

Tork Tech

Tork Tech Inc.

Customer Service & After Sale Tech/Warranty Help 971.226.9006

Sales 513.697.0060

Email: info@torktech.com

www.TorkTech.com

*** PREMIUM FUEL MANDATORY ***

Make sure vehicle has 91+ octane gas in it prior to beginning installation.

ATTENTION!

Your Tork Tech kit is sensitive to corrosion! Take care of your engine coolant and IC fluid system by using 50/50 Anti-freeze with de-ionized (distilled) water

Tork Tech kits are designed for engines in good mechanical condition only. Installation on high mileage or damaged engines is not recommended and may result in engine failure, for which we are not responsible. Tork Tech is not responsible for the engine or consequential damages.

Aftermarket engine re-calibration devices that modify fuel and spark curve (including, but not limited to programmers) are not recommended and may cause engine damage or failure. Use of non-Tork Tech approved programming will void all warranties. If you have any questions, call us



INSTALLATION INSTRUCTIONS

'99-'04 Mustang GT Intercooled Supercharger Kit

Thank you for choosing a Tork Tech supercharger kit for your Mustang. Please read this instruction manual all the way through before beginning work so you fully understand how each step is related to the entire installation.

Inspect your kit for missing components when it is received. Contact our Customer Service line at 971-226-9006 with any issues.

Typical installation time is 10-13 hours the first time assuming proper tools are present and you have access to a vehicle lift. Shops that may install multiple kits for their customers can easily knock several hours off this time. Only commonly owned hand tools are needed for installation. Having swivel sockets and ball end Allen wrench sockets will make the job easier and quicker. If after reading these instructions you do not feel comfortable doing this task yourself we highly recommend using a professional mechanic familiar with performance work on a late model Mustang.

Note: Ford throttle cable # 2R3Z-9A758-AA must be used with this kit. Tork Tech can provide this or they are available from any Ford dealership. They take less than 15 minutes to install. Unclip the original cable from the throttle body, unbolt the 2 screws at the firewall and unclip the cable from the gas pedal. Installation is the reverse of this.

There are several "commodity" type items that can be purchased from Tork Tech separately or on your own to complete this kit. These items are not shipped with your kit. They are:

- Conical Air Filter with a 4" clamping diameter
- 90mm Lightning MAFS and adapter
- 39 to 42# Fuel Injectors - depends upon power level
- SVT Focus high volume fuel pump, or equivalent. The Focus pump is Motorcraft # PFS204
- Either a piggyback style chip or a hand held unit to transfer a new tune to your cars computer. Tork Tech can support you with the SCT product line and provide either the chip or a XCal unit. If you already have a XCal we can email you a custom tune.
- Windsor engine cars will need a Romeo engine harmonic balancer (pulley dampener). Ford 1W7Z-6312-AA. Tork Tech can provide this item already milled flat to accept its auxiliary crank pulley.
- Threaded Air Charge Temperature Sensor DY-1159. See your local Ford dealer.

Preventative maintenance measures that are suggested or mandatory that will impact the performance of this kit include:

- Replace your fuel filter – Motorcraft FG986B
- Install a fresh set of plugs. We suggest NGK TR6 gapped at .035"
- The stock accessory belt can be used with our current idler setup. If your belt is over 3 years old we suggest you replace it with a new one for any premium brand.
- Install a new upper radiator hose if yours is more than 5 years old.
- Install new 180 or 195 degree thermostat and o-ring.
- The customer is responsible for purchasing these items on their own.

One general comment first before you get started: Tork Tech always welcomes your help in getting these instructions as accurate as possible. If you find anything lacking in this document please let us know and it will be updated to help future customers! Thank you for your help.



Disconnect negative ground cable from battery.

Remove passenger side door sill and kick panel. The sill just snaps out, while the kick panel has some push pins holding it in place.

When using a chip instead of a hand held tuner, you will need to remove the EEC processor located in the passenger side outer kick panel. A few electrical connectors and mounting brackets must be removed and unplugged to accomplish this. Put in a safe place for installation of the chip later.

Before you begin working on your engine you may want to remove your hood for easier access. The hood will be coming off later since it does need to be altered if you do not have a raised aftermarket hood. There are two bolts per side on the hinge that are to be removed. A helper is definitely needed to remove the hood safely without damage.

Drain some engine coolant from the valve on the bottom of the radiator to allow for removal of the manifold and upper radiator hose later. **If your coolant is over 2 years old replace it with all new 50/50 coolant/distilled water mix upon reassembly.**

NOTE: There are many vacuum lines about the engine compartment. During the disassembly process it is recommended that you wrap each line with masking tape when removed and mark on the tape its location or what it was attached to.



Remove mass air sensor to throttle body tube and take out the air box.



Disconnect vehicle wiring harness connectors from ignition coils, throttle position sensor, idle air, EGR solenoid valve, EGR pressure transducer, temperature sensors, fuel pressure transducer, alternator, and fuel injector connections.



Remove PCV hose from vehicle. Save all vacuum lines and elbows for reassembly.



Remove all eight ignition coils.

Remove idle air valve, hose and silencer from vehicle.

Remove crankcase vent hose from vehicle.



Disconnect throttle cable and cruise control cable and mounting bracket from intake manifold. The cables can now be easily detached from bracket with a pair of pliers.

NOTE: Remember that you will need to replace your stock throttle cable with Ford # 2R3Z-9A758-AA. This is best done once the old intake is off.

Remove vacuum hoses attached to the upper plenum.



Relieve fuel system pressure and disconnect spring lock couplings. A special fuel line removal tool is required for this.

Remove accessory drive belt.



Disconnect wiring, loosen alternator bolts and remove Alternator. (Set aside)

NOTE: You can use an underdrive pulley on your alternator only but not on the crank or water pump!

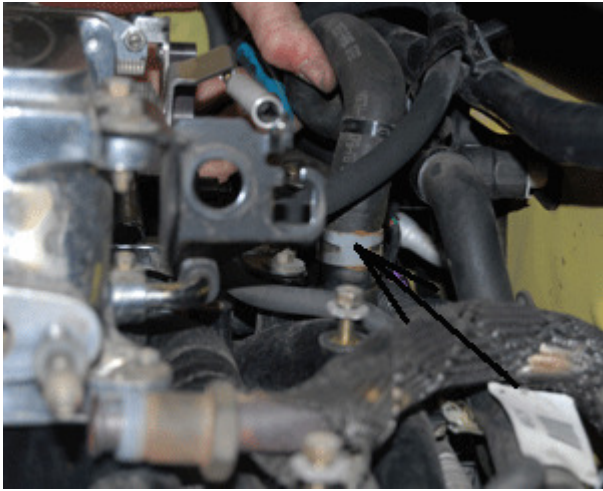


Remove EGR Solenoid and Transducer from mount.



Disconnect EGR tube retaining nut at EGR Valve and remove EGR valve from upper plenum. Set aside valve as it will be reused later. Save EGR valve to plenum gasket.

Assuming some of the engine coolant has already been drained from the radiator you can now remove several of the coolant hoses.



Disconnect the heater hose that goes to the rear of the manifold on the passenger side. See the arrow pointing to this tube. Twist the stock hose out of the way as it will be reused later.



Disconnect the upper radiator hose from the thermostat housing and the radiator. The hose will be reused but trimmed to fit the new setup. If your radiator hoses are more than 5 years old we recommend replacing them with new ones.



Remove the two T-stat housing bolts and remove housing for reuse later. This can also be done later once the manifold is off the car. Note that the original Tstat housing will later be used on the bottom of the new housing.



Remove all the intake manifold bolts.



Unplug all upper wiring harnesses and remove intake manifold assembly as a complete assembly.



Remove Intake Manifold Gaskets and inspect for any wear or torn areas. **If there are any concerns at all we recommend you purchase new gaskets as these must be in like-new condition to insure a proper seal during reassembly.**



Vacuum any debris from the intake manifold valley and around the intake ports. Cover the ports with rags or tape to prevent debris from falling into the engine.



Disconnect water heater hose (rear on manifold to firewall) from firewall. (snap connector)



Remove the remainder of this coolant line (see black arrow) that goes from the firewall to the front of the valley of the block. Also unclip the 90 degree fitting that feeds this coolant line into the heater core on the firewall.



