2010-2011 Polaris Ranger 800 EFI HO Intercooled System

Installation Guide

PROCHARGER®
SUPERCHARGER SYSTEMS

The ULTIMATE Power Adder™

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

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

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

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

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

Revised 10/11 Part Number PMPA1A-001 Rev. E Printed in the USA

Introduction

Congratulations on purchasing your ProCharger® 2010-2011 Polaris Ranger 800 EFI HO 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) 338-3086.

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 Polaris 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

- ¼" Socket Set (standard & metric)
- ⅜" Socket Set (standard & metric)
- ½" Socket Set (standard & metric)
- ½" Impact Gun & 22mm Socket
- ½" Drive 1-1/8" Deep Well Socket
- Open End Wrench Set (standard & metric)
- 5⁄16" Nut Driver
- ⅜" Hex Bit Set (allen head, standard & metric)
- #27 Torx Driver or Bit
- #40 Tamper Proof Torx Driver or Bit (2010 Crew & 6X6 only)
- Flat Screwdrivers
- Phillips Screwdrivers
- Plier Set

Table of Contents

Fuel System Purge

1. Locate the fuse box under the front hood, open the fuse box cover, and remove the fuse labeled "EFI" for 2010 models and "Fuel Pump" for 2011 models.

2. Start the engine and allow it to idle until it stalls. Crank the engine for 5 seconds after it stalls to purge the remaining fuel pressure from the fuel rails.

3. Turn the ignition off.

4. Disconnect the battery ground using a 10mm socket.

5. Replace the fuel pump fuse.

Remove Fuel Pump Fuse,
Purge Fuel System then Disconnect Battery

Cargo Box Removal

1. Raise the cargo box to the dump position by pulling up on the release handle.

2. Disconnect the tail light wiring harness.

3. Remove the upper cotter pin and pin securing the shock to the cargo box.

Warning: *The cargo box will not be as stable without the shock.*

4. Remove the lower cotter pin and pin securing the shock to the frame and remove shock.

5. Using a 10 mm socket, remove the retaining bolt from the cargo box hinge pin on both sides of the frame.

Warning: *Use two people to remove the cargo box from the frame.*

6. With assistance, remove the hinge pins and set the cargo box aside.

Release Cargo Box

Disconnect Tail Lights & Remove Shock

Remove Hinge Pins

Air Inlet and Box Removal

1. Loosen the hose clamps on the inlet and outlet of the air intake box and disconnect the hoses.

2. Using a #27 Torx bit, remove the two screws securing the air intake box to the frame.

3. Remove the air intake box and set aside; it will not be re-installed.

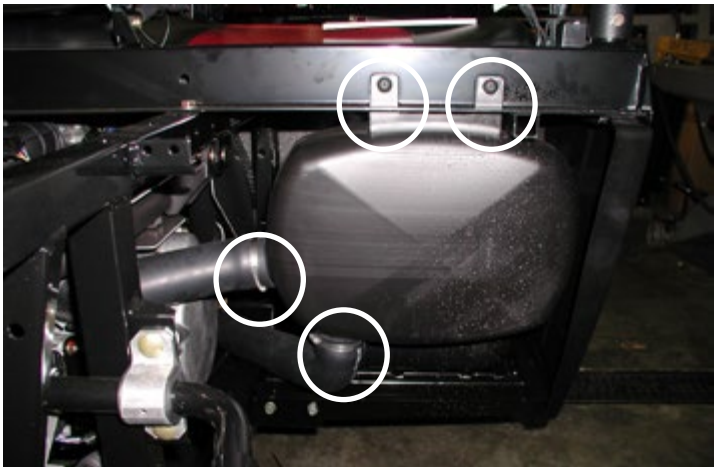
4. Loosen the hose clamp on the front of the air filter box.

5. Disconnect the crankcase breather hose from the driver's side of the air filter box.

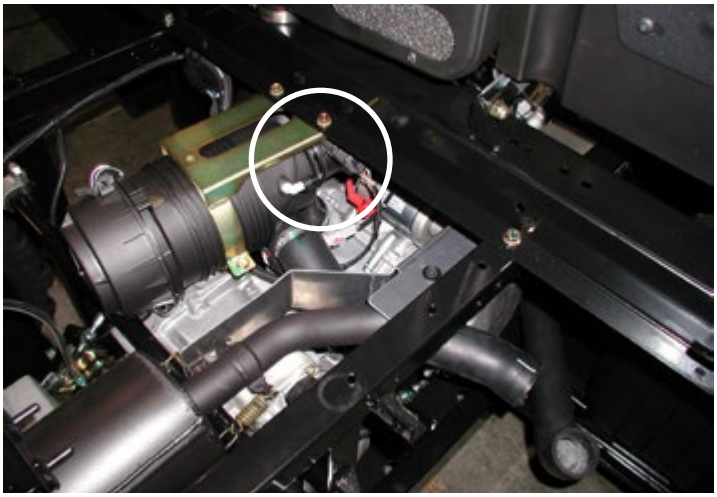
6. For 2010 models, using a 13mm socket, remove the two bolts securing the air filter box to the frame.

7. For 2011 models, using a T27 Torx bit, remove the two screws securing the air filter box and brace to the frame.

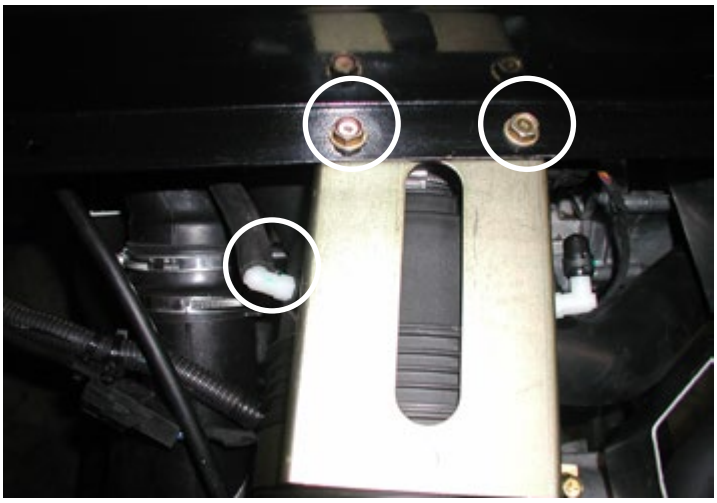
8. Cut the zip ties and remove the air filter box and set it aside; it will not be re-installed.



Remove Air Intake Box



Loosen Hose Clamp



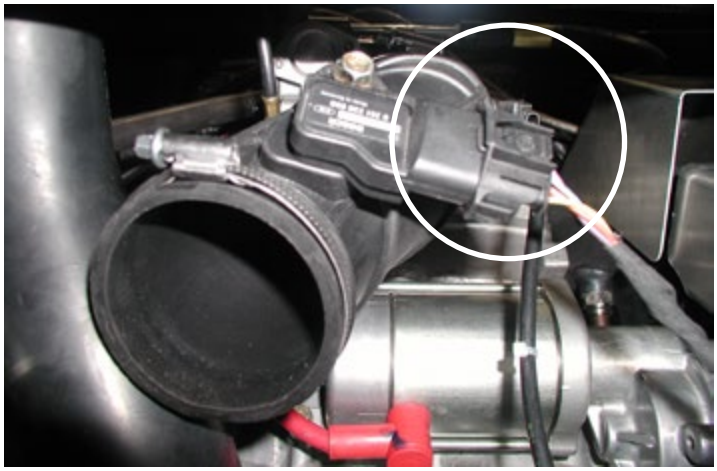
Remove Air Filter Box

9 Loosen the hose clamp on the throttle body intake tube and remove the tube.

Perform steps 10-11 for 2010 models only.

10 Disconnect the Temperature and Barometric Air Pressure (T-BAP) sensor wiring harness.

11 Using a 10mm socket, remove the bolt from the T-BAP sensor and remove the sensor. The sensor and bolt will be re-installed later in the supplied blower inlet tube. The factory intake tube will not be re-installed.



Disconnect T-BAP Sensor

Remove T-BAP Sensor from Intake Tube

Manifold Vacuum Source

2010 Model Year

(Skip to page 6 for 2011 models)

1. Disconnect the Throttle Position Sensor (TPS) wiring harness from the throttle body.

2. Loosen the hose clamp on the throttle body and remove the throttle body from the rubber intake adapter.

3. Turn the throttle body over and drill a hole using a Q (.332") drill bit behind the throttle plate in the bottom side as shown. Tap the throttle body with the supplied 1/8"-27 NPT tap.

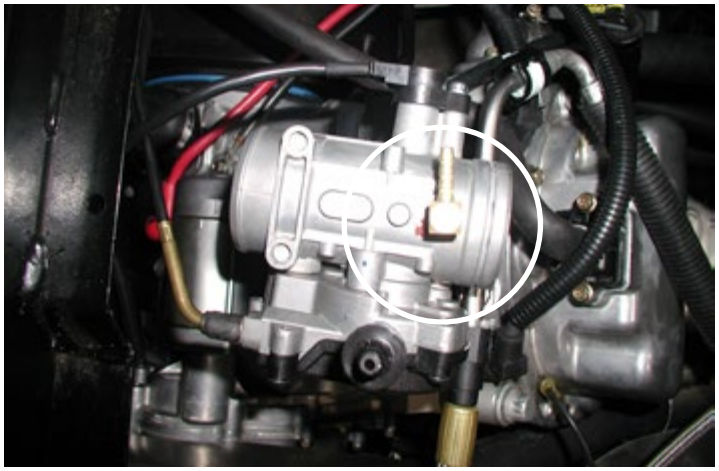
4. Install the 1/8" NPT x 1/8" barb 90° fitting into the throttle body. Ensure the fitting does not interfere with operation of the throttle plate.

5. **Crew & 6X6 models only:** Using a #40 Tamper Proof Torx driver or bit, remove the two bolts securing the rubber intake adapter and remove. Remove the restrictor plate from the intake and re-install the rubber intake adapter.

6. Install the throttle body back into the rubber intake adapter and tighten the hose clamp.

7. Reconnect the TPS wiring harness.

Remove Throttle Body



Install Vacuum Fitting

2011 Model Year

1. Disconnect the Throttle Position Sensor (TPS) wiring harness from the throttle body and the Temperature and Barometric Air Pressure (T-BAP) wiring harness from the rubber intake adapter.

2. Loosen the hose clamp on the throttle body and remove the throttle body from the rubber intake adapter.

3. Disconnect the T-BAP wiring harness and remove the rubber intake adapter from the intake manifold and drill an 1/8" hole as shown lower right.

