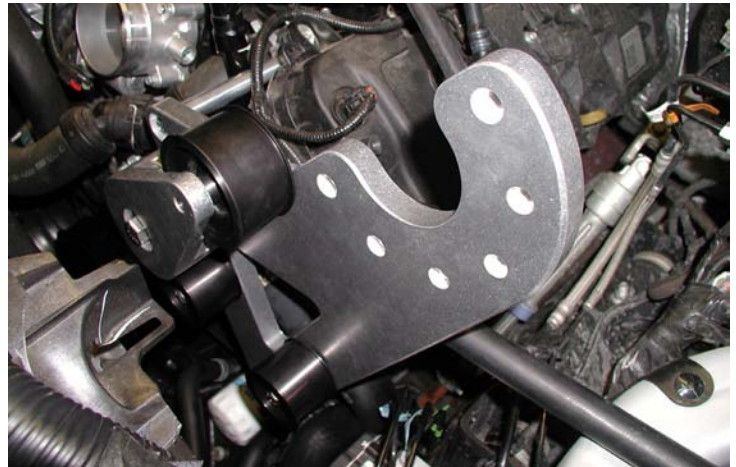
PROCHARGER BRACKET AND HEAD UNIT

- 1 Remove the (3) pieces of hardware labeled in the image at right. The alternator stud can be removed by using a 15mm socket, the remaining (2) bolts use a 13mm socket (the upper right bolt will have a plastic cap that needs to be pulled off before accessing the bolt).



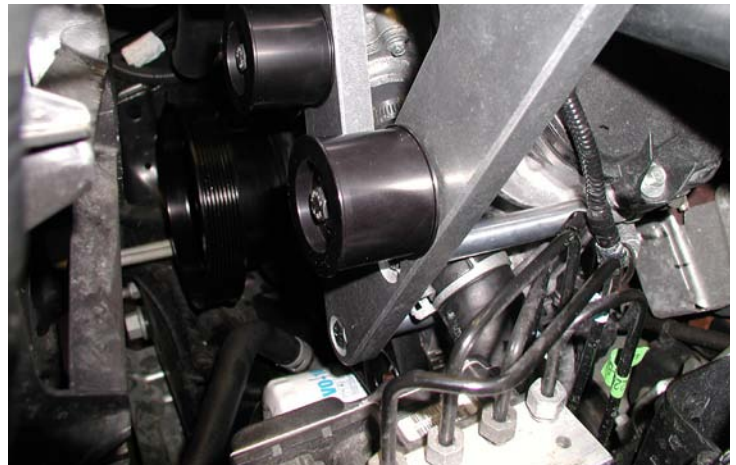
Remove Factory Hardware

- 2 Mount the main bracket loosely onto the vehicle by installing the M10-1.50 x 140mm bolt and washer through the bracket and 3.353" round spacer into the alternator mounting hole where the stud was removed earlier.



Main Bracket Installed

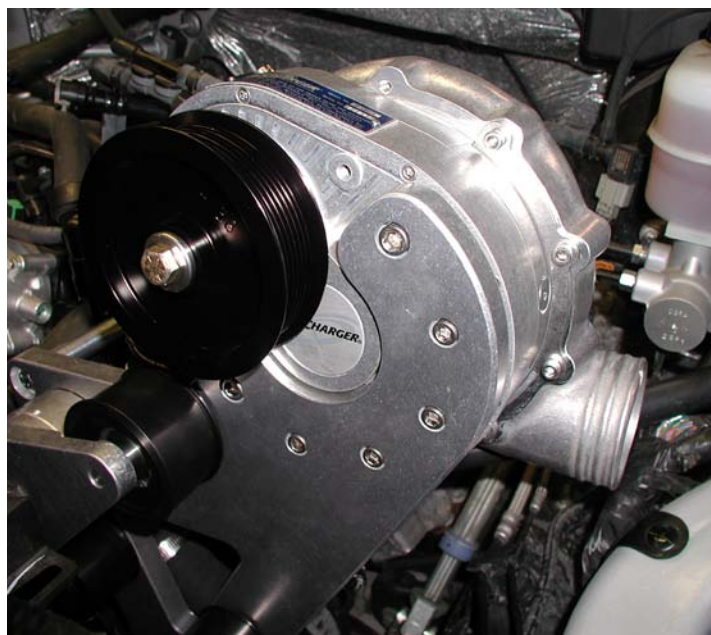
- 3 Slide the (2) 4.313" spacers between the bracket and engine front cover. Using the supplied M8-1.25 x 180mm bolts and washers, secure the assembly by tightening all three fasteners (13 & 17mm socket).



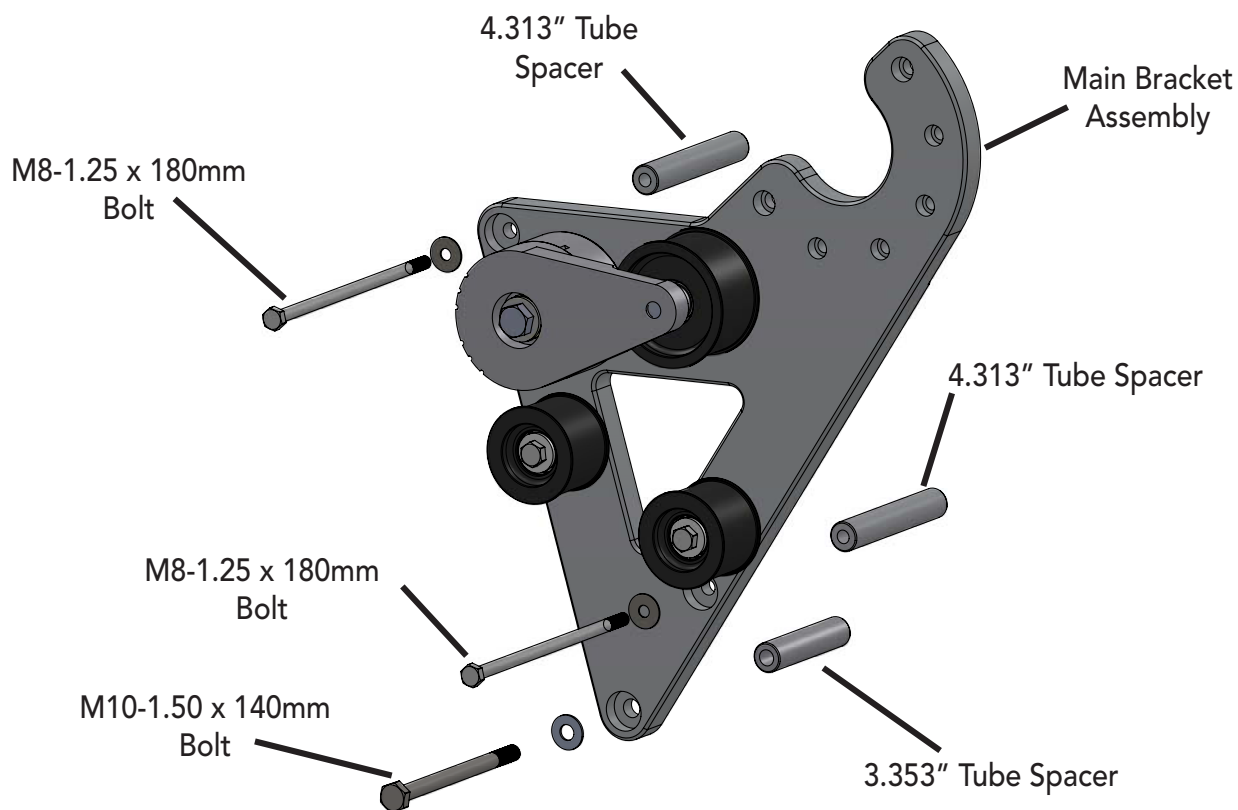
Main Bracket Installed (Lower Spacers)

ProCharger Bracket and Head Unit

- 4 Remove the oil fill reminder tag from the head unit. Fill the supercharger with (1) 6 ounce bottle of the supplied blower oil.
- 5 Mount the ProCharger onto the main bracket using the provided (4) 5/16-18 x 1" and (2) 3/8-16 x 1.25" SHCS's. Tighten the fasteners using a 1/4" and 5/16" hex bit.