Use a knife to cut off the reinforcement wrap near the 90 degree fitting and also remove the line from the fitting as we will be reusing this fitting later. Once the fitting is separated from line you can clip it back into place on the firewall pointing towards the center of the car. A new hose will be attached to it shortly.



Hose connection shown to block above, to heater core below. **NOTE: Make sure the two front clamps are positioned so that the screws are facing down as they may interfere with the placement of the new lower manifold if they are not installed out of the way.**



Using the supplied 5/8" heater hose (cut to approx. 25.25" long) connect it from the nipple in the front of the valley of the block back to the 90 degree fitting we prepared earlier on the firewall. Use a single hose clamp on the firewall end and a double hose clamp on the engine block end. There MUST be sufficient slack

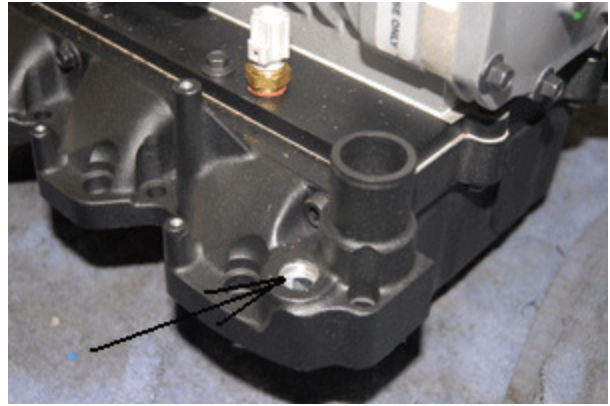
in this line as the engine will move slightly on the motor mounts.

Now is a great time to install the new Throttle Cable. Note the difference in length in the photo below. Other than the length, the two cables are identical. NOTE: At the very end of these instructions we discuss the "Throttle Cable Adjustment Procedure" with a bracket that is needed to guarantee full throttle opening. Perform this adjustment as one of the last tasks.



Remove the 2 screws at the firewall and unclip the cable from the gas pedal. Installation is the reverse of this.

From the intake manifold assembly recently removed you need to take off the fuel rail assembly so it can be mounted to the new TTI manifold. Also take out the coolant temperature sensor that is screwed into the old manifold. It will be reused in the new manifold



Install the original coolant temp sensor into the new manifold before you install the fuel rail as it is very difficult to tighten after the rail is in place! Wrap threads with Teflon tape or equivalent to prevent coolant leaks!

The supercharger/manifold is shipped nearly complete to you but you will now need to install the fuel injectors into the manifold and put the fuel rail in place. Hold the fuel rail in place using the original bolts. Use a bit of motor oil on the injector o-rings so they are easy to install.

A new threaded type Air Charge Temperature sensor is required for this kit (Motorcraft DY-1159). The original air charge temperature sensor on pre '02 models will not be reused and can be put away. '02-04 models have a completely different ACT sensor that is part of the MAFS and there are unique instructions that these models will require that we describe later.



Assemble the inlet plenum to the rear of the supercharger using the provided gasket and bolts. A ball end Allen wrench is recommended.



Attach the cruise control and throttle cable bracket to the inlet plenum using the two provided bolts.



Run a 1/8" vacuum line from the very bottom rear of the manifold to the smallest vacuum fitting on the rear of the inlet plenum. We recommend you use a small zip tie to firmly secure the vacuum lines at each end. This is to vent engine oil that can accumulate in the plenum from the PCV system. NOTICE the notch in the passenger side of the lower manifold. This notch is important in the next step and during the installation of the manifold/supercharger assembly.

Now is a great time to install new spark plugs as we recommend using NGK TR6 plugs that are a bit colder than the stock plugs. NOTE: These are not included with the kit.

Prior to installing the cross brace and the supercharger/manifold assembly you will need to create some clearance for the intercooler inlet/outlet tubes on the top front center part of your cylinder block. A die grinder makes quick work of this.



Notch the front center area of the block as shown with a die grinder for clearance of the Intercooler tubes that go in/out the front of the new lower manifold. The depth of cut should be at least 3/8" and the width of cut should be at least 3/4". Capture all chips with a shop vac so as to not cause any contamination issues.



We recommend installing the cross brace assembly before the manifold/supercharger is put in place because the nose of the supercharger will be in your way. The first step to installing the cross brace is to take out the two upper front cover bolts. The image above shows two studs in place of these bolts but we now provide long bolts to attach the cross brace at these points.





Remove the power steering reservoir and its mounting bracket.



A new tension arm that is included in our kit will likely be attached to the cross brace assembly but take out the 3 bolts and remove it before attaching the cross brace to the two studs.

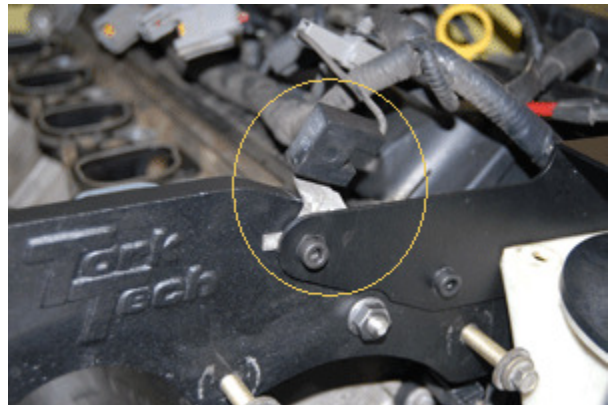


Install the cross brace using the two long bolts and thread them into the upper front cover tapped holes and fasten to approx. 25 ft-lb. We recommend installing a NEW accessory belt and the belt needs to be positioned now for proper routing and installations shortly. There is a third attaching point for the cross brace in the middle. Attach the long center Allen head bolt into the recessed hole and the stiffening sleeve that goes back to the block, but first place your new belt into position so the bolt/sleeve is in the middle of the belt. The Allen bolt and sleeve is individually

removable so that the accessory belt can be changed without having to remove the cross brace assembly.



There are two noise suppression capacitors (one on each side of the engine) and these need to be attached to the front cross brace. There are several good places to attach these but we put the passenger side one into the left most hole on the cross brace along with a miscellaneous bracket. NOTE that this is temporary as the IC fluid reservoir will soon bolt in this position also.



The drivers' side suppressor can be attached to one of the bolts that hold the new power steering reservoir bracket.





There is a studded bolt that goes into the front cover down by the power steering pump that must be modified to allow the engine accessory belt to move freely due to its new routing. It is shown in the picture above. Remove the bolt and cut the stud off flush and reinstall. There is also a battery cable bracket that should be unbolted and removed also and it is shown to the right of the modified bolt.



Attach the alternator to the cross brace with the pulley facing towards the engine. Use a bit of Loctite on these bolts to prevent loosening. We also highly recommend you remove the alternator pulley prior to installation using an impact gun, then reattach the pulley using Loctite to prevent it from potentially loosening since it will be turning backwards.

You can now install your accessory belt.



Attach the power steering fluid reservoir to the new bracket.

Prior to installing the supercharger/manifold assembly the coolant line that was just installed MUST be pushed to the passenger side of the valley.

There is a notch in the rear of the lower manifold and this is there for clearance because the coolant line must be run directly behind this notch. If the coolant line is not contained within this notch you will have restricted coolant flow to the heater core resulting in little or no heat to the cars interior on cold days.

Important: Prior to installing the supercharger/manifold assembly the coolant line that is installed in the valley of the block MUST be pushed to the passenger side of the valley. There is a notch in the rear of the lower manifold and this is there for clearance because the coolant line must be run directly behind this notch. If the coolant line is not contained within this notch you will have restricted coolant flow to the heater core resulting in little or no heat to the cars interior on cold days.

It is highly recommended to use two people when installing the supercharger/manifold assembly. This is rather heavy and you do not want to drag the bottom of the manifold on the gaskets.



Rub a bit of engine oil or assembly lube around on the o-ring surfaces of the gaskets to reduce friction prior to placing the blower assembly on the engine.

