

2002-2003 F-150/Expedition 4.6L/5.4L SOHC Intercooled System **Installation Guide**





The **ULTIMATE** Power Adder™

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Torque Specification Chart	 Grade 5			 Grade 8		
	Torque (lb. ft.)			Torque (lb.ft.)		
Thread Size						
1/4-20	11	8	7	16	12	10
1/4-26	13	10	8	18	14	11
5/16-18	23	17	14	33	25	20
5/16-24	26	19	15	36	27	22
3/8-16	41	31	25	58	44	35
3/8-24	47	35	28	66	49	39
7/16-14	66	49	40	93	70	56
7/16-20	74	55	44	104	78	62
1/2-13	101	75	60	142	106	85
1/2-20	113	85	68	160	120	96

INTRODUCTION

Congratulations on purchasing your ProCharger® 2002-2003 F-150/Expedition 4.6L/5.4L SOHC 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

- 1/2" and 3/8" Socket Sets (standard & metric)
- 1/2" Breaker Bar and 4" Extension
- Torx Bit Set
- Open End Wrench Set (standard & metric)
- Adjustable Wrench
- Flat & Phillips Screwdrivers
- Pliers
- Electric Drill & Bit Set
- Sabre Saw w/Fine Blade
- 3/8" Hex Bit Set (standard & metric)
- Fan Removal Tool
- Ford Factory Repair Manual



Warning: Your supercharged Ford Truck or SUV must always be run on 91 octane or higher gas.

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

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

Gauges should be of a type that can be read from the cockpit while performing a wide-open throttle road test. Cockpit or hood-mounted gauges are preferable. In order to obtain usable readings, the gauges should measure pressure at the intake manifold and fuel rail. IF VEHICLE DOES NOT MAINTAIN PROPER FUEL PRESSURE, 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.

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

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GETTING STARTED



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

- (A) Throttle Body/Throttle Linkage Cover
- (B) Factory Air Inlet
- (C) Fan Shroud
- (D) Radiator Shroud

! 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

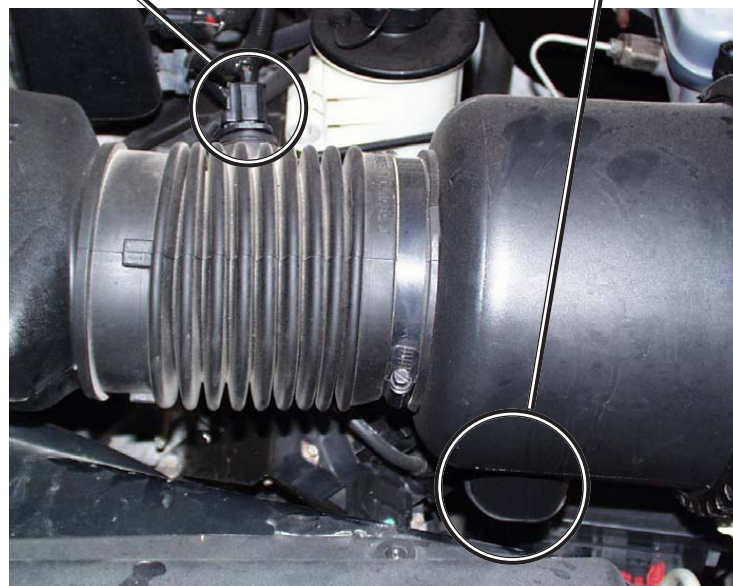


Note: Spark plugs should be replaced if they are platinum or have more than 10,000 miles of use. Plugs that are one heat range colder than stock are recommended.

- 1 Remove the gas cap to relieve fuel tank vapor pressure. Remove the fuel pump fuse from the factory fuse block. Crank the engine over for a few seconds (the engine will not start) to relieve pressure from the fuel lines. Replace the fuse.
- 2 Disconnect the negative (-) battery cable from the battery.
- 3 Remove the throttle body/throttle linkage cover.
- 4 Unplug the mass air flow (MAF) meter and the inlet air temperature (IAT) sensor from the air filter assembly. Remove both sensors from the air inlet.
- 5 Remove the crankcase ventilation tube that originates at the driver's side valve cover, leaving the 90° rubber elbow and PCV valve in place. For **4.6L** applications, remove the idle air control valve (IAC) tube assembly that connects the air inlet to the IAC on the driver's side of the throttle body. For **5.4L** applications, remove the IAC tube that connects the air inlet to the IAC baffle.
- 6 Remove the remainder of the air inlet/air filter assembly from the throttle body.

Intake Air Temp.
Sensor

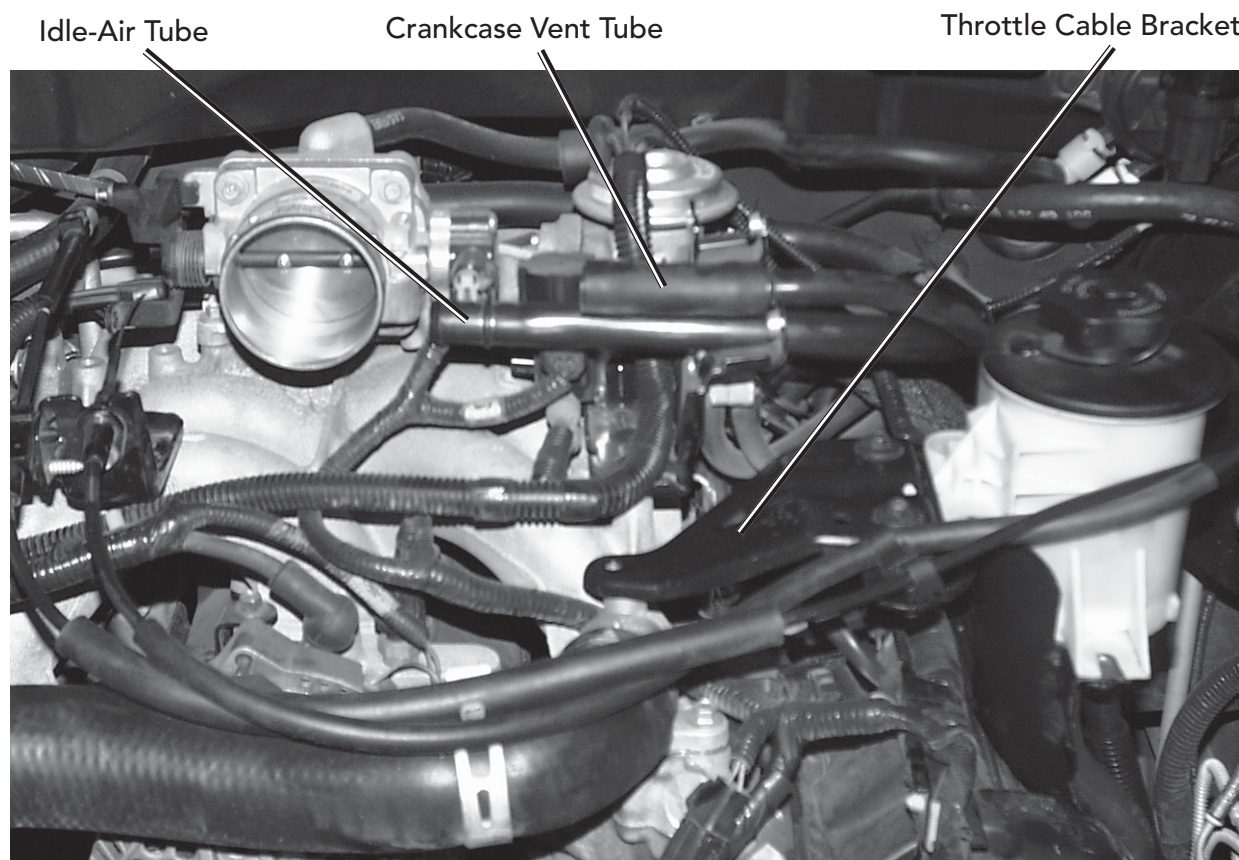
Mas Air Flow (MAF) Meter



Intake Sensor Locations

- 7 Unbolt the power steering reservoir from its bracket.
- 8 Drain the power steering fluid from the reservoir, using a small container to catch the fluid. Lengthen the smaller power steering hose using the supplied 3/8" hose, mender and hose clamps. This will allow for the relocation of the reservoir.
- 9 Pull the throttle cables from their retaining bracket and remove the bracket. This bracket attaches between the water neck and the power steering reservoir bracket.

- 10 Remove the power steering reservoir bracket.
 - 11 Remove the plastic radiator shroud using a Philips screwdriver. Remove the two fan shroud bolts. Loosen the radiator fan using a fan tool, which is available at CarQuest™, NAPA™ and other auto parts stores. The fan will loosen in the counter-clockwise direction. Remove the fan shroud and fan from the vehicle (removing the upper radiator hose at this time may ease shroud removal), using caution not to damage the radiator with the fan.
 - 12 Raise the front of the vehicle and support with jack stands under the frame. Remove the front skid plate (if equipped) and rubber air deflector from under the front of the vehicle, using a trim tool to remove the plastic rivets.
 - 13 If installed, replace any aftermarket chip with the original stock chip.
- Warning:** Aftermarket ECM modules, unless specifically designed for use with a supercharger, advance timing at elevated rpm's, and in most cases will cause detonation and engine damage under boost conditions.



Stock 5.4L Engine (Air Inlet/Filter Removed)

Getting Started

- 14** Install the ATI supplied crank pulley to the stock harmonic balancer.

5.4L engine: The pulley will attach with the three M10 x 20 socket head cap screws.

4.6L engine: Remove the stock harmonic balancer center bolt and washer. To keep the engine from rotating as you loosen the crank bolt, remove the rubber inspection plug on the lower rear driver's side of the engine and place a 14mm socket with extension onto a flex-plate nut. Install the 4.6L engine crank pulley using the supplied M12-1.5 x 65 hex bolt, the stock crank center bolt washer and the three M8 shoulder bolts. The new harmonic balancer center bolt should be torqued to 35 ft-lbs + 90° additional rotation.

✓ **Note:** ATI recommends the use of Loctite™ 262 on all crank pulley bolts.