4. Install the 1/8" x 1/8" barb straight fitting into the throttle body as shown.

5. Re-install the rubber intake adapter onto the intake manifold.

6. Install the throttle body back into the rubber intake adapter and tighten the hose clamp.

7. Reconnect the TPS and T-BAP wiring harnesses.

Remove Throttle Body

Install Vacuum Fitting

ProCharger Drive System Installation

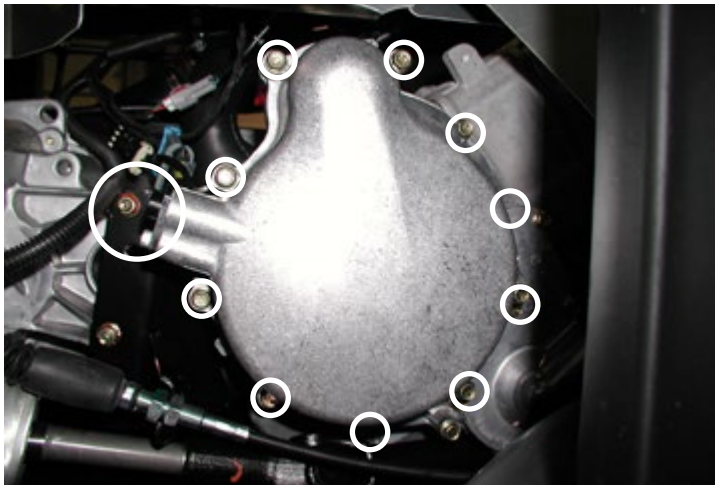
1. Disconnect the Crankshaft Position Sensor (CPS) wiring harness.

2. Using a 10mm socket (2010 models) or 8mm socket (2011 models), remove the (10) bolts securing the flywheel cover.

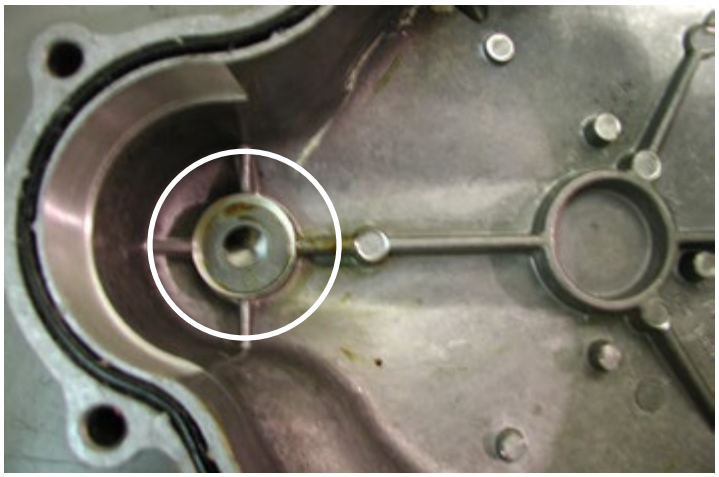
3. Remove the flywheel cover. Pull the cover straight out and work it free from the starter. The cover may stick on the starter shaft, but avoid prying the cover to prevent damage. Pay attention to the starter thrust washer when removing the cover. It may stay on the starter shaft or stick to the inside of the flywheel cover. Retain for reuse.

4. Using a 22mm socket and impact tool, remove the nut from the flywheel. Also remove the washer from the flywheel and set it aside. The washer and nut will not be re-installed.

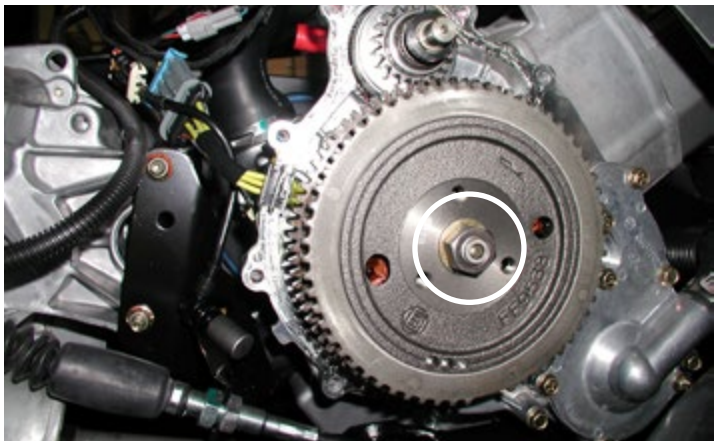
Tech Tip: *If you do not have an impact tool, remove the clutch cover and hold the clutch while removing the nut.*



Disconnect CPS & Remove Flywheel Cover



Locate Starter Thrust Washer



Remove Flywheel Nut and Washer

5. Re-install the thrust washer on the end of the starter shaft.

6. Thread the driveshaft onto the crankshaft and hand tighten.

7. Note the location of (3) threaded holes in the flywheel in order to ensure that the retaining bolts can be installed after torquing the driveshaft. If the driveshaft position is at or between the positions shown (center right), skip to step 9, if not, proceed to step 8.

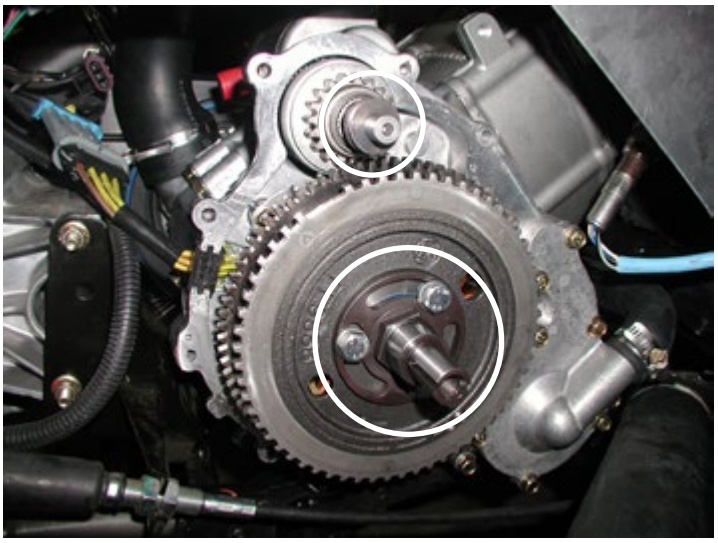
8. Remove the driveshaft. Place the supplied shim onto the crankshaft. Thread the driveshaft onto the crankshaft and hand tightnen. It may be necessary to use a small screwdriver or pick to align the shim with the driveshaft as it is threaded onto the crankshaft.

9. Using a 1-1/8" socket, torque the driveshaft to 65 ft-lbs.

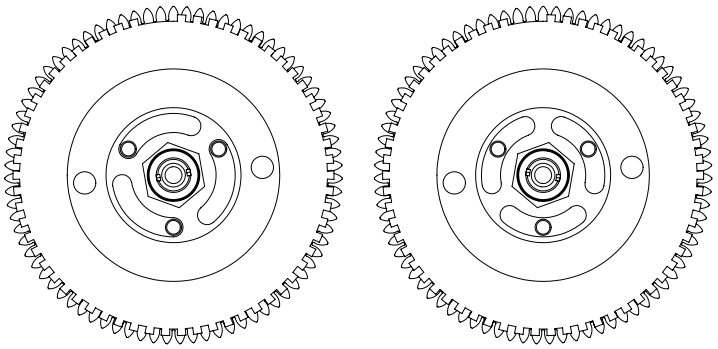
Tech Tip: *Remove the clutch cover and hold the clutch to torque the driveshaft.*

10. Install (3) supplied M8-1.25 x 16mm bolts and washers into the driveshaft hub, secure using Loctite 242 (blue), and torque to 18 ft-lbs using a 13mm socket.

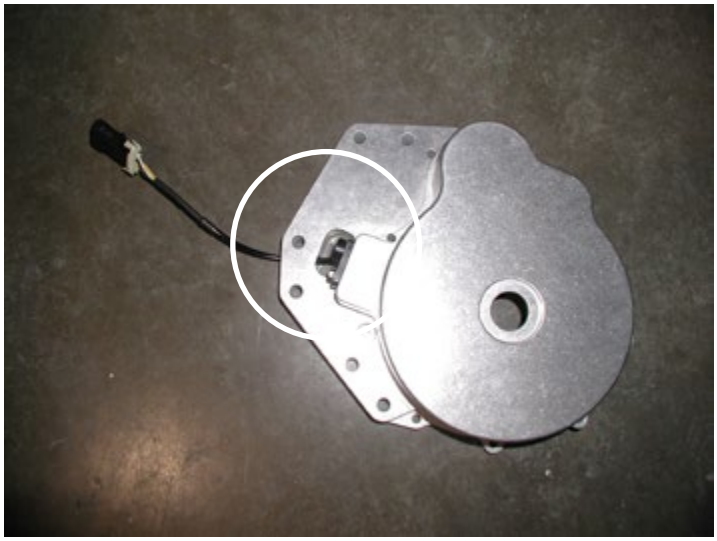
11. Using a 5mm hex wrench or bit (2010 models) or 8mm socket (2011 models), remove the bolt retaining the CPS and remove it from the factory flywheel cover.



Install Driveshaft and Starter Washer



Driveshaft Position Prior to Torquing



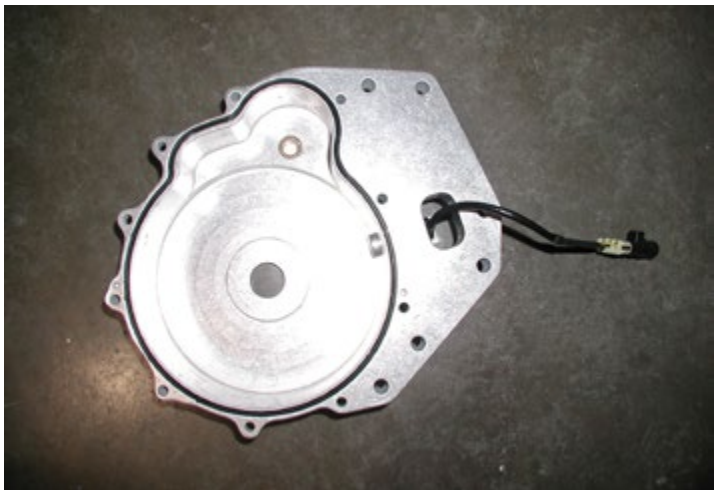
Install Crank Position Sensor

12 Route the wiring harness through the flywheel cover as shown. Install the CPS in the ProCharger flywheel cover and secure it with the bolt removed in the previous step.

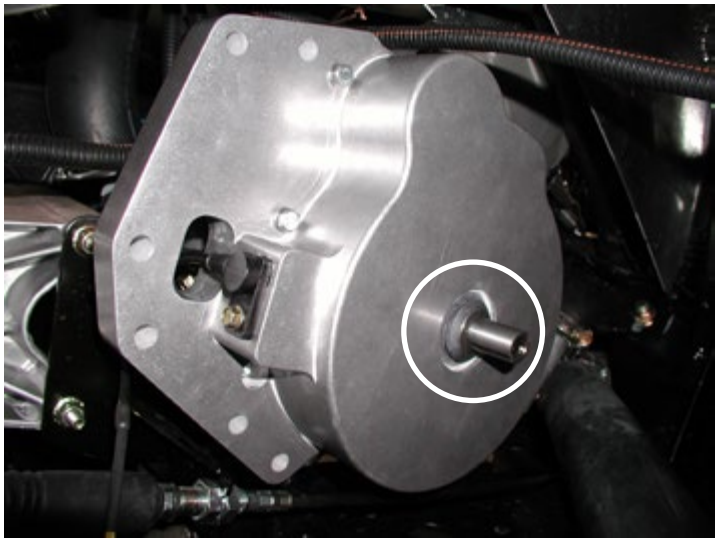
13 Install the supplied o-ring in the ProCharger flywheel cover as shown.