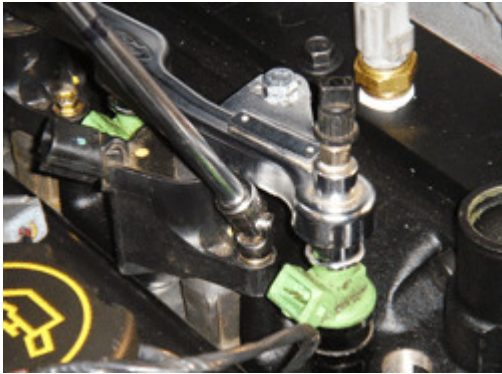


The assembly is to be installed with the rear tilted downwards at first so it clears the EGR plumbing and any vacuum lines and wiring harnesses and then straightened up so it can be finally placed flush on to the lower manifold gaskets. Again, DO NOT drag the assembly on the gaskets or a coolant leak may develop if the seals are damaged. Once in place, verify that the coolant

line going to the block valley has remained in the notch of the lower manifold during installation.



Attach the new manifold to the engine with the provided Allen head bolts. At the front and rear of the manifold on both sides there are longer bolts required than in the center. Several of these bolts can be difficult to reach and use of swivel sockets and ball end Allen wrenches is recommended. Torque to 19 ft-lbs + 90 degrees.



Reinstall the eight coil packs and attach their electrical connectors.

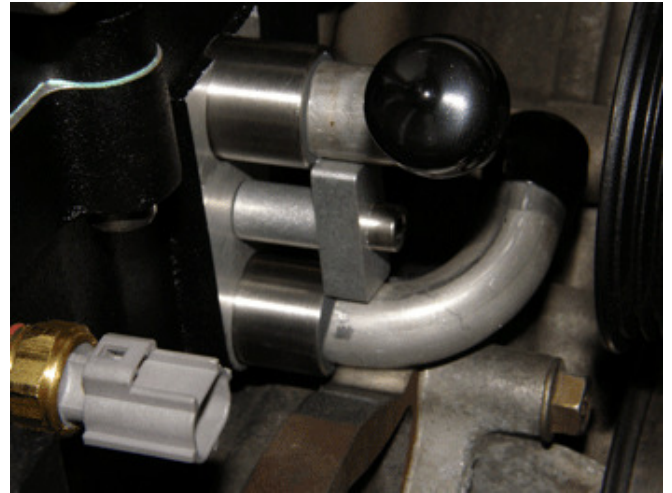
Reattach the electrical connectors to the new fuel injectors.

Reattach the fuel line to the fuel rail after lubing the O'ring.

Reconnect the alternator wiring.



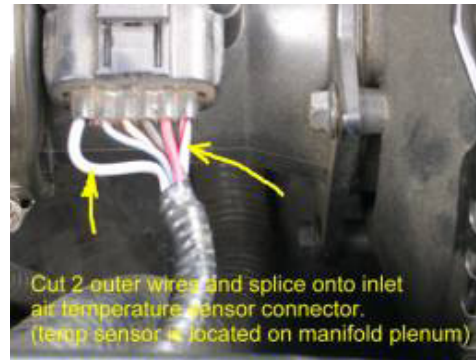
Reconnect the coolant temperature sensor.



Install the new (Motorcraft DY-1159) air charge temperature (ACT) sensor on the front face of the lower manifold. Use Teflon tape for a leak free seal.

NOTE: The above picture shows the reason for the clearance required on the cylinder block that we mentioned back on Page #7. The IC fluid tubes will interfere slightly without this modification.

On '99 to '01 cars the Air Charge Temperature (ACT) sensor electrical harness from the stock intake tube needs to be extended approximately 18" to reach its new location. Butt connectors can be used to extend these wires but soldering of the wires and heat shrink covering is preferred if these tools and equipment are available to you. Connect the ACT.



Cut 2 outer wires and splice onto inlet air temperature sensor connector. (temp sensor is located on manifold plenum)





Ford ACT Connector WPT420

NOTE: On 2002 - '04 cars the original ACT is actually part of the MAFS so you will need to cut the outer 2 wires (one from each side) of the MAFS connector and then attach these to the supplied ACT wiring harness (see above) and then connect this to the ACT sensor. Butt connectors will work for this task, but soldering and using heat shrink covering is preferred.



Using the dog leg EGR adapter, reattach the EGR valve to the inlet plenum using supplied hardware. The valve is now turned 90 degrees from its original position. You may find it easier to attach the lower bolts going up into the adapter by first removing the fuel line pressure transducer. Replace when complete. Attach the large EGR line to the EGR valve. Reconnect the hard plastic vacuum line to the EGR valve.

**** Be sure to start all bolts prior to final tightening!**

The EGR pressure transducer and the EGR solenoid have been previously removed from a factory bracket and we provide a new bracket that is mounted to a bolt with a stud sticking upwards at the rear of the fuel rail. Remove the ground connector that is at the top of the stud and remove the stud. Slide the new bracket in place and reinstall the stud to secure. Replace the ground connector to the top of the stud.

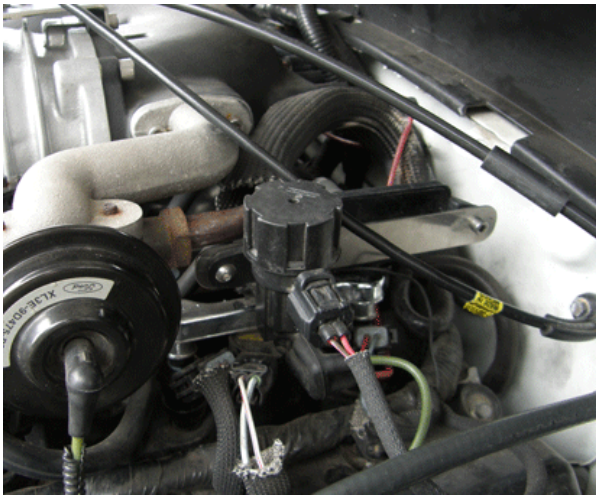
The EGR items go side by side on this bracket. The EGR transducer is the flatter of these two items and must have a pair of U-Nuts attached around its mounting holes. These provide a thread for the attaching bolts to mount to. The front most mounting hole is tapped so a U-Nut is not required to mount the front of the EGR solenoid. The middle bolt hole is used to attach the rear of the solenoid and also the front of the transducer. Use the three attaching bolts to secure both of these items as pictured below.



Transducer shown with the U-Nuts attached.



Bracket shown attached to the fuel rail bolt/stud. **Note the center bolt will hold both the transducer and the solenoid so install it last!**



Solenoid shown attached to the outside of the bracket.



Install the Throttle Position Sensor and the Idle Air Control Valve to the throttle body and inlet plenum and connect electrical harnesses



Attach the throttle cable and cruise control cables to the throttle body using the provided adapters.



ONLY IF YOU HAVE A WINDSOR ENGINE, use a balancer removal tool to remove the factory harmonic balancer and set aside. It will not be reused. Those with the Romeo engines do not need to remove the balancer.

NOTE: If your vehicle has high mileage, we suggest replacing the front crank seal as a preventative maintenance measure if the balancer was removed.



TTI builds all their kits with a unique supercharger drive belt. This is advantageous for many reasons. A separate crank pulley is required to do this that is to be attached to your existing Romeo style harmonic balancer. After looking at many stock balancers we decided that it is typically acceptable to reuse your factory Romeo balancer and attach our crank pulley to it. If after you restart your car and find that this pulley tends to runout excessively then you should contact Tork Tech and we can provide you a new Romeo balancer with a milled flat mounting surface to guarantee perpendicularity of the new crank pulley to the crank centerline. All Windsor engines will require a new Romeo balancer!

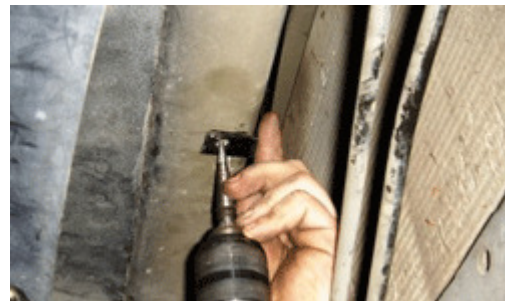


If required, using a balancer installation tool, install the new harmonic balancer and attach the new crank pulley to the front of it. Use Loctite on the bolts to prevent loosening. NEVER use a hammer to install a balancer. Torque balancer to 60 ft-lbs, loosen and retorque to 36 ft-lbs + 90 degrees.