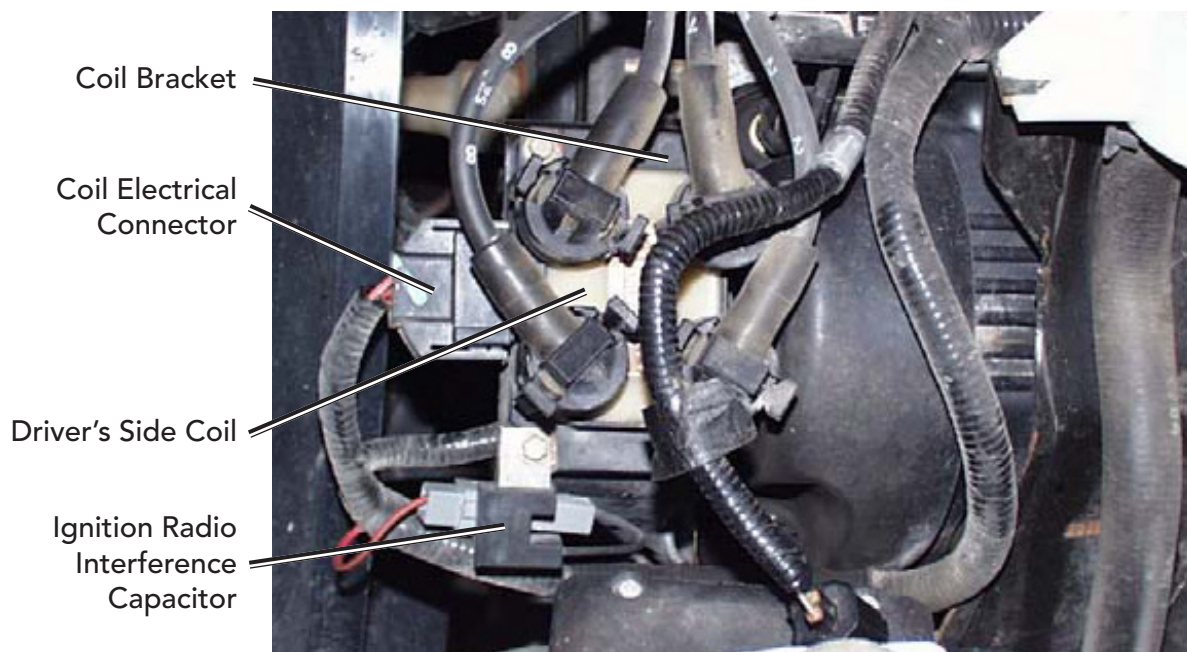
M8 Shoulder Bolts



Factory Washer



M12 - 1.5 x 65
Grade 10.9 Hex Bolt

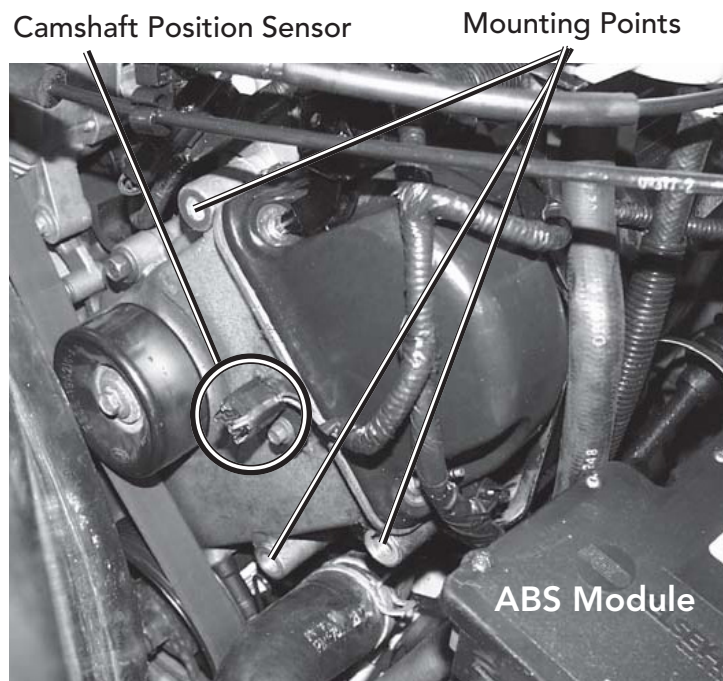


Stock 4.6L '97-'98 Coil Assembly

PROCHARGER HEAD UNIT

! WARNING: *Never strike the ProCharger pulley with a hammer or other tool under any circumstance! Evidence of such force will void the warranty, as serious damage to the precision bearings within the ProCharger could occur.*

- 1** Remove the three original mounting studs from the front driver's side of the block and head.
- 2** Cut the wire loom back 2.0" on the camshaft sensor wire on the front of the block near the connector. Tape the wire down to provide clearance to the relief in the main bracket.
- 3** Using the three supplied M10 x 100 hex head bolts, washers, and the 1.025" spacers, bolt the main bracket to the engine. **Note:** some blocks will have 8mm threads, and M8 x 100 hex head bolts have been supplied for these applications.



Main Bracket Mounting Location (5.4L Shown)

ProCharger Head Unit

- 4 To make room for the ProCharger, the EGR controls bracket will need to either be modified or replaced. The EGR controls can be identified at right.

4.6L applications: Replace the factory EGR controls bracket with the supplied bracket. Mount the EGR vacuum solenoid and pressure transducer to the bracket using #10 x 1.0" bolts, washers and lock nuts.

5.4L applications: Remove a section of the factory EGR controls bracket as shown using a sabre saw with a metal cutting blade.

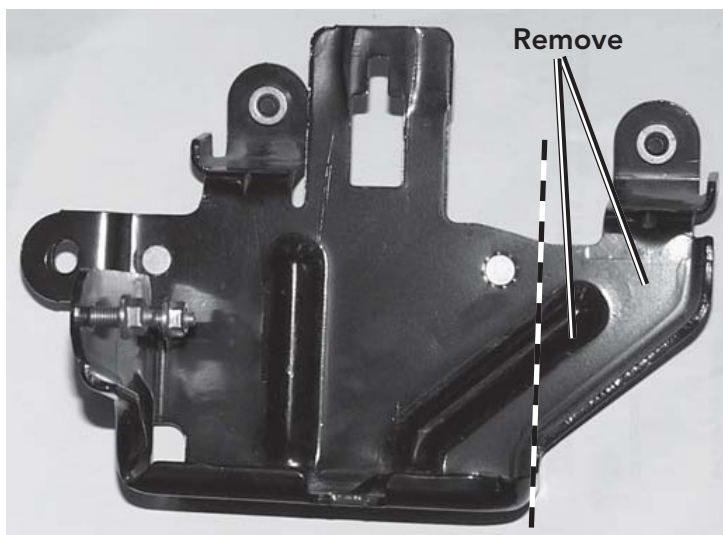
- 5 Using the supplied 3/8" hex head bolts and flat washers, attach the ProCharger to the main bracket. Using the remaining 5/16" hex head bolts and flat washers, complete ProCharger install and torque all bolts.

- 6 Mount the power steering reservoir on the edge of the air inlet tube support above the ABS module. Mark and drill two 9/32" holes on the air inlet tube support, using the power steering bracket as a template. Attach the power steering reservoir bracket using two of the 1/4" x 1.0" hex head bolts, washers and lock nuts. Mount the power steering reservoir onto the bracket with the remaining 1/4" x 1.0" hex head bolts, washers and lock nuts. Hoses may need to be rotated at the base of the reservoir in order to prevent twisting. Verify belt clearance before final attachment. Secure hoses with wire ties as necessary.

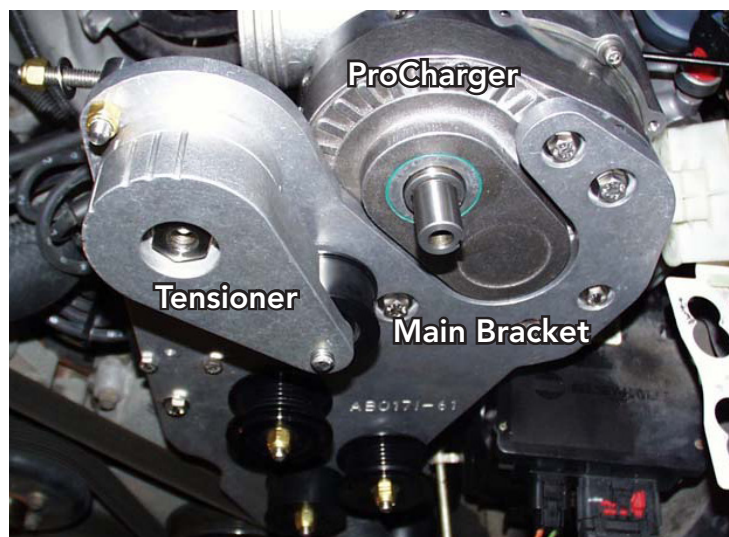
EGR Pressure Transducer & Vacuum Regulator EGR Controls Bracket Throttle Body



4.6L EGR Controls



5.4L EGR Controls Bracket

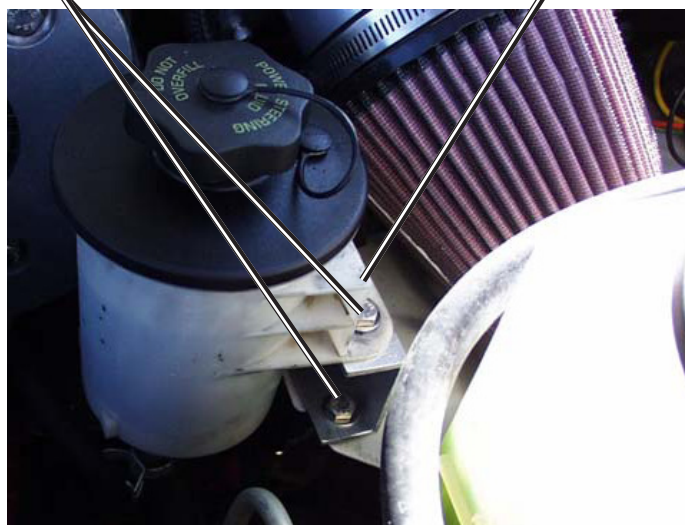


ProCharger Installed (Pulley Removed)

- 7 Install the supplied belt, routing as shown below. The belt should be placed on the fixed back side idler last to ease install.
- 8 Tension the belt by tightening the tensioner nut until the tensioner springs are completely compressed. Now back off the tensioner nut until 1/4" of tensioner travel is achieved (re-tension belt after 250-500 miles to accommodate initial belt stretching). Once proper tension has been reached, use a 9/16" socket to torque both tensioner bolts as shown.

