

2010+ Toyota 4-Runner 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® 2010+ Toyota 4-Runner Intercooled System. Read this entire manual before you attempt to install your ProCharger kit. It is imperative that you follow all of the instructions in the order they appear in this installation guide. If you have any questions regarding any aspect of this installation, call us at (913) 338-2886.

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

Required Tools and Supplies

- Open End Wrench Set (standard & metric)
- 3/8" & 1/2" Socket Sets (standard & metric)
- Hex Bit Set (standard & metric)
- 7mm & 8mm nut driver
- Torx bit Set
- Pry Bar
- 1/2" Breaker Bar
- Flat & Phillips Screwdrivers
- Plier Set
- Hose cutter
- Air Saw or Hack Saw
- Drill Bit Set and Drill
- Torque Wrench



Tech Tip: *Installing spark plugs that are one heat range colder than stock (NGK 7505 recommended) and gapping your plugs to .035" is recommended.*



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 4-Runner 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.*

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TUNING IS REQUIRED WHEN INSTALLING YOUR PROCHARGER SYSTEM. IF A COMPLETE SYSTEM WAS PURCHASED, SEE SUPPLEMENTAL TUNING GUIDE. IF A TUNER KIT WAS PURCHASED, TUNING WILL HAVE TO BE PERFORMED BEFORE OPERATING THE VEHICLE.

GETTING STARTED



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

(A) Factory Air Filter Box

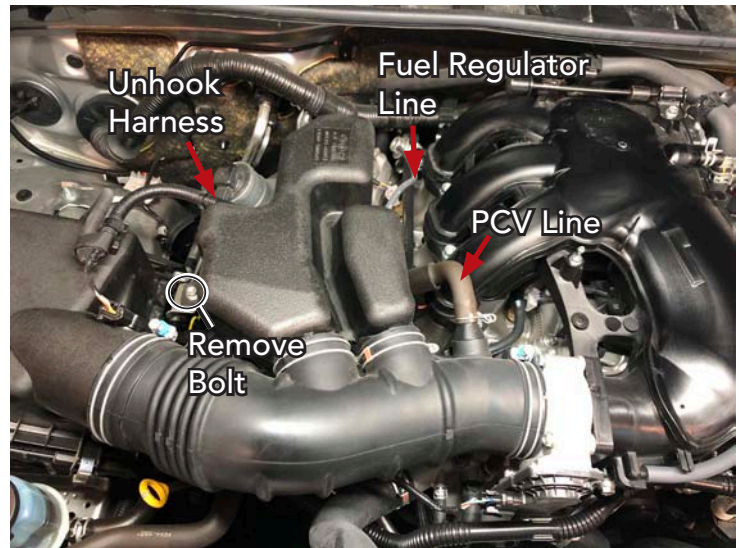
(B) Mass Airflow (MAF) sensor

(C) Factory Inlet Tube

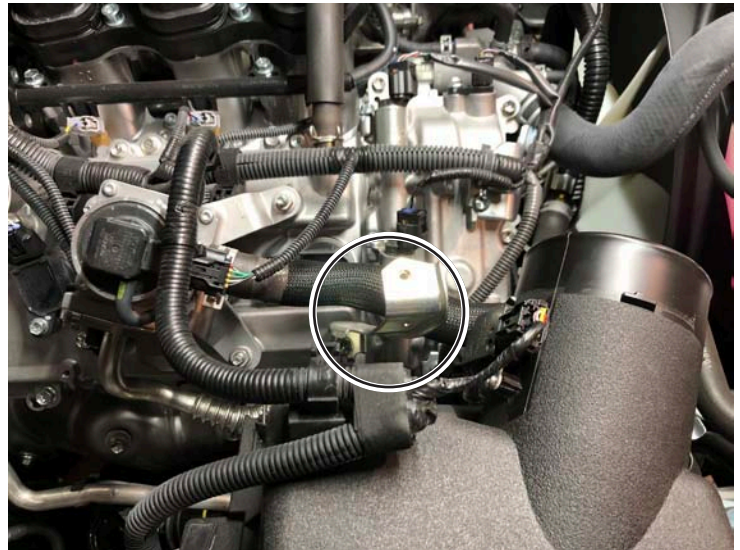
! Read and understand all safety precautions in this manual before installation. Failure to comply with instructions in this manual could result in personal injury, property damage, and/or voiding your warranty.

Getting Started

- 1 Unhook the negative battery cable.
- 2 Lift up on the front of the engine cover and pull forward to remove.
- 3 Unhook the PCV line and the fuel pressure regulator vacuum line from the air inlet. Unhook the MAF harness from the air baffle.
- 4 Using a 10mm remove the bolt holding the air silencer to the motor.
- 5 With a 10mm loosen the hose clamps at the throttle body and the airbox. Remove the air intake tube.
- 6 Using a 10mm remove the bracket from the valve cover that was holding the air inlet.
- 7 Remove (13) push pins from the radiator cover and remove the cover



Air Inlet Connections



Remove Bracket



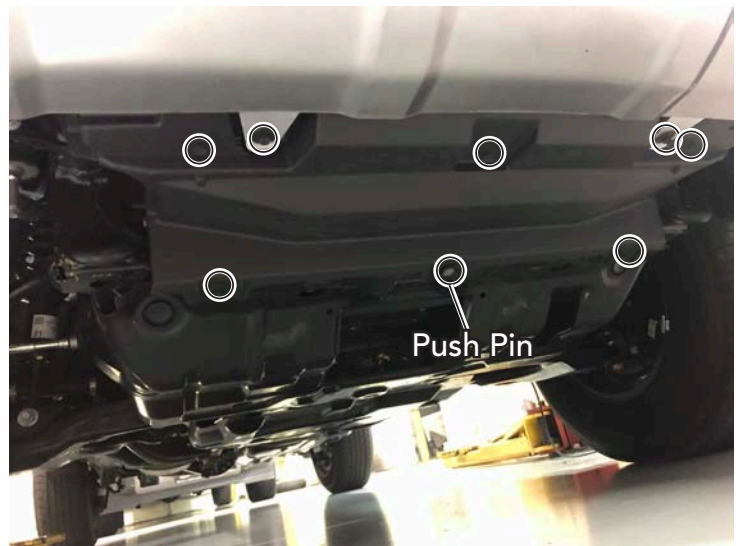
Radiator Cover

- 8 Remove (4) push pins and 1 bolt with a 10mm from under the radiator cover.



Fascia Top Fasteners

- 9 From under the vehicle, remove the plastic guard by removing (7) bolts with a 10mm and then remove the center plastic push clip.



Plastic Guard

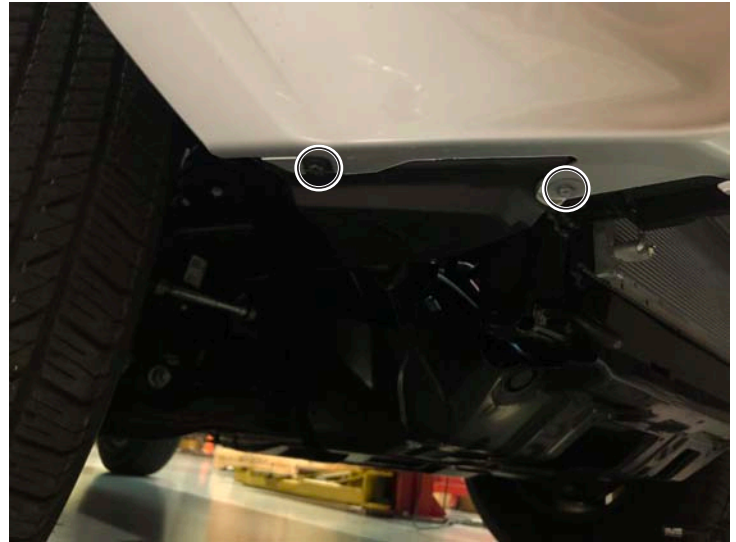
- 10 Using a 12mm remove the (4) bolts securing the skid plate to the vehicle. Remove the skid plate.



Remove Skid Plate

Getting Started

- 10** Remove (2) bolts on the bottom passenger bumper with a 10mm. Remove (3) bolts on the drivers side.



Bumper Corner Bolts

- 11** Remove (3) bolts securing the fascia to the wheel well with a 10mm. Repeat for the other side.

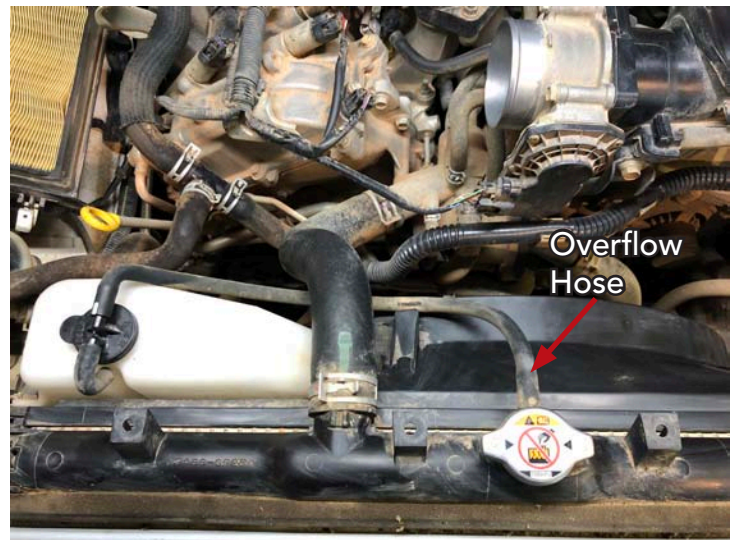


Wheel Well bolts

- 12** Pull the lip of the fascia out at the wheel well to unhook it from the inner structure, carefully pull forward to unhook the clips under the headlight. Repeat for the other side.

- 13** Pull the fascia forward at the center and lift it off the vehicle. While fascia is lifted up, unplug both fog lights and finish removing.

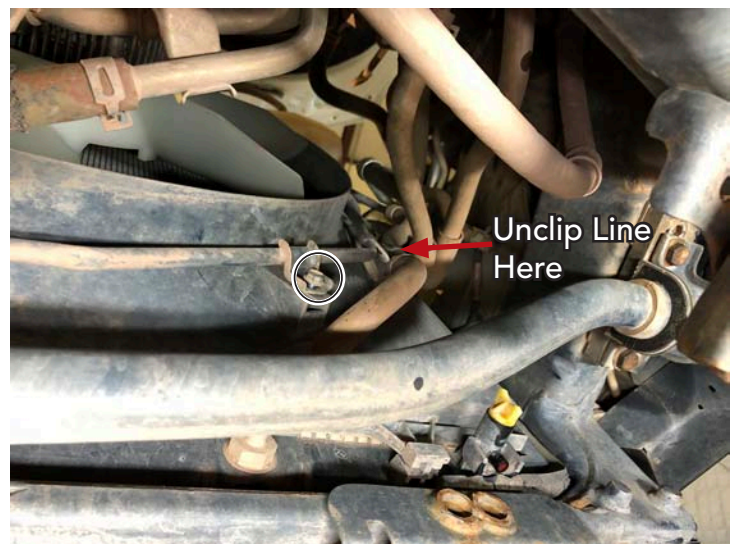
- 14 Drain the coolant from the radiator.
- 15 Remove the coolant overflow hose and the upper radiator hose.
- 16 Unhook the plastic retaining clip holding the lower radiator hose to the fan shroud.
- 17 With a 10mm remove the bolt securing the transmission cooler line to the radiator shroud. Unclip the line further up on the shroud, shown to the right.