It is now time to proceed with the mounting of the heat exchanger behind the front bumper. The front bumper does not have to come off for the following steps but the process can be made easier if it does come off. Taking a front bumper off takes approx. 20 minutes and will allow you improved access for installing and plumbing the heat exchanger. Looking at this area you will notice that there is a lower support brace for the hood latch that is in the way. We will show you a very simple modification to the brace to allow it to remain, but be mounted up higher to give room for the heat exchanger.



Take the brace off the car using a safety Tork fitting. With a tape measure mark the brace at 12 3/4 inches from its top surface. Cut the brace at this point with a hack saw and flatten the last 1.5 inches in a vice.



Drill a 3/8" hole into the flattened area and bend the end as shown to fit the car. The modified end will now be attached to the bottom of the cars front cross brace. Reattach the brace at the top, locate the bottom of the brace and drill a hole into the bottom of the cars front cross brace and attach with a screw.





Prior to installing the heat exchanger (H.E.) you must move the power steering line that is in this area. We removed the factory bracket by prying it apart with channel locks. We also unbolted another small bracket that holds this line way to the drivers side. Use a small insulated Adel type clamp to hold the line and drilled a hole into the cars cross brace at an appropriate place and secured the line out of the way with a screw.

This line does need to be massaged a bit to allow the H.E. to fit neatly in place. Test fit the H.E. and see where there may be interference and keep maneuvering the power steering line out of the way until the H.E. fits securely in place.



Test fit the heat exchanger and use a Sharpie marker to locate where you want to drill the lower mounting holes and the single upper mounting hole into the cars front cross brace. Take down the H.E. and drill the five mounting holes. The upper mount into the upper cross brace does require a very sharp drill bit and we recommend using a smaller drill as a starter hole and then move up to progressively larger drills as this steel is very tough. Mount the H.E. and attach with the supplied hardware.

Now that the H.E. is installed you can begin plumbing the rest of the Intercooler system. The coolant pump and reservoir are to be mounted and all the hoses need to be run.



The IC Fluid tank is shown attached to the cross brace.



Reattach the supercharger belt tensioner to the front cross brace (3 bolts) and attach the tank to the cross brace assembly using the bracket that attaches to two of the tensioner arm bolts. The stainless clamps are used to hold the tank to the bracket.

NOTE: For all kits shipped as of June, 2009 we now provide a IC fluid pump bracket. It is to be mounted to the back side of the bumper bracket on the outer passenger side. Run your IC fluid hose from the bottom of the fluid reservoir to the top inlet side of the fluid pump. Try to make a smooth bend of the 3/4" fluid line so as to not develop an air pocket or kink fluid flow. Firmly clamp each connection.





Key on wire location. Splice inter cooler red wire to this "key on" wire. Solder and shrink wrap for proper install.



Using the supplied wiring harness, power is needed at the pump and we recommend you tap into a power source at the rear of the passenger side engine bay. This power source is keyed On/Off. Butt connectors can be used to connect the power and ground wires but soldering and heat shrinking is preferred.



The IC coolant pump wiring can be grounded close by with one of the heat exchanger attachment bolts, as shown.

Intercooler system hose routing diagram

**Drivers
Side**

**Supercharger
& Lower
Manifold**

Connect:
A to B
C to D
E to F
G to H

**“A” = Upper
Fitting**

A

H

**IC
Fluid
Tank**

B

C

E

D

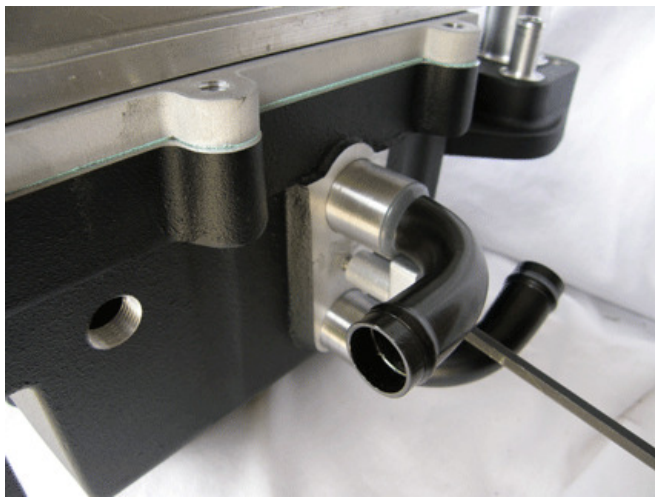
**IC Fluid
Pump**

F

Heat Exchanger

G

NOTE: Intercooler coolant flows from the IC storage tank through the pump to the heat exchanger (H.E.) and back up the driver's side hose to the cooler that is mounted under the supercharger. It is very important that no air pockets exist in this circuit as any air bubbles will decrease the intercooler's efficiency. Therefore, it is very important that the hoses are routed so that air is not trapped in the system. Ensure the hose exiting the H.E. on the driver's side of the car does not drop below the H.E.'s exit hose bib. The hose should leave the H.E. and route just below the frame rail and above the plastic mud guard and then turn up and route between the front of the engine and the idler bracket and on to the intercooler hose adapter. You should cut a notch in the plastic mug guard to allow room for the hose and trim the hose length so there is no excess length that could allow the hose to sag.



As of June, 2009 the intercooler inlet/outlet ports are now located on the front face of the lower manifold as shown in the pictures above and below.

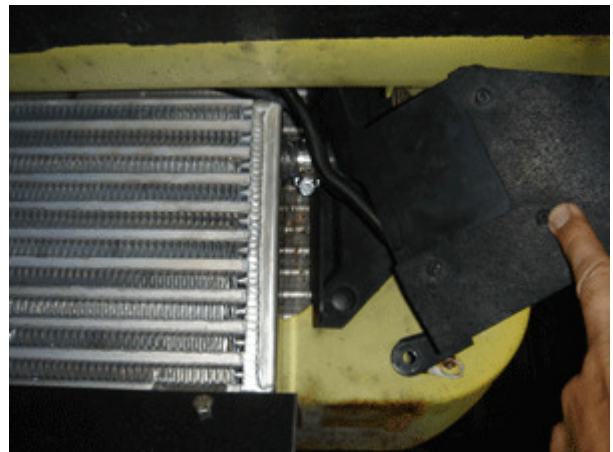


Using the supplied 3/4" coolant line connect the IC coolant hose from position "A" on the front face of the lower manifold to position "B" at the top of the IC fluid reservoir. Run another line from position "C" on the bottom of the reservoir to position "D" on the inlet side of the fluid pump mounted to the back passenger side of the bumper bracket.

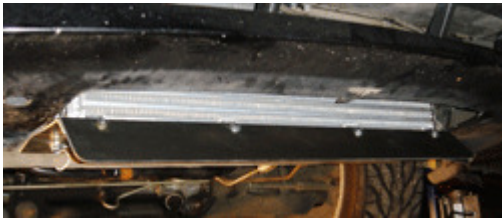
A third line goes from the outlet of the fluid pump "E" to the inlet of the heat exchanger "F". The last line goes between the outlet of the heat exchanger "G" to the inlet of intercooler "H". Firmly clamp all connections as required.



The above picture shows the passenger side of the car with the front bumper off for reference. The passenger side of the H.E. is point "F" and the hose is going off to the left to point "E". NOTE that at points "F" and "G" where you attach a coolant hose to the heat exchanger you will need to trim the black air baffles slightly to make room for the hose to pass through this area. Tin snips do a good job of trimming.



The above pictures show the drivers side of the car with the front bumper off for reference. The driver's side of the H.E. is point "G" and the hose is going off to the right to point "H".



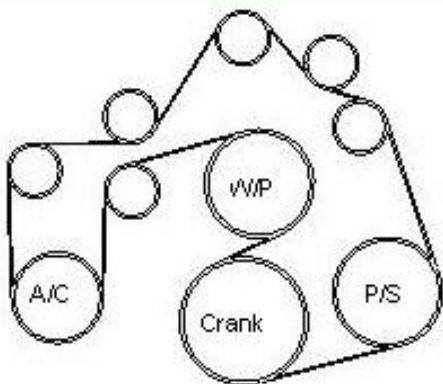
After all the IC coolant hoses are run you can install the chin spoiler for the H.E. using the supplied hardware.