1.4" Fasteners

Supplied P/S Bracket

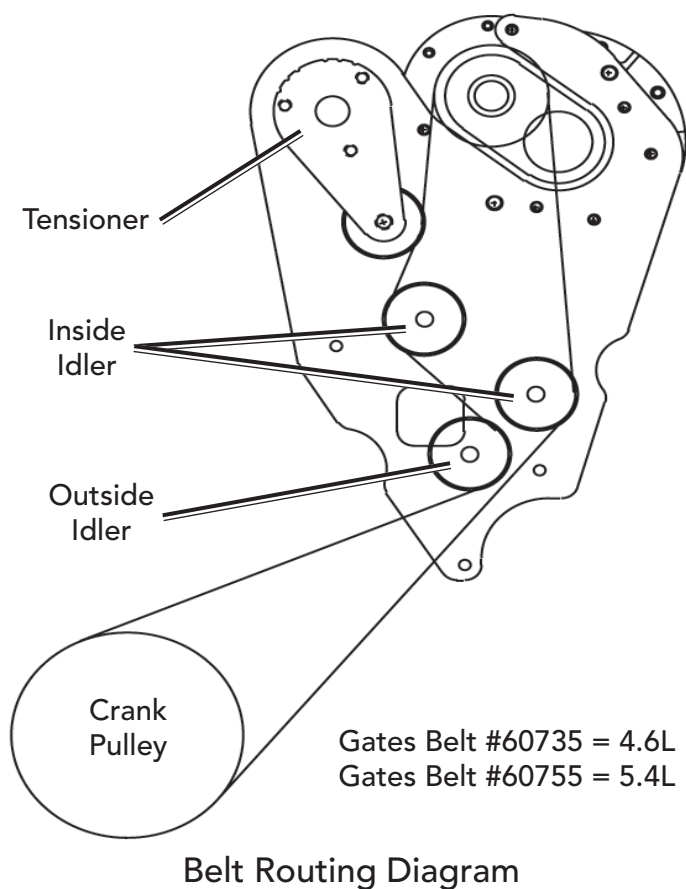


Power Steering Relocation

Torque Fasteners



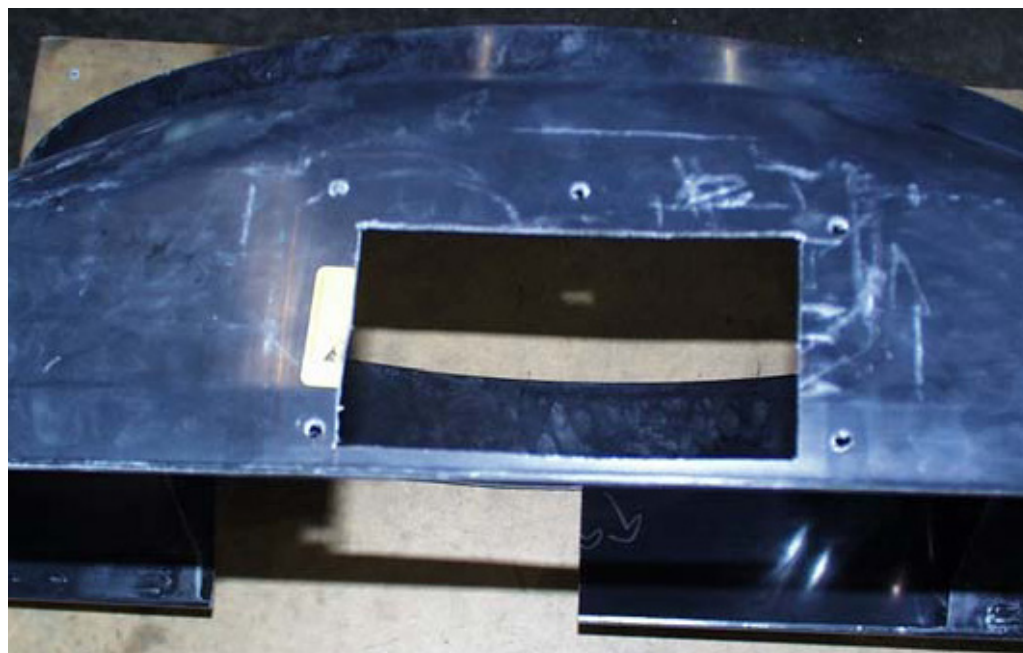
Tensioner Side View



FAN SHROUD

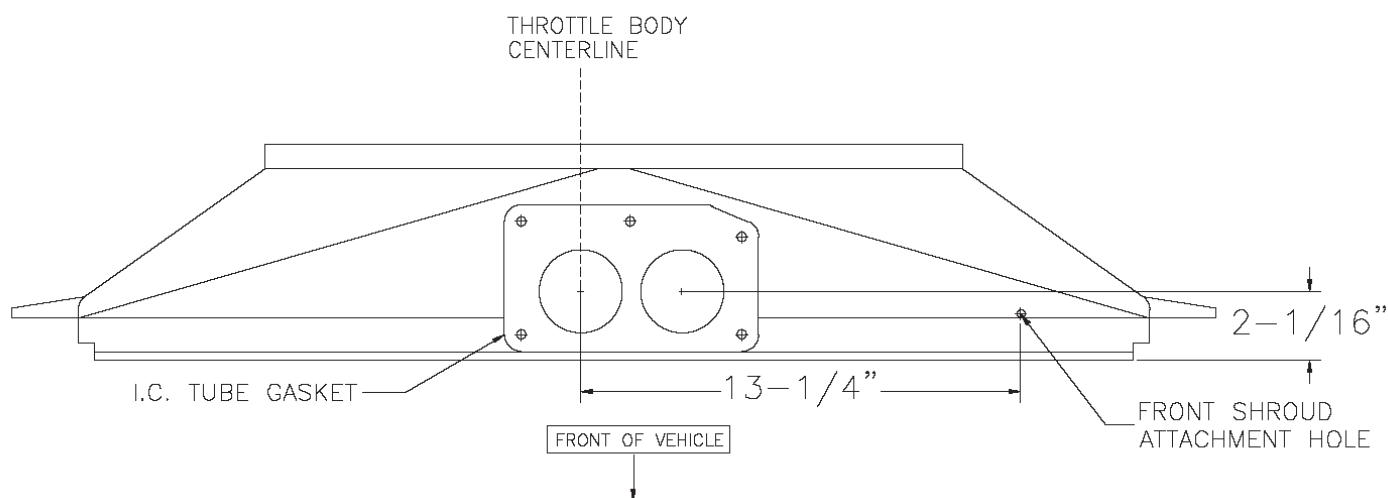
- 1 With the stock fan shroud positioned as shown (A), locate the small hole (labeled "front shroud attachment hole") on the top driver's side of the shroud where the front radiator shroud attaches to the fan shroud. This will be the base point for all measurements used in modifying the shroud.
- 2 From this hole, measure 13-1/4" towards the center of the shroud and mark. Measure 2-1/16" from the front edge of the fan shroud and mark. This is the center of the leftmost hole in the intercooler tubing gasket as viewed from the front of the vehicle. Place the shroud into the vehicle and verify that the mark aligns with the center of the throttle body. If the mark is not centered, adjust accordingly. Align the gasket with this mark and trace the outline of the gasket and the rivet hole locations onto the shroud.
- 3 Using the measurements shown (B) and incorporating any adjustments made, start with a 1/2" drill bit and drill holes in the corners of the marked box, then remove the rest with a sabre saw with a fine blade. Use a 1/4" drill bit to drill the 5 rivet holes. **Note:** these are maximum measurements. **Do not** remove more material than indicated, or the gasket will not cover the hole. Verify that the removed area will not intersect any of the holes in the gasket or gasket perimeter.
- 4 Position the shroud as shown (C). Remove the hatched area using a sabre saw. Make sure that you are removing the passenger's side half when installed.
- 5 Install the intercooler tubing gasket using the supplied black nylon rivets.

Warning: The fan shroud contains fiberglass reinforcement and the dust created during modification may irritate eyes, lungs and skin. The use of a respirator, and proper eye and skin protection is recommended.

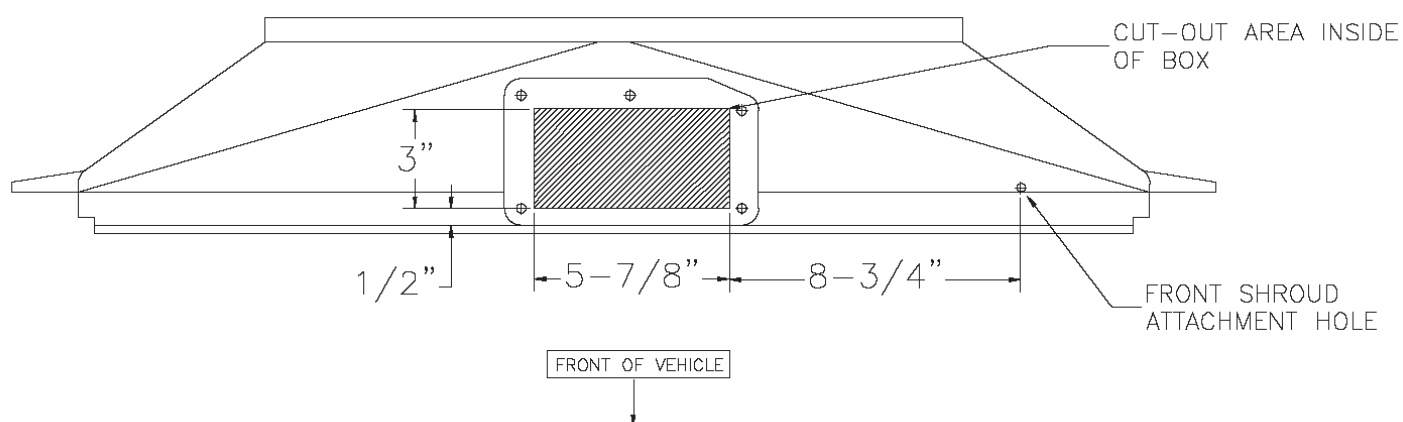


Modified Fan Shroud

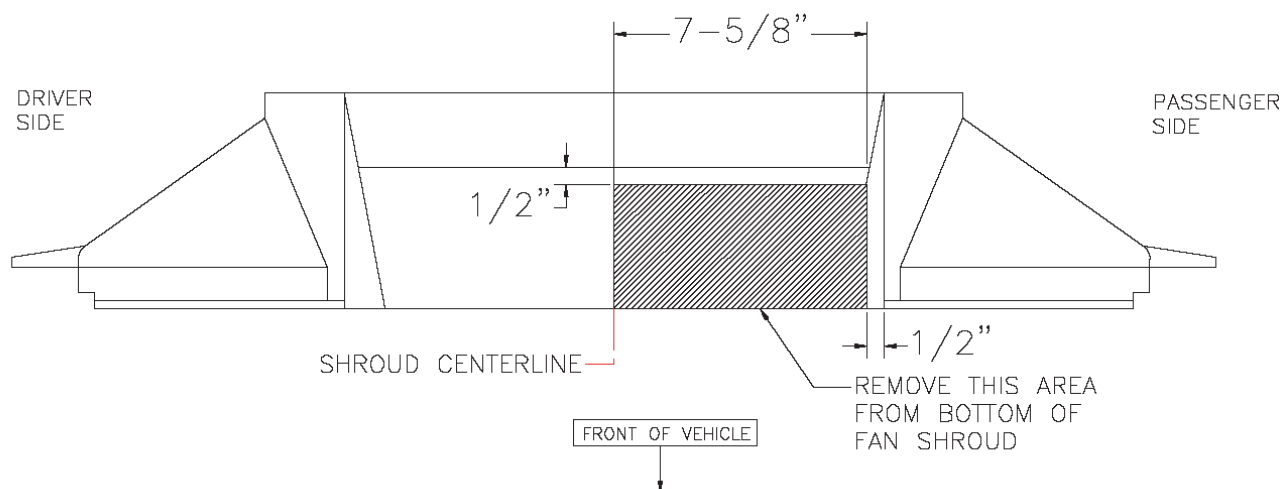
A. TOP VIEW OF FAN SHROUD SHOWING I/C TUBE GASKET PLACEMENT



B. TOP VIEW OF FAN SHROUD SHOWING CUT-OUT LOCATION



C. BOTTOM VIEW OF FAN SHROUD SHOWING REMOVED AREA



Fan Shroud Modification

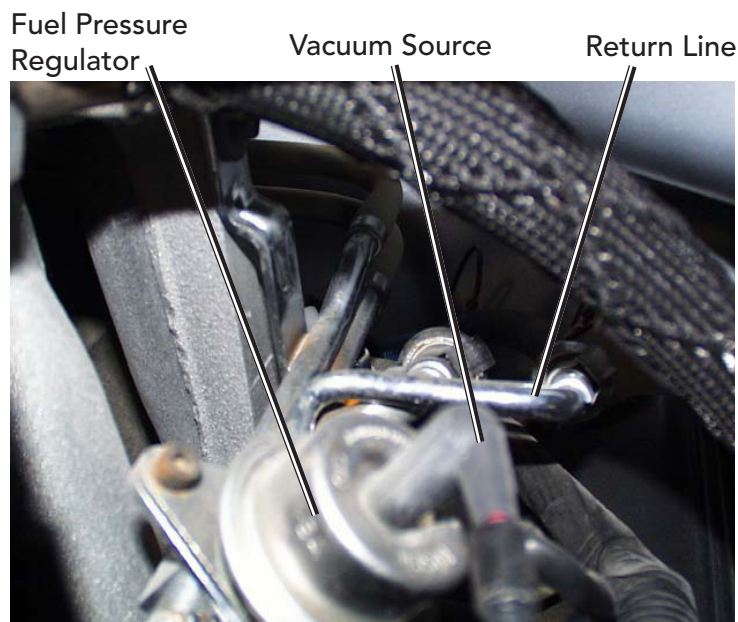
FUEL SYSTEM

Warning: When working on high pressure fuel systems, caution should be taken when handling high pressure lines, as residual pressure may cause fuel to spray unless relieved prior to disconnection. Take precaution to avoid injury or fire.

Fuel Management Unit

- 1 Using the supplied 3/8" spring lock disconnect tool, disconnect the fuel return line at it's junction with the fuel rail/fuel pressure regulator at the rear driver's side of the engine.
- 2 Place the fuel line heat shield over the FMU fuel lines.
- 3 Connect the FMU input hose (with male spring lock fitting, connected to the side of the FMU) to the fuel rail return line at the engine.
- 4 Connect the FMU return line (connected to the bottom of the FMU) to the fuel rail return line which returns to the tank.

Note: The return line is the smaller of the two lines.

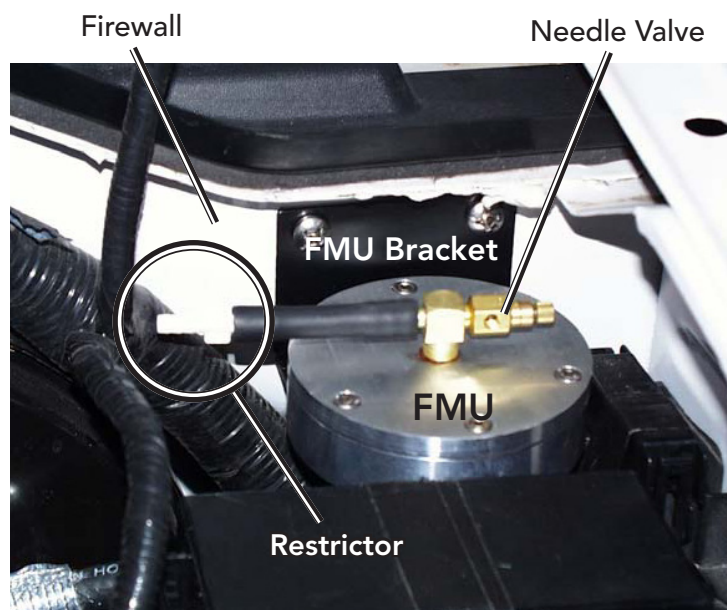


Fuel Return Line/Fuel Rail Junction
(Driver's Side of Engine)

- 5 Position the FMU against the driver's side firewall, in a location that allows the lines to avoid being kinked and away from exhaust heat. Mark and drill two 5/32" holes, using the FMU mounting bracket as a template. Attach the FMU to the firewall using the two #12 x 3/4" screws.
- 6 Connect the end of the supplied vacuum line to the restrictor on the top of the FMU, and splice the other end into the factory fuel pressure regulator vacuum supply port, using the supplied "T" fitting.

Warning: DO NOT add other vacuum devices to this port, as this may cause tuning difficulties and/or poor FMU response. The restrictor must not be removed from the FMU vacuum port, as FMU sensitivity will be dramatically affected and engine damage may result.