14 Install the ProCharger flywheel cover onto the engine.

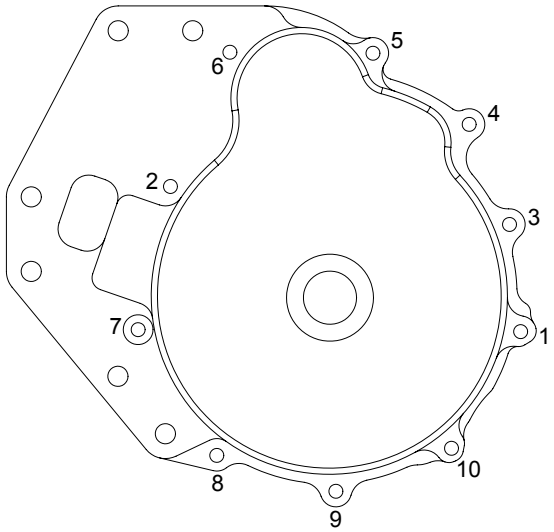
15 Using a 10mm socket, secure the cover with (10) supplied M6 - 1.0 x 50mm bolts and washers using Loctite 242 (blue) and torque to 96 in-lbs in sequence shown.



Install O-Ring



Install Flywheel Cover and Seal



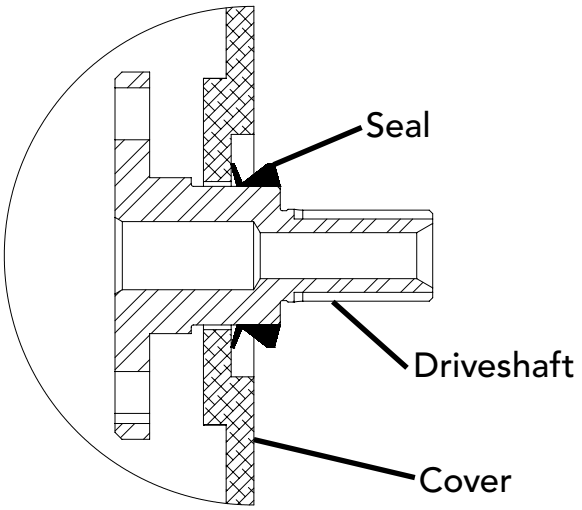
Flywheel Cover Torque Sequence

16 Install the supplied seal onto the driveshaft as shown. The inner lip rides on the recess in the cover.

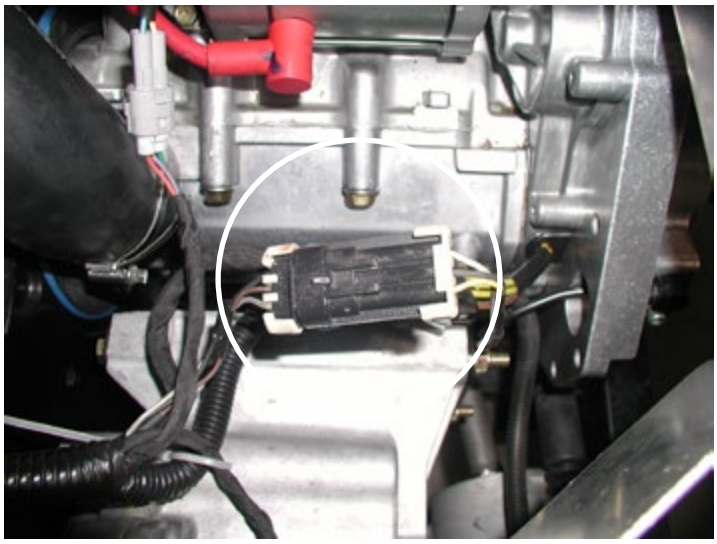
17 Reconnect the CPS wiring harness.

18 Install the crank pulley onto the driveshaft using the (2) supplied 1/8" x 1" keys. Note the orientation of the pulley with the longer hub to the outside.

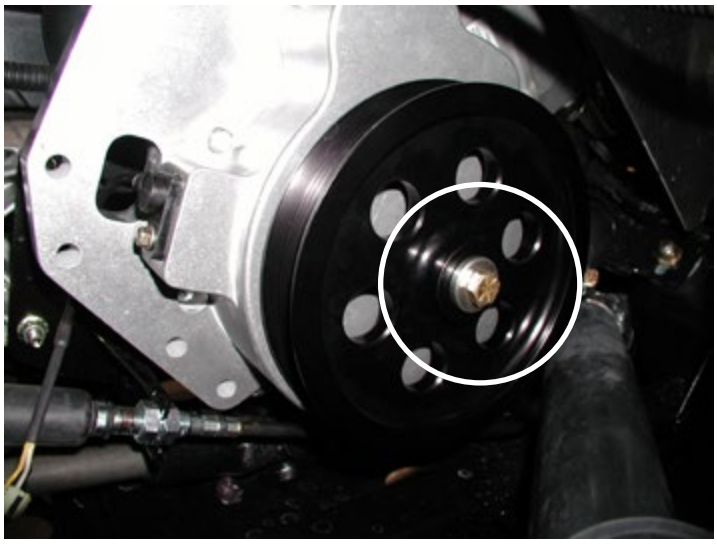
19 Secure the crank pulley using the supplied machined washer and 3/8" - 24 x 1" hex bolt with Loctite 272 (red) using a 9/16" socket.



Flywheel Cover Seal Orientation



Reconnect CPS Wiring Harness



Install Crank Pulley

ProCharger Installation

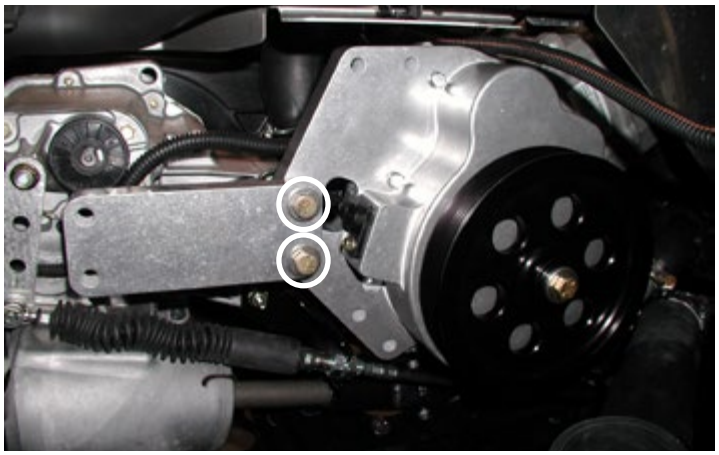
1. Remove the oil fill reminder tag from the head unit. Fill the supercharger with (1) 2.5 ounce bottle of the supplied blower oil.

2. Install the bracket mount and secure with (2) 3/8"-16 X 2-1/2" HHCS with washers and 3/8" - 16 serrated hex nuts using a 9/16" socket and wrench, lifting up slightly while tightening.

3. Remove the bottom bolt from the exhaust heat shield over the bracket with a 10mm socket to prevent contact with the belt guard.

4. Remove the (6) serrated flange hex nuts from the ProCharger and bracket assembly.

5. Install the ProCharger and main bracket assembly onto the flywheel cover. Secure to the flywheel cover and mounting bracket with the (6) serrated flange hex nuts removed in the previous step using a 9/16" socket and wrench. Leave the (3) bolts with belt guard brackets attached slightly loose in order to orient them later.



Install Bracket Mount

Install ProCharger onto Flywheel Cover

Install ProCharger onto Flywheel Cover

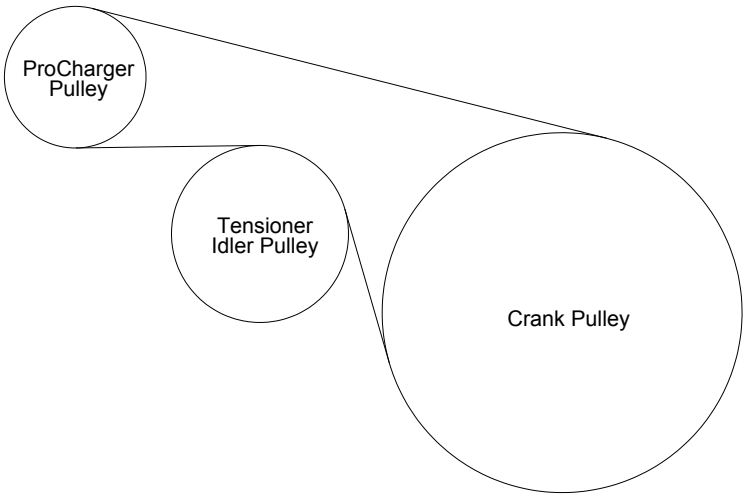
6. Install the ProCharger belt as shown in the belt routing schematic.

7. On the inside of the bracket, ensure the idler retainer bolt is slightly loose.

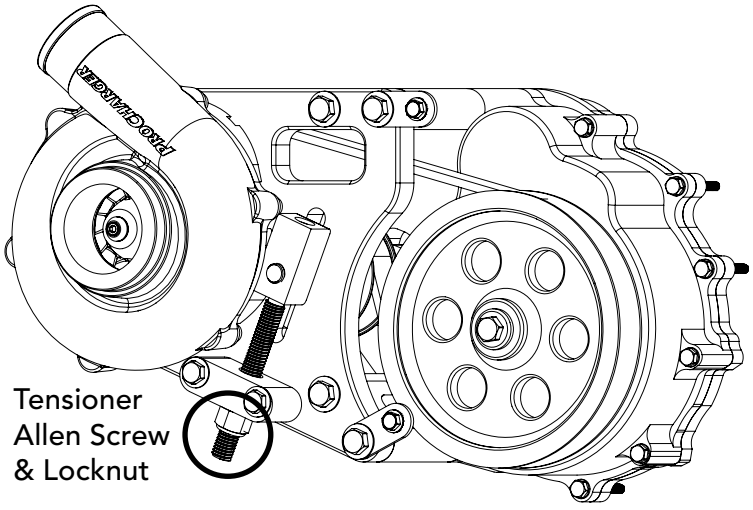
8. Turn the allen screw on the tensioner with a 1/4" hex wrench or bit clockwise to tension the belt, torquing to 35-40 in-lbs to set initial tension.