Remove Upper Radiator Hose



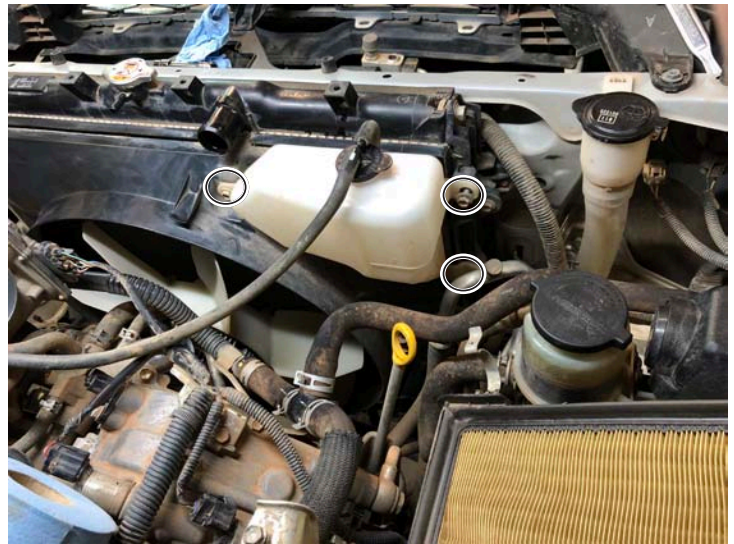
Unhook Retaining Clip



Unhook Transmission Cooler Line

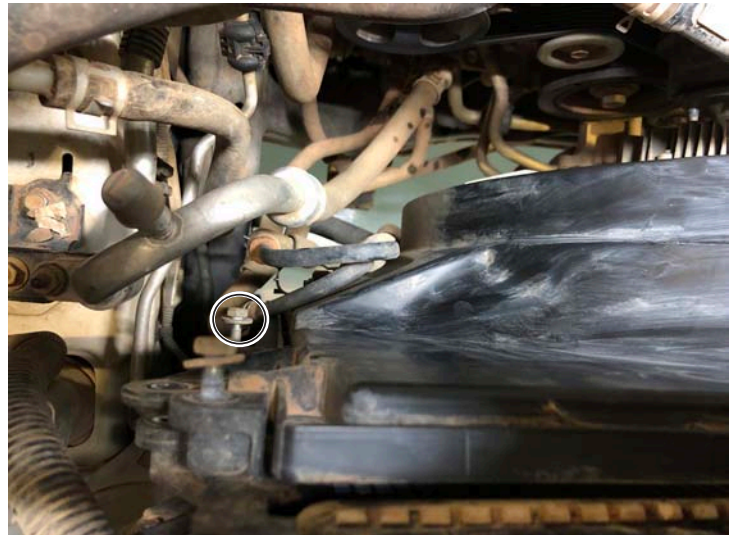
Getting Started

- 18 Using a 10mm remove the (3) bolts securing the radiator overflow tank to the fan shroud.



Remove Coolant Overflow Tank

- 19 Remove the remaining bolt retaining the transmission cooler line to the fan shroud with a 10mm.



Transmission Cooler Line Bolt

- 20 With a 10mm remove the (2) bolts securing the fan shroud to the radiator.

- 21 Remove the (4) nuts holding the cooling fan to the water pump with a 12mm.

✓ **Tech Tip:** The water pump pulley may need to be retained to remove the cooling fan nuts.

- 22 Remove the fan & shroud by lifting both straight up.



Fan Nuts

- 23** On the drivers side of the radiator remove the (2) bolts with a 12mm (one is on the bottom side of the radiator) securing the radiator bracket to the radiator.

✓ **Tech Tip:** The bottom side of the radiator may need to be pushed out to gain access to the bottom radiator bracket bolt.



Radiator Bracket Bolt (1 of 2 Shown)

- 24** On the front side of the radiator support remove the (2) bolts (shown to the right) securing the radiator bracket. Remove the bracket.



Radiator Bracket Front Bolts

- 25** Remove the rubber isolator and metal retainer from the end of the radiator bracket. Install the isolator and retainer onto the corresponding end of the supplied sheet metal radiator bracket as shown to the right.

- 26** Reverse the steps for removing the bracket to install the provided one, use all the factory hardware.



Radiator Bracket Isolator

Getting Started

27 Remove the positive and negative battery cables if not already done.

28 Using a 10mm remove the (2) nuts securing the battery hold down. Remove the battery along with the threaded rods and plastic battery tray. The rods, tray and hold down will not be reused.



Battery Hold Down

29 Remove the lower radiator hose from the thermostat housing and the radiator (hose will not be reused). Use a 10mm to remove the (3) nuts retaining the thermostat housing. Remove the housing.



Thermostat Housing Hardware

30 Install the provided modified thermostat housing using the factory hardware. Do not install the coolant hose at this time.

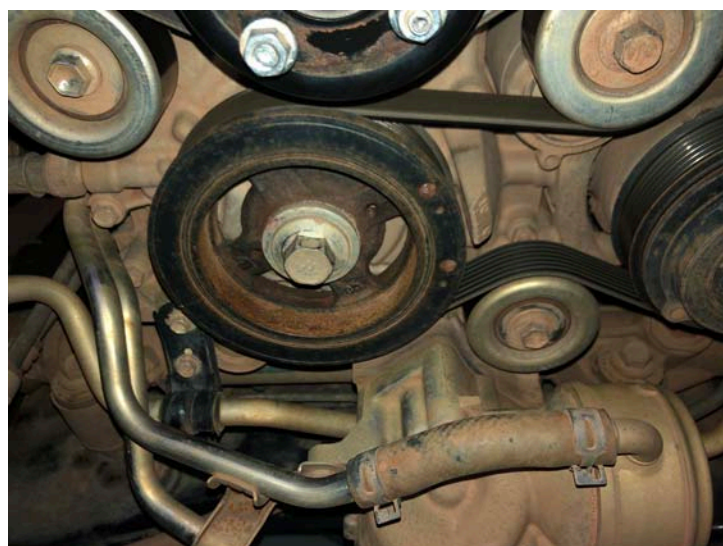


Thermostat Housing Installed

CRANK PULLEY

- 1 Use a 22mm and an impact gun to remove the balancer bolt.

✓ **Tech Tip:** Using a torch to heat the crank balancer bolt makes removal easier. If an impact gun won't remove the balancer bolt, use a universal pulley holder (example below) and a breaker bar to loosen the balancer bolt.



Balancer Bolt

- 2 Loosely install the supplied crank pulley onto the factory balancer pulley with the factory balancer bolt. Place red thread locker onto the supplied M8 Bolts and washers and loosely install them into the threaded holes on the balancer. Tighten the **crank bolt** to **205FT-lbs** and the **M8 bolts** to **100 in-lbs**.

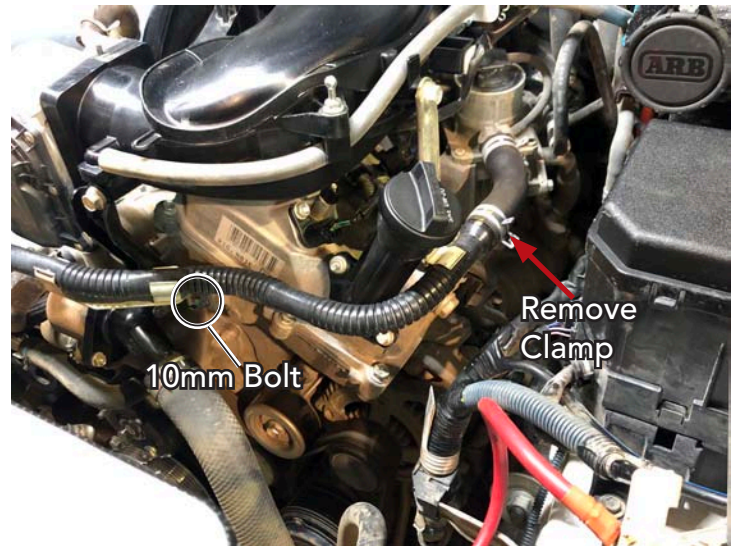
! **Note:** Make sure to follow the recommended torque specs.



Crank Pulley Installed

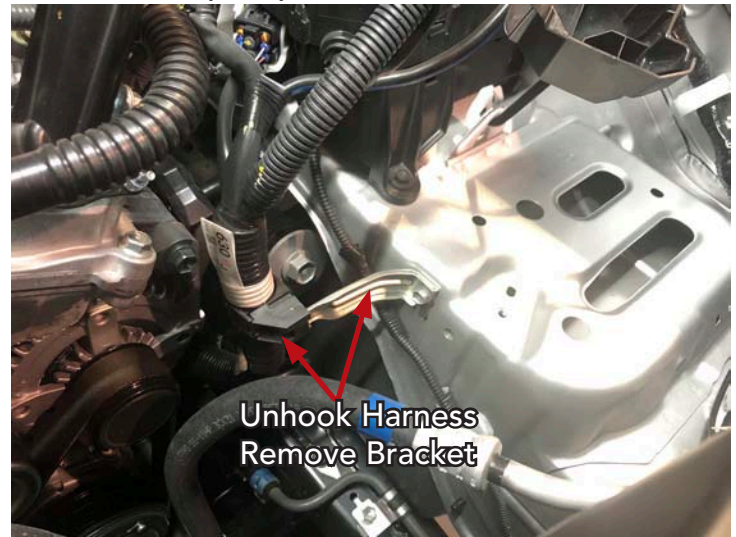
PROCHARGER INSTALLATION

- 1 Unhook the plastic air pump line from the rubber line on the drivers side valve cover, use a pair of pliers to loosen the clamp. Use a 10mm to remove the bolt securing the metal retaining bracket to the motor. Rotate to the passenger side to get it out of the way.



Airpump Line Connections

- 2 Unclip the wiring harness (on the drivers side) from the bracket on the inner fender. Remove the bracket from the fender with a 10mm.