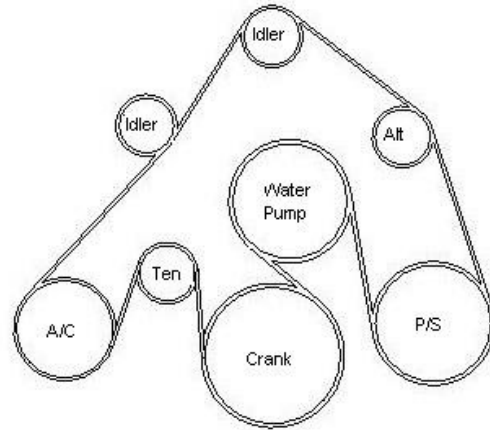
2 face tape shown above to adhere H.E. top plate.



Air will take the path of least resistance when travelling past an object. To ensure air goes through the H.E. vs. around it we provide a top plate for the H.E. to seal any potential escape paths. Lay a few long strips of two faced on the top of the H.E. and then lay the top plate up tight to the AC condenser and push down on it for a good seal.



Romeo Engine Belt Routing



Windsor Engine Belt Routing

Note: The extra idler shown in the Romeo belt routing pic is also to be included with the Windsor engines as well.

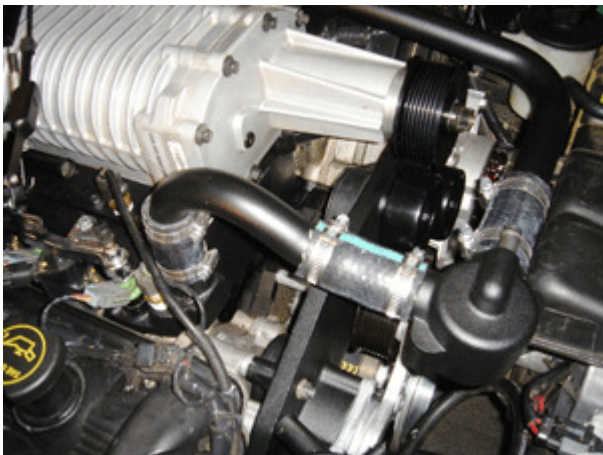
Install both engine belts. The charts above are used to route the accessory belt. **To ensure proper belt tension we do recommend modifying the accessory tension arm by grinding back the hard stop approx. 1/4" to allow further travel.**



The engine coolant system needs to be reassembled with new components. Shown above is the coolant hose assembly.



Install a new 180 or 195 degree thermostat and o-ring (not provided with this kit) into the new t-stat housing and attach the original Tstat housing to the bottom with the original hardware. The Tstat goes in first, then the o-ring, then the cover.



Install the coolant hose assembly on to the front of the lower manifold. Secure all clamps very firmly.



Install the coolant bypass hose (see arrow) from top of Tstat housing to the left of the driver's side coolant tube.



Attach the remaining coolant line going to the heater core on the fire wall to the fitting on the back of the passenger side manifold. Secure with a clamp. The stock hose is reused.



Install the intake tube to the throttle body and the MAFS/adaptor to the new intake tube. The vacuum fitting on the tube is very close to the TPS but the tube can be rotated slightly so it does not interfere.



Attach filter to the MAFS and install the optional air filter guard (Air Divider), if purchased. Note that the MAFS will need to be rotated slightly so it fits as low as possible in the engine bay without interfering with the cam covers. See the picture above as a reference.



The original upper radiator hose needs to be installed but will need to be trimmed to fit. About 1" is removed from the front end and several inches are removed from the rear where it attaches to the new Tstat housing. Trim to fit as required!
NOTE: Replace with new if more than 5 years old.

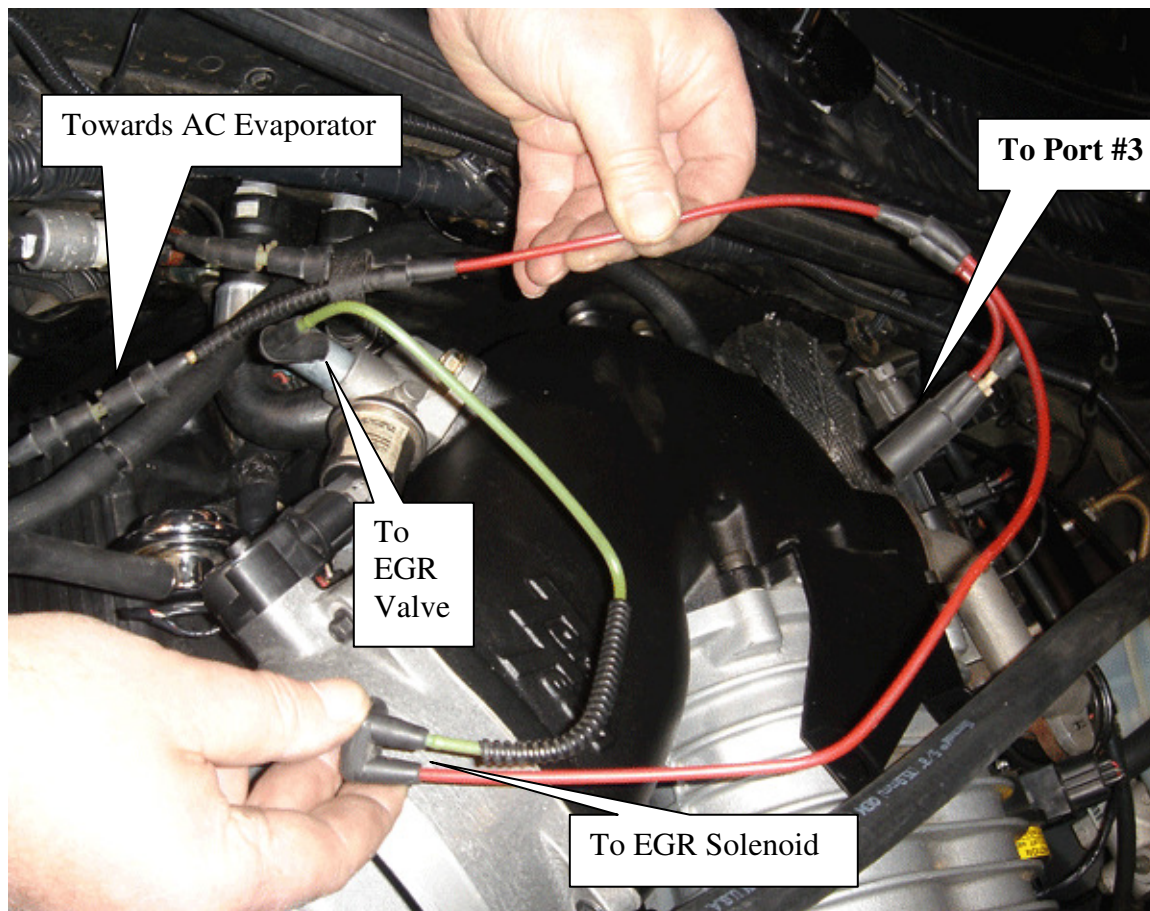
Vacuum Line Pictures for Reference

NOTE: We recommend you zip tie all vacuum line fittings for a secure connection

intake tube between the Tbody and MAFS and also use a 3-way fitting to connect to the air resonator and the other hoses. Cut all vacuum lines to fit. **NOTE: These vacuum lines are two different sizes but they will go together with a bit of assembly lube.**