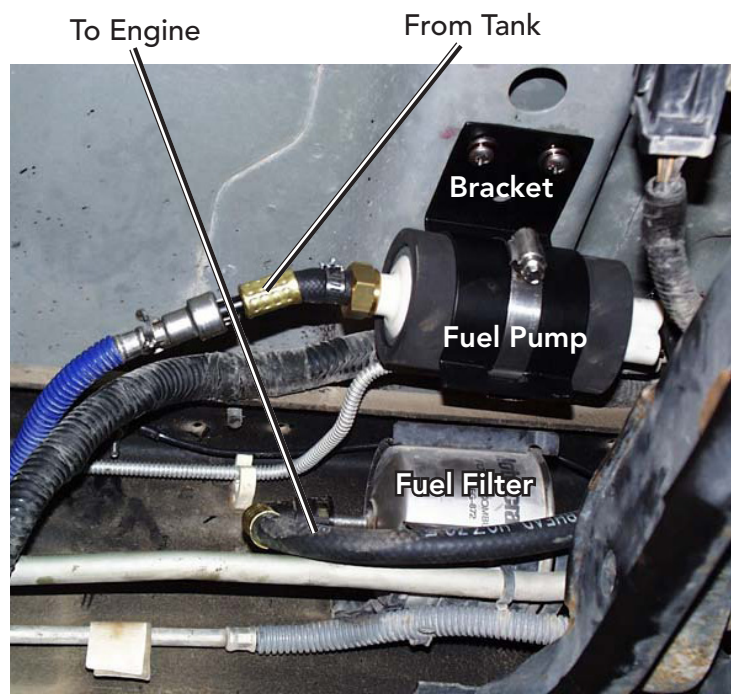
- 7 Secure the fuel and vacuum lines using wire ties.
- 8 Verify the FMU needle valve initial setting: fully closed (cw).



FMU w/Restrictor Installed

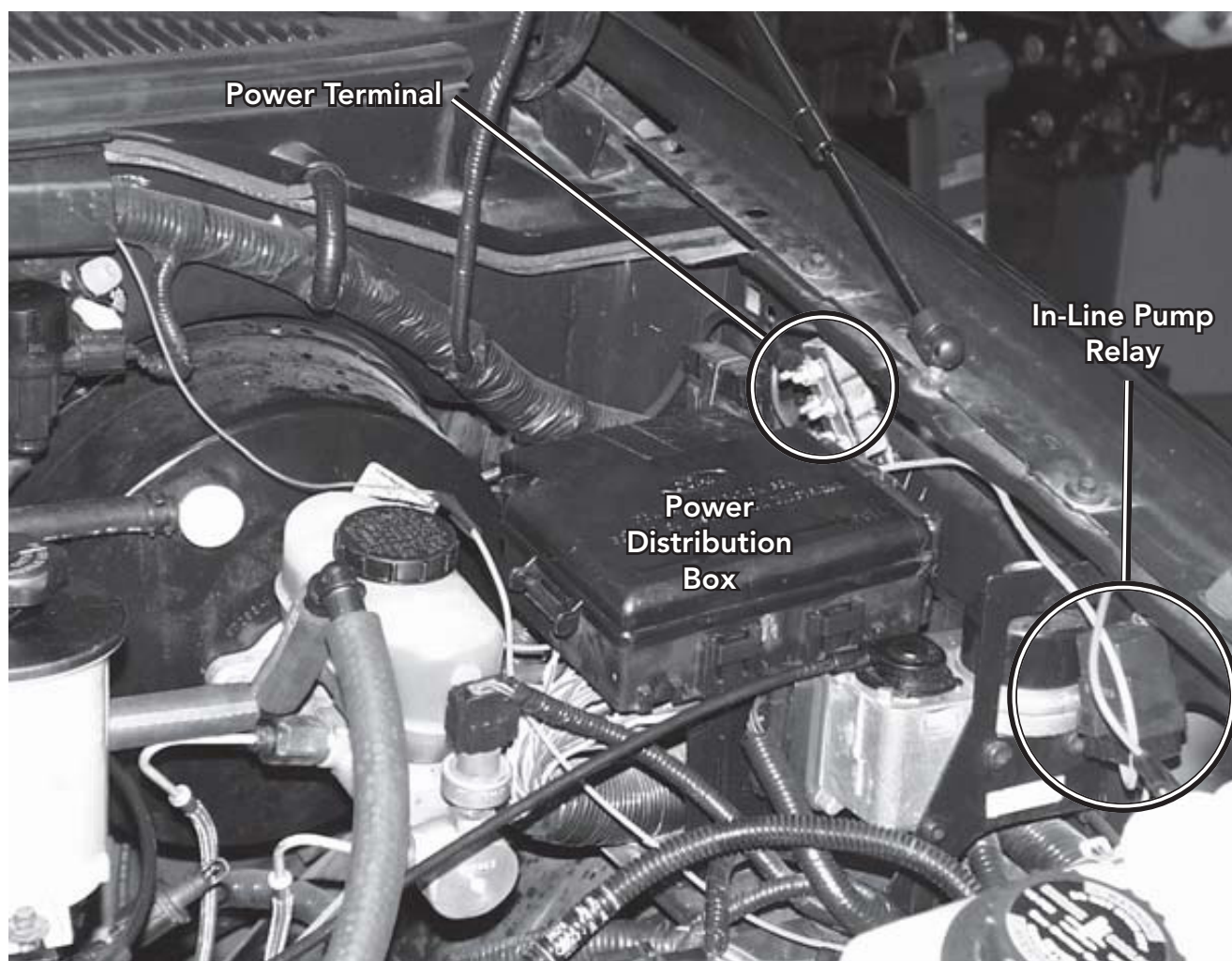
In-Line Fuel Pump

- 1 Raise the driver's side of the vehicle and support with jack stands under the frame. Locate the stock fuel filter, which is attached to the inside of the driver's side frame rail near the rear of the cab.
 - 2 Disconnect the fuel filter inlet line (tank side of filter), using the supplied 5/16" quick disconnect tool.
- ✓ **Note:** The fuel filter should be replaced at this time if it has been more than 15,000 miles or 12 months since the last replacement.
- 3 Secure the ProPump to the supplied bracket using two #52 hose clamps.
 - 4 Connect the fuel line coming from the tank to the ProPump inlet fuel line. Connect the ProPump outlet line to the stock fuel filter inlet.



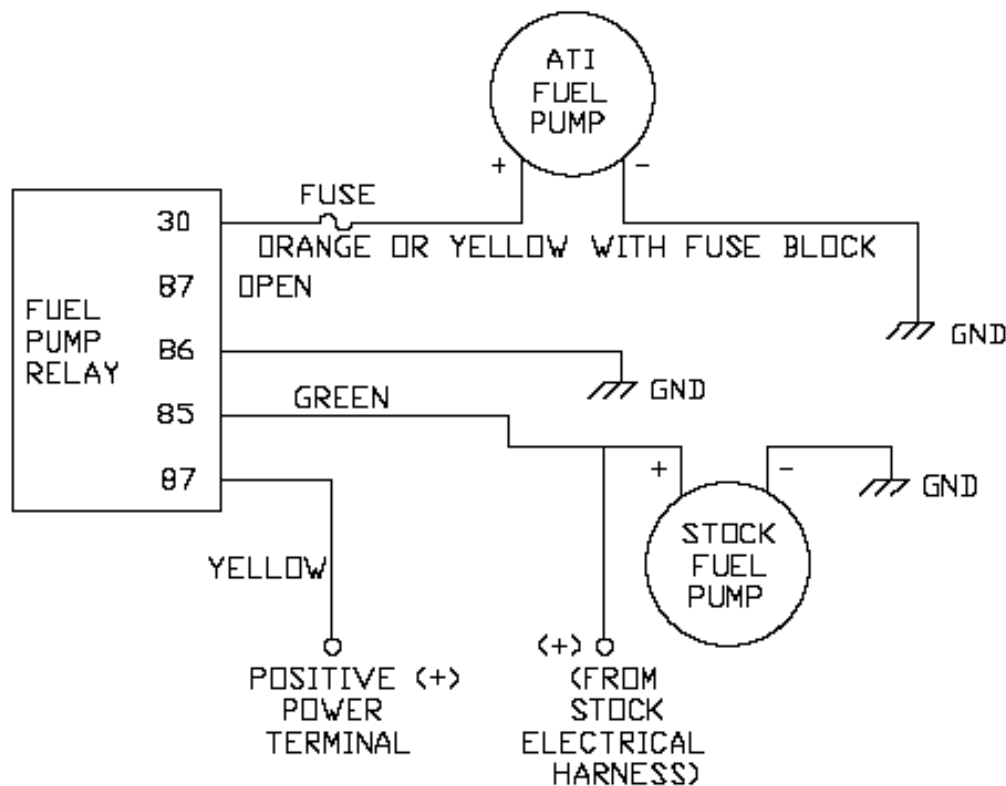
In-Line Fuel Pump Installed

- 5 Due to variations in fuel tank configurations and frame rail lengths, it will be necessary to find a suitable mounting location near the fuel filter. Making sure the fuel lines are free of sharp bends or kinks, mount the ProPump and bracket to the frame rail or a stiffener on the bottom side of the bed, using the #14 x 3/4" sheet metal screws, lock washers and Loctite. The supplied 3/8" rubber grommets should be used to isolate pump vibrations. **Note:** DO NOT overtighten, as this will reduce the effectiveness of the rubber grommets and cause pump vibrations!
- 6 Mount the supplied relay next to the power distribution box as shown.
- 7 Detach the power distribution box from its mount and find the stock fuel pump relay that is labeled as #4. Locate the green wire with the yellow stripe.
- 8 Connect relay #85 (green wire) to the green wire with the yellow stripe using the supplied wire tap. This is the signal wire that will turn both the ProPump and stock fuel pump on/off.



In-Line Pump Relay Mounting Location ('97 5.4L Shown)

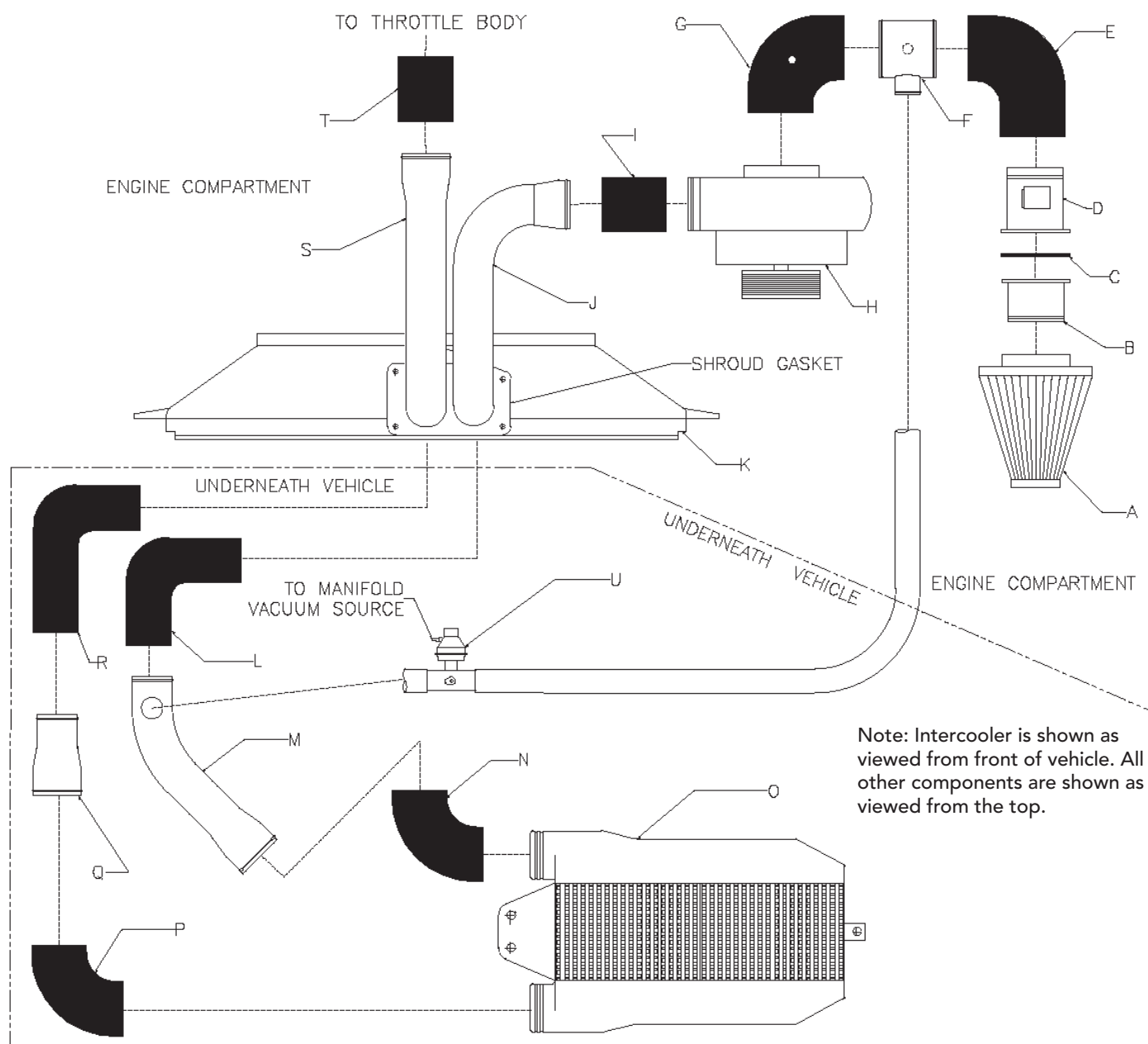
- 9 Connect relay terminal #30 (yellow wire with fuse block) to the positive terminal on the ProPump. Connect the negative terminal on the ProPump to a clean chassis ground using the black ground strap and supplied #12 sheet metal screw. Scrape the frame coating away to ensure a clean chassis ground. Run the wires away from moving parts. Make sure all wires and hoses are firmly secured against the underbody, using wire ties as necessary.
- 10 Connect relay terminal #87 (yellow wire) to a positive power terminal. A positive power source can be located by tracing the positive battery cable to the power terminals, usually on the passenger's side firewall or located next to the underhood power distribution box. This wire should be fused with the supplied 20-amp fuse link.
- 11 Attach relay terminal #86 (black wire) to a clean chassis ground under the hood.
- 12 Secure all wiring using the supplied wire ties.
- 13 Temporarily reconnect the battery, and turn the ignition key to the "on" position for 2-5 seconds to verify that the pump operates correctly. If the pump does not operate in this fashion, recheck all connections and verify proper wiring to the inertial impact switch.
- 14 Locate the CARB Executive Order sticker included with your system. This sticker must be installed in an underhood location that is readily visible.