9. Tighten the lock nut on the allen screw and idler retainer bolt with a 3/4" wrench to secure the tensioner.

Tech Tip: *To verify that the belt is tensioned properly, twist the belt at the midpoint of the longest span (between the 2 pulleys). The belt should not twist more than 90°; if it does twist over 90°, repeat steps 8 and 9.*



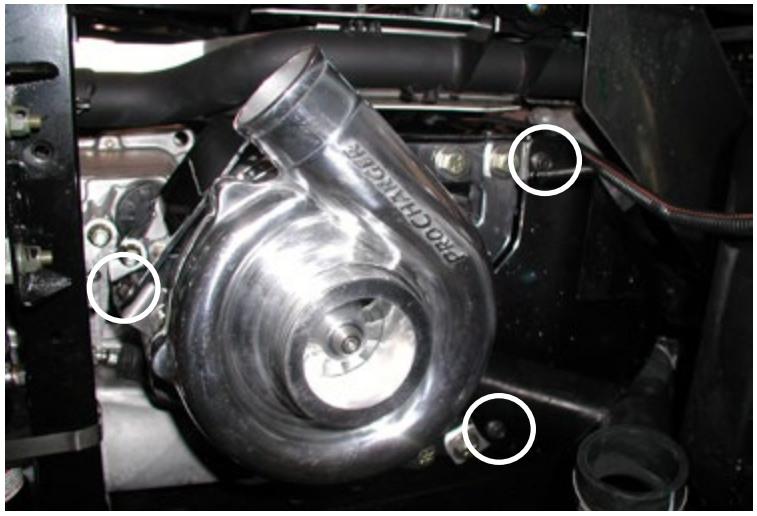
ProCharger Belt Routing Schematic



Belt Tensioning

10. Install the belt guard onto the installed blower bracket assembly. Orient the (3) brackets to the belt guard and tighten the (3) bolts left loose earlier with a 9/16" socket and wrench.

11. Secure the belt guard with (3) supplied M6 x 10mm serrated flange hex bolts.

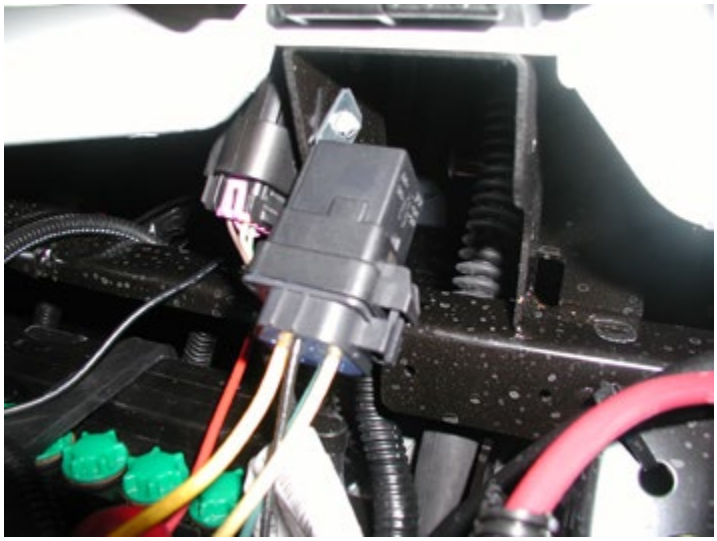


Install Belt Guard

Intercooler Fan Wiring

1. Wrap the long yellow wire and black ground wire with the two pole weatherproof connector on the supplied wiring harness with the wire loom included in the bag.

Tech Tip: *Secure the ends of the wire loom to the wiring harness with electrical tape. Start at the weatherproof connector end and work back, keeping the ground wire loop terminal on the black wire exposed to attach to the chassis ground.*



Mount Relay Under Hood

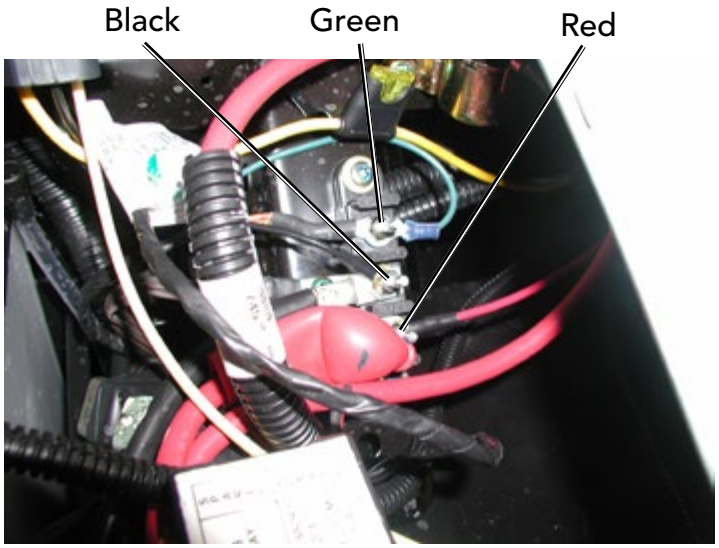
2. Install the supplied relay into the wiring harness socket.

3. Mount the relay under the front hood as shown.

4. Attach the wiring harness green wire to the top terminal that is the factory 12vdc switched power (orange wire).

5. Attach the wiring harness black wire to the middle terminal that is the factory ground (black wire).

6. Attach the wiring harness red wire to the bottom terminal that is the factory 12vdc battery power (red wire).



Attach Power and Ground Leads

7. Route the wiring harness out through the driver's side wheel well and then down through the channel as shown at right. Then route with the factory harnesses through the floorboard channels, ensuring the harness is clear of the driveshaft.

Driver's Wheel Well Wiring Routing

✓ ***Tech Tip:*** *Removing the floorboard access panel may aid in routing the wiring harness.*

8. **For all models except the Ranger Crew,** keep the excess wiring harness under the front hood and tie up in a loop. Continue routing the wiring harness along the driver's side of the engine to the rear of vehicle where the intercooler will be installed.

9. Install the black ground wire terminal to the chassis ground located near the starter as shown.

Attach Chassis Ground Terminal

10. Secure the wiring harness as needed with the supplied cable ties, routing to prevent damage from abrasion and heat.

11. Install the supplied 10 amp ATM fuse into the wiring harness fuse holder.

Intercooler Assembly

1. Install the supplied intercooler fan mounting ties with pads near the edge of the intercooler in the third row from the left and the fifth row from the right (as shown). Note that they are installed on the mounting boss side of the intercooler.

2. Install the pads onto the fan mounting ties on the opposite side of the intercooler.

3. Install the intercooler fan onto the fan mounting ties, noting the location of the wiring harness on the bottom right as shown.

4. Slide the retainers onto the fan mounting ties to secure the intercooler fan in place.

Install Intercooler Fan Mounting Ties w/Pads

Install Pads onto Fan Mounting Ties

Mount Intercoooler Fan & Install Retainers

5 Trim the fan mounting ties to complete the intercooler fan mounting.

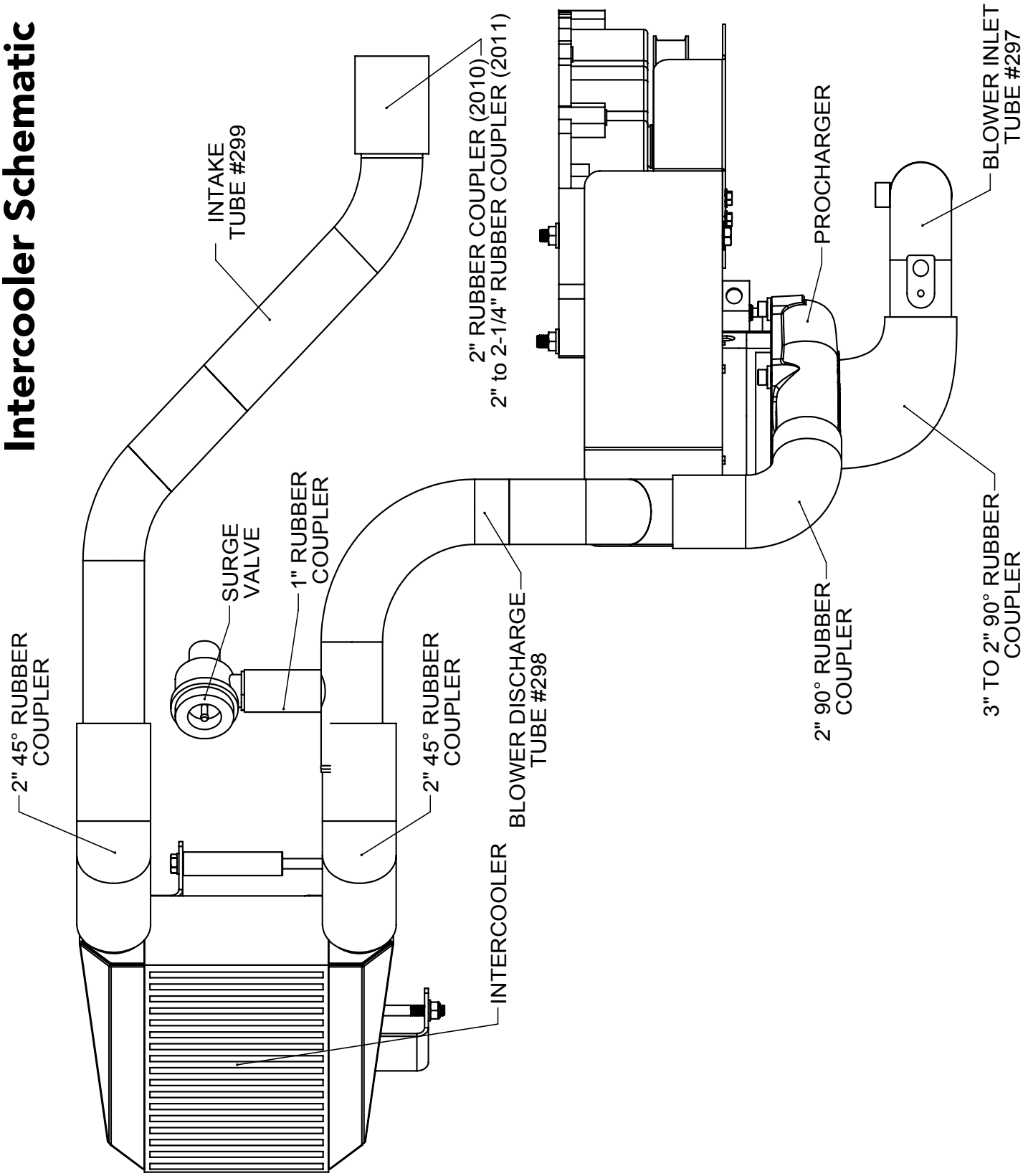
6 Attach (4) mounting brackets to the intercooler as shown using (4) M8 - 1.25 x 16mm hex bolt and (4) M8 washers.