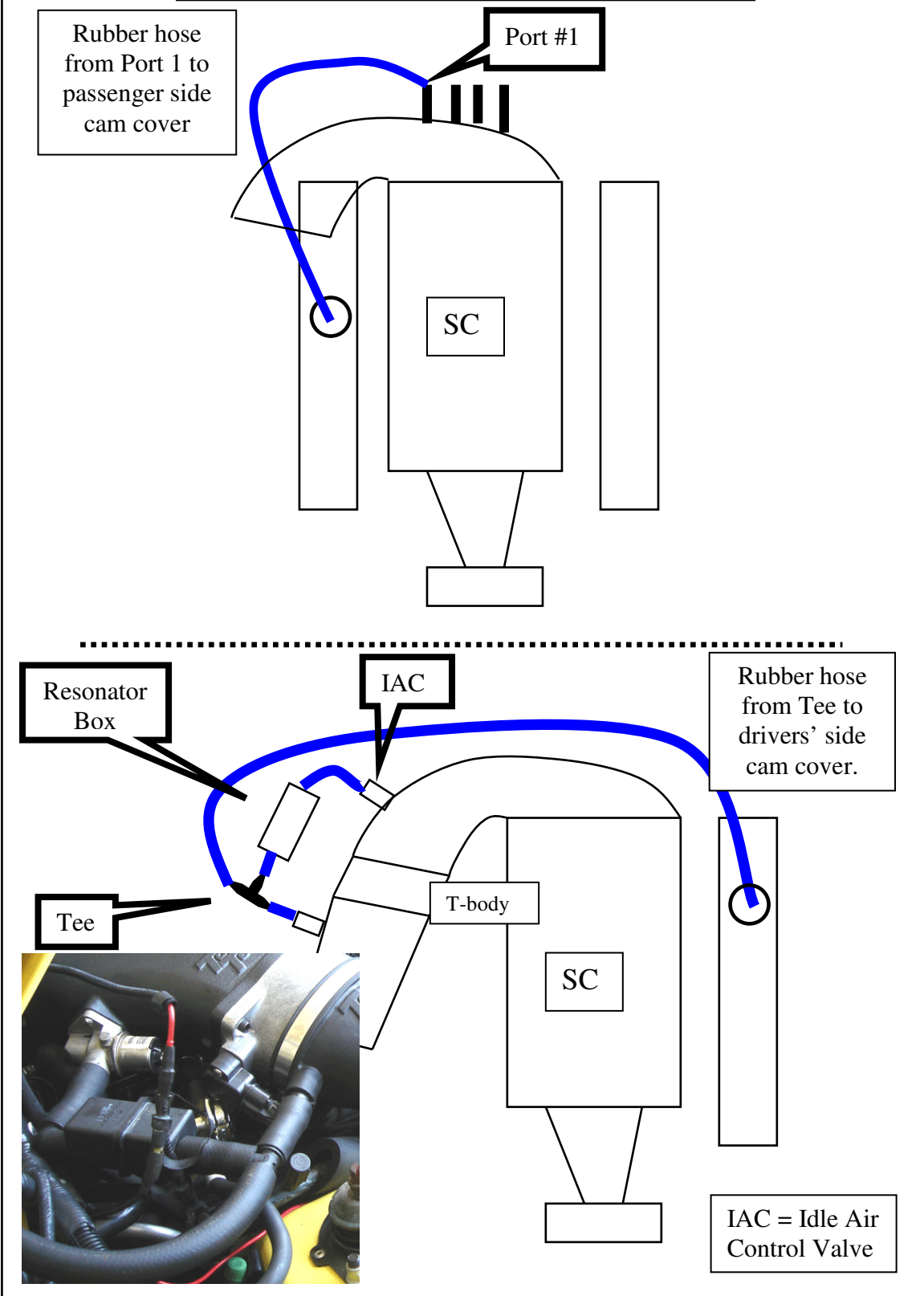


Idle air control to intake tube to passenger side cam cover vacuum circuit. You will insert a male/male fitting into the

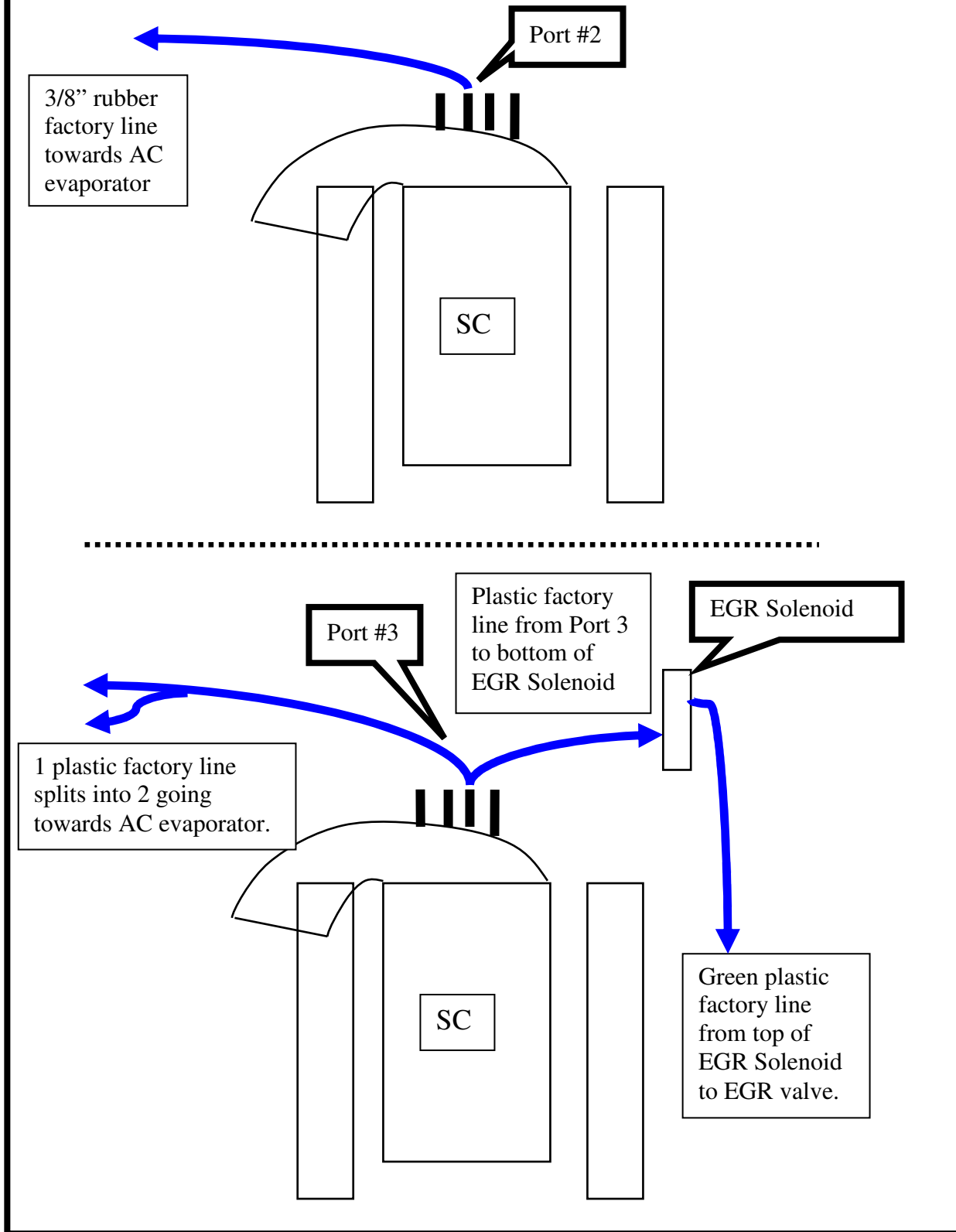


For Port #3 you will reuse the existing factory plastic lines. Reconfigure as shown above.