In-line Fuel Pump Relay Wiring Diagram

2002-2003 FORD TRUCK/SUV 2-CORE INTERCOOLER SCHEMATIC

- | | | |
|--|---|---|
| A. Air Filter | H. ProCharger | O. Intercooler |
| B. MAF Adaptor (AIFG6A-1) | I. 3" Rubber Connector | P. 3" Short 90° Rubber Elbow |
| C. MAF Adaptor Gasket | J. 3" to 2.5" Blower Outlet Tube (AIFG2I-3) | Q. 3" to 2.5" Metal Reducer (AIGH1I-3) |
| D. MAF Meter | K. Fan Shroud | R. 2.5" 90° Rubber Elbow |
| E. 3.5" 90° Rubber Elbow | L. 2.5" Short 90° Rubber Elbow | S. 2.5" to 3" Throttle Body Tube (AIFG2I-4) |
| F. Inlet Tube w/ Surge & Idle Air (AIFG2I-1) | M. I/C Inlet Tube w/ Surge (AIFG2I-2) | T. 3" Rubber Connector |
| G. 3.5" Short 90° Rubber Elbow w/PCV | N. 3" Short 90° Rubber Elbow | U. Surge Valve |



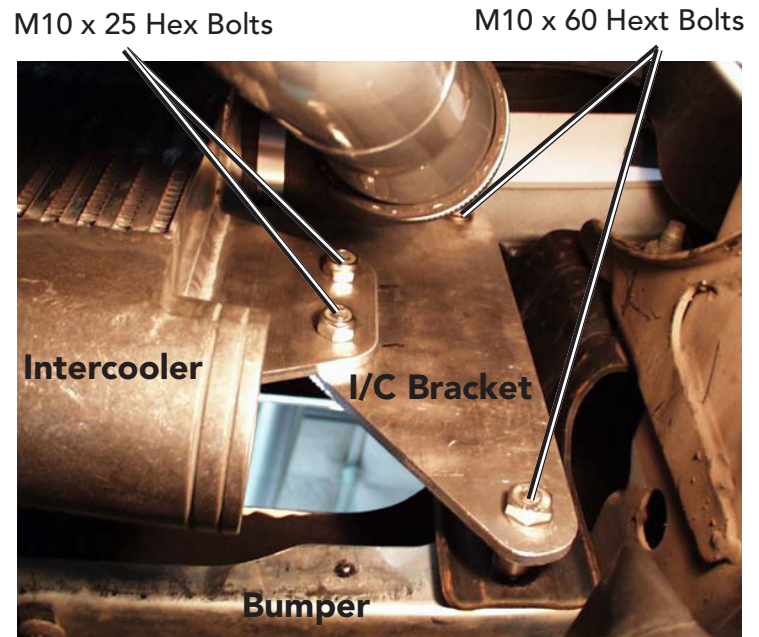
INTERCOOLER AND TUBING



Note: Leave all clamps loose until you have installed all of the tubes and hoses. Adjust each hose and tube for best fit and then tighten all clamps. Hose installation can be eased if you first wet the metal tubes and fittings with a solution of dishwashing soap and water. Some hoses may require trimming for optimal fit; this can be accomplished using a sharp utility knife.

2-Core Intercooler

- 1 Install the modified fan shroud and the previously removed fan.
- 2 Slide the two 4" rubber connectors (I, T) and hose clamps on the blower outlet tube (J) and throttle body inlet tube (S), respectively, where they meet with the ProCharger outlet and the throttle body.
- 3 Install these two tubes into the gasket on the trimmed shroud, installing tube J first to avoid interference. A small amount of dish soap may ease assembly.
- 4 Bolt the intercooler bracket to the tabs on the passenger's side of the intercooler, using the M10 x 25 bolts, washers and nuts, and leave loose for adjustment. Attach the two 3.0" short 90° rubber elbows (N, P) to the intercooler inlet and outlet.
- 5 Bolt the intercooler and brackets (AIFG3I-001) to the bumper shock mounts on each side using the supplied M10 x 50 bolt and 1.025" spacer on the driver's side, and two M10 x 60 bolts and 1.025" spacers on the passenger's side). Tighten all intercooler mounting bolts.



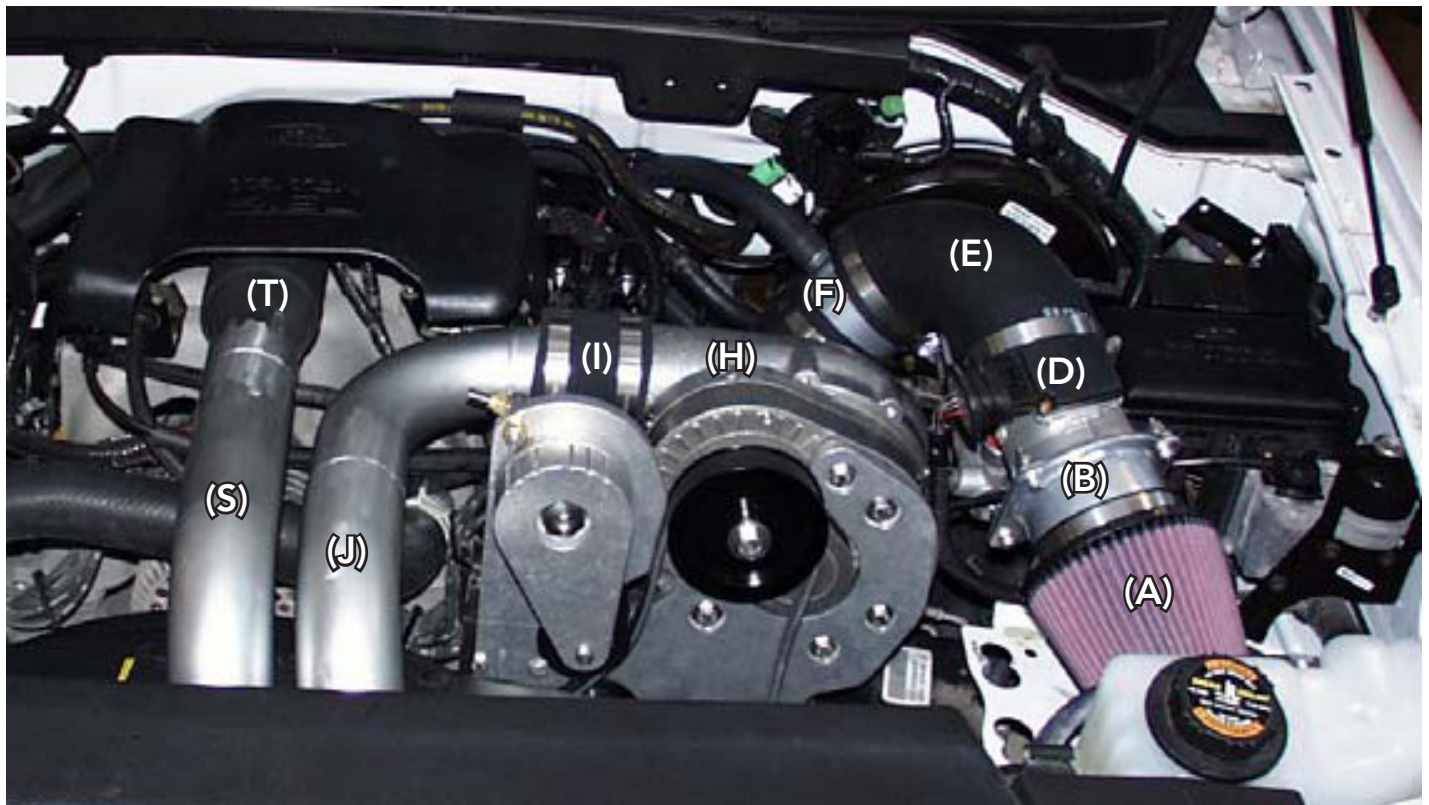
2-Core Intercooler Installed

Intercooler and Tubing

- 6 Rotate tubes N and P to proper alignment and clamp loosely.
- 7 Attach the 3" to 2.5" reducer (Q) to the lower inlet elbow (P) on the intercooler and the 2.5" 90° elbow (R). Connect tube S, which was installed through the shroud (throttle body inlet tube) to elbow R.
- 8 Attach the extended 45° elbow w/surge fitting (M) to the upper elbow (N) on the intercooler and the 2.5" 90° elbow (L). Connect tube J, which was installed through the shroud (blower outlet pipe) to elbow L.
- 9 Position tubes J and S on the ProCharger outlet and throttle body, respectively, and adjust for alignment with the fan shroud gasket.



2-Core Intercooler Tubing



2-Core Intercooler & Inlet Tubing

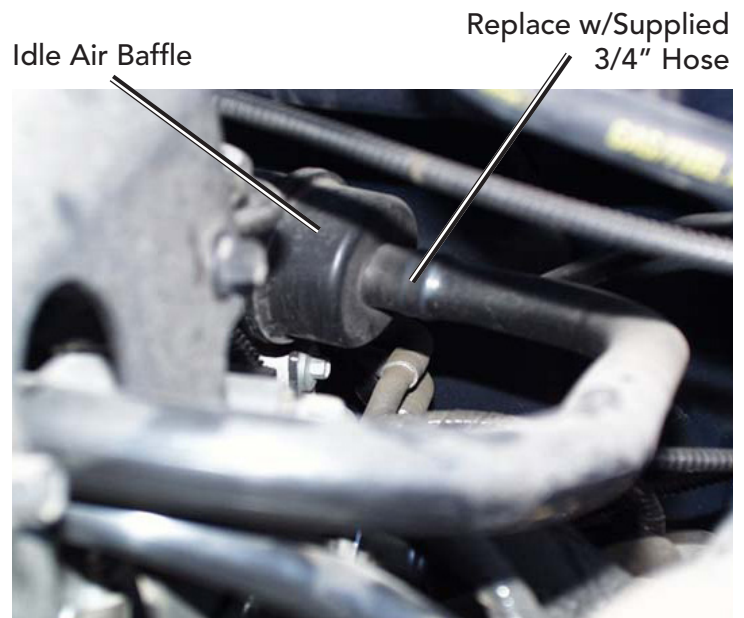
- 10** Install the 1-1/2" x 3" reinforced rubber hose onto the 45° tube with surge fitting (M) and attach the ProFlow bypass valve (U) to it. Attach the 1-1/2" x 6' flexible hose onto the other side of the ProFlow, and route it towards the ProCharger inlet. This hose should fit underneath the ProCharger between the main bracket and ABS module. Make sure the flex-hose is clear of moving parts and secure with the supplied hose clamps.

- 11** Attach the ProFlow to a manifold vacuum source using the supplied vacuum line.

- 12** Attach the short 3-1/2" rubber elbow with two holes (G) to the ProCharger inlet. The elbow will need to be slightly stretched, and this is most easily accomplished by having one hand inside the elbow to push it outward. The brake lines at the master cylinder may need to be gently bent for best fit.