Tech Tip: *Leave all brackets loose until the intercooler is test fitted. It may be necessary to remove the intercooler from the vehicle to secure the brackets.*

Secure and Trim Mounting Ties

Attach Intercooler Mounting Brackets

Intercooler Schematic



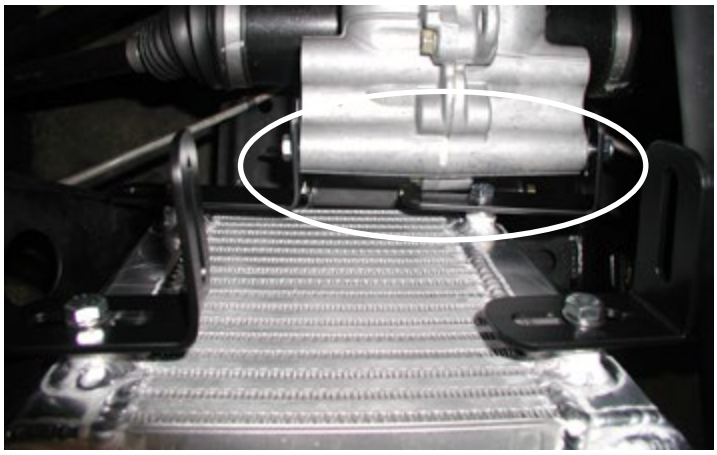
Intercooler and Tubing Installation

1. Attach the rear intercooler brackets to the transmission case as shown using (1) M8 - 1.25 x 180mm hex bolt with (2) washers and (1) M8 locknut.

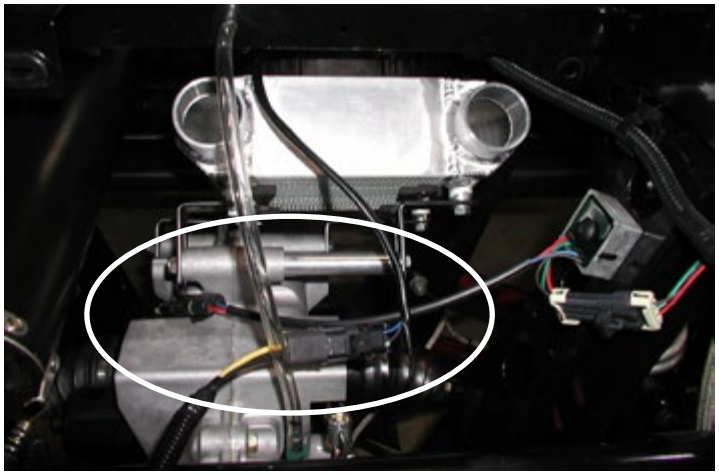
2. Attach the front intercooler brackets to the transmission case as shown using a spacer and (1) M8 - 1.25 x 180mm hex bolt with (2) washers and (1) M8 locknut.

3. Align the front of the intercooler with the front cage of the frame crossmember and, using a 13mm wrench and socket, tighten all bolts to secure the intercooler.

4. Plug the intercooler fan wiring harness into the harness installed earlier.



Rear Intercooler Mounting



Front Intercooler Mounting and Intercooler Fan Wiring Harness

Intercooler Installed

Tech Tip: *Secure each coupler connection with a #32 hose clamp with the exception of the blower inlet, which uses a #52 hose clamp. It is best practice to slide the hose clamp over the coupler, keeping it loose until all of the connections have been made and adjusted. Due to differences in installation, rubber couplers may need additional trimming for proper fitment.*

5. **For 2010 model years,** install the T-BAP sensor in blower inlet tube #297 and secure it with the bolt removed earlier with a 10mm socket. **For 2011 model years,** install the supplied T-BAP block-off with o-ring and secure witha 1/4" - 20 x 5/8" BHCS.

6. Install a 1/4" NPT x 3/8" 90° barb fitting in blower inlet tube #297 using pipe thread sealant and tighten in the orientation shown.

7. Install the 90° blower inlet tube #297 into the factory inlet.

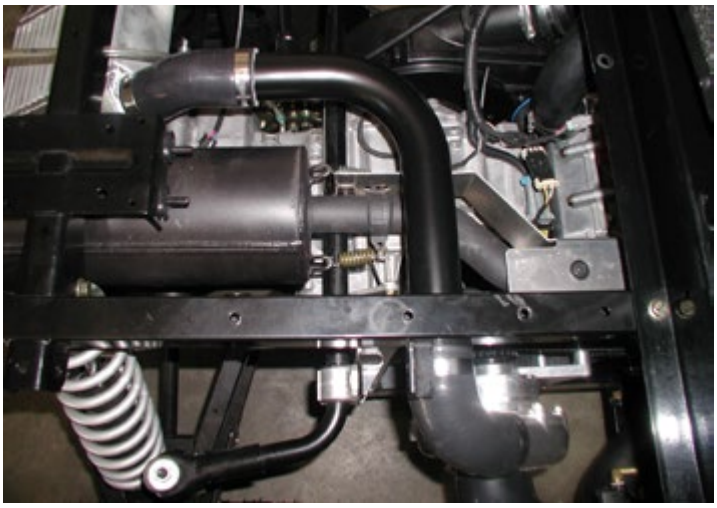
8. Install the 3" to 2" rubber 90° reducer onto tube #297 and the blower inlet.

9. Install a 2" 90° rubber coupler onto the blower discharge.

10. Install the 90° blower discharge tube #298 into the coupler installed in the previous step.

Assemble Blower Inlet Tube #297

Install Blower Inlet Tube #297

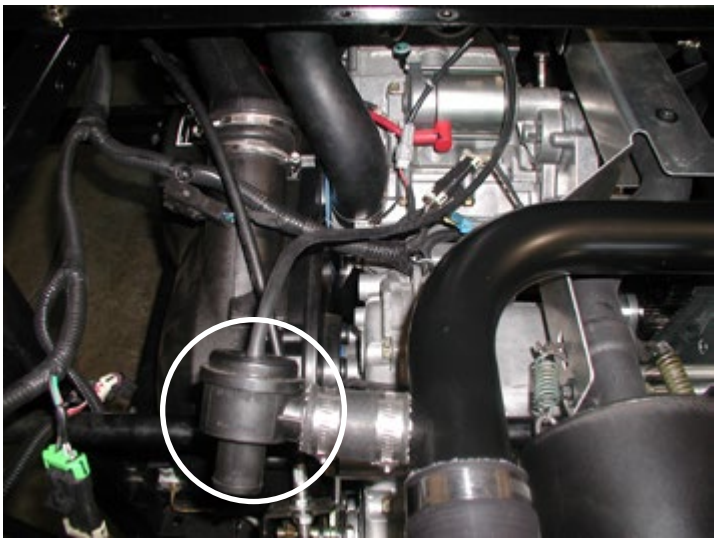


Install Blower Discharge Tube #298

11. Install a 2" 45° rubber coupler between the blower discharge tube and intercooler inlet.

12. Install the surge valve onto blower discharge tube #298 using the 1" rubber coupler and (2) #16 hose clamps.

13. Attach 1/8" vacuum line to the barb fitting on top of the surge valve and attach the other end to the barb fitting installed earlier in the throttle body.

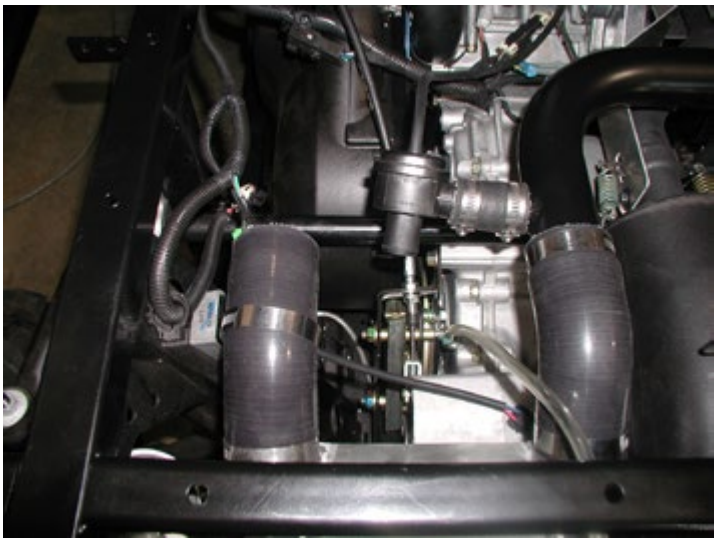


Install Surge Valve & Manifold Vacuum Line

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

14. Install a 2" 45° rubber coupler onto the intercooler outlet.

15. **For 2010 models,** install a 2" straight rubber coupler onto the throttle body. **For 2011 models,** install a 2" to 2-1/4" straight rubber coupler onto the throttle body.



Install Intercooler Coupler

16. Install intake tube #299 as shown with the short leg towards the throttle body into the couplers installed in the two previous steps.

17. Tighten all hose clamps to secure the intercooler tubing using a 5/16" socket or nutdriver.

Install Intake Tube

Crankcase Breather Hose Installation

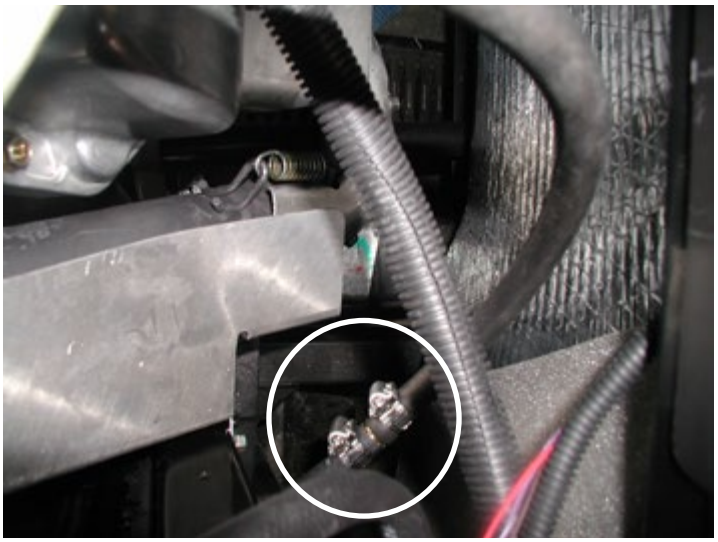
1. Attach the supplied 3/8" hose to the fitting on the inlet tube.

2. Install a 3/8" barb coupler into the hose installed in the previous step.

3. Attach the crankcase breather hose to the barb coupler installed in the previous step. Route and secure with zip ties as needed to prevent contact with engine, exhaust or ProCharger drive belt.