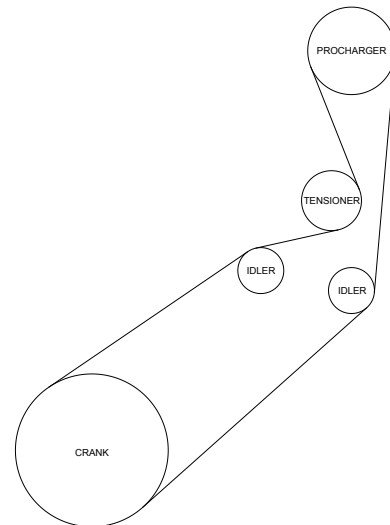


Procharger Head Unit Installed



Main Bracket Schematic

- 6 Install the supplied supercharger belt. Refer to the supercharger belt schematic for proper routing.



Supercharger Belt Schematic

- 7 Tighten the belt by rotating the brass tensioner collar clockwise using a 1/2" socket and extension from underneath supercharger as shown. Tension until first set of marks are nearly in line as shown in lower right picture.

Tension With 1/2" Socket & Extension

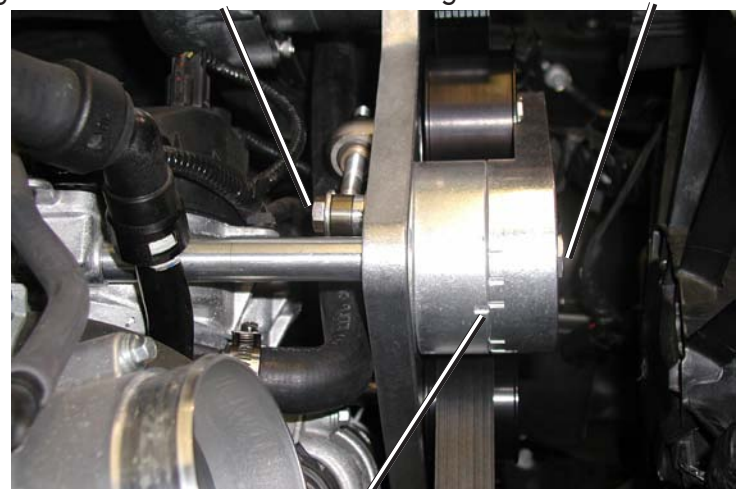


Belt Tensioning (Brass Collar Access)

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

Tighten With 9/16" Wrench

Tighten With 3/4" Wrench



Correct Tension Position

Tighten Rear Tensioner Bolts

OIL COOLER RELOCATION

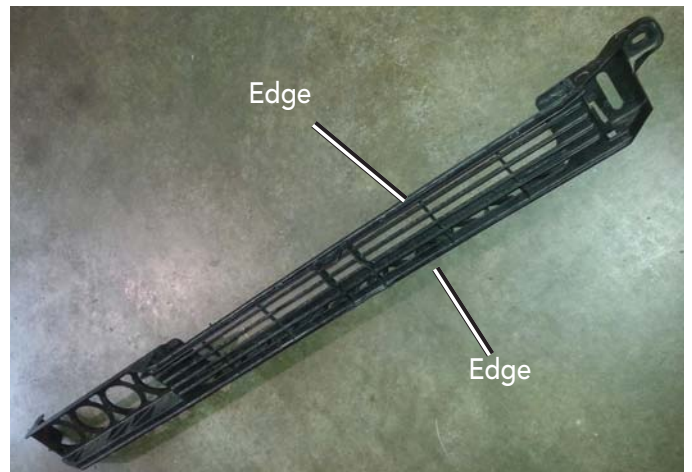
If Equipped, If Not Skip to the Next Section

- 1 Remove the oil cooler from the radiator by removing the (2) screws using a 10mm socket.
- 2 Remove both oil cooler lines from the oil cooler.
- 3 Remove the oil cooler from the plastic mount by slidding the oil cooler downward. This will release it from the clips.



Oil Cooler Removal

- 4 With the plastic oil cooler mount removed, trim the front edges of the oil cooler. Trim the edges such that they are the same height as the fins in the middle.



Trim Plastic Oil Cooler Mount

✓ **Tech Tip:** *Trimming the edges of the plastic oil cooler allows adequate clearance for the relocation of the oil cooler behind the upper intercooler mount.*

- 5 Unplug both horns. Remove the (1) bolt using a 10mm socket and remove the horn assembly from the vehicle.



Horn Removal

✓ **Tech Tip:** 2015 model years have 3/8" hose. 2016 model years have 1/2" hose.

6 Remove both lines from the oil cooler. Insert a provided 90° plastic fitting into both the driver and passenger side hose.

7 Slide the provided rubber hose on both fittings. Reconnect the oil cooler to the extended oil cooler lines. Trim the hoses to length as needed.

8 Reinstall the oil cooler in the trimmed oil cooler mount as shown.

9 Install the driver side oil cooler bracket to the plastic oil cooler mount using the provided (1) M6 bolt, (2) washers, and (1) nut.

10 Install the oil cooler to the radiator utilizing the provided (2) M6 bolts, (4) washers, and (2) nuts as shown.



Oil Cooler Lines



Driver Side Oil Cooler Mount



Passenger Side Oil Cooler Mount

Oil Cooler Relocation

- 11** Reinstall the horn assembly on the vehicle as shown in the original position using the original bolt.

✓ **Tech Tip:** The horns are flipped from their original position. Also swap the plugs to prevent stretching the harness.



Horn Reinstalled



Oil Cooler Relocated

OIL COOLER LINE RELOCATION

If Equipped w/ External Cooler, Skip to the Next Section

- 1 Follow the (2) oil cooler lines beneath the radiator and locate the (1) 10mm bolt located beneath the radiator support.



Oil Cooler Lines

- 2 Remove the (1) bolt using a 10mm socket.