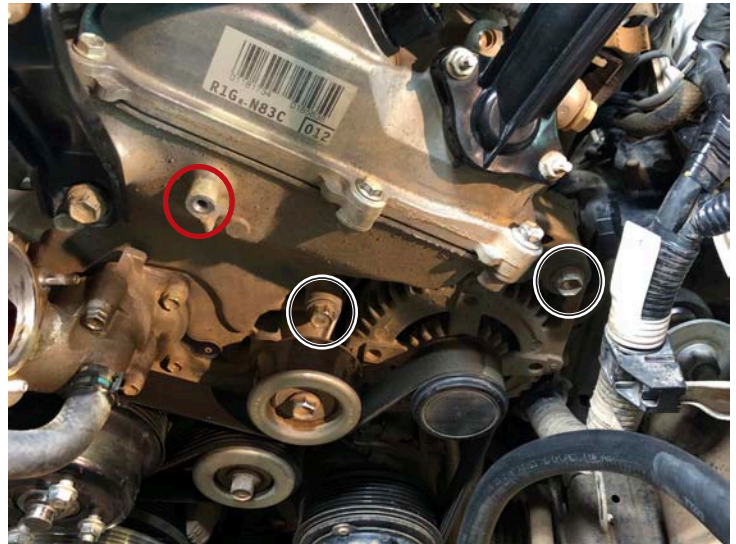
Unhook Wiring Harness

- 3 Use a 5/32" drill bit and drill to drill a hole 1-1/4" back from the factory tapped hole. Put the 1-1/4" loop strap around the wiring harness and secure the harness to the fender using the supplied sheet metal screw and washer. Use a zip-tie to hold the A/C line to the wiring harness.



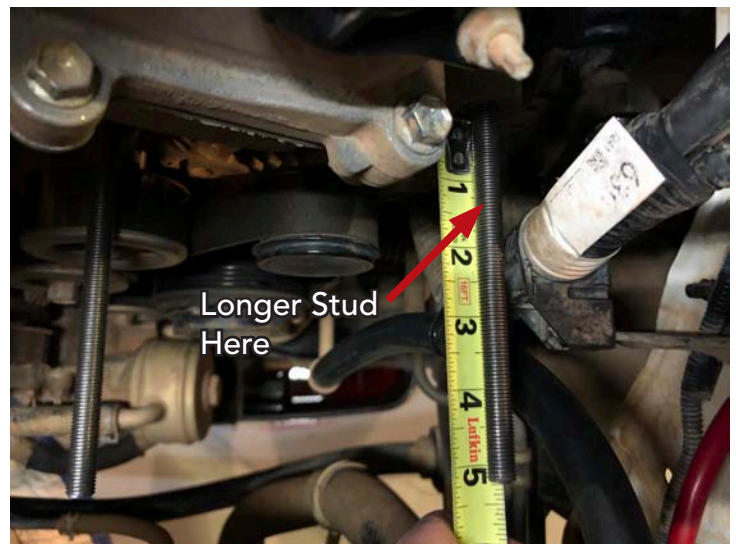
Secure Wiring Harness

- 4 Remove the (2) bolts shown to the right with a 14mm. The main bracket will mount to these holes and the hole circled in red.



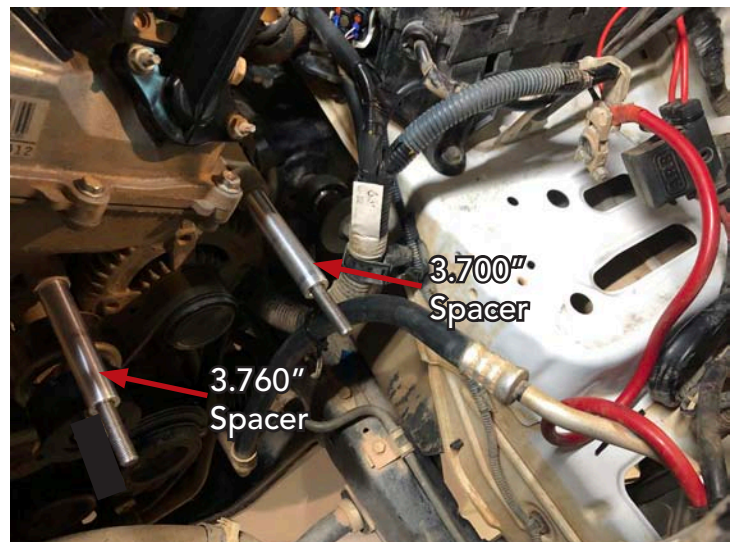
Remove Bolts

- 5 Apply a small amount of red thread locker to one end of both of the supplied all thread. Thread the all thread into the holes where the bolts were removed in the previous step (the longer stud goes to the alternator hole). Leave 5-1/4" of thread sticking out for mounting.



All Thread Installed

- 6 Slide the supplied 3.700" and the 3.760" spacers onto the all thread studs, their locations are shown to the right.



Spacers Installed

Procharger Installation

- 7 Install the oil drain line onto the supercharger. Verify the plug at the end of the drain line is tight.
- 8 Remove the oil fill reminder tag from the head unit. Fill the supercharger with (1) 6oz bottle of the supplied blower oil.
- 9 If installed on the bracket remove the smooth idler pulley shown to the right with a 9/16".
- 10 Install the supercharger to the bracket using (2) 3/8" SHCS and (5) 5/16" SHCS.
- 11 Re-install the smooth idler pulley onto the bracket. Use red thread locker on the threads.

✓ **Tech Tip:** If the belt is too loose/ tight there are (2) positions that the smooth idler pulley can be put in, the pulley can be adjusted accordingly.



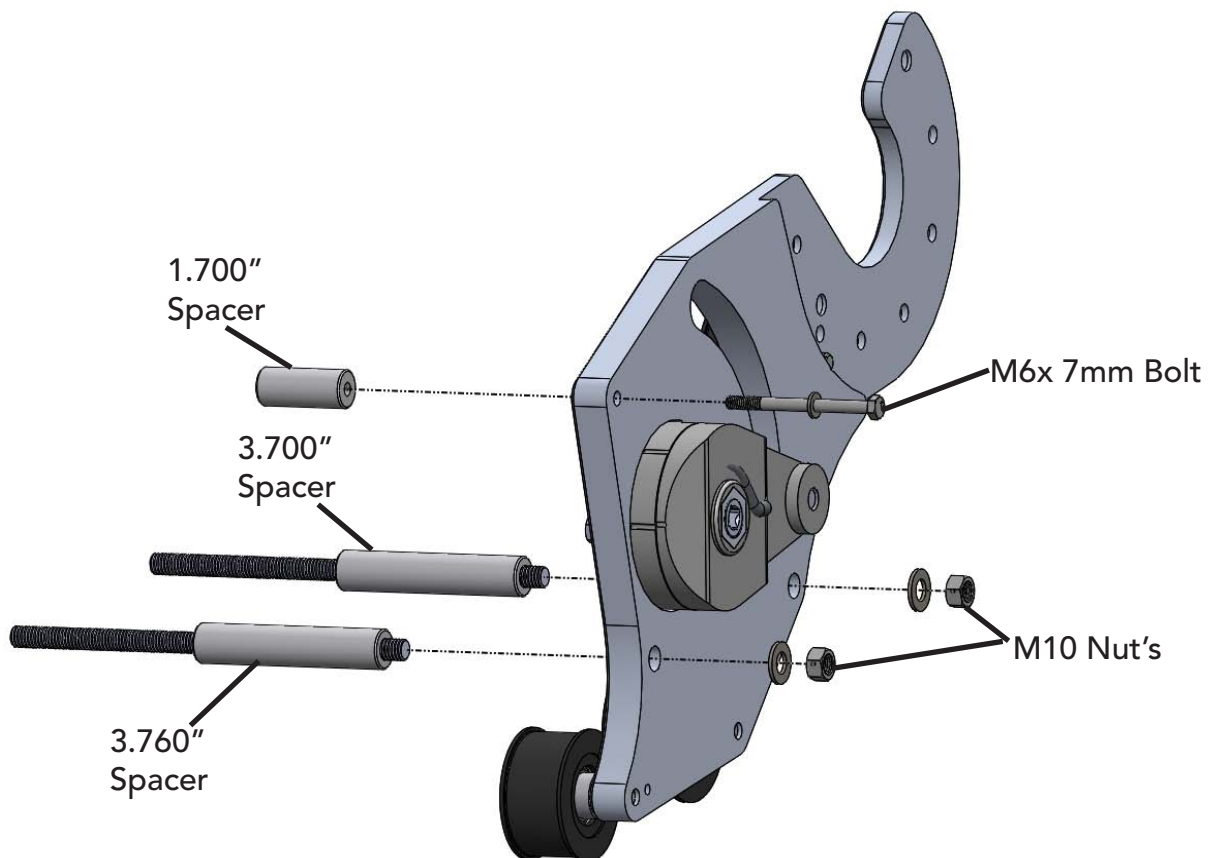
Supercharger Installed Onto Bracket

- 12 Slide the supercharger/ bracket assembly onto the threaded studs, loosely secure with the provided M10 washers and nuts.

- 13 Insert a M6 x75mm bolt with washer through the hole in the corner of the bracket followed by a 1.700" spacer. Secure the bolt to the threaded hole on the motor. Tighten the M10 nuts at this time.



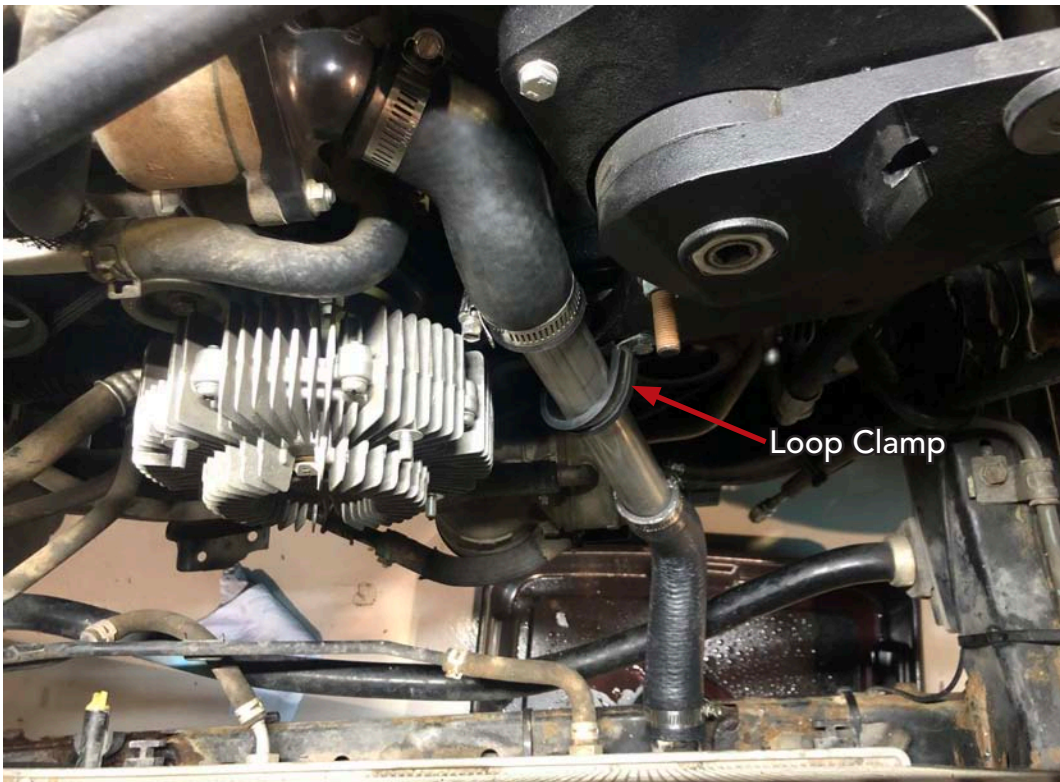
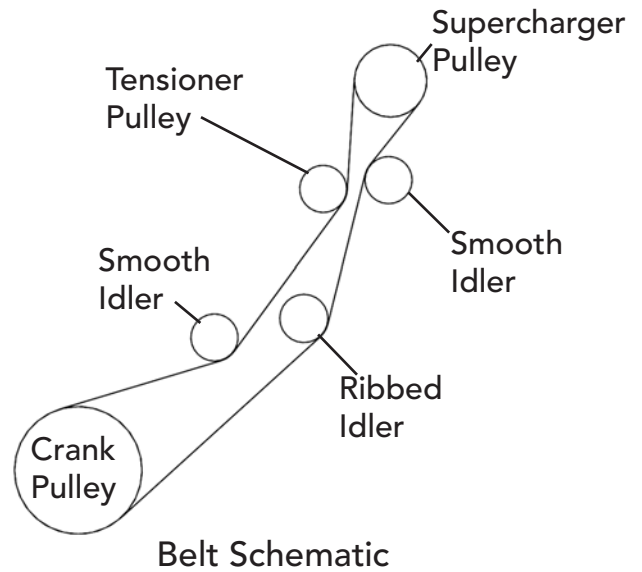
Supercharger Installed