Vacuum Routing Diagrams

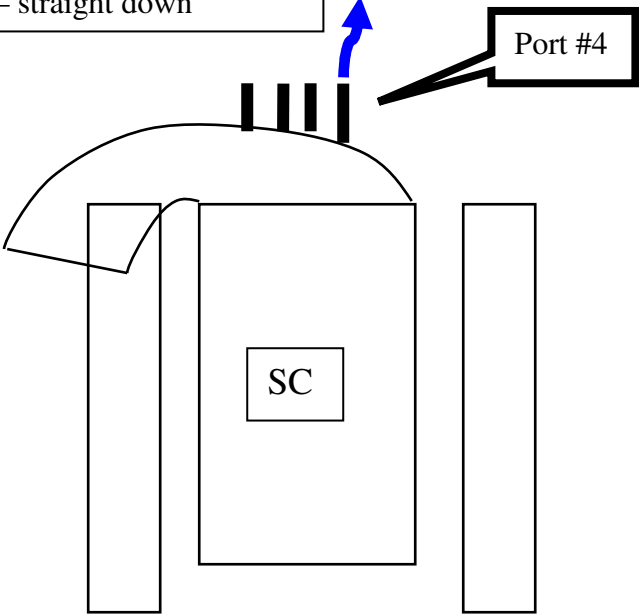


Vacuum Routing Diagrams



Vacuum Routing Diagrams

Port 4 goes to fitting on back of lower manifold – straight down



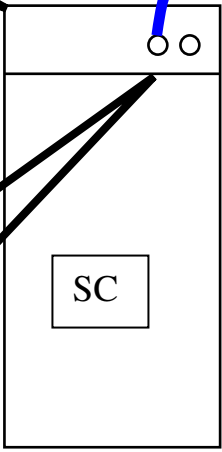
Top plate on manifold

Rubber line from barbed fitting to SC bypass valve

Fuel Rail Sensor

Rubber line from bypass valve to fuel rail pressure

NOTE: This fitting is plugged. Unplug and install a barbed fitting if you wish to run a boost gage.



SC Bypass Valve

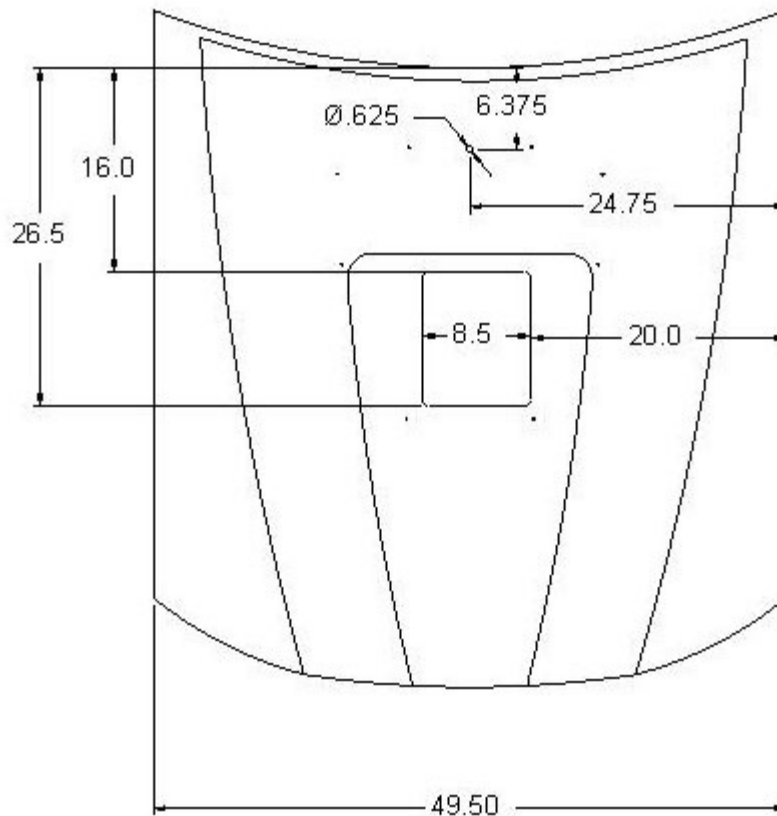
Vacuum Routing Diagrams

The last vacuum lines that need to be attached are the two rubber factory lines from the EGR Tube to the EGR Transducer. The transducer is to be mounted to a bracket along with the EGR Solenoid. Mount each and run the factory lines to the same points as they were originally.



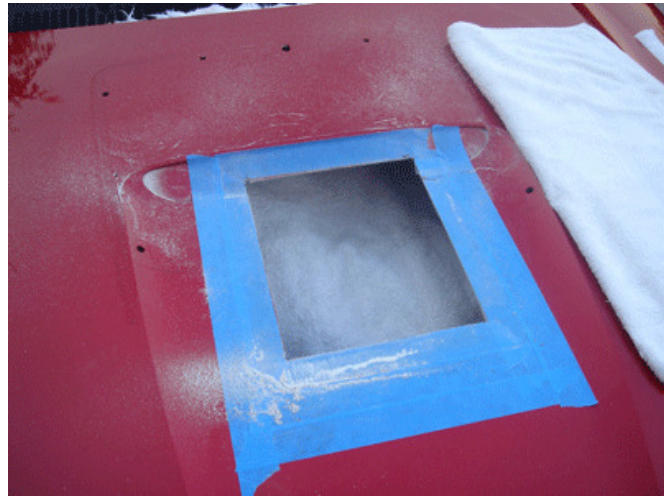
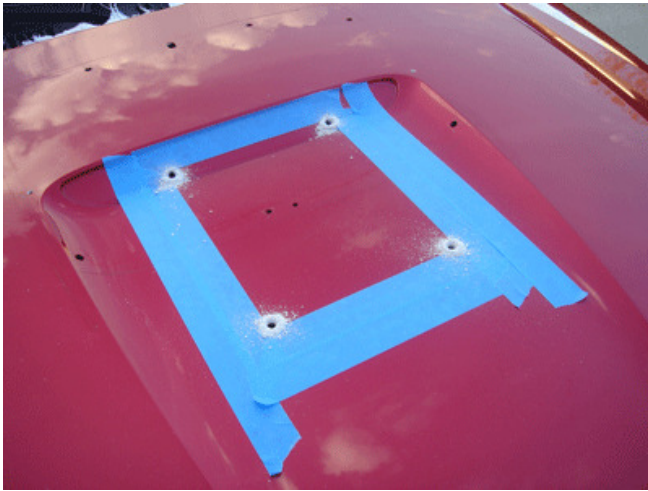
Extended Length Hood Scoop Installation

Note: Due to low sales this item is no longer available but we will keep these instructions here in case someone uses another type of scoop that is appropriate also. Nearly any aftermarket 1" or more raised hood will work great and be a style enhancer for your car.



Above is a drawing of the stock GT hood providing dimensions so the hood can be cleared properly. Most, but not all Mustang GTs have a factory scoop so it can be easily unbolted and you will have seven factory holes already drilled that can be used for alignment of the new scoop as it uses all these holes. For cars that have a factory scoop only two additional .5" holes need to be drilled using the new scoop as a template. For those cars without any factory scoop you will need to drill all 9 holes starting with the center rear most one. Note the .625" hole at the bottom (rear) that is centered within the hood and spaced forward 6.375" from the rear edge. This hole must be first drilled in hoods that did not come with a scoop as a reference. The additional eight 3/16" mounting holes are then drilled after placing masking tape on the hood in the area of the screw posts and then place the scoop on the hood over the masking tape making sure it is square with the hood and mark around each hole before drilling.

Pictures showing tape laid out to protect hood & also to locate all holes.



When cutting the rectangular opening note that it is NOT centered on the hood. It is offset from the hood's centerline because the supercharger's shaft is not in the center of the charger but is inline with the left hand rotor.

When cutting the opening also take all measurements from the drivers side edge!