Remove Bolt Securing Lines

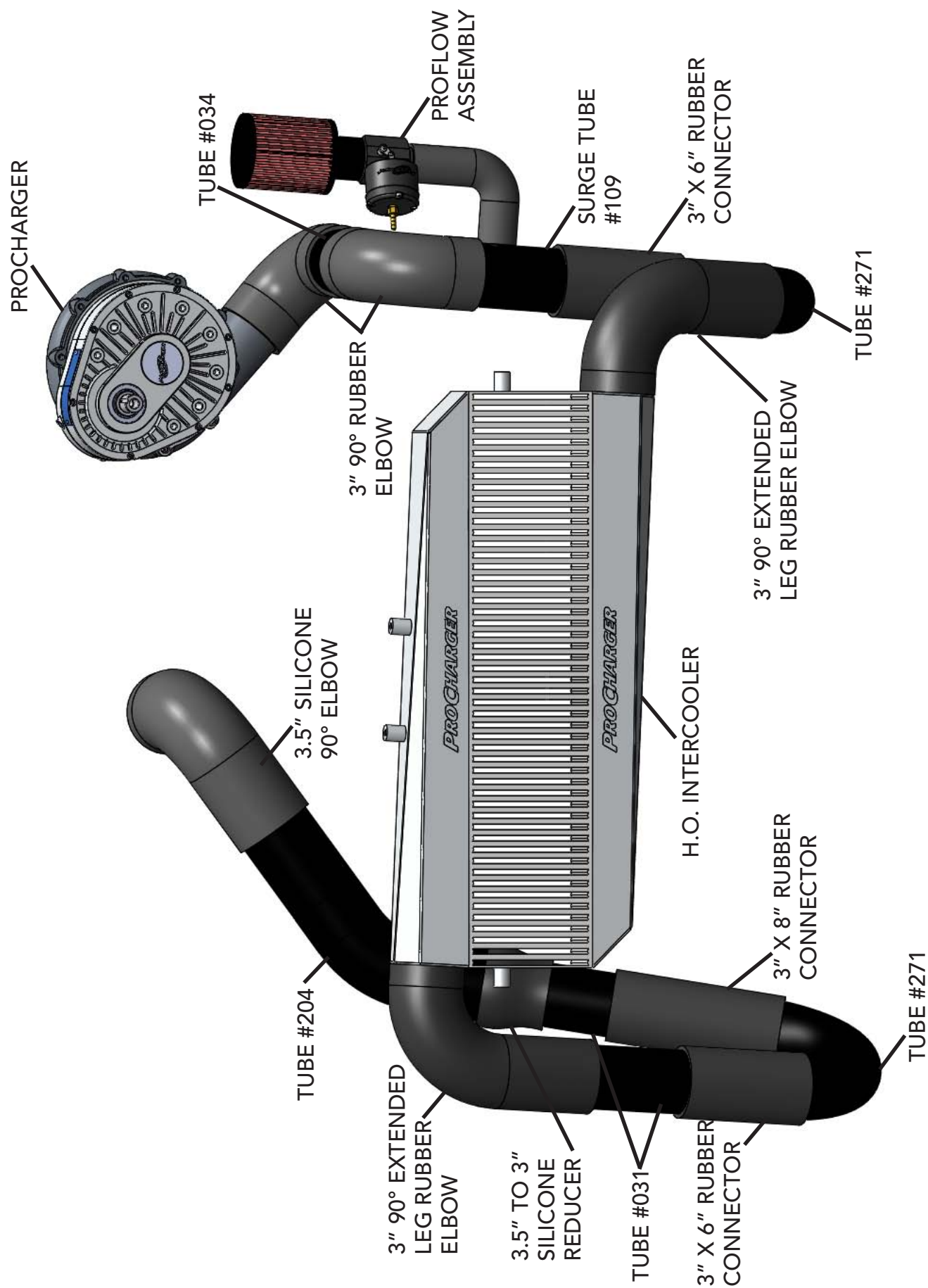
- 3 Remove the bottom oil cooler line mounting tab from its factory position and reinstall the bolt securing the (2) oil cooler lines.



Remove Mounting Tab

✓ **Tech Tip:** Removing the oil cooler lines position tab allows the line to be twisted and easily moved out of the way.

3 CORE INTERCOOLER SCHEMATIC



3 CORE INTERCOOLER AND INSTALLATION

Race IC Installation starts on page 29

Grille Modifications

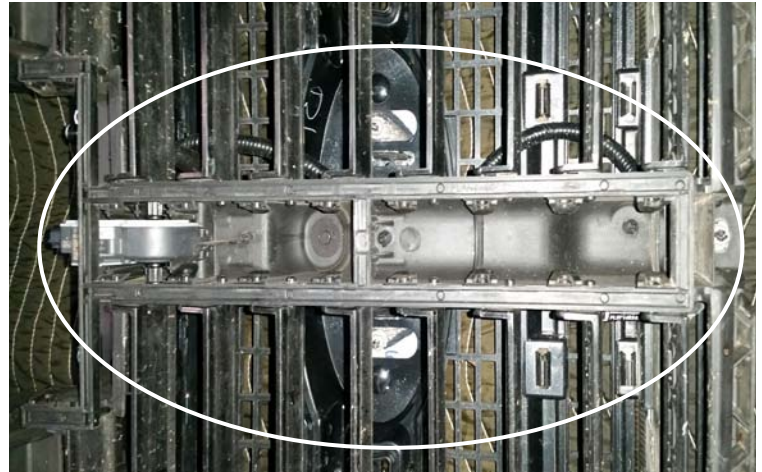
- 1 Place the grille facing down on the ground.
- 2 Remove the Y-shaped actuator bar from the active shutters. Individually pull each tab outward from each shutter blade.

✓ **Tech Tip:** Once all of the tabs are released from each shutter blade the actuator bar can be removed from the grille.

- 3 Remove the bottom (7) sets of shutters and the (1) set of shutters from the top of the grille. Carefully bend each individual blade in order to remove the rotation nipple from its mount.

✓ **Tech Tip:** Once the blade is released from its mounting point slide the blade out from the other joint. Remove the blade from the grille.

- 4 The actuator bar and removed shutters will not be used. The only set of shutter blades remaining on the grille are those connected to the active shutter motor.



Y-Shaped Actuator Bar Removal



Remove Shutter Blades



All Shutters Removed

3 Core Intercooler Install

✓ **Tech Tip:** To ease installation, leave hose clamps and brackets loose until all tubes have been positioned. Trim rubber connectors as desired after test fitting all tubing to determine proper length required.

1 Mark the hood latch position, then remove the (2) bolts from the hood latch using a 10mm socket. Install the upper intercooler bracket behind the hood latch and re-install the hood latch bolts.

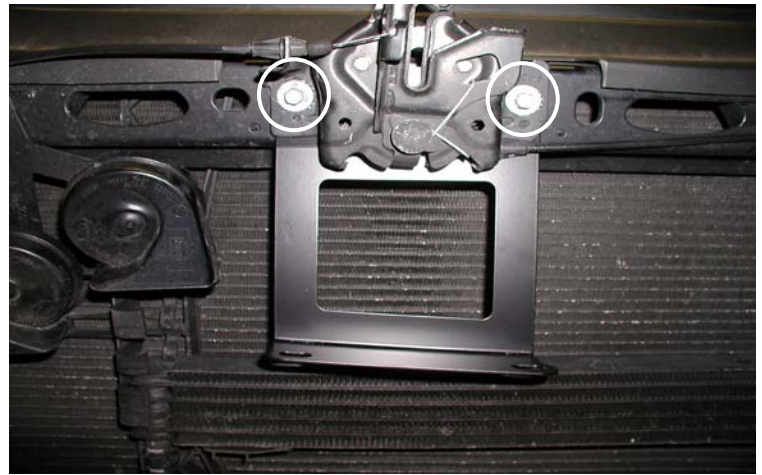
2 Mount the intercooler to the upper bracket using (2) supplied 3/8"-16 X 7/8" socket head cap screws with washers

✓ **Tech Tip:** Be sure to mount the intercooler as close to the radiator as possible.