Bracket Schematic

Procharger Installation

- 14** Route the supplied supercharger belt following the schematic to the right. Start with the crank pulley, route the belt around the ribbed idler between the tensioner and smooth idler pulley. Rotate the tensioner counter-clockwise with a 1/2" drive and wrap the belt around the supercharger pulley, release the tensioner once the belt is placed on the pulleys.
- 15** Slide the short section of the supplied 1-1/4" hose onto the thermostat housing followed by the 12" long 1-1/4" connector pipe.
- 16** Slide the short end of the supplied 90° hose onto the connector pipe and onto the bottom of the radiator. Situate the hose so it will not come into contact with the fan or fan clutch. Secure the connections with #20 hose clamps.
- 17** Secure the connector pipe to the tapped hole in the supercharger bracket using the supplied 1-1/2" loop clamp and 1/4" bolt and washer.



Lower Radiator Hose Installed

- 18 Cut the fan shroud on the lines shown to the right, this will make clearance for the air inlet on the supercharger.



Trim Shroud

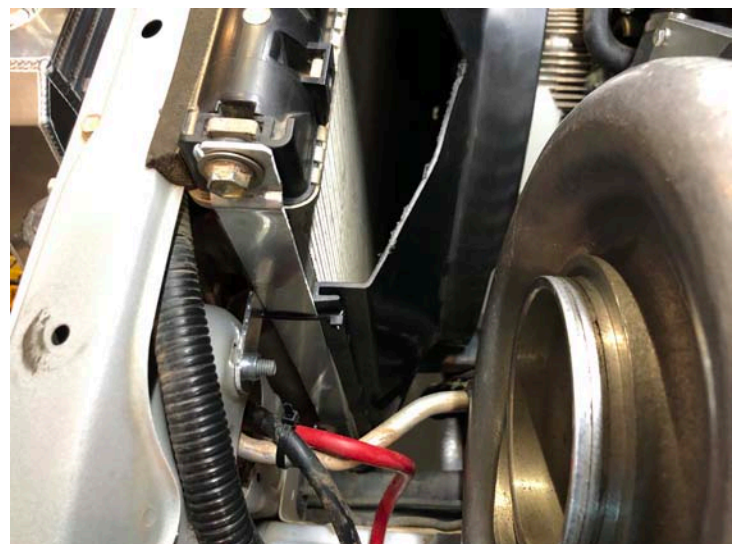
- 19 Drill a 3/16" hole on the side of the shroud as shown to the right, the hole will be used in the next step.



Drill 3/16" Hole

- 20 Re-install the fan and shroud back into the vehicle. The shroud will loose one mount, use a zip-tie to secure the shroud (through the predrilled hole) to the sheet metal radiator bracket as show.

- 21 Re-install the upper radiator hose, coolant tank and reattach the trans cooler lines.



Shroud Attached To Bracket

FUEL INJECTORS

- 1 Using a 10mm remove the (4) bolts securing the throttle-body to the intake. Carefully lay the throttle-body on the motor.
- 2 Use a 12mm to remove the bolt from the bracket behind the throttle body.
- 3 Unhook vacuum line at the purge solenoid. Unplug the wiring harness on the solenoid and unhook the clip securing the harness to the intake.
- 4 Unhook the heater lines from the holders on the back of the intake.



Remove Throttle Body And Bolt Shown



Unhook Purge Solenoid Connections



Unhook Heater Lines

- 5 On the drivers side of the intake remove the (2) bracket bolts shown to the right with a 12mm. Unplug the PCV line.



Bracket Bolts

- 6 Remove the middle (4) bolts securing the upper intake to the lower intake with an M8 allen socket.

- 7 Finish removing the upper intake by removing the (2) outside nuts holding the upper intake to the lower intake with a 12mm. Remove the upper intake manifold.



Upper Intake Hardware

- 8 Cover the intake ports with a rag.
- 9 Unplug the fuel injector connectors.

- 10 Remove the (4) bolts securing the fuel rails to the intake with a 12mm.



Fuel Rail Bolts

- 11** Lay some rags under and around the injectors to catch any residual fuel.
- 12** Lift up on the fuel rails to remove the injectors from the intake. Be sure the top o-rings come out with the injectors. Remove the bottom o-rings from the intake.
- 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.*
- 13** Install the new fuel injectors being sure to lube each o-ring with the supplied o-ring lube.
- 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.*
- 14** Re-install the fuel rails and plug the injector adaptor harness into each injector and then into the factory harness.

Tech Tip: Replacing the spark plugs while the intake is off is suggested.

- 15** Re-install the upper intake following these directions in reverse.



Injectors Installed With Adaptors

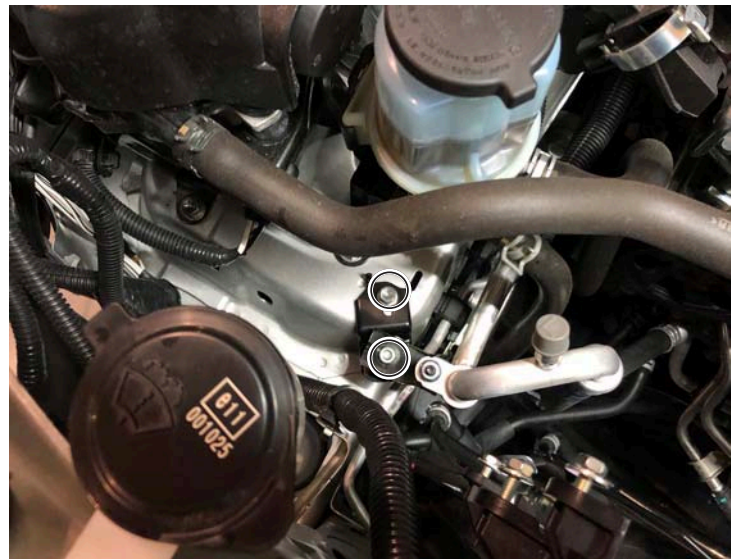
INTERCOOLER AND TUBING

- 1 Remove the rubber cover from under the drivers side headlight by removing the plastic push pins. Repeat for the other side.



Remove Rubber Panel

- 2 On the passenger side fender remove the bracket and rubber isolator from the A/C line with a 10mm.



Remove Bracket And Isolator

Intercooler And Tubing

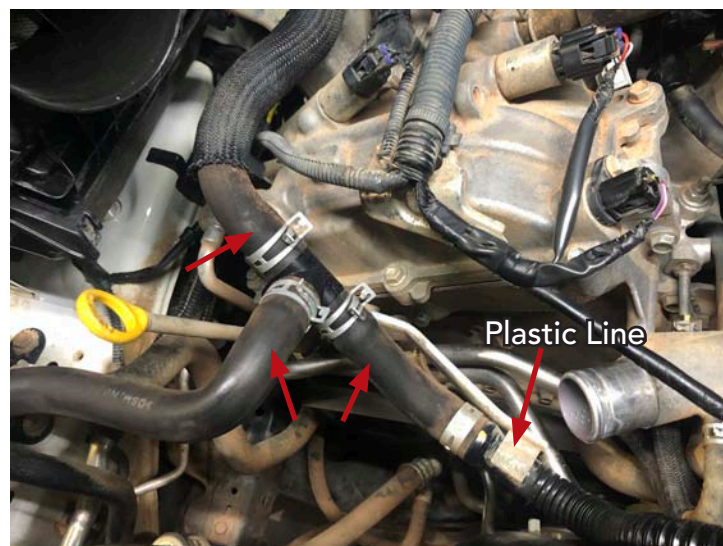
- 3 Flip the rubber isolator over on the A/C line bracket as shown to the right. Use a 10mm on the nut.



A/C Line Bracket Flipped

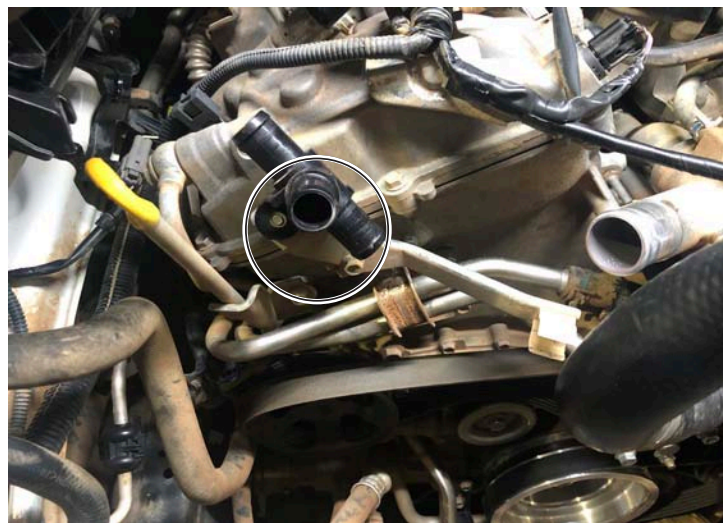
- 4 Re-install the A/C line bracket into the vehicle using the factory hardware. This will lower the line for intercooler tubing.

- 5 On the passenger cylinder head remove (3) air pump lines from the plastic "T" fitting. Separate the plastic line from the rubber line, removing the plastic line from the vehicle and retain the rubber line.