4. Secure all of the connections from the previous (3) steps with the supplied #6 hose clamps.

Attach Hose Extension to Air Inlet Tube



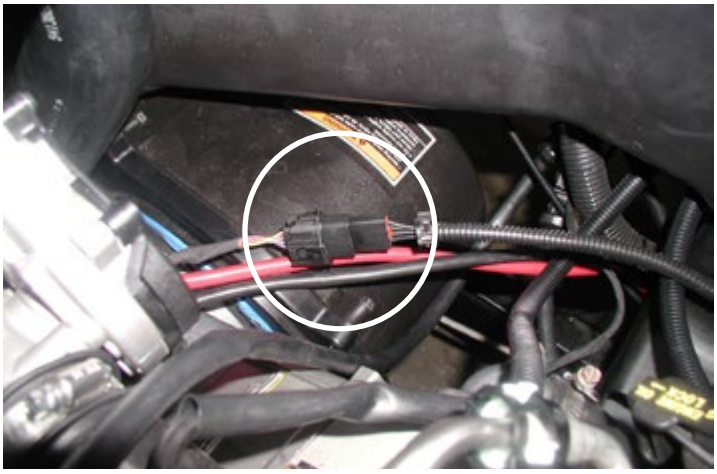
Attach Hose Extension to Factory Hose

T-BAP Wiring Extension Installation
(2010 Models Only)

1. Connect the T-BAP sensor extension wiring harness to the factory wiring harness.

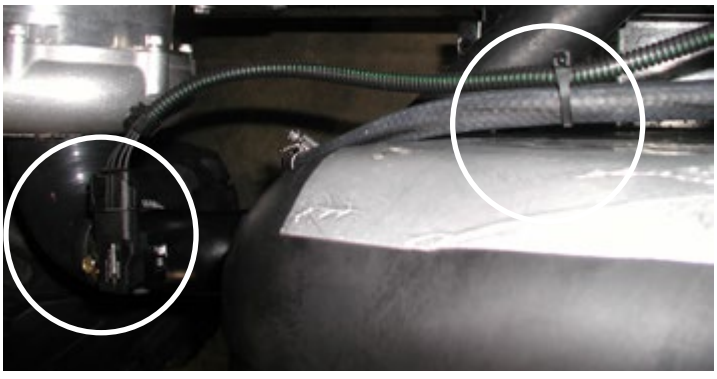
2. Route the extension wiring harness towards the front of the vehicle along the frame, then back to the T-BAP sensor in the air inlet tube. Secure with zip ties as needed to prevent contact with engine, exhaust or ProCharger drive belt.

3. Connect the extension wiring harness to the T-BAP sensor.



Connect Extension Harness to Factory Harness

Extension Wire Routing



Connect Extension Harness to T-BAP Sensor

Air Filter Installation

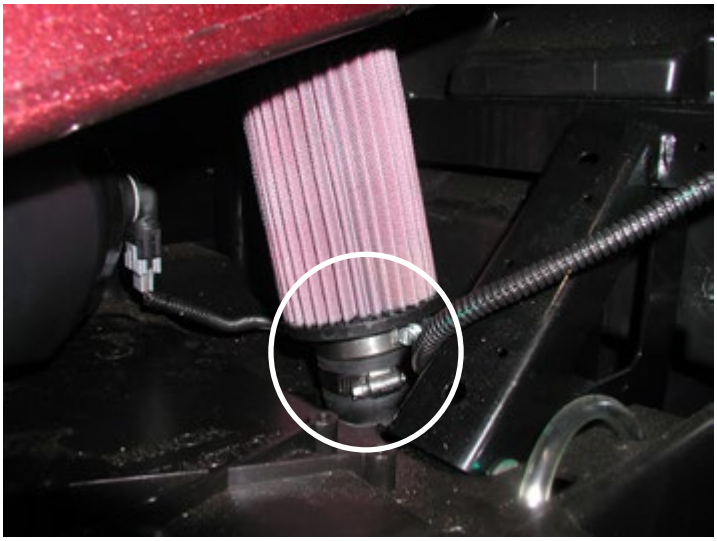
1. Raise the hood.

2. Loosen the hose clamp on the air intake box located on the passenger's side of the compartment and remove the air intake box.

3. Install the 2" coupler tube into the hose and secure with a #32 hose clamp.

4. Install the air filter onto the tube in the previous step and secure with the supplied hose clamp.

Remove Air Intake Box



Install Air Filter

Fuel System Installation

Tech Tip: *This section only applies to full systems, which include the fuel system upgrade components. If you have a tuner kit, starting and operating the vehicle before upgrading the factory fuel system as required may result in engine damage.*

2010 Model Year

(Skip to page 29 for 2011 models)

1. Remove the seat bottom and unplug the fuel pump connector and stock fuel line from the fuel pump module.

2. Using large pliers or a large straight screwdriver, unscrew the top plate retaining ring. Be sure to mark the orientation for re-assembly.

3. Remove the fuel pump module and large o-ring from the tank.

4. Remove the retaining clip and pull out the stock fuel pressure regulator.

5. Install the supplied large o-ring onto the supplied regulator block-off and the supplied small o-ring in the groove at the bottom of the block-off.

6. Install the regulator block-off into the stock location and re-install the retaining clip.

Unplug Wiring and Remove Retaining Ring

Remove Fuel Pump Module and Regulator

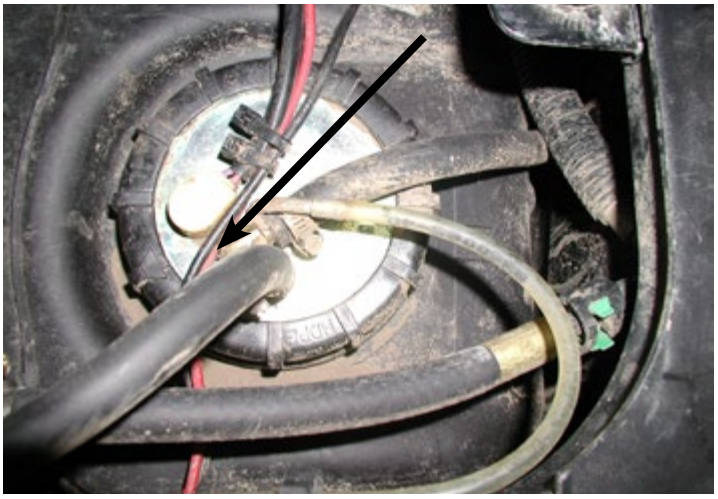
7. Mark the top plate (see location in picture) of the fuel pump module and drill a hole using a Q (.332") drill bit. Install the supplied 1/8" NPT x 3/8" barb 90° fitting into the top plate and secure using the supplied 1/8" NPT nut.

8. Re-install the modified fuel pump module into the fuel tank using the large o-ring and retaining ring removed earlier.

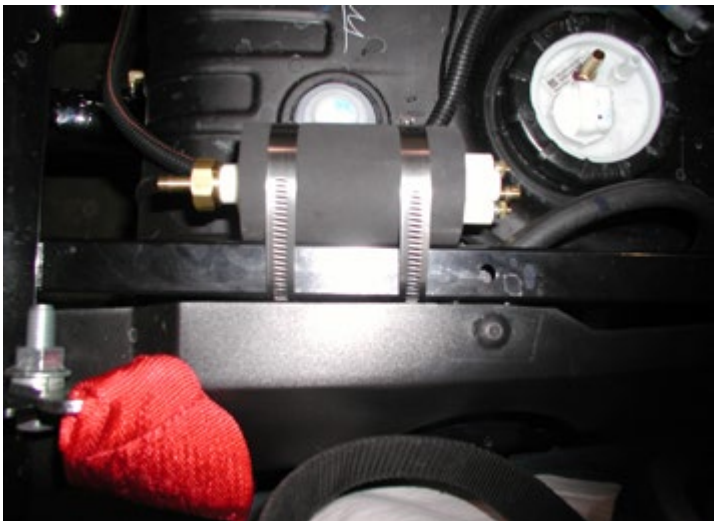
9. Tighten the retaining ring in the same manner it was removed, making sure that the orientation is the same as when it was removed.

10. Install the in-line fuel pump to the upper frame rail using two #40 hose clamps as shown at right.

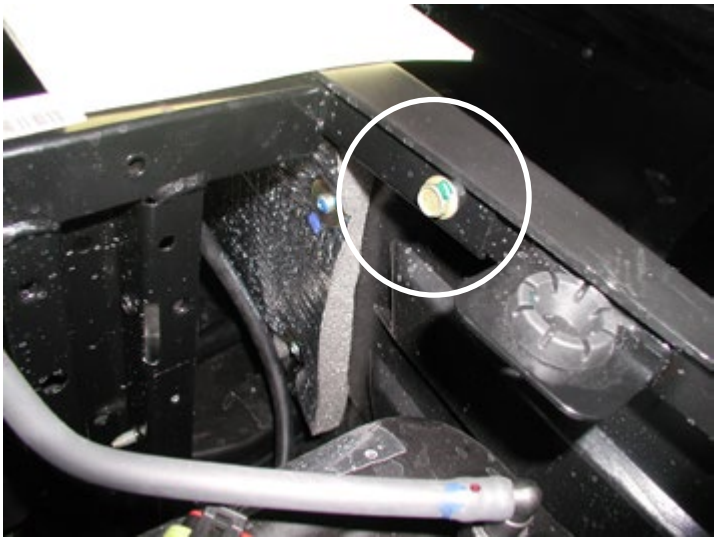
11. Remove the 13mm bolt from the front of the upper frame rail (see right). Install the bolt through the FMU/bracket assembly and re-install to the frame rail.



Install Barb Fitting in Top of Fuel Pump Module



Attach Fuel Pump to Frame



Remove Bolt from Frame

12 Remove the stock fuel rail dead head.

13 Install the terminated end of fuel line FL009A-004 to the end of the fuel rail. Install the non-terminated end of the line to the fitting located on the side of the FMU using a #04 hose clamp.

14 Install the terminated end of fuel line FL020A-002 into the open end of the stock fuel line. Install the non-terminated end to the fitting on the outlet of the ProCharger fuel pump using a #04 hose clamp.

15 Install the terminated end of fuel line FL020A-001 to the stock fitting on top of the fuel pump module. Install the non-terminated end to the inlet of the ProCharger pump using a #04 hose clamp.

16 Install one end of the supplied 5/16" fuel line to the bottom of the FMU and the other end to the barb fitting on top of the fuel pump module using a #04 hose clamp.

17 Install nylon hose AHR04B-000 into the push-lock fitting on top of the FMU. Cut a small length of vacuum hose and install it onto the end. Install vacuum restrictor GF012I-001 into the vacuum hose.

Attach FMU to Frame

Connect Fuel Lines to Fuel Rail

Install Vacuum Restrictor and Attach to FMU

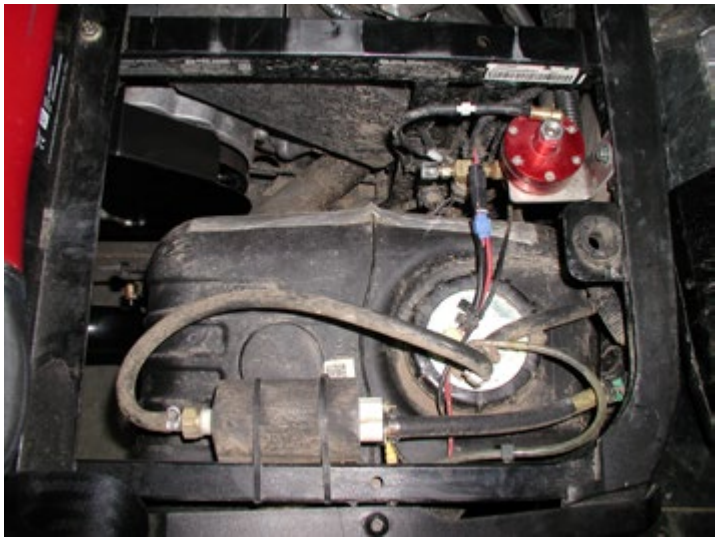
18 Cut a small length of vacuum hose and attach it to the bottom part of plastic T fitting GF005I-010. Install the other end of the short vacuum line to the barb fitting on the intake manifold. Install the vacuum line from the bypass to one end of the T fitting. Install the remaining length of vacuum line to the open end of the T fitting, then along the stock fuel line to the vacuum restrictor.