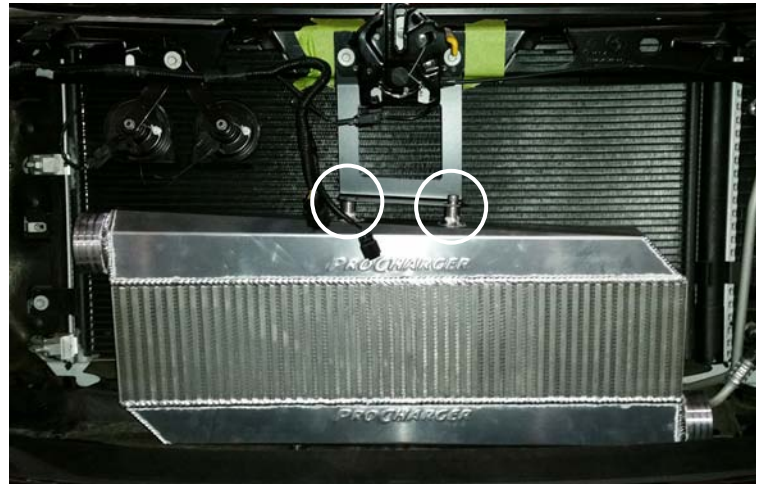
3 Install the driver's side intercooler bracket (AIFY1A-005) to the radiator using the (1) supplied M6 bolt, (2) washers, and (1) jam nut.

4 Mount the intercooler to the driver's side intercooler bracket using the (1) supplied 3/8"-16 X 7/8" socket head cap screw with washer.

! **Note:** Securing the driver's side intercooler bracket to the intercooler may require the use of a 3/4" long tube spacer and 3/8"-16 X 1-1/2" socket head cap screw with washer.



Upper Intercooler Bracket Installed



Intercooler Installed to Upper Bracket



Driver Side Intercooler Bracket

- 5 Install the passenger's side intercooler bracket (AIFY1A-006) to the radiator using the (1) factory bolt already in the radiator.
- 6 Mount the intercooler to the passenger's side intercooler bracket using the (1) supplied 3/8"-16 X 7/8" socket head cap screw with washer.



Passenger Side Intercooler Bracket

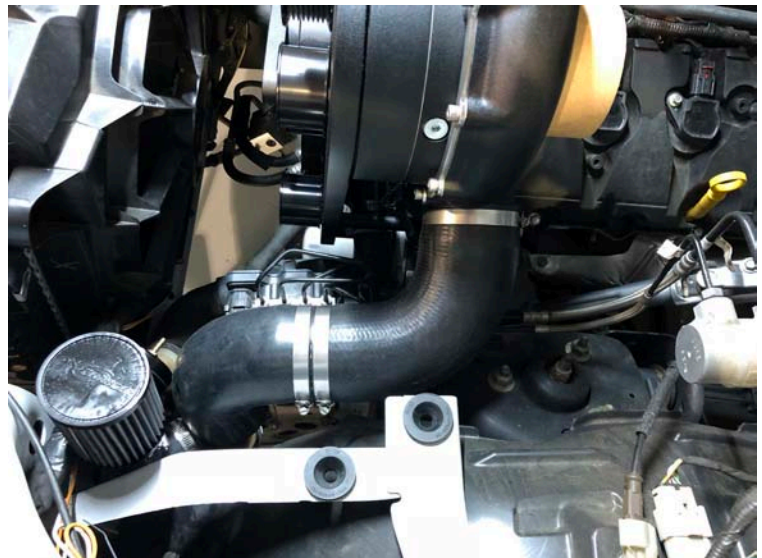


Tech Tip: All hose connections for the intercooler tubing will utilize the #52 hose clamps except the couplers which connect to the 3-1/2" intake tube. Use the #64 hose clamps for this tube.



Intercooler Installed

- 7 Connect the ProCharger to the 3" rubber 90° coupler using a #52 hose clamp.
- 8 Insert tube #034 into the 90° rubber coupler and secure with a #52 hose clamp.



Blower Discharge

Intercooler and Tubing

- 9 Connect the 3" rubber 90° coupler to tube #134 as shown using a #52 hose clamp.

- 10 Insert surge tube #109 into the 90° rubber coupler and secure with a #52 hose clamp.

✓ **Tech Tip:** Removal of (1) clip and (2) 5.5mm screws from the driver side wheel liner will allow easier maneuverability. This will make it easier to route the tubes through it. Once tubes are routed re-insert the clip and screws to secure the wheel liner.

- 11 Slide the 3" x 6" rubber coupler onto surge tube #109 followed by tube #271. Secure the connections with #52 hose clamps.

- 12 Finish the install to the intercooler by sliding the extended leg 90° rubber elbow (short leg to intercooler) onto tube #271 and onto the inlet of the intercooler.

- 13 Connect the 3" rubber 90° coupler to tube #399 using a #52 hose clamp. Route the coupler behind the headlight towards the intercooler inlet. Secure the connection with a #52 hose clamp.



Surge Tube #109 Installed



Tube #271 Installed



Tubing To Intercooler Installed

- 14 Insert the short end of the 1-1/2" rubber 90° elbow onto the surge bung on tube #109.

✓ **Tech Tip:** Relocate the lower oil cooler line as needed for proper tube fitment.

- 15 Connect the ProFlow surge valve to the 1-1/2" rubber 90° elbow using #24 hose clamps. Be sure the mechanical linkage for the surge valve is free to move and is not coming in contact with any objects.



Surge Valve Installed

- 16 Install the supplied air filter onto the ProFlow surge valve and secure with the supplied hose clamp.

- 17 Connect the short leg of the 3" extended leg rubber 90° coupler to the intercooler outlet using a #52 hose clamp.

- 18 Insert tube #031 into the 3" 90° rubber coupler and secure with a #52 hose clamp.

- 19 Connect the 3" x 8" rubber connector onto tube #034 using a #52 hose clamp.



Intercooler Outlet Orientation

Intercooler and Tubing

- 20 Insert tube #271 into the 3" x 8" rubber coupler as shown. Secure with a #52 hose clamp.

✓ **Tech Tip:** Removal of (1) clip and (2) 5.5mm screws from the pass side wheel liner will allow easier maneuverability. This will make it easier to route the tubes through it. Once tubes are routed re-insert the clip and screws to secure the wheel liner.

- 21 Slide a 3" x 6" section of rubber tubing over tube #271 followed by tube #031. Secure with #52 hose clamps.



Tube #271 Installed

- 22 Slide the 3" to 3.5" silicone reducer onto tube #031. Secure with a #52 hose clamp.