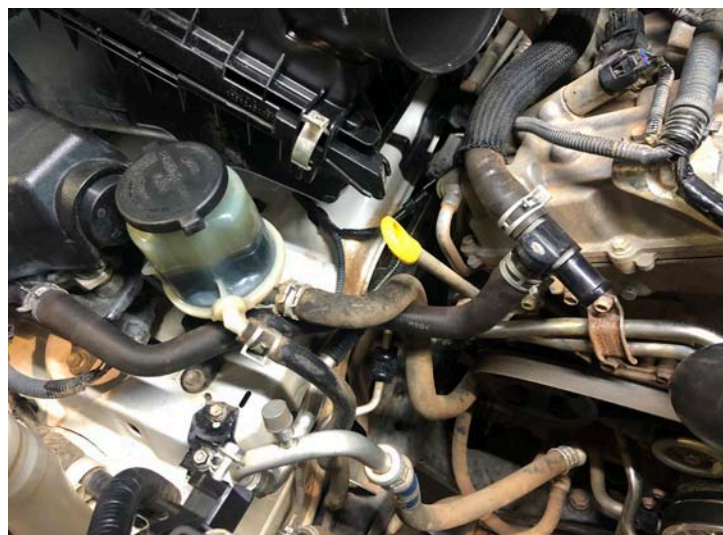
Remove Lines From "T" Fitting

- 6 Remove the metal bracket from the cylinder head with a 10mm. Remove the plastic "T" from the metal bracket with a 10mm.

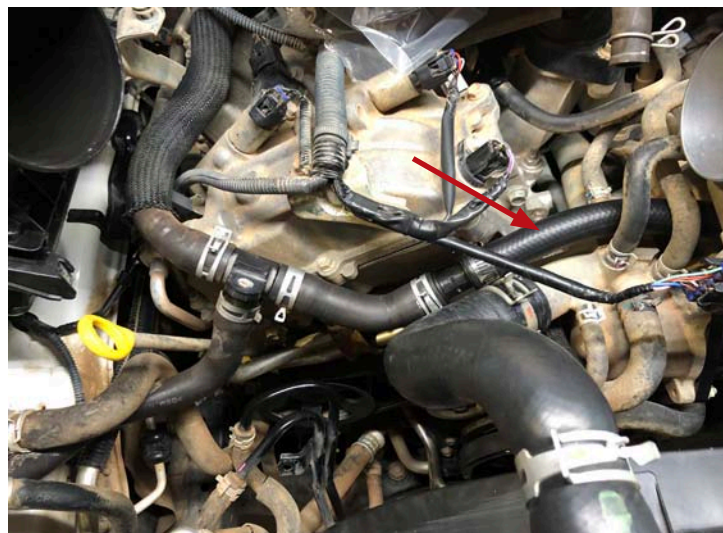


Remove Metal Bracket And "T" Fitting

- 7 Connect the Passenger side air pump tube to the plastic "T". Route the Line From the air pump to the plastic "T" as shown.
- 8 Place the small section of rubber hose onto the open end of the plastic "T" followed by the supplied 3/4"-5/8" plastic reducer. Secure with the factory hose clamps.
- 9 Connect the section of supplied 5/8" hose on the open end of the plastic connector, route the hose under the intake and towards the drivers side air pump.
- 10 Finish the air pump line connection by inserting the supplied 3/4"-5/8" reducer into the 5/8" hose and into the rubber airpump hose. Secure the connections on the supplied hose with #08 hose clamps and use the factory hose clamp at the air pump connection. Use zip-ties to keep the hose from rubbing on any sharp edges and away from any heat sources / belt.



Lines Routed To Plastic "T"



Line Routed To Drivers Side Air Pump



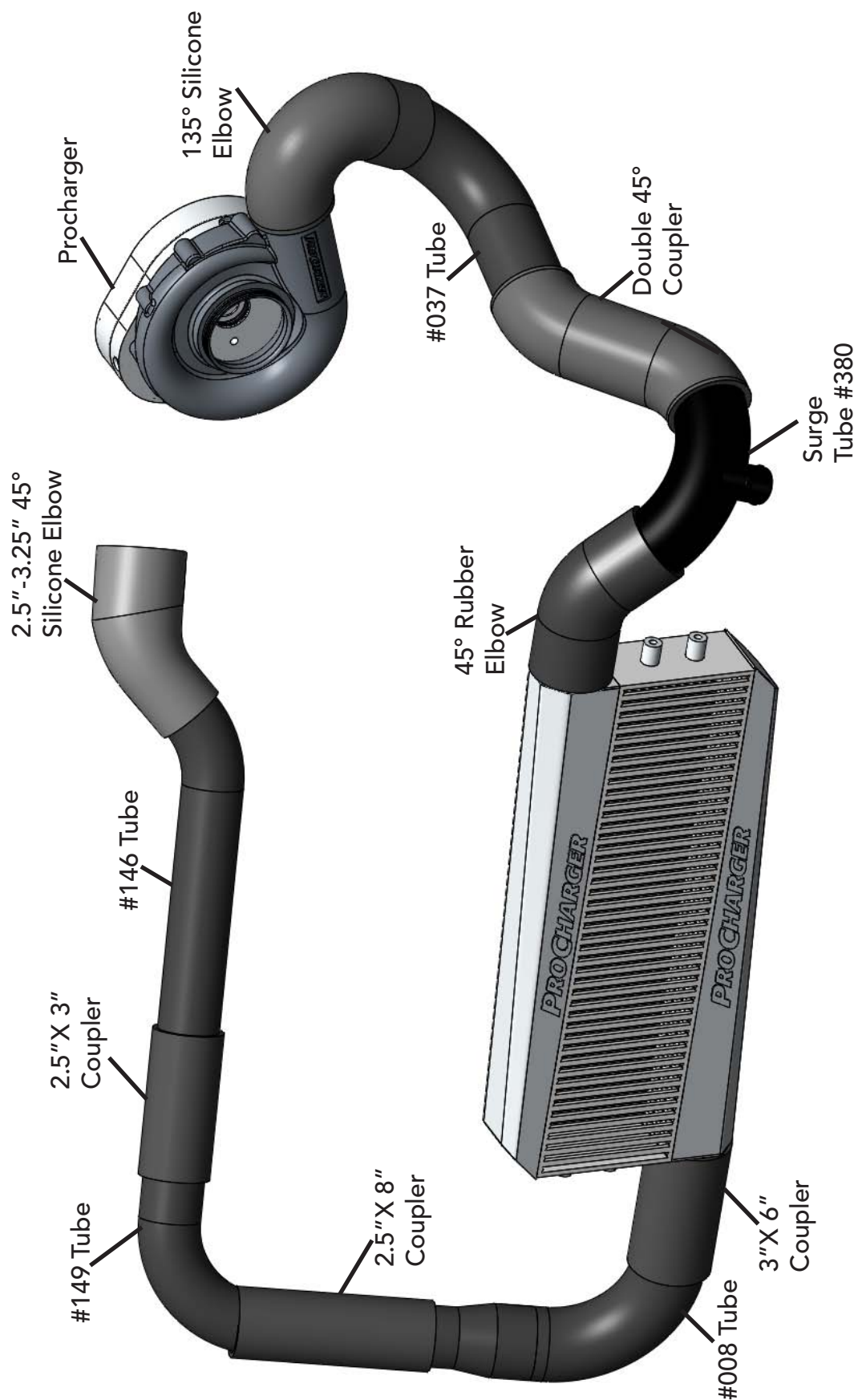
Drivers Side Air Pump Connection

- 11** On the passenger side cylinder head use a 10mm to remove the bracket securing the wiring harness shown to the right. Remove the harness from the bracket and lay the harness on the valve cover.



Remove Metal Bracket

INTERCOOLER SCHEMATIC



Intercooler And Tubing

For Standard Intercooler Option Models Only For, Winch Intercooler Option Proceed to Page: 29

✓ **Tech Tip:** Reference the schematic on page 25 when installing the intercooler tubing.

- 12 Using a 10mm remove the (2) bolts shown to the right.



Lower Intercooler Bracket Mounting Holes

- 13 Loosely mount the lower intercooler brackets to the previously removed bolt holes using the factory hardware.



Upper Intercooler Bracket Mounting Hole

- 14 Loosely mount the upper intercooler bracket to the hole shown to the right using the supplied 3/8" bolt washers and lock-nuts. Repeat for the other side.



Intercooler Mounted (Passenger Side)

- 15 Loosely mount the intercooler to the brackets using the supplied 3/8" bolts washers.

- 16 Install the short end of the supplied 135° silicone coupler onto the outlet of the supercharger followed by the short end of tube #037. Secure the connections with the supplied 3.38" T-bolt clamps.



Tubing Out Of Supercharger

- 17 Slide one end of the double 45° rubber connector onto the end of tube #037 followed by surge tube #380.

✓ **Tech Tip:** The tab shown to the right may need to be bent to clear the rubber 45° connector.

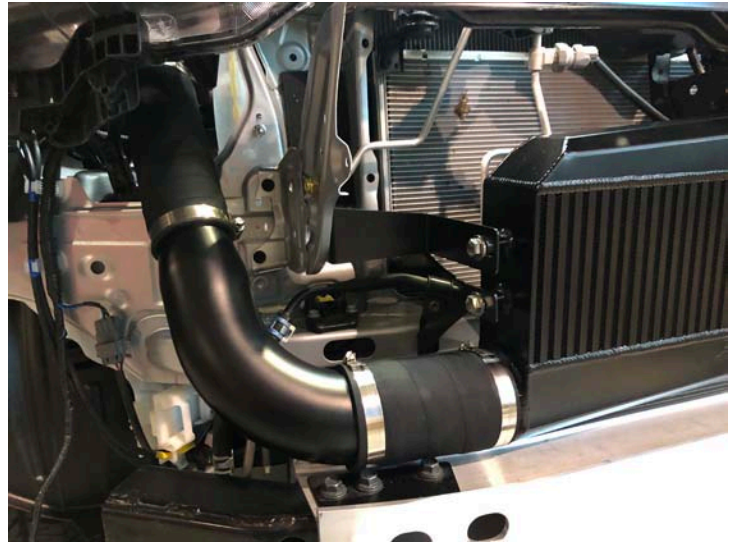


Tubing To Intercooler

- 18 Finish the connection to the intercooler by sliding a 45° rubber coupler onto tube #380 and onto the inlet of the intercooler. Secure connections with #52 hose clamps.

Intercooler And Tubing

- 19 Slide a 3"x 6" coupler onto the outlet of the intercooler, followed by tube #008. Secure the connections with #52 hose clamps.
- 20 Slide a 2.5"x 8" coupler onto the end of tube #008.
- 21 Insert the short leg of tube #149 into the end of the rubber connector. Followed by a 2.5"x 3" rubber connector.