- 13** Attach inlet tube F to the previously installed elbow (G), making sure that the 1-1/2" outlet faces the rear of the vehicle and the 3/4" outlet faces up.

- 14** Attach the flexible surge hose to the 1-1/2" fitting in the inlet tube (F), using the 1-1/2" 90° rubber elbow, #24 hose clamps and 1-1/2" straight tube connector. The flexible surge line may need to be trimmed to allow for proper fit in some applications.



5.4L Idle Air



4.6L Idle Air

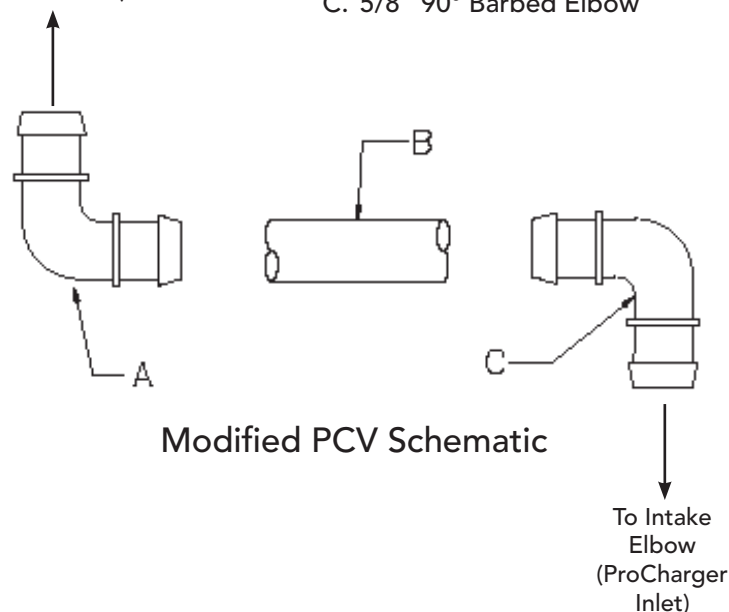
- 15** **5.4L applications:** the idle air attachment should be made to the idle air baffle using the supplied 3/4" hose. **4.6L applications:** the idle air attachment should be made to the idle air solenoid at the driver's side of the throttle body using the supplied 3/4" 90° rubber elbow, stock idle air baffle, and 3/4" hose.

- 16 Plug the Inlet Air Temperature sensor into the hole in the side of elbow G near the ProCharger inlet, and reconnect it to the wiring harness. If necessary, remove the IAT wire from its loom to remove tension in the wires.
- 17 Insert the 5/8" 90° barbed elbow into the driver's side PCV elbow and attach the supplied 5/8" PCV hose. Insert the remaining 5/8" 90° barbed elbow into the hole in elbow G on the top side. Attach PCV hose to the 5/8" elbow installed in elbow G, trimming the hose to length as needed.
- 18 Install the remaining 3-1/2" elbow (E) to tube F.
- 19 The original mass air meter can be connected to the supplied air filter by using the supplied MAF adaptor.
- 20 Attach the MAF/filter assembly to elbow E, making sure that the meter is in the stock orientation.
- 21 Tighten all hose clamps and verify all items are clear of moving parts.

To 90° Rubber
PCV Elbow
(Driver's Side
Valve Cover)

Crankcase Ventilation Schematic

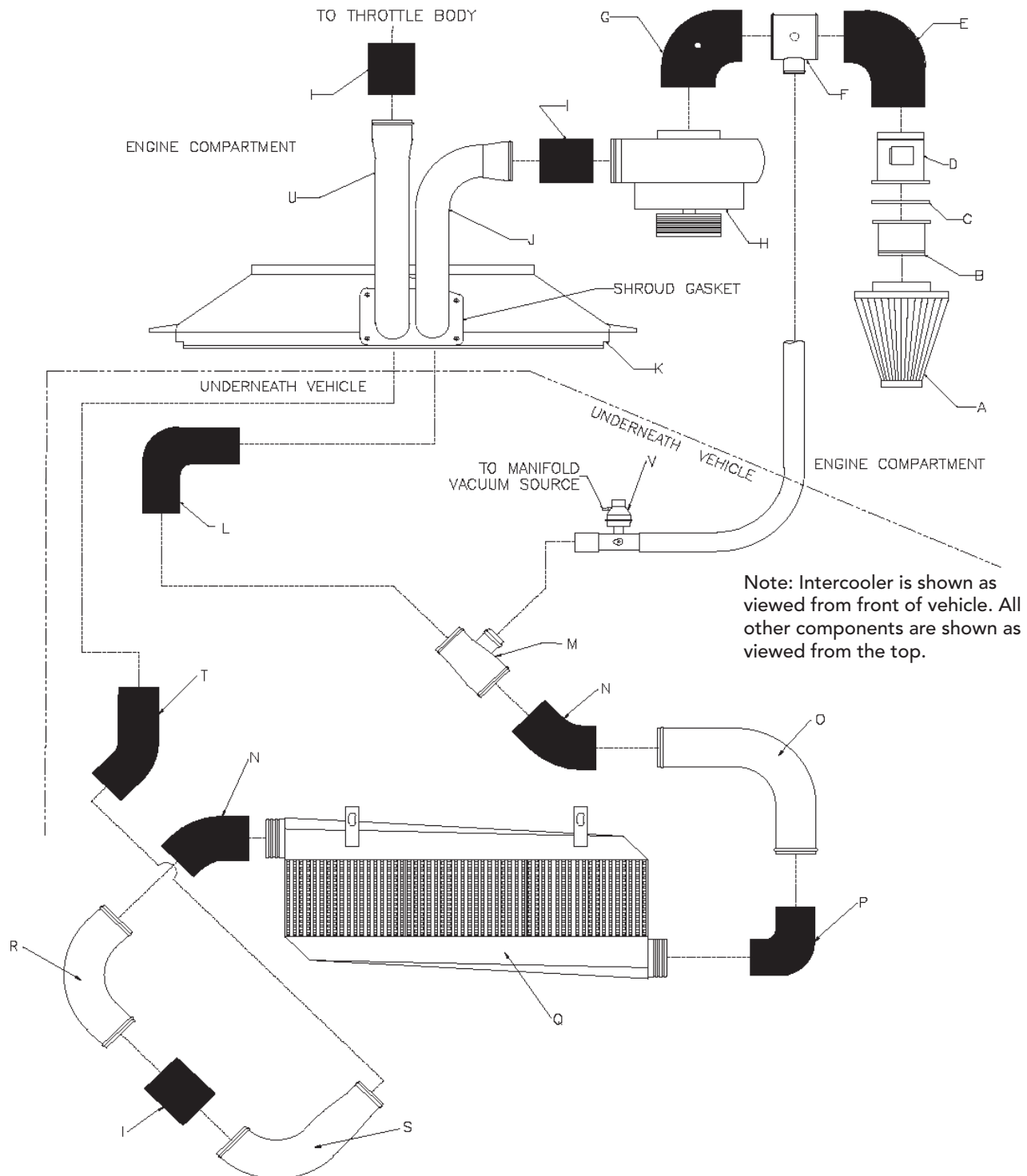
- A. 5/8" 90° Barbed Elbow
- B. 5/8" x 24" Breather Hose
- C. 5/8" 90° Barbed Elbow



MAF Sensor/Adapter Assembly

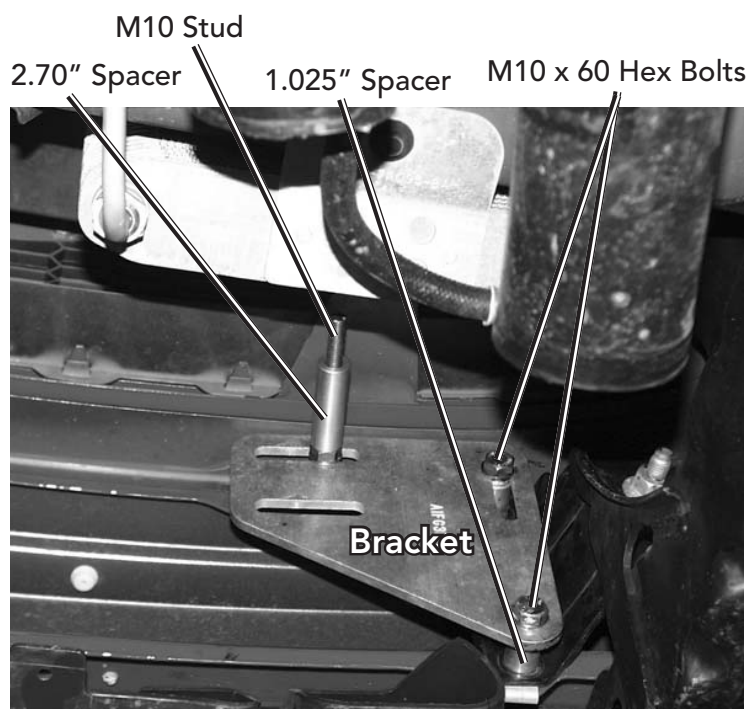
2002-2003 FORD TRUCK/SUV 3-CORE INTERCOOLER SCHEMATIC

- | | | |
|---|---|---|
| A. Air Filter | I. 3" Rubber Connector | Q. Intercooler |
| B. MAF Adaptor (AIFG6A-1) | J. 3" to 2.5" Blower Outlet Tube (AIFG2I-3) | R. 3" Short 90° Tube (AIFA1I-1) |
| C. MAF Adaptor Gasket | K. Fan Shroud | S. 3" to 2.5" 90° Metal Reducer (AIFA4I-1) |
| D. MAF Meter | L. 2.5" Short 90° Rubber Elbow | T. 2.5" 45° Rubber Elbow |
| E. 3.5" 90° Rubber Elbow | M. 2.5" to 3" Reducer w/Surge (AIGL1I-1) | U. 2.5" to 3" Throttle Body Tube (AIFG2I-4) |
| F. Inlet Tube w/Surge & Idle Air (AIFG2I-1) | N. 3" 45° Rubber Elbow | V. Surge Valve |
| G. 3.5" Short 90° Rubber Elbow w/PCV | O. 3" Long 90° Tube (AIGA1I-11) | |
| H. ProCharger | P. 3" 90° Rubber Elbow | |

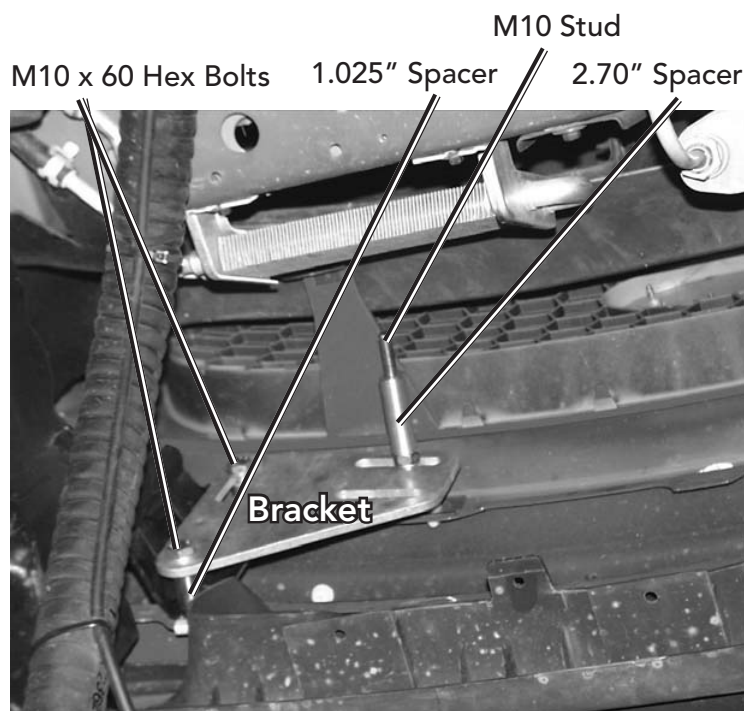


3-Core Intercooler

- 1 Install the modified fan shroud and the previously removed fan.
- 2 Slide the two 4" rubber connectors (I, T) and hose clamps on the blower outlet tube (J) and throttle body inlet tube (U), respectively, where they meet with the ProCharger outlet and the throttle body.
- 3 Install these two tubes into the gasket on the trimmed shroud, installing tube J first to avoid interference. A small amount of dish soap may ease assembly.
- 4 Remove the two bumper bolts on the inside of each front frame rail.
- 5 Install the intercooler brackets using the supplied 1.025" spacers and M10 X 60 hex head bolts.
- 6 Install the supplied 10mm studs onto the intercooler brackets using the 10mm jam nuts.
- 7 Slide the two supplied 2.70" spacers over the 10mm studs installed in the previous step.