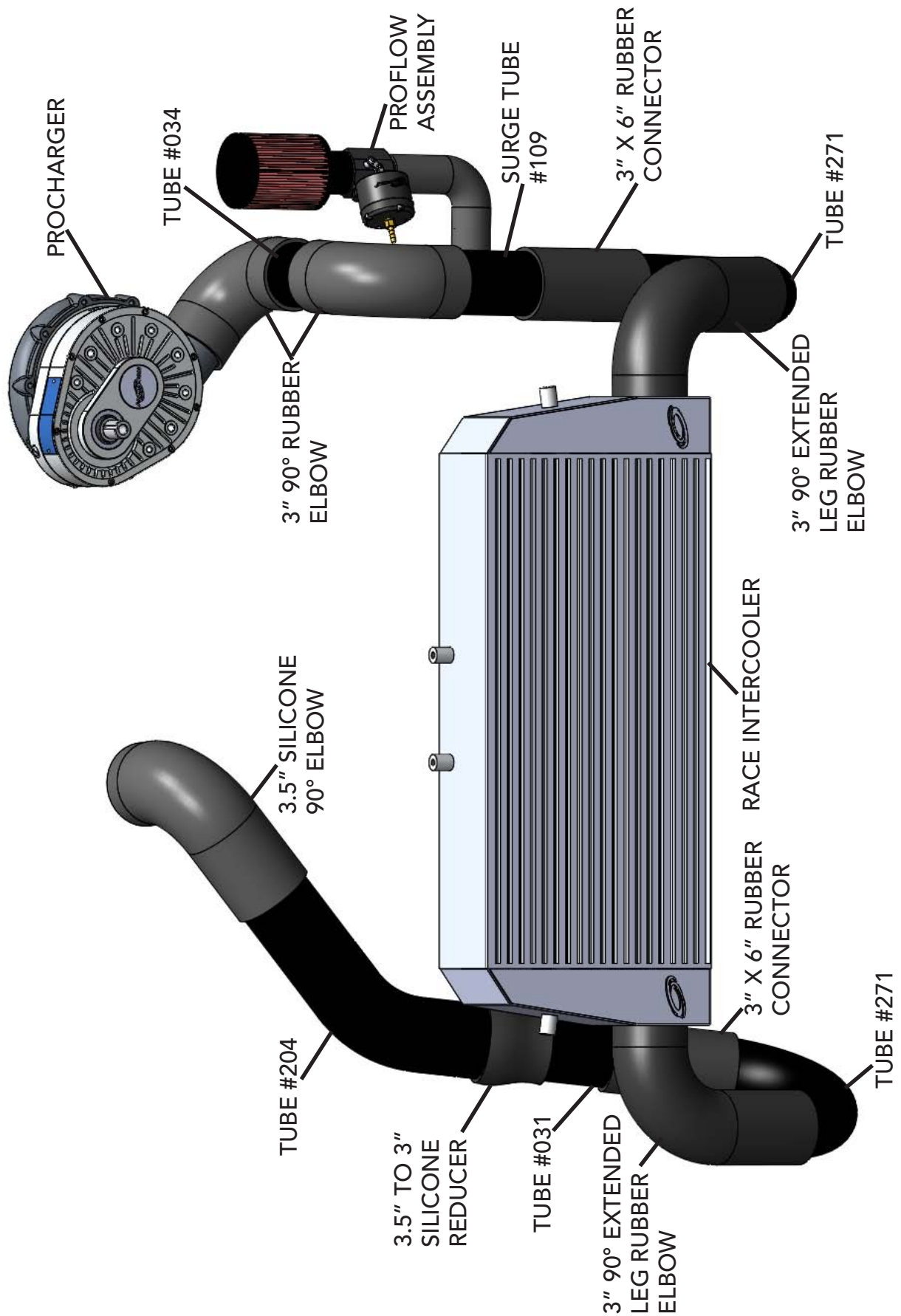
- 23 Finish the connection to the throttle body by inserting tube #204 into the silicone reducer followed by a 3.5" 90° silicone elbow. Slide the Silicone elbow onto the throttle body. Secure connections with 3.75" T-bolt clamps.



Tubing To Throttle Body Installed

✓ **Tech Tip:** Any location where steel tubes could abrade on the chassis should be cushioned with the supplied self-adhesive rubber strips.

RACE INTERCOOLER SCHEMATIC



RACE INTERCOOLER AND INSTALLATION

3 Core, proceed to next section

Grille Modifications

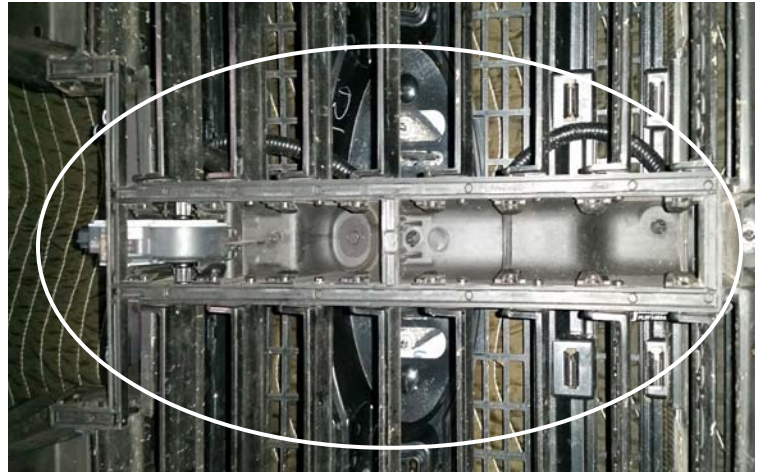
- 1 Place the grille facing down on the ground.
- 2 Remove the Y-shaped actuator bar from the active shutters. Individually pull each tab outward from each shutter blade.

✓ **Tech Tip:** Once all of the tabs are released from each shutter blade the actuator bar can be removed from the grille.

- 3 Remove all sets of shutters from the grille. Carefully bend each individual blade in order to remove the rotation nipple from its mount.

✓ **Tech Tip:** Once the blade is released from its mounting point slide the blade out from the other joint. Remove the blade from the grille.

- 4 Remove the AAT sensor and harness for relocation.



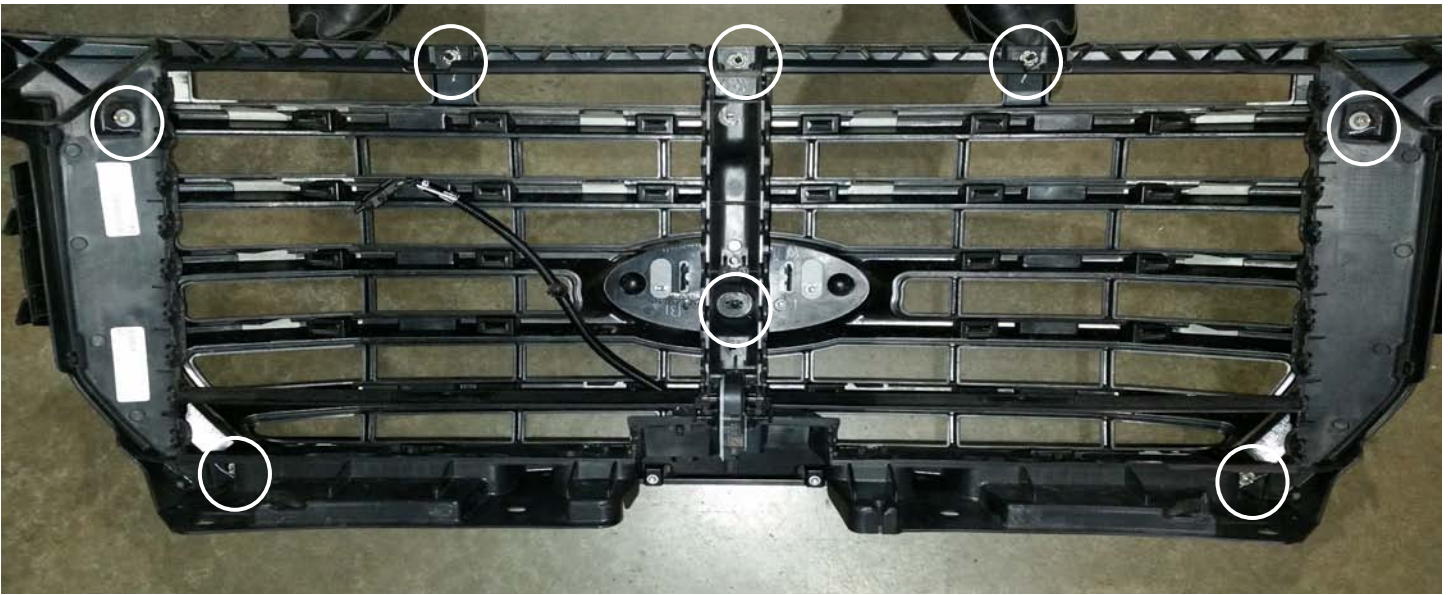
Y-Shaped Actuator Bar Removal



Remove Shutter Blades



Remove IAT Wire



Grille Removal

- 5 Remove the plastic grille mount from the grille. On the top of the grille remove the (4) push pins. Using a 10mm socket remove the (7) nuts from the back. Using an 8mm socket remove the (1) screw from the middle.
- 6 Separate the mount from the grille. Trim the mount as shown for adequate clearance for the large intercooler.
- 7 Reassemble the modified grille mount back onto the grille.
- 8 Relocate the IAT sensor as shown.