Tubing Out of Intercooler

- 22 Insert the straight section of tube #146 into the rubber connector.
- 23 Finish the connection to the throttle body by inserting the 2.5" end of the 45° silicone elbow onto tube #146 then onto the throttle body. Use a 3.25" T-bolt clamp at the throttle body and a 2.65" T-bolt clamp on the tube. Position all the tubing and secure with #40 hose clamps.

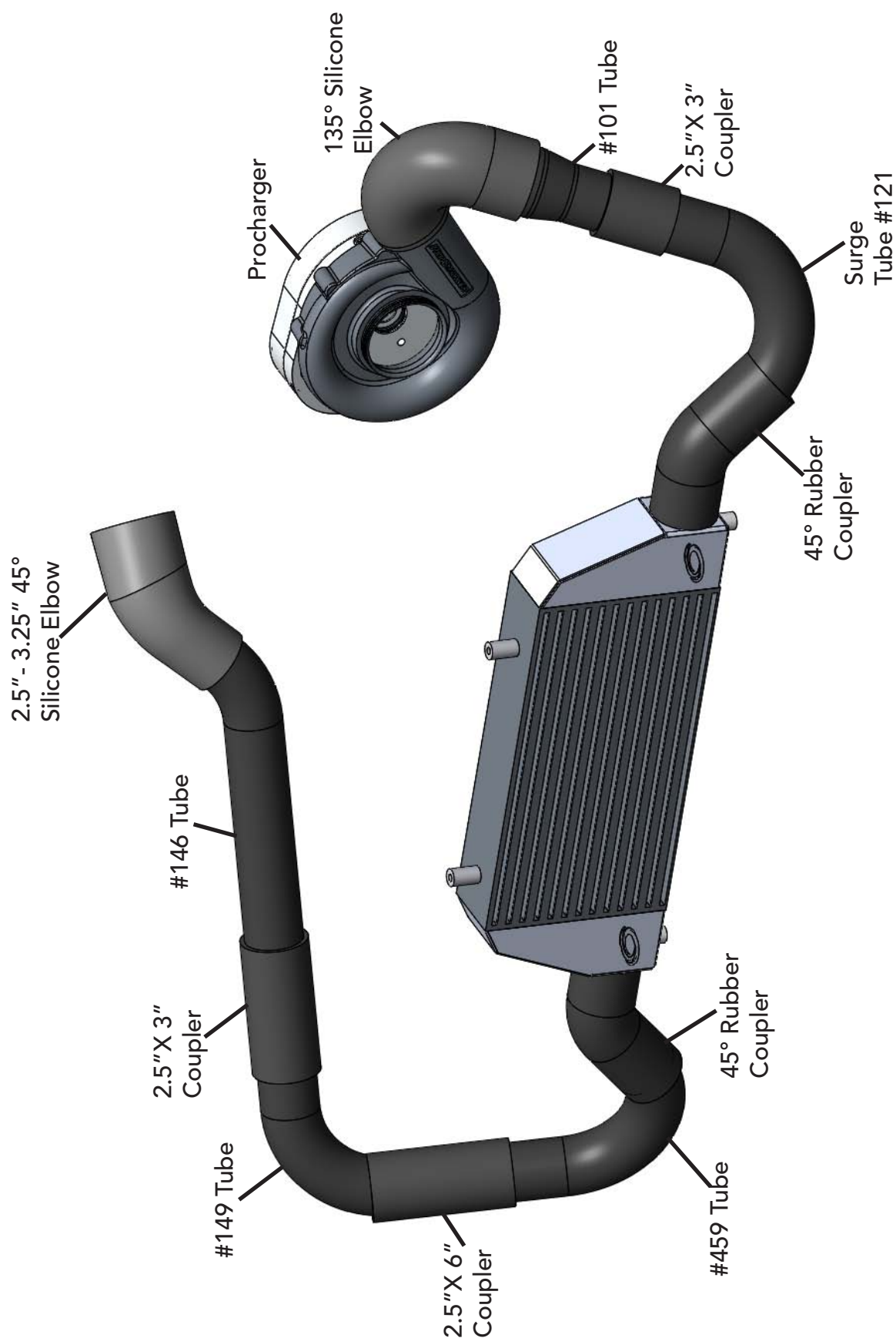


Tubing To Throttle Body



Tech Tip: The dipstick tube may need to be bent slightly to clear the throttle body tube.

WINCH OPTION INTERCOOLER SCHEMATIC



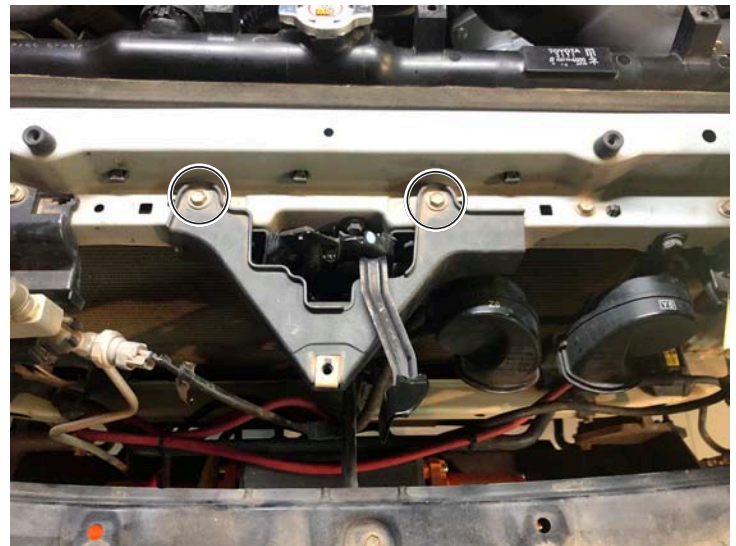
Intercooler And Tubing

For Winch Option Models Only.

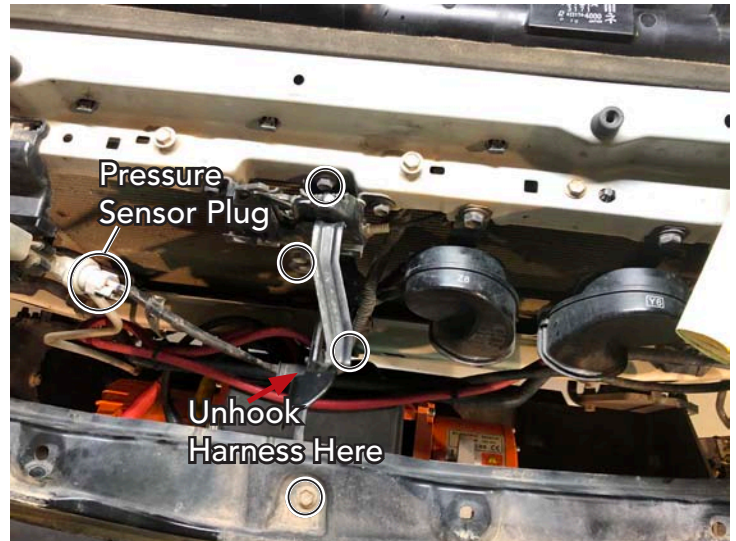
- 24** With a 10mm remove (2) bolts securing the plastic cover over the hood latch assembly.
- 25** With the same 10mm remove the (4) bolts shown on the support brace shown to the right.
- 26** Unplug the A/C pressure sensor and unhook the harness from the support brace.
- 27** Remove the support brace from the vehicle.

✓ **Tech Tip:** If the support brace is difficult to remove, the hood latch will have to be removed. Mark the location of the latch and remove the 2 bolts securing it to the radiator support.

- 28** Trim the support brace as shown to the right.
- 29** Re-install the support brace and latch cover using the factory hardware. Re-connect the A/C pressure sensor and use a zip-tie to secure the harness.



Remove Hood Latch Cover



Support Brace Bolts



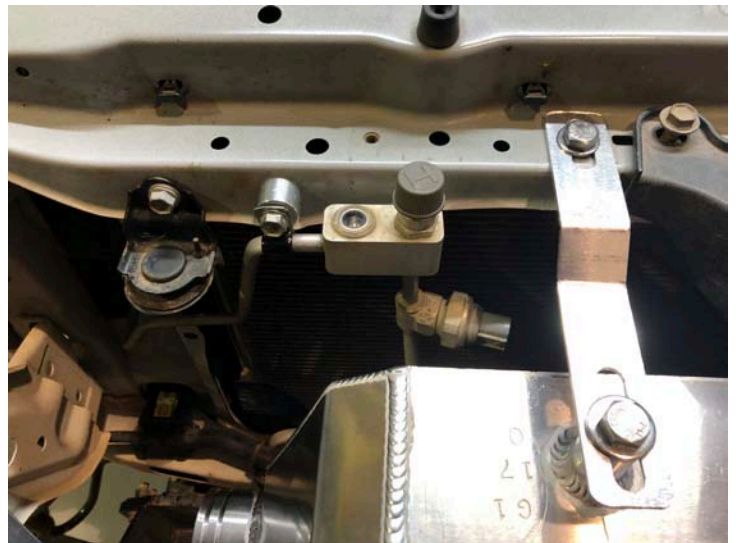
Trim Support Brace

- 30** Unclip the A/C line from the plastic holder shown to the right. Use a 10mm to remove the bolt securing the holder. Remove the holder.



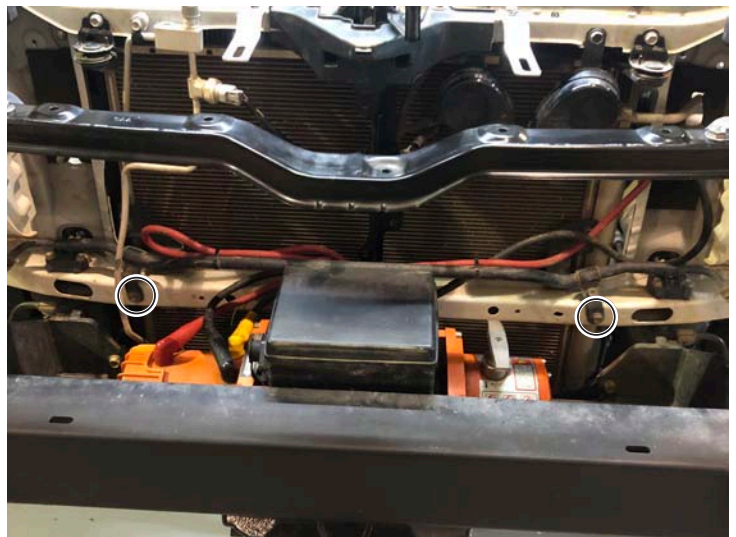
Remove A/C Line Holder

- 31** Using the supplied 1/2" loop strap, spacer and the 10mm bolt from the previous step, secure the A/C line to the already tapped hole on the radiator support as shown to the right.