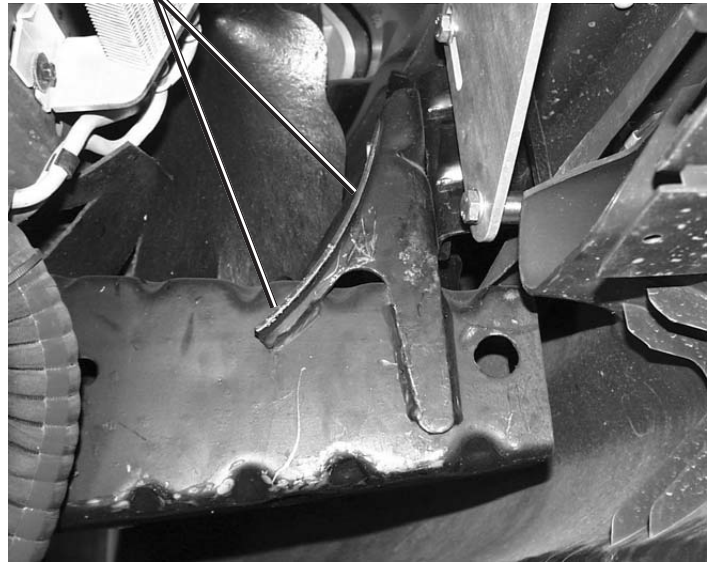
3-Core Passenger's Side I/C Bracket



3-Core Driver's Side I/C Bracket

✓ **Note:** It may prove beneficial to lightly grind the stamped bumper brackets as shown at right for intercooler clearance.

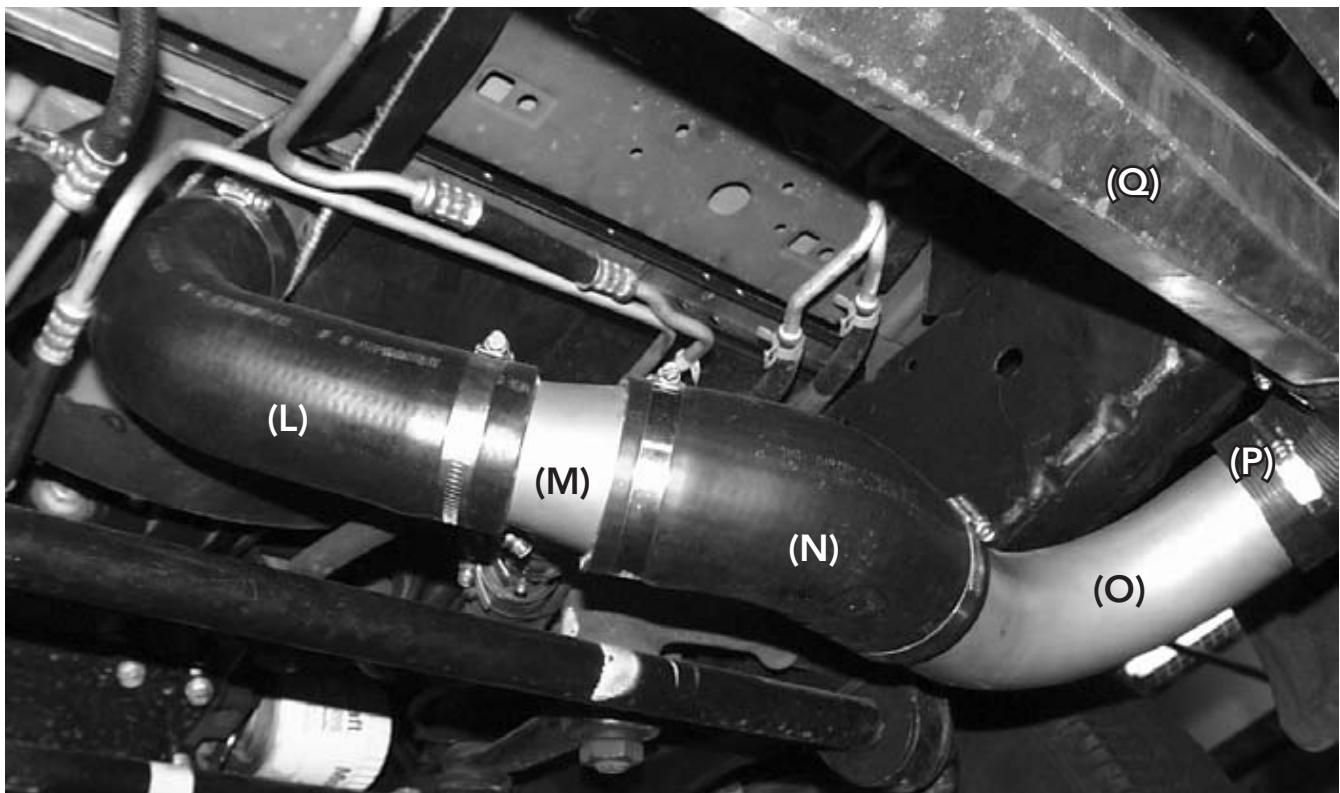
Lightly Grind Here



Driver's Side Frame Rail

- 8 Hang the intercooler mounting tabs on the studs and secure with the supplied 10mm nuts.
- 9 Insure the intercooler is centered and level; tighten all hardware.
- 10 Connect the 3" to 2.5" reducing surge tube (M) to the blower discharge tube (J) with the 2.5" rubber 90° elbow (L). Secure using #48 hose clamps.
- 11 Connect tube M to the long 3" 90° metal tube (O) using a 3" 45° elbow (N) and #52 hose clamps.

- 12 Using the trimmed 3" rubber 90° elbow (P) and #52 hose clamps, connect the 3" 90° long tube (O) to the intercooler inlet.



3-Core Driver's Side Intercooler Tubing

Intercooler and Tubing

13 Install the 2.5" rubber 45° elbow (T) onto the throttle body tube (U), using a #48 hose clamp.

14 Slide the 3" to 2.5" reducing 90° metal tube (S) into the 2.5" 45° elbow (T), securing with a #48 hose clamp.

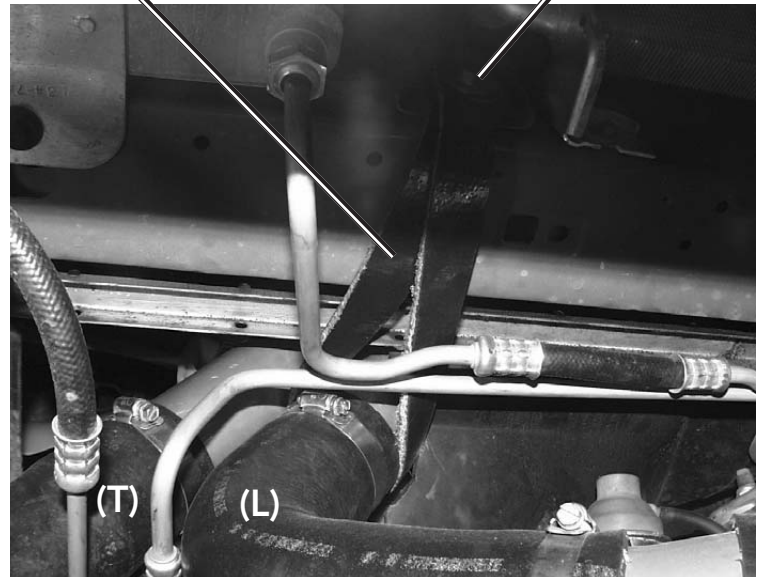
15 Connect the short 3" 90° metal tube (R) to tube S using a 3" rubber connector (I) and #52 hose clamps.

16 Connect tube R to the intercooler outlet using a 3" 45° rubber elbow (N) and #52 hose clamps.

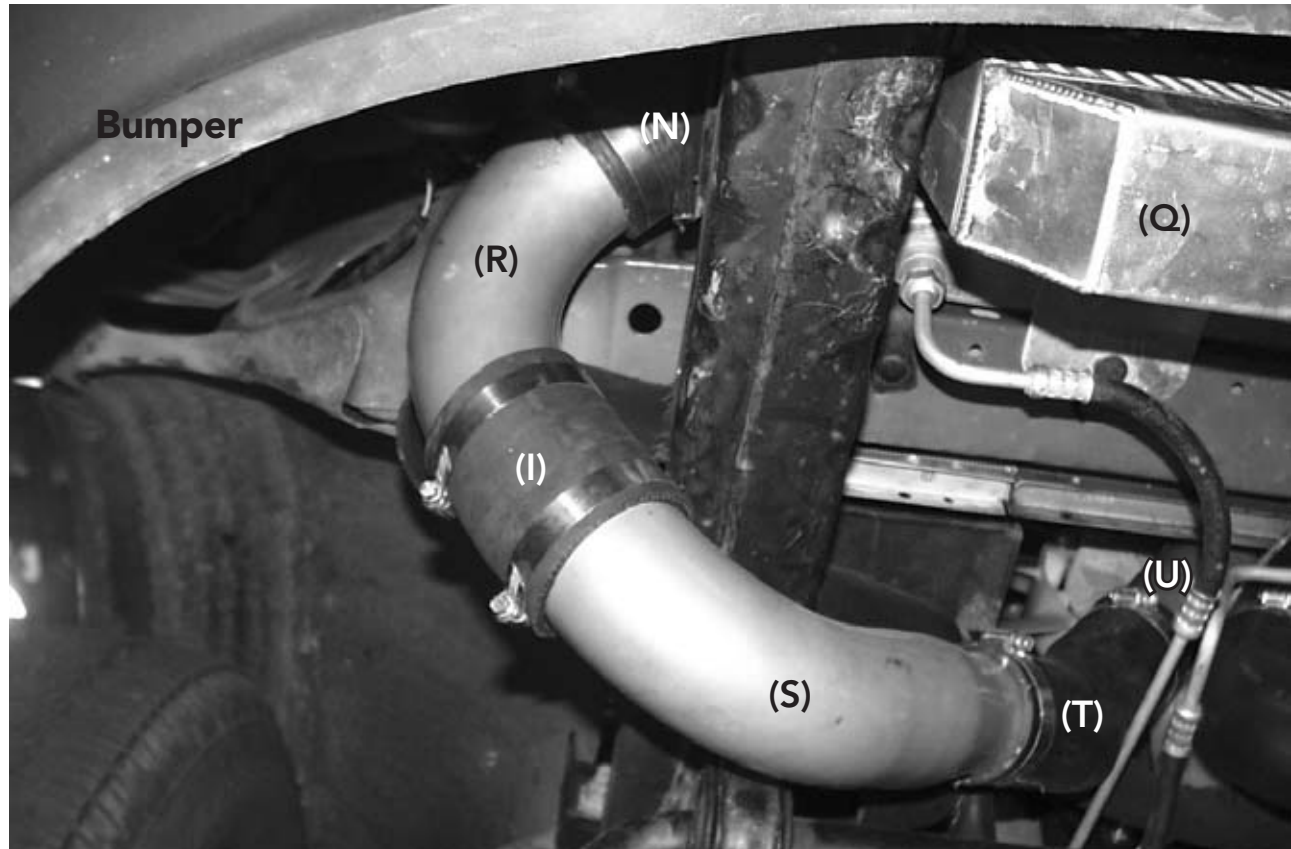
17 To insure blower outlet tube (J) to fan clearance, install the supplied rubber strap as shown at upper right.