Grille Mount Modification



IAT Sensor Relocation

Race Intercooler Install

✓ **Tech Tip:** To ease installation, leave hose clamps and brackets loose until all tubes have been positioned. Trim rubber connectors as desired after test fitting all tubing to determine proper length required.

1 Mark the hood latch position, then remove the (2) bolts from the hood latch using a 10mm socket. Install the upper intercooler bracket behind the hood latch and re-install the hood latch bolts.

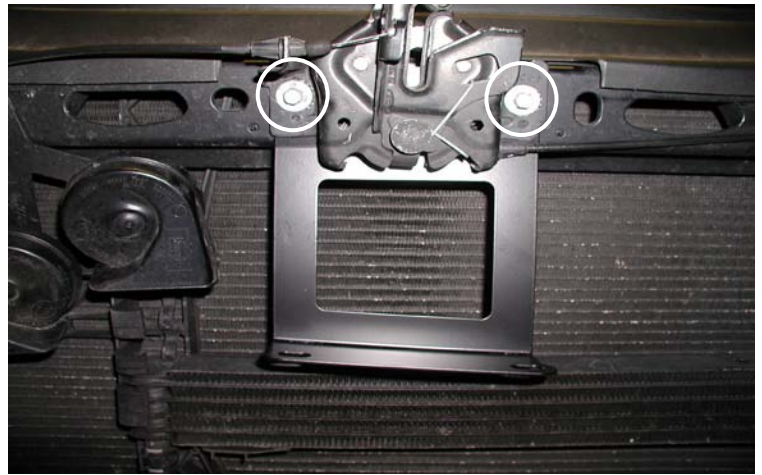
2 Mount the intercooler to the upper bracket using (2) supplied 3/8"-16 X 7/8" socket head cap screws with washers

✓ **Tech Tip:** Be sure to mount the intercooler as close to the radiator as possible.

3 Install the driver's side intercooler bracket (AIFY1A-005) to the radiator using the (1) supplied M6 bolt, (2) washers, and (1) jam nut.

4 Mount the intercooler to the driver's side intercooler bracket using the (1) supplied 3/8"-16 X 7/8" socket head cap screw with washer.

! **Note:** Securing the driver's side intercooler bracket to the intercooler may require the use of a 3/4" long tube spacer and 3/8"-16 X 1-1/2" socket head cap screw with washer.



Upper Intercooler Bracket Installed



Intercooler Installed to Upper Bracket



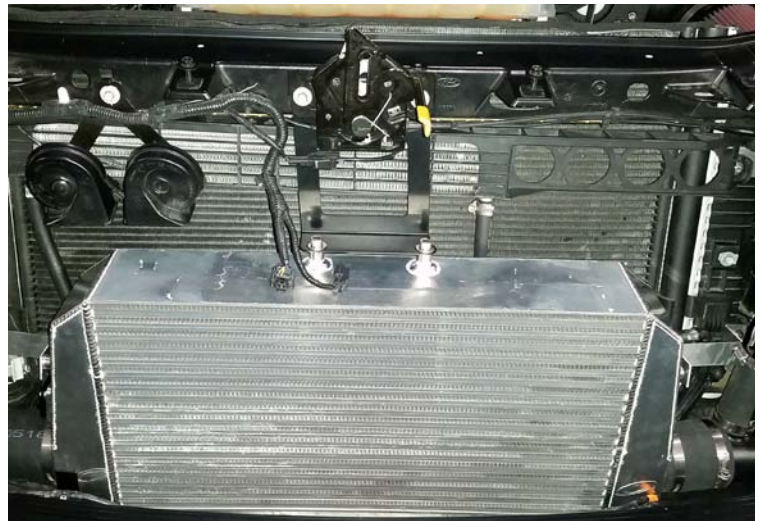
Driver Side Intercooler Bracket

- 5 Install the passenger's side intercooler bracket (AIFY1A-006) to the radiator using the (1) factory bolt already in the radiator.
- 6 Mount the intercooler to the passenger's side intercooler bracket using the (1) supplied 3/8"-16 X 7/8" socket head cap screw with washer.



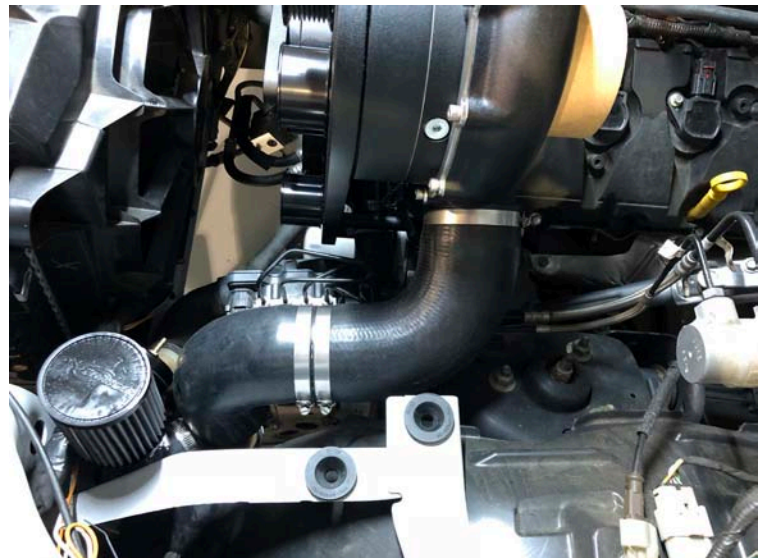
Passenger Side Intercooler Bracket

✓ **Tech Tip:** All hose connections for the intercooler tubing will utilize the #52 hose clamps except the couplers which connect to the 3-1/2" intake tube. Use the #64 hose clamps for this tube.



Intercooler Installed

- 7 Connect the ProCharger to the 3" rubber 90° coupler using a #52 hose clamp.
- 8 Insert tube #034 into the 90° rubber coupler and secure with a #52 hose clamp.



Blower Discharge

Intercooler and Tubing

- 9 Connect the 3" rubber 90° coupler to tube #134 as shown using a #52 hose clamp.

- 10 Insert surge tube #109 into the 90° rubber coupler and secure with a #52 hose clamp.

✓ **Tech Tip:** Removal of (1) clip and (2) 5.5mm screws from the driver side wheel liner will allow easier maneuverability. This will make it easier to route the tubes through it. Once tubes are routed re-insert the clip and screws to secure the wheel liner.

- 11 Slide the 3" x 6" rubber coupler onto surge tube #109 followed by tube #271. Secure the connections with #52 hose clamps.

- 12 Finish the install to the intercooler by sliding the extended leg 90° rubber elbow (short leg to intercooler) onto tube #271 and onto the inlet of the intercooler.

- 13 Connect the 3" rubber 90° coupler to tube #399 using a #52 hose clamp. Route the coupler behind the headlight towards the intercooler inlet. Secure the connection with a #52 hose clamp.



Surge Tube #109 Installed



Tube #271 Installed



Tubing To Intercooler Installed

- 14 Insert the short end of the 1-1/2" rubber 90° elbow onto the surge bung on tube #109.

✓ **Tech Tip:** Relocate the lower oil cooler line as needed for proper tube fitment.

- 15 Connect the ProFlow surge valve to the 1-1/2" rubber 90° elbow using #24 hose clamps. Be sure the mechanical linkage for the surge valve is free to move and is not coming in contact with any objects.