A/C Line Secured

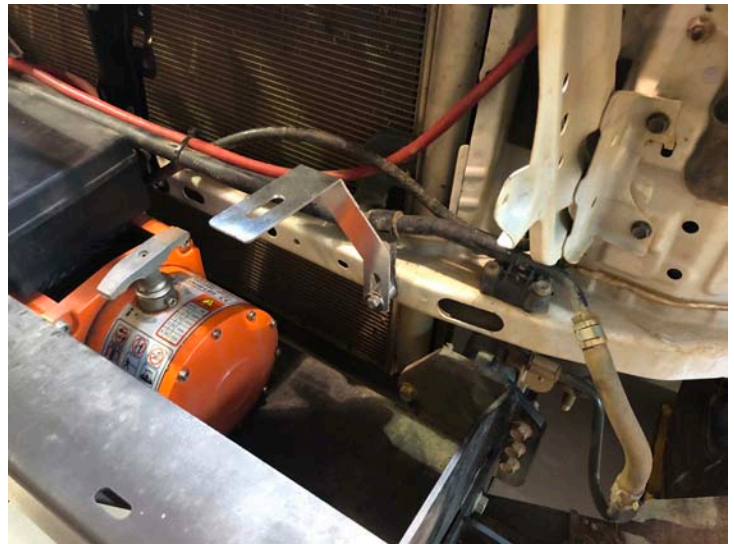
- 32** The lower intercooler brackets bolt to the spots shown to the right. Remove Both bolts with a 10mm.



Lower Intercooler Bracket Mounts

Intercooler And Tubing

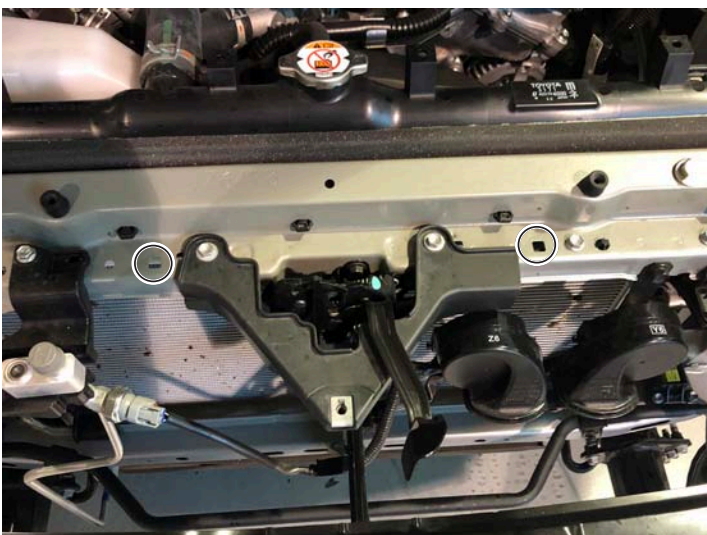
- 33 Loosely secure the drivers side intercooler bracket using the supplied M6 bolt, washer and 3/4" spacer on the back side of the bracket. Repeat for the passenger side intercooler bracket.
- 34 The upper intercooler brackets attach to the square holes on the radiator support as shown below.
- 35 Mount the upper intercooler brackets to the square holes using the supplied 5/16" bolts washers and locknuts.
- 36 Loosely Mount the intercooler to the intercooler brackets with the supplied 3/8" bolts and washers. The wider off set of the intercooler goes towards the passenger side.
- 37 Center the intercooler and tighten all bracket hardware.



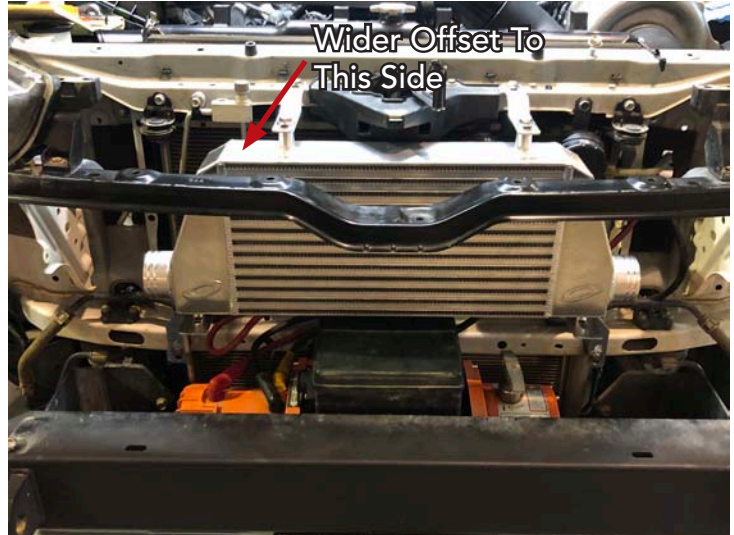
Drivers Side Lower Intercooler Bracket



Passenger Side Lower Intercooler Bracket



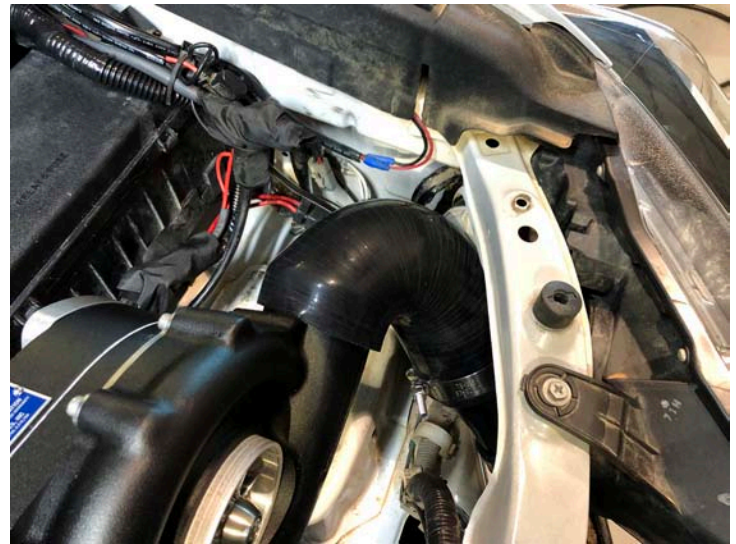
Upper Intercooler Bracket Mounting Holes



Intercooler Mounted

✓ **Tech Tip:** Reference the schematic on page 29 when installing the intercooler tubing.

- 38 Starting with the outlet of the supercharger, install the short leg of the 135° silicone elbow. followed by reducer tube #101. Route the tubing to the hole under the headlight. Use a 3.38" T-bolt clamp on the supercharger connection and a 3.25" T-bolt clamp on the tube connection



Tubing Out Of Supercharger

- 39 Slide a 2.5"x 3" rubber connector over the end of tube #101.

- 40 Insert surge tube #121 into the rubber connector, be sure the surge bung faces towards the back of the vehicle.

- 41 Finish the connection to the intercooler by sliding the long leg of the 45° rubber connector over tube #121 and onto the inlet of the intercooler.

- 42 Position the tubing and secure all of the previous connections with #40 hose clamps.



Tubing To Intercooler Installed

Intercooler And Tubing

- 43 Slide a short end of the remaining 45° rubber elbow onto the outlet of the intercooler followed by the short end of tube #101.
- 44 Slide the 2.5"x 6" rubber connector onto the end of tube #101.
- 45 Insert the short leg of tube #149 into the end of the rubber connector. Followed by a 2.5"x 3" rubber connector.
- 46 Insert the straight section of tube #146 into the rubber connector.



Tubing Out Of Intercooler Installed



Tube #149 Installed

- 47 Finish the connection to the throttle body by inserting the 2.5" end of the 45° silicone elbow onto tube #146 then onto the throttle body. Use a 3.25" T-bolt clamp at the throttle body and a 2.65" T-bolt clamp on the tube. Position all the tubing and secure with #40 hose clamps.



Tech Tip: The dipstick tube may need to be bent slightly to clear the throttle body tube.



Tubing To Throttle Body Installed

SURGE SYSTEM

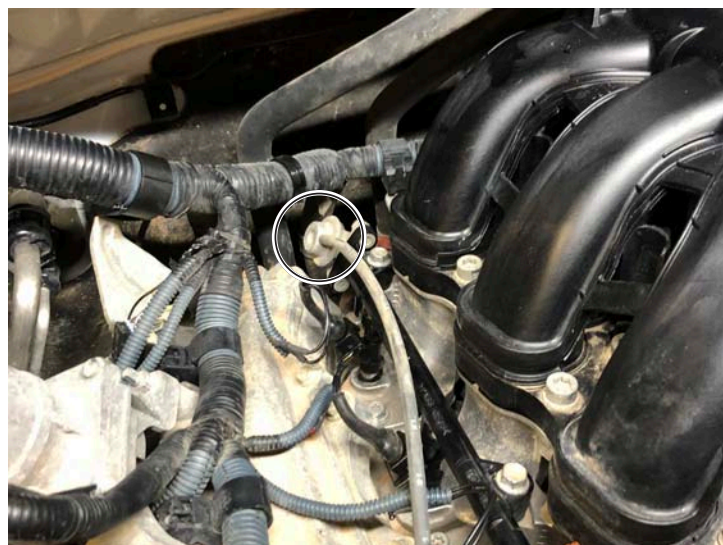
- 1 Assemble the vacuum manifold as shown to the right.

✓ **Tech Tip:** If installing a boost gauge replace the brass plug with the additional provided barb fitting. Route a vacuum line from the barb to the boost gauge.



Vacuum Manifold Assembled

- 2 Remove the rubber plug at the back drivers side of the intake manifold. Install the supplied short section of 3/8" rubber hose over the exposed vacuum port followed by the barb fitting on the vacuum manifold. Secure the connections with 3/8" hose clamps.



Fuel Pressure Regulator

- 3 Remove the section of vacuum line from the fuel pressure regulator located at the passenger side rear of the intake manifold. Attach one end of the supplied 3/16" vacuum line to the port on the fuel pressure regulator, route the line to the rear barb fitting on the vacuum manifold cut to length and attach to the fitting. Use zip ties on the vacuum line to secure it from being damaged.

! **Warning:** Failure to connect the vacuum line to the fuel pressure regulator will result in low fuel pressure causing engine damage or failure.



Vacuum Manifold Installed

- 4 Attach one end of the 1-1/2" rubber 90° elbow onto the bung of the surge tube. Attach the surge valve onto the end of the rubber elbow. Position the valve as shown to the right, secure with #24 hose clamps.



Surge Valve Installed

- 5 Route the remaining section of 3/16" vacuum line from the open port on the vacuum manifold to the barb port on the surge valve, cut to length and attach to the valve. Secure the line with zip-ties keeping it away from any sharp edges, the belt or exhaust components.

- 6 Attach one end of the supplied 1-1/2" flexible hose onto the end of the surge valve, secure with a #24 hose clamp. Route the hose up through the hole below the head light, under the supercharger and onto the top of the fan shroud.



Flexible Hose Installed

- 7 Insert the 1-1/2" connector pipe into the end of the flexible hose followed by the long leg of the 90° rubber elbow. Point the elbow straight up and secure connections with #24 hose clamps. The hose will attach to the air inlet pipe installed in the next section.