Tube Support Strap

Hood Latch Support Bolt

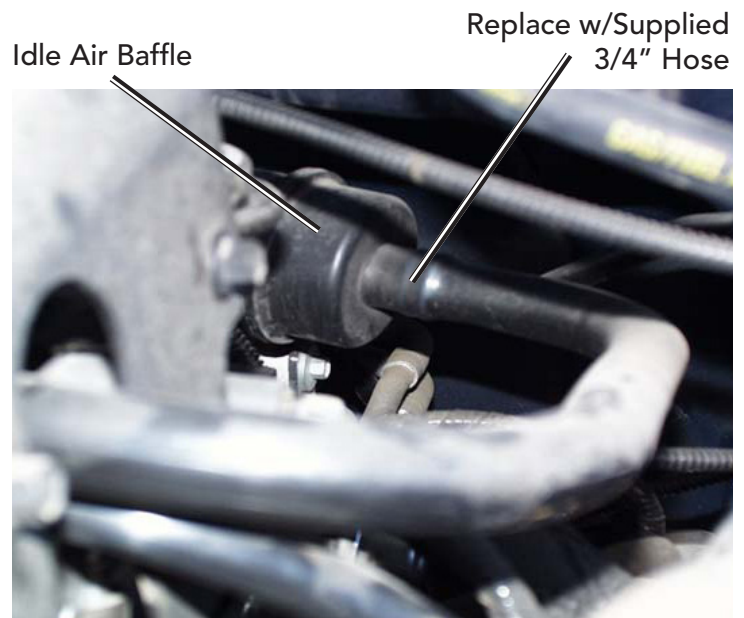


Tube Support Strap Installed

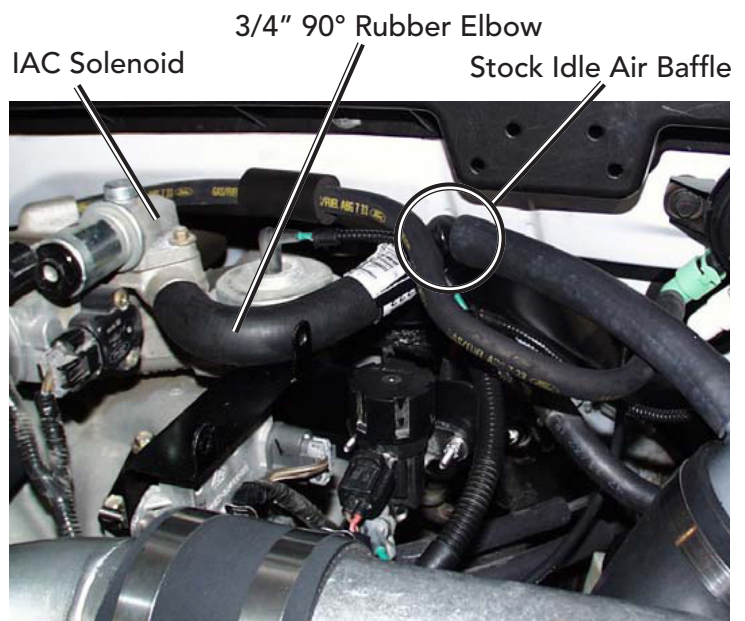


3-Core Passenger's Side Intercooler Tubing

- 18 Install the 1-1/2" x 3" reinforced rubber hose onto the 3" to 2.5" reducer with surge fitting (M) and attach the ProFlow bypass valve (V) to it. Attach the 1-1/2" x 6' flexible hose onto the other side of the ProFlow, and route it towards the ProCharger inlet. This hose should fit underneath the ProCharger between the main bracket and ABS module. Make sure the flex-hose is clear of moving parts and secure with the supplied hose clamps.
- 19 Attach the ProFlow to a manifold vacuum source using the supplied vacuum line.
- 20 Attach the short 3-1/2" rubber elbow with two holes (G) to the ProCharger inlet. The elbow will need to be slightly stretched, and this is most easily accomplished by having one hand inside the elbow to push it outward. The brake lines at the master cylinder may need to be gently bent for best fit.
- 21 Attach inlet tube F to the previously installed elbow (G), making sure that the 1-1/2" outlet faces the rear of the vehicle and the 3/4" outlet faces up.
- 22 Attach the flexible surge hose to the 1-1/2" fitting in the inlet tube (F), using the 1-1/2" 90° rubber elbow, #24 hose clamps and 1-1/2" straight tube connector. The flexible surge line may need to be trimmed to allow for proper fit in some applications.



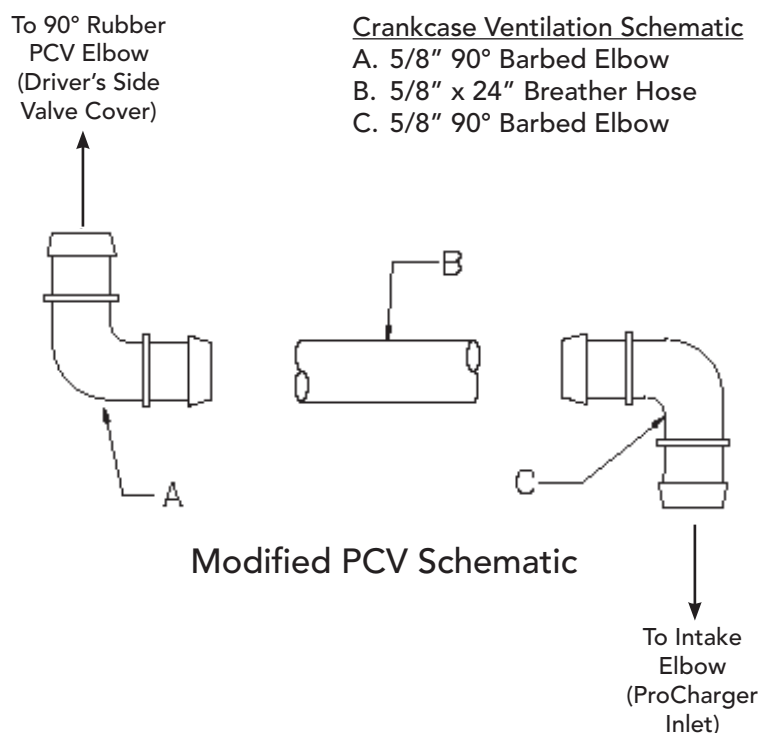
5.4L Idle Air



4.6L Idle Air



- 23 **5.4L applications:** the idle air attachment should be made to the idle air baffle using the supplied 3/4" hose. **4.6L applications:** the idle air attachment should be made to the idle air solenoid at the driver's side of the throttle body using the supplied 3/4" 90° rubber elbow, stock idle air baffle, and 3/4" hose.

- 24** Plug the Inlet Air Temperature sensor into the hole in the side of elbow G near the ProCharger inlet, and reconnect it to the wiring harness. If necessary, remove the IAT wire from its loom to remove tension in the wires.
- 25** Insert the 5/8" 90° barbed elbow into the driver's side PCV elbow and attach the supplied 5/8" PCV hose. Insert the remaining 5/8" 90° barbed elbow into the hole in elbow G on the top side. Attach PCV hose to the 5/8" elbow installed in elbow G, trimming the hose to length as needed.
- 26** Install the remaining 3-1/2" elbow (E) to tube F.
- 27** The original mass air meter can be connected to the supplied air filter by using the supplied MAF adaptor.
- 28** Attach the MAF/filter assembly to elbow E, making sure that the meter is in the stock orientation.
- 29** Tighten all hose clamps and verify all items are clear of moving parts.



MAF Sensor/Adapter Assembly

INSTALLATION REVIEW/SAFETY CHECK

- 1 Carefully review the entire installation. Examine oil and fuel lines routed near moving parts and exhaust components to ensure that they are protected from chafing or abrasion, secure and free of twists and kinks. All wires and hoses should be firmly secured with clamps or wire ties.
 - 2 Ensure that the air filter is installed.
-  **Warning:** *Never operate the vehicle without an air filter. Failure to do so may result in damage to the supercharger and/or personal injury.*
- 3 Check and correct all fluid levels.
-  **Note:** *Your vehicle **MUST** be filled with 91 or higher octane fuel before any hard driving. You should switch to 91 octane 2 or 3 tanks of gas prior to installation of the ProCharger system in order to guarantee removal of low octane fuel from your vehicle*
- 4 **The SC 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.
 - 5 Start the engine and let it idle for a few minutes. Inspect for air leaks.
 - 6 Shut off the engine and check for fluid leakage, signs of rubbing parts, and other potential problems.
 - 7 Be sure you have purchased and installed a fuel pressure gauge and/or fuel-air ratio meter to monitor fuel delivery while driving. Installation of a boost pressure gauge is also recommended.



Congratulations! You have successfully completed the installation of your new ProCharger supercharger system!

Please continue reading the following pages for important information about tuning and maintaining your system.

OPERATION AND MAINTENANCE

Cold Starting

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

Fuel Quality

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

Ignition System Maintenance

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

Air Filter Maintenance

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

Belt Replacement

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

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.

ProCharger Oil Change Intervals

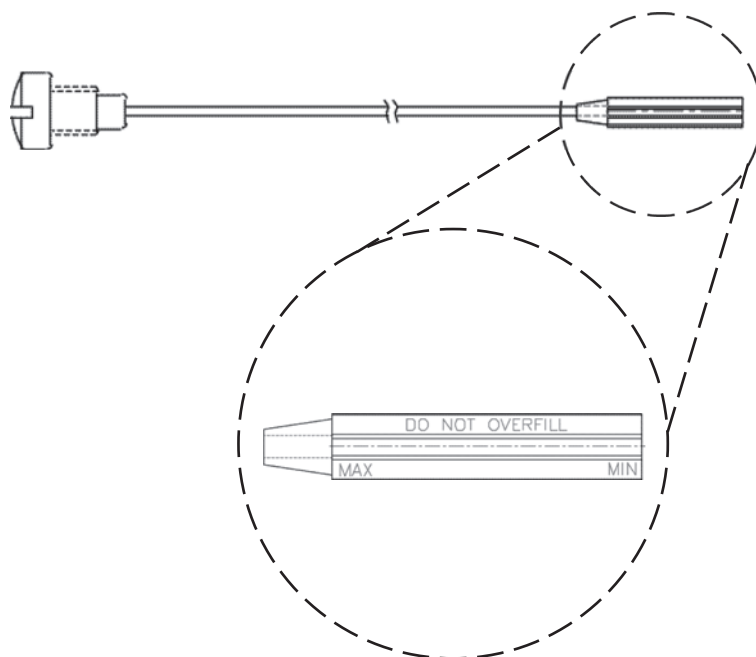
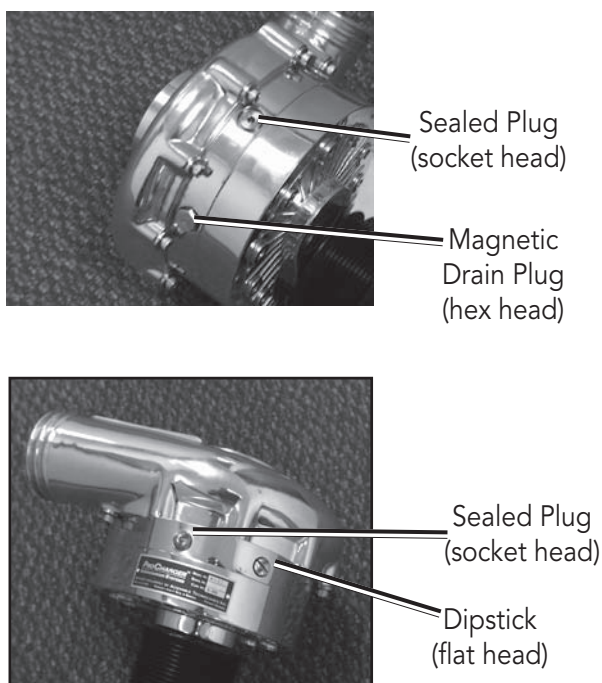
The first oil change should be performed at 500 miles and at 6,000 mile intervals thereafter. Clean drain plug after every oil change. Drain oil by removing the drain plug. Clean off drain plug before re-installing.

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 (36 months for P600B) against defects in materials and workmanship unless otherwise specified. This limited warranty starts on the date of original purchase from your local dealer, or date of shipment from the factory. This limited warranty coverage is extended only to the original owner and excludes hoses, sleeves, and electronic components manufactured by other companies. IF THE SUPERCHARGER'S DRIVE RATIO IS ALTERED IN ANY WAY FROM THE FACTORY SETTING, WARRANTY COVERAGE IS VOID. USE OF ANY PULLEY NOT MANUFACTURED OR SUPPLIED BY ATI VOIDS ALL WARRANTY COVERAGE. ATI's warranty obligations are limited to the terms below:

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

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

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

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

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

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

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

Include the following information inside the box with your product:

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

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

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

PROCHARGER EXTENDED COVERAGE

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

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

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

Race kits are not eligible for the ProCharger Extended Coverage Plan

To qualify for the ProCharger Extended Coverage:

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

ProCharger Extended Coverage Program Registration Form

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

Name: _____

Date of Purchase: _____

Address: _____

Purchased From: _____

City: _____

ProCharger Serial #: _____

State: _____ Zip: _____

Vehicle Year: _____

Daytime phone: _____

Vehicle Make: _____

Evening phone: _____

Vehicle Model: _____

E-mail: _____

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

Age ☐ 18 - 24 ☐ 25 - 34 ☐ 35 - 44

☐ 45 - 54 ☐ 55 and up

Income ☐ \$15,000 - \$29,000 ☐ \$30,000 - \$44,000

☐ \$45,000 - \$69,000 ☐ \$70,000 and up

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

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

What magazines do you read?

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

What most influenced your decision to purchase a ProCharger system?

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

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

Have you own a forced induction system previously? ☐ Yes ☐ No

If yes:

Supercharger: Brand(s) _____ Vehicle(s) _____

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

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

Signature _____ Date _____

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

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

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Part Number PMFG1A-002 Rev. A