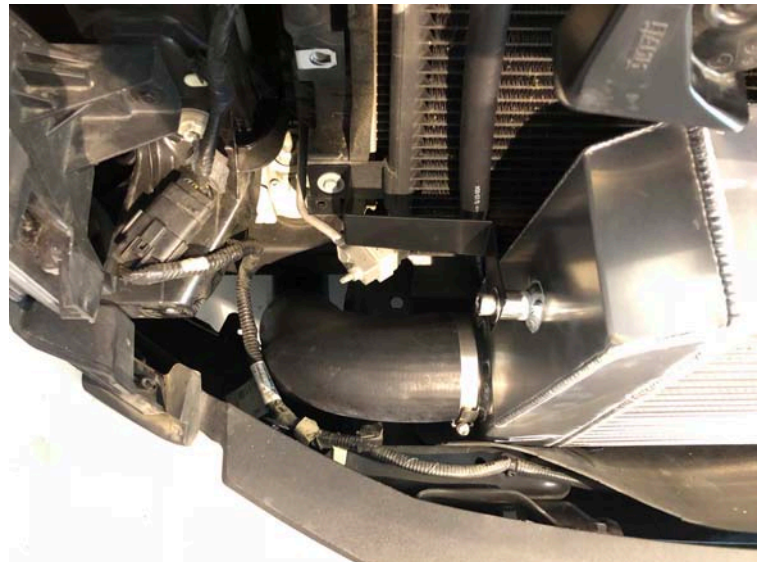


Surge Valve Installed

- 16 Install the supplied air filter onto the ProFlow surge valve and secure with the supplied hose clamp.

- 17 Connect the short leg of the 3" extended leg rubber 90° coupler to the intercooler outlet using a #52 hose clamp.

- 18 Insert tube #271 into the 3" 90° rubber coupler and secure with a #52 hose clamp.



Intercooler Outlet Orientation

Intercooler and Tubing

✓ **Tech Tip:** Removal of (1) clip and (2) 5.5mm screws from the pass side wheel liner will allow easier maneuverability. This will make it easier to route the tubes through it. Once tubes are routed re-insert the clip and screws to secure the wheel liner.

19 Slide a 3" x 6" section of rubber tubing over tube #271 followed by tube #031. Secure with #52 hose clamps.

20 Slide the 3" to 3.5" silicone reducer onto tube #031. Secure with a #52 hose clamp.

21 Finish the connection to the throttle body by inserting tube #204 into the silicone reducer followed by a 3.5" 90° silicone elbow. Slide the Silicone elbow onto the throttle body. Secure connections with 3.75" T-bolt clamps.

✓ **Tech Tip:** Any location where steel tubes could abrade on the chassis should be cushioned with the supplied self-adhesive rubber strips.



Tube #271 Installed



Tubing To Throttle Body Installed

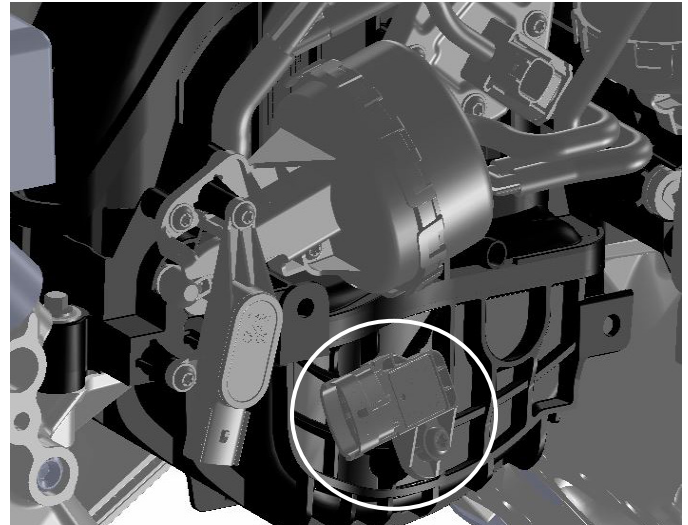
MAP SENSOR REPLACEMENT

- 1 Using a T25 (2015-16 Model Year) and T30 (2017+ Model Year) torx bit remove the factory MAP sensor from the back of the intake.

✓ **Tech Tip:** This is a difficult process without removing the intake. It is easier to access from the driver's side of the intake manifold.

- 2 Using the factory bolt install the supplied MAP sensor in place of the factory one.

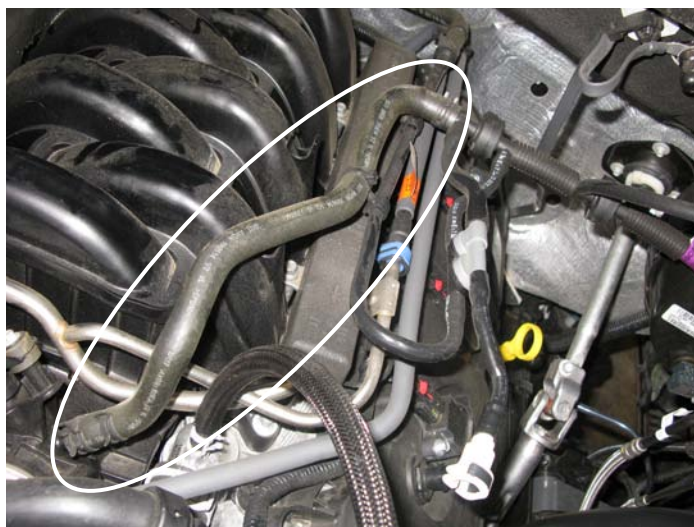
✓ **Tech Tip:** Lubricate the oring of the new MAP sensor with oil. This will make it easier to slide into the intake.



MAP Sensor on Back of Intake

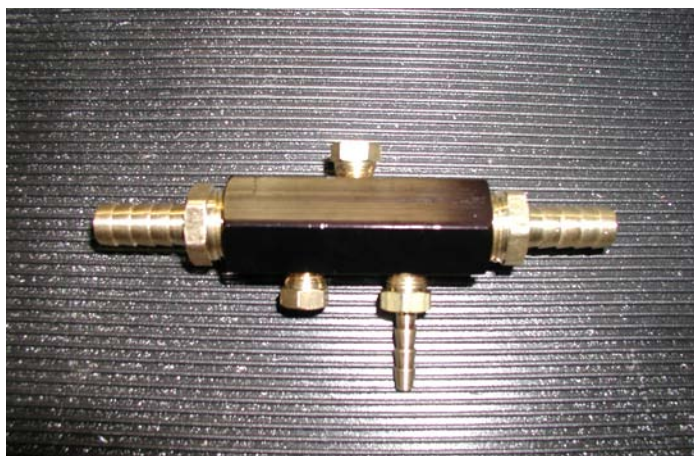
VACUUM MANIFOLD

- 1 Cut a 3" piece out of the factory vacuum line.



Cut Vacuum Line

- 2 Assemble the supplied vacuum manifold using the provided barb fittings and plugs. If you are not going to use a boost gauge, assemble with one $\frac{3}{16}$ " barb fitting, otherwise install two $\frac{3}{16}$ " barb fittings, then plug the remaining $\frac{1}{8}$ " port(s).



Vacuum Manifold Assembled

- 3 Install the vacuum manifold and securely clamp in place using the supplied #8 hose clamps, making sure that there are no vacuum leaks at the splice points.



Vacuum Manifold Installed

4 Relocate the factory vacuum tree along the fuel rail next to the vacuum manifold if not done so already. Remove the factory PCV line from the end of the factory tree. Install the supplied 3/8" vacuum cap to the open end of the tree.