90° Elbow Connected To Flexible Hose

AIR INLET

- 1 Replace the factory air filter with the high flow air filter supplied.
- 2 Insert the supplied barb fitting into the port on the inlet tube.
- 3 Place the rotomold inlet onto the inlet of the supercharger followed by the silicone 45° elbow. Loosely secure the rotomold inlet to the supercharger with a #64 hose clamp.
- 4 Insert the air inlet tube into the silicone elbow, with the bung facing down on the supercharger side. Loosely Secure the silicone connections with 3.75" T-bolt clamps.
- 5 Attach the 90° rubber elbow (connected to the surge valve flexible hose) installed earlier to the bung on the air inlet tube. Secure with a #24 hose clamp.



Barb Fitting Installed Into Inlet Tube



Surge Valve Hose Connected To Inlet Tube

Air Inlet

- 6 Attach the air inlet tube to the factory airbox using the 3.75" silicone connector. Loosely secure with a 3.75" and a 4.00" T-bolt clamp on the inlet tube.
- 7 Position the tubing and tighten the hose clamps at this time.



Air Inlet Tube Installed

- 8 Flip the factory PCV hose on the passenger side valve cover over and attach the long end to the barb fitting on the inlet tube with the factory hose clamps.

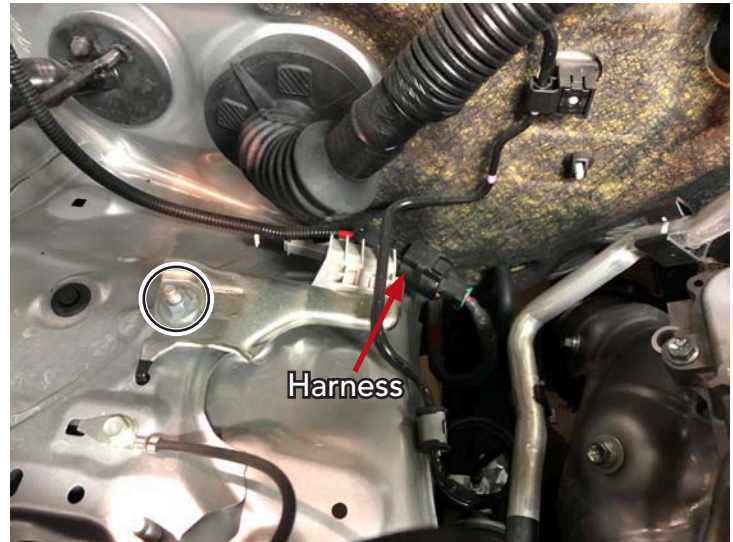


PCV Hose Connected

BATTERY RELOCATION

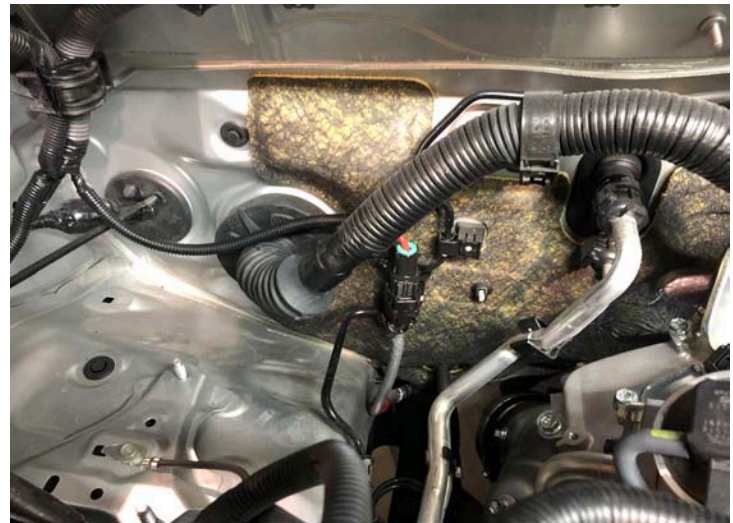
- 1 On the passenger rear corner of the engine bay, remove the bracket shown to the right with a 12mm. Remove the wiring harness from the bracket.

✓ **Tech Tip:** The wiring harness bracket may differ slightly between model years.



Remove Harness And Bracket

- 2 Unplug the harness removed in the previous step and route it over the large harness coming out of the firewall. Plug the harness back in and secure it with zip-ties.



Wiring Harness Relocated

- 3 Using a 10mm loosen the bolt securing the ground wire in place. Rotate the wire 90° and tighten the bolt.



Ground Wire Rotated

Battery Relocation

- 4 Remove the plastic nut from the firewall and loosely install the "L" bracket using a 6mm nut and washer.



"L" Bracket Installed

- 5 Attach the all thread studs to the battery tray. Thread one 5/16" flange nut onto the stud upside down, leave 1/2" of thread exposed past the nut. Place the stud through the hole on the battery tray and install another nut to secure the stud to the tray. Repeat for the other side of the battery tray.



Studs Mounted To Battery Tray

- 6 Install the tray into the engine compartment by tipping and rotating the tray with the tabs going underneath the wiring harness on the fender as shown to the right. Position the (2) slots on the bottom of the tray over the studs coming out of the fender.



Battery Tray Placed In Engine Compartment

- 7 Loosely Install the washers and 8mm nuts onto the studs on the bottom of the tray.



Nuts Installed Over Studs

- 8 Install the 3/8" carriage head bolt through the "L" bracket from the bottom and through the battery bracket. Loosely secure with a 3/8" flange nut.



Carrage Bolt Installed

- 9 Secure the side of the battery tray by installing the (2) 6mm bolts and washers into the threaded holes in the side of the fender as shown to the right.

- 10 Level the tray and tighten all hardware.



Battery Tray Side Bolts

Battery Relocation

- 11 Carefully install the battery into the tray. Place the provided battery hold down over the (2) studs on the tray and evenly secure with the provided 3/8" Nuts. Be sure to not over tighten the nuts.
- 12 Remove battery cable ends with a 12mm.
- 13 Attach supplied battery cables to their respective factory battery cables using the supplied M8 bolts and lock nuts.
- 14 Use the supplied cloth sleeves to wrap around the exposed battery cable connections. Use electrical tape for extra security if needed.
- 15 Wrap the cables with the supplied braided sleeving and route over to the battery tray. Secure the cables with zip ties.



Remove Battery Cable Ends



Battery Cable Installed



Route Cables Behind Fuse Box



Battery Cables Routed

FINISHING UP

- 1 Trim the engine cover as shown to the right. Fit the cover to the engine and make several small cuts till clearance is made around the supercharger and intake tubing.



Engine Cover Trimmed

The next step is for the optional sheet metal engine cover, if not purchased skip this step.

- 2 Line up the cover as shown to the right, using the line at the center of the cover as a guide. Mark the (3) holes and carefully drill with a 1/4" drill bit. Secure the cover using the supplied 1/4" button head screws washers and lock-nuts.



Sheet Metal Engine Cover Mounted

- 3 Install the engine cover onto the engine.
- 4 Refill the engine coolant.
- 5 Attach the battery cables.
- 6 Do a final check of the supercharger system before starting the vehicle.



CONGRATULATIONS! YOU HAVE COMPLETED THE INSTALLATION OF YOUR NEW PROCHARGER SUPERCHARGER KIT. 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 personal injury!

Belt Replacement

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

ProCharger Oil Change Intervals

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

ProCharger Oil Level

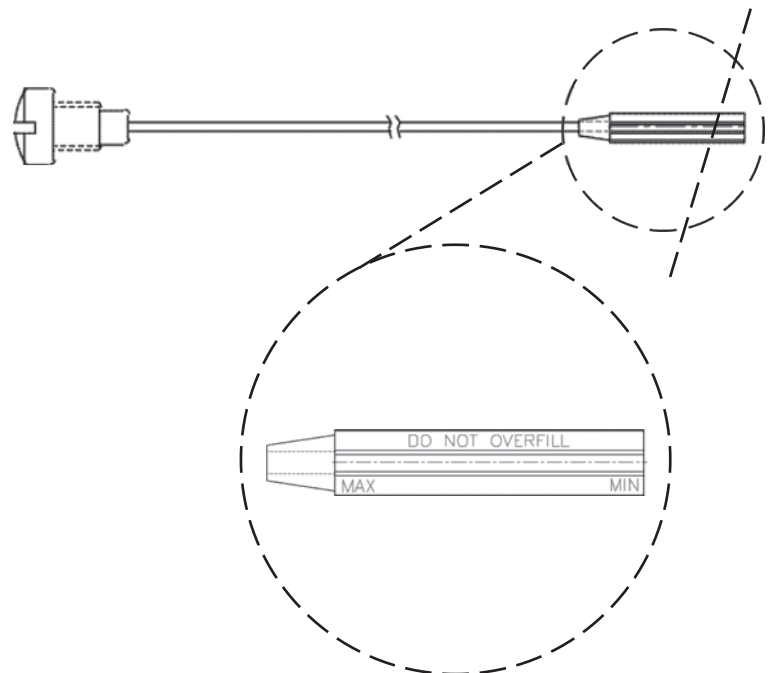
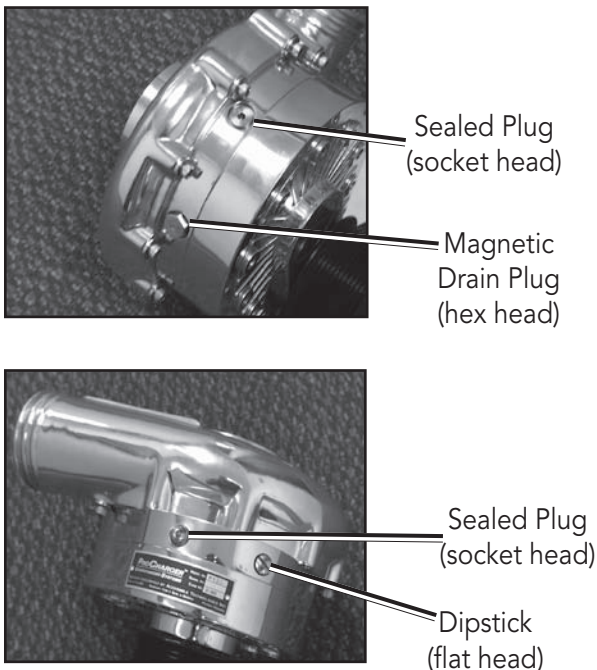
The ProCharger supercharger's oil level must be checked periodically to ensure the proper lubrication. The dipstick can be loosened using a flat blade screwdriver or a coin. When installed, the oil level should remain between the minimum (MIN) and maximum (MAX) indicators at all times.

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.



LIMITED WARRANTY

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

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

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

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

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

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

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

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

Include the following information inside the box with your product:

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

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

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

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Accessible Technologies, Inc.
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Part Number PMTK1A-001 Rev. C