Install Barb T-Fitting into Vacuum Line

19 Strip both ends of black wire EW121B-00B. Install ring terminal EM002I-002 to one end and ring terminal EM002I-024 to the other end. Install the small ring terminal to the negative post of the fuel pump and tighten. Route the end with the large terminal alongside the stock fuel line. Remove the top rocker cover bolt and fit it through the terminal and re-install the bolt. Tighten the bolt to 90-120 inch pounds.

Vacuum Line and Wiring Routing

20 Strip both ends of red wire EW121B-00R. Install ring terminal EM002I-002 to one end. Remove the tape from the end of the fuel pump connector wires. Install electrical T connector EM002I-009 around the red wire. Fit the stripped end of the supplied wire into the T connector and close. Install the ring terminal onto the positive post of the fuel pump and tighten. Note: this wire can be shortened.



Fuel System Installed

21 Zip tie the ground wire and vacuum line to the stock fuel line, being careful not to crimp or pinch the vacuum line.

22 Verify a 15 amp fuse is in the "EFI" location in the underhood fuse box. If not, replace with the supplied 15 amp ATM fuse.

2011 Model Year

1. Remove the seat bottom and unplug the fuel pump connector and stock fuel line from the fuel pump module.

2. Using large pliers or a large straight screwdriver, unscrew the top plate retaining ring. Be sure to mark the orientation for re-assembly.

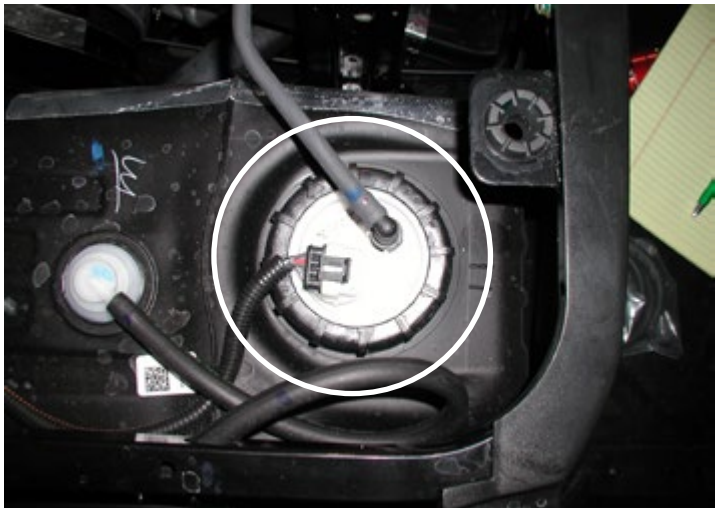
3. Remove the fuel pump module and large o-ring from the tank.

4. Remove the retaining clip and pull out the stock fuel pressure regulator.

5. Remove the plastic spacer from the stock regulator and install it onto the supplied regulator block-off. Install the supplied large o-ring under the spacer. Verify that the supplied small o-ring is installed in the groove at the bottom of the block-off.

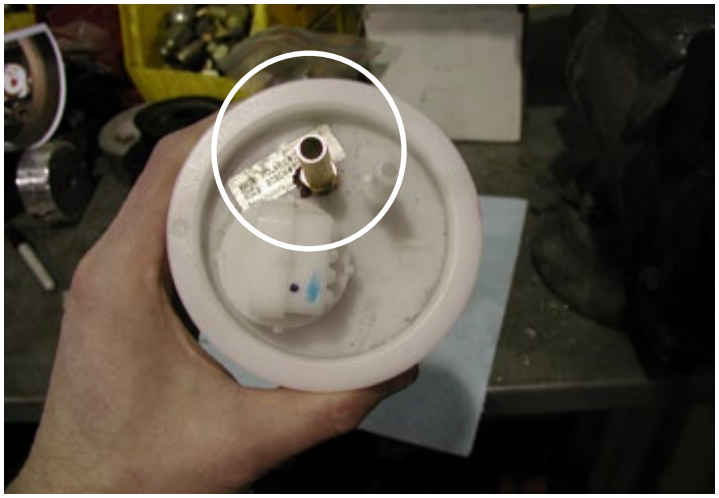
6. Install the regulator block-off into the stock location and re-install the retaining clip.

7. Mark the top plate (see location in picture) of the fuel pump module and drill a hole using a Q (.332") drill bit. Tap the hole using the supplied 1/8" - 27 NPT tap. Apply thread sealant to the supplied 3/8" barb fitting and install into the tapped hole.



Unplug Wiring and Remove Retaining Ring

Remove Fuel Pump Module and Regulator



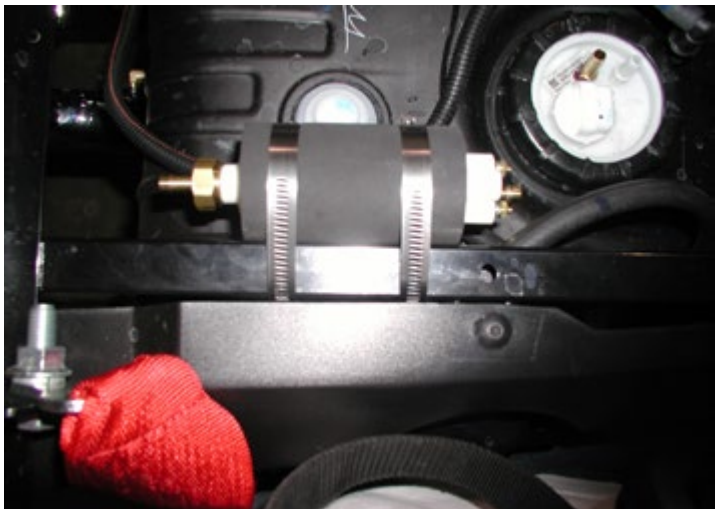
Install Barb Fitting in Top of Fuel Pump Module

8. Re-install the modified fuel pump module into the fuel tank using the large o-ring and retaining ring removed earlier.

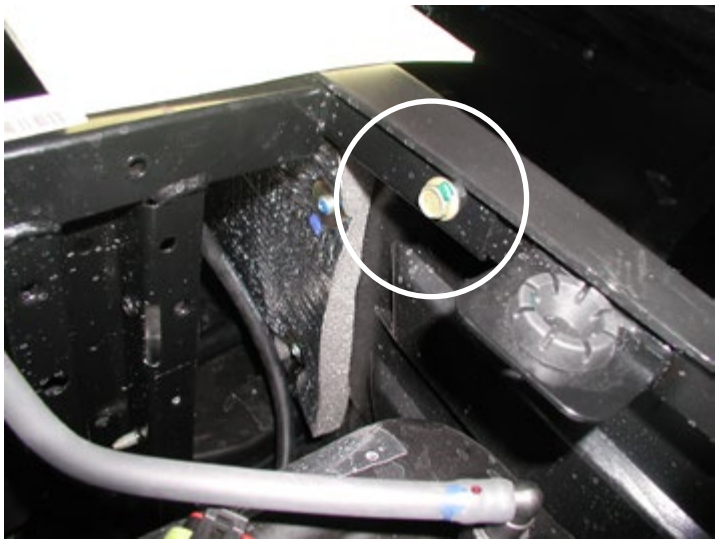
9. Tighten the retaining ring in the same manner it was removed, making sure that the orientation is the same as when it was removed.

10. Install the in-line fuel pump to the upper frame rail using two #40 hose clamps as shown.

11. Remove the 13mm bolt from the front of the upper frame rail (see right). Install the bolt through the FMU/bracket assembly and re-install to the frame rail.



Attach Fuel Pump to Frame



Remove Bolt from Frame

Attach FMU to Frame

12 Remove the stock fuel rail dead head.

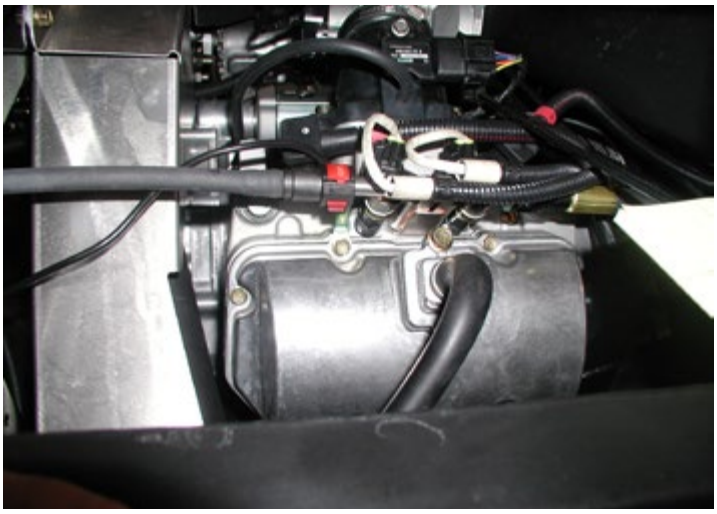
13 Install the terminated end of fuel line FL009A-004 to the end of the fuel rail. Install the non-terminated end of the line to the fitting located on the side of the FMU using a #04 hose clamp.

14 Install the terminated end of fuel line FL020A-002 into the open end of the stock fuel line. Install the non-terminated end to the fitting on the outlet of the ProCharger fuel pump using a #04 hose clamp.

15 Install the terminated end of fuel line FL020A-001 to the stock fitting on top of the fuel pump module. Install the non-terminated end to the inlet of the ProCharger pump using a #04 hose clamp.

16 Install one end of the supplied 5/16" fuel line to the bottom of the FMU and the other end to the barb fitting on top of the fuel pump module using a #04 hose clamp.

17 Install nylon hose AHR04B-000 into the push-lock fitting on top of the FMU. Cut a small length of vacuum hose and install it onto the end. Install vacuum restrictor GF012I-001 into the vacuum hose.



Connect Fuel Lines to Fuel Rail

Install Vacuum Restrictor and Attach to FMU

18 Cut a small length of vacuum hose and attach it to the bottom part of plastic T fitting GF005I-010. Install the other end of the short vacuum line to the barb fitting on the intake manifold. Install the vacuum line from the bypass to one end of the T fitting. Install the remaining length of vacuum line to the open end of the T fitting, then along the stock fuel line to the vacuum restrictor.