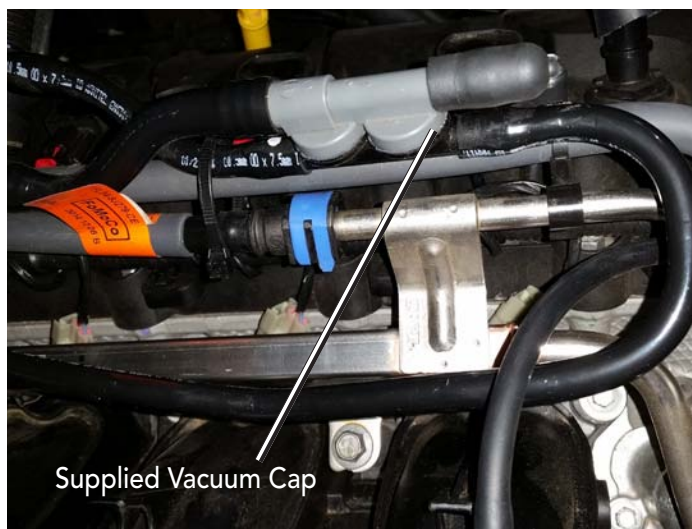
5 Attach the supplied 3/16" vacuum hose to one of the 3/16" barb fittings on the installed vacuum manifold, then route and attach to the surge valve vacuum port. Attach a boost gauge (if installed) to the other 3/16" barb fitting.

6 Loosely secure the vacuum manifold and lines with zip ties as needed.

Warning: Ensure the vacuum line is free of kinks and is not pinched by zip ties or the ProFlow will be inoperable, which may result in damage to the ProCharger from surging.



Vacuum Tree Relocation



Vacuum Tree Plug

PCV AND AIR FILTER

- 1 Remove the passenger side PCV line.



Passenger Side PCV Line Removal

- 2 Locate the PCV bag. Slide a 5/8" rubber cap onto each open bung located on the intake manifold and the passenger's side valve cover. Secure the cap on the intake manifold with the a #10 hose clamp.



Rubber Caps Installed

- 3 Locate the factory PCV line that has a 90° fitting removed in the first section of this manual. Remove the factory hardline from the 90° fitting as shown.

- 4 Attach 5/8" rubber hose to 90° fitting and secure with a #10 hose clamp.

- 5 Place the fitting on the driver's side pcv bung on the driver's side valve cover.



PCV Line Modified

- 6 Locate the air inlet bag. Install the trimmed side of the 90° rubber coupler onto the blower inlet with a #60 hose clamp but do not tighten.
- 7 Insert tube #389 in the 90° rubber coupler located on the blower.
- 8 Drill a 1/2" hole in the end of the air filter. Install the 5/8" 90° barb fitting in the end of the air filter.
- 9 Install the air filter with hose clamp onto tube #389. Trim and attach the 5/8" hose to the barb fitting in the air filter. Adjust the PCV line so there are no kinks.
- 10 Tighten all the hose clamps.



PCV Line Installed



Air Filter Inlet Installed

FINAL ASSEMBLY

- 1** Inspect 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. Any locations where steel tubes could abrade on the chassis should be cushioned with the supplied self-adhesive rubber strips.
- 2** Trim and re-install the air deflectors as desired.
- 3** Re-install the grille and headlight trim.
- 4** Reconnect the negative battery cable to the battery.



CONGRATULATIONS! YOU HAVE COMPLETED THE INSTALLATION OF YOUR NEW PROCHARGER SUPERCHARGER SYSTEM. FOR FULL SYSTEMS, TUNING INSTRUCTIONS ARE ON THE FOLLOWING PAGE. IF YOU DO NOT HAVE A FULL SYSTEM, ADDITIONAL TUNING WILL BE REQUIRED BEFORE STARTING THE VEHICLE. READ THE FOLLOWING PAGES CAREFULLY FOR OPERATION AND MAINTENANCE INSTRUCTIONS, AS WELL AS WARRANTY INFORMATION.

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**

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

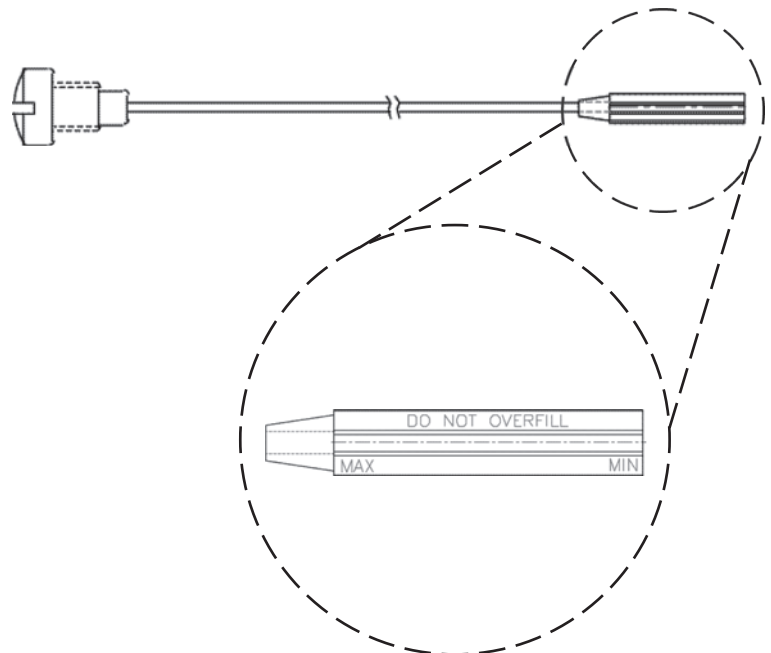
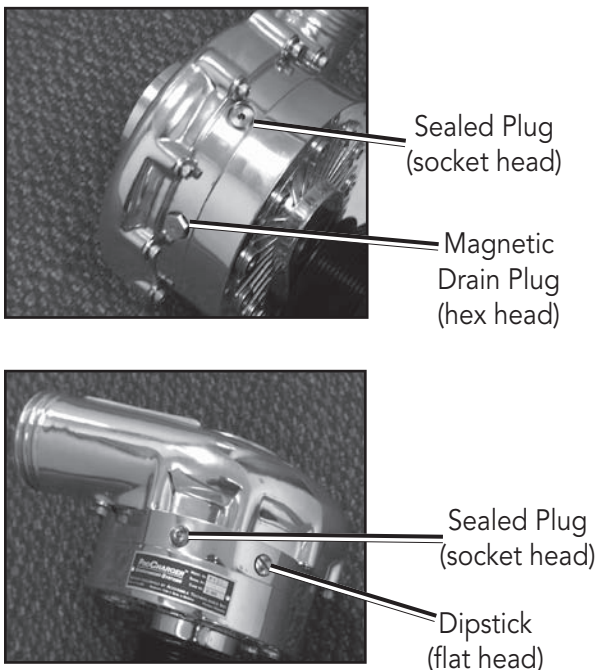
The ProCharger supercharger's oil level must be checked periodically to ensure the proper lubrication. The dipstick can be loosened using a flat blade screwdriver or a coin. When installed, the oil level should remain between the minimum (MIN) and maximum (MAX) indicators at all times.

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.

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.



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.

ProCharger Extended Coverage Program Registration Form

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

Name: _____

Date of Purchase: _____

Address: _____

Purchased From: _____

City: _____

ProCharger Serial #: _____

State: _____ Zip: _____

Vehicle Year: _____

Daytime phone: _____

Vehicle Make: _____

Evening phone: _____

Vehicle Model: _____

E-mail: _____

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

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

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

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

___ 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 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

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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Lenexa, KS 66215
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Part Number PMFY1A-001 Rev. F