Install Barb T-Fitting into Vacuum Line

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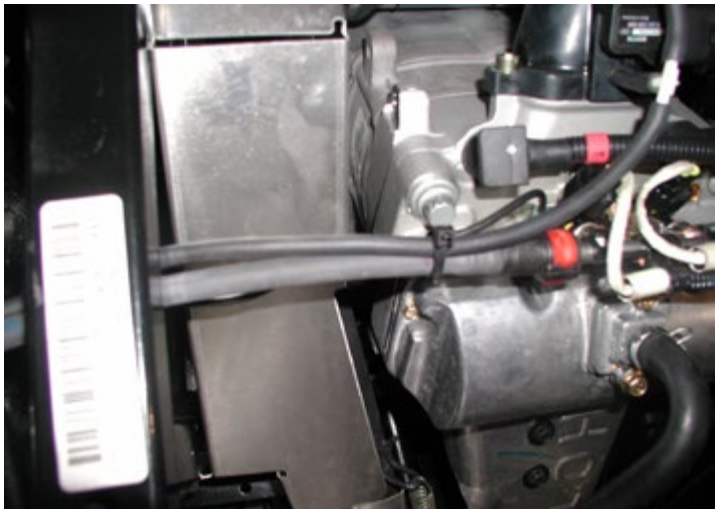
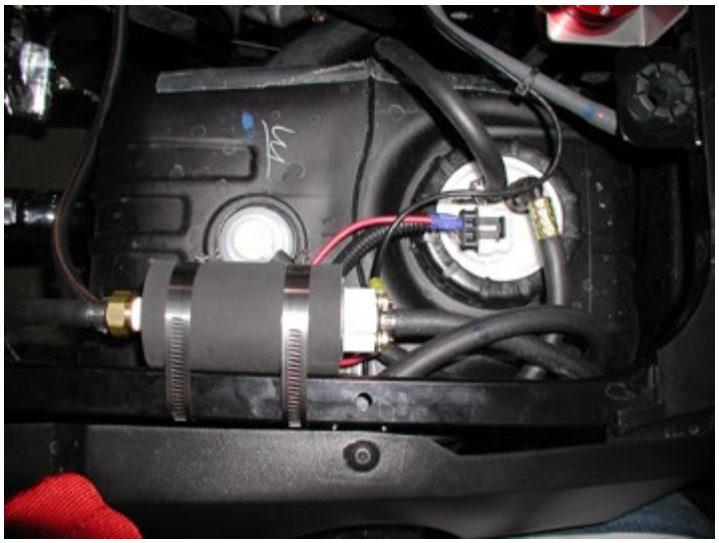


Vacuum Line and Wiring Routing

20 Strip both ends of red wire EW121B-00R. Install ring terminal EM002I-002 to one end. Remove the tape from the end of the fuel pump connector wires. Install electrical T connector EM002I-009 around the red wire. Fit the stripped end of the supplied wire into the T connector and close. Install the ring terminal onto the positive post of the fuel pump and tighten. Note: this wire can be shortened.



Fuel System Installed

21 Zip tie the ground wire and vacuum line to the stock fuel line being careful not to crimp or pinch the vacuum line.

22 Replace the 10 amp fuse with the supplied 15 amp ATM fuse in the "Fuel Pump" location in the underhood fuse box.

Cargo Box Installation

Warning: *Use two people to place the cargo box onto the frame.*

1. With assistance, place the cargo box onto the frame and re-install the hinge pin previously removed on both sides of the frame.

2. Using a 10mm socket, secure the hinge pins with the bolts removed earlier.

3. Attach the shock to the frame using the supplied spacer towards the driver's side of the vehicle along with the pin and cotter pin removed earlier.

4. Attach the shock to the cargo box using the supplied spacer towards the driver's side of the vehicle along with the pin and cotter pin removed earlier.

5. Connect the tail light wiring harness.

6. Lower the cargo box and ensure that the blower discharge tube is clear of the latch. Adjust the tube as needed in order to clear the latch and latch the cargo box.

Install Hinge Pins

Install Shock & Connect Tail Lights

Latch Cargo Box

Finishing Up

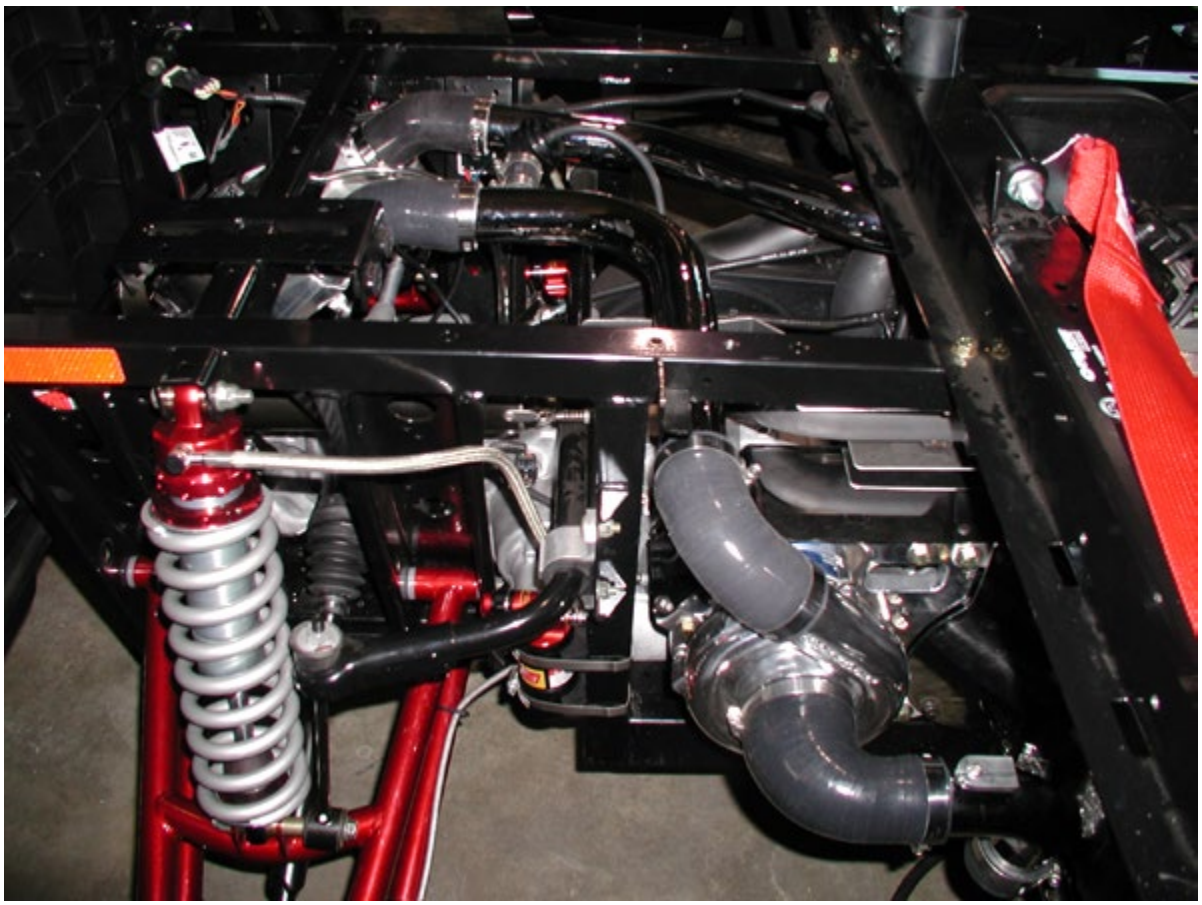
1. Inspect the belts and pulleys for clearance from all wires and hoses. Adjust and secure any hoses or wires that may be caught or abraded by the belts or pulleys. Verify the belt is properly tensioned.

2. Reconnect the battery ground terminal.

3. Start the vehicle and inspect the system for leaks (air and fuel) prior to testing.

4. Monitor the fuel pressure at idle and set the base fuel pressure to 65 psi. For full systems, adjust the FMU as needed by loosening the top nut with a 3/4" wrench, adjusting the allen screw with a 1/4" hex wrench to set the fuel pressure, then tightening the top nut to lock it in place.

5. Install the seat bottom.



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

Operation and Maintenance

Cold Starting

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

Fuel Quality

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

Ignition System Maintenance

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

Air Filter Maintenance

Your air filter should be inspected before each ride and cleaned if required. Under normal operating conditions, clean your air filter every 100 hours/1000 miles/6 months. Under severe duty operating conditions, clean your air filter every 25 hours. Performing this maintenance along with your engine oil change is recommended. 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 drive belt, which turns your ProCharger supercharger, may stretch after initial run-in, and should be re-tensioned after the first 5 hours. 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 belts can be purchased from ATI or from your local parts store.

ProCharger Oil Change Intervals

The first oil change should be performed at 15 hours. Under normal operating conditions, change the oil at 100 hour intervals thereafter. Under severe duty operating conditions, change the oil at 25 hour intervals. At a minimum, change the oil yearly. Performing this maintenance along with your engine oil change is recommended. 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

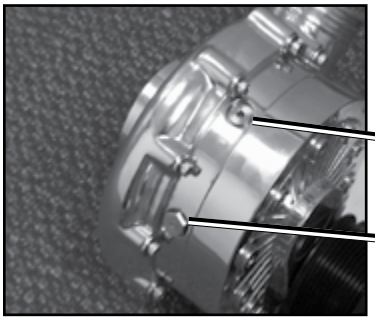
The ProCharger supercharger's oil level must be checked periodically to ensure the proper lubrication. The dipstick can be loosened using a flat blade screwdriver or a coin. When installed, the oil level should remain between the minimum (MIN) and maximum (MAX) indicators at all times.

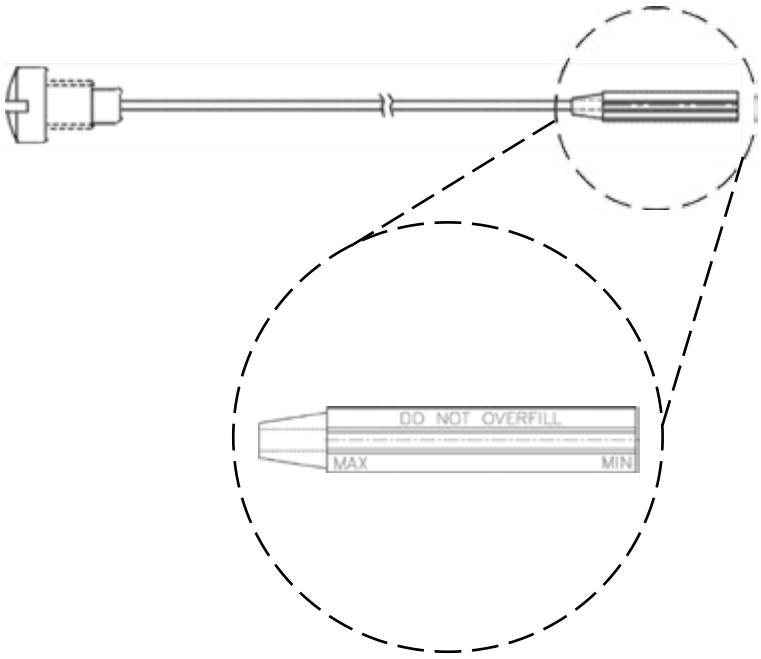
Warning: *Filling the ProCharger higher than the maximum level on the dipstick can lead to bearing and seal damage. The supercharger is a sealed unit and should not normally require the addition of oil between service intervals. If excessive usage is noted, the unit should be sent to ATI for inspection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





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

Part Number PMPA1A-001 Rev. E