Use jig saw for 5 x 8" opening



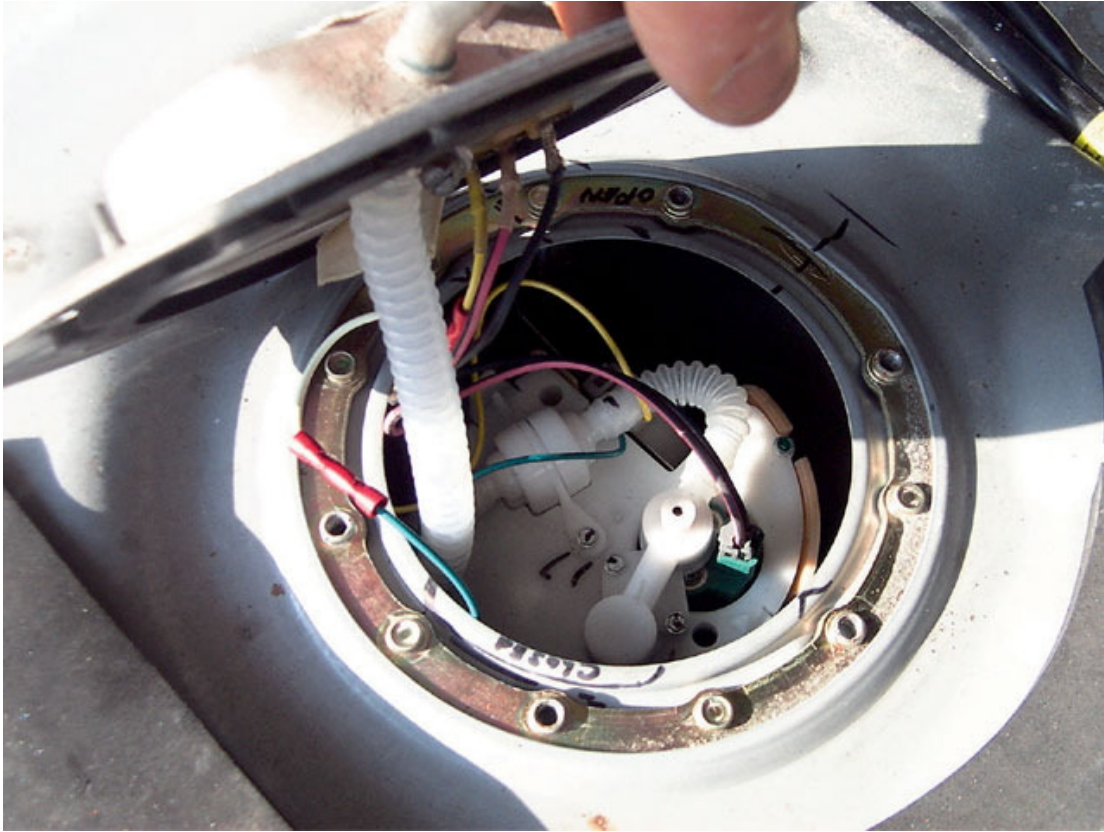
Drilling clearance holes for back screws (if not present)



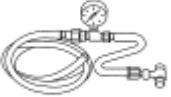
Reinstall your under hood liner and using a Sharpie marker trace where you will need to trim it. Take it off the car one last time and use a box cutter to cut the rectangle in it. Place the new scoop on the hood and attach using washers and nuts from underneath to finish scoop installation. The under hood liner can be reinstalled for the last time.

Hi Volume Fuel Pump Installation

We recommend either the GT Supercar pump or the SVT Focus pump for engines with stock internals making approx. 400 RWHP or less. The Focus pump is shown here.



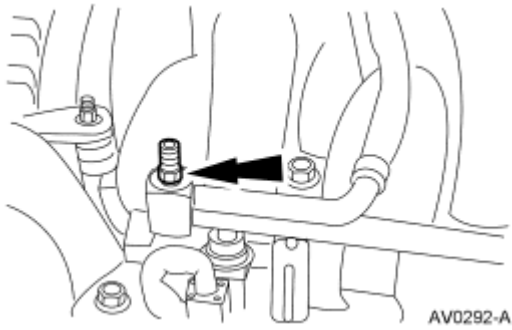
Fuel System Pressure Release

Special Tool(s)	
 ST1371-A	Fuel Pressure Gauge 310-012 (T80L-9974-B)

⚠ WARNING: Do not smoke or carry lighted tobacco or open flame of any type when working on or near any fuel-related components. Highly flammable mixtures are always present and may be ignited, resulting in possible personal injury.

⚠ WARNING: Fuel in the fuel system remains under high pressure even when the engine is not running. Before servicing or disconnecting any of the fuel lines or fuel system components, the fuel system pressure must be relieved to prevent accidental spraying of fuel, causing personal injury or a fire hazard.

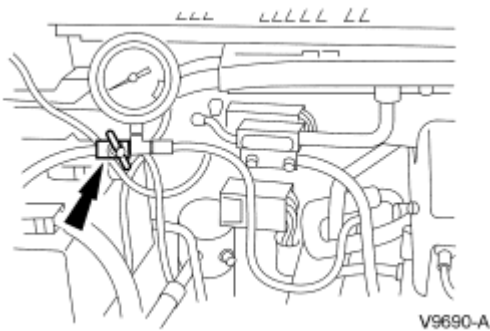
1. Remove the Schrader valve cap and install the Fuel Pressure Gauge.





2.  **CAUTION: Open the manual valve slowly on the Fuel Pressure Gauge.**

Relieve the fuel pressure.

- Place the fuel in a suitable container.

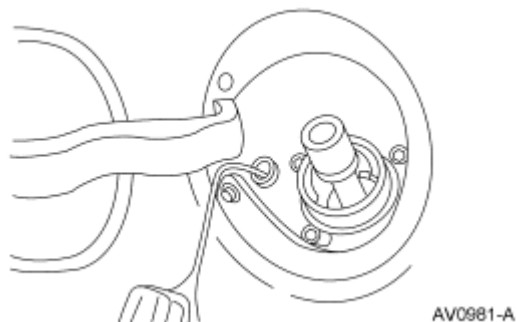


Fuel Tank Draining

Special Tool(s)	
 <p>ST1134A</p>	Fuel Storage Tanker 164-R3202 or equivalent
 <p>ST2134-A</p>	Fuel Tank Drain Hose 310-F013

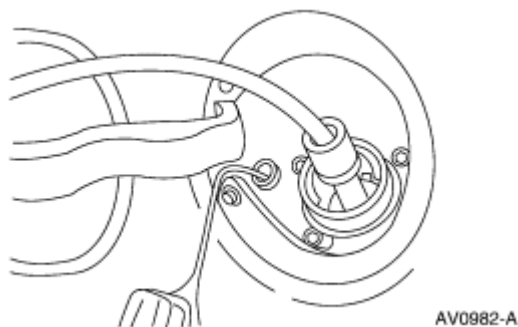
 **WARNING: Do not smoke or carry lighted tobacco or an open flame of any type when working on or near any fuel-related components. Highly flammable mixtures are always present and may be ignited, resulting in possible personal injury.**

1. Disconnect the battery ground cable.
2. Remove the fuel tank filler cap.
3. Insert the hose guide into the filler neck.



4. **NOTE:** Insert the hose until the stop contacts the guide tube. If the stop does not contact the guide tube, remove the hose and repeat the procedure.

Insert the chamfered end of the hose into the filler neck through the guide tube.



5. Attach the Fuel Storage Tanker to the hose and remove the fuel.
6. Remove the hose and the hose guide.

Fuel Tank

Material	
Item	Specification
Serfactant (Merpol)	ESE-M99B144-B

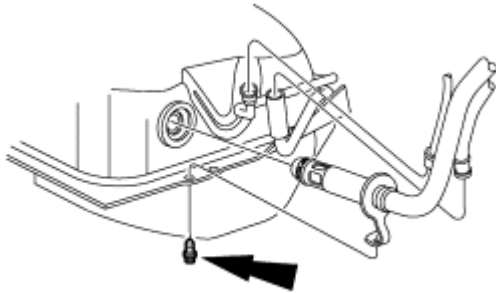
Removal

⚠ WARNING: Do not smoke, carry lighted tobacco or an open flame of any type when working on or near any fuel-related components. Highly flammable mixtures are always present and may be ignited, possibly resulting in personal injury.

⚠ WARNING: Fuel supply lines on all vehicles equipped with fuel injected engines will remain pressurized for long periods of time after engine shutdown. Fuel system pressure must be relieved prior to fuel system service to prevent possible personal injury or a fire hazard.

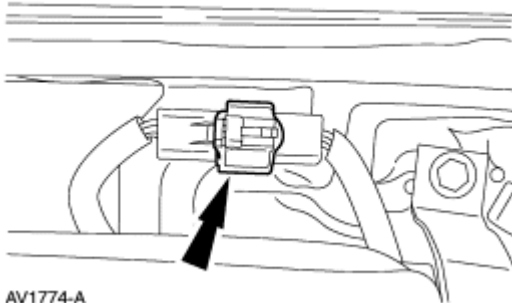
1. Disconnect the battery.

2. Relieve the fuel system pressure.
3. Drain the fuel tank.
4. Raise the vehicle.
5. Remove the filler pipe bolt and disconnect the filler pipe hose connections to the fuel tank.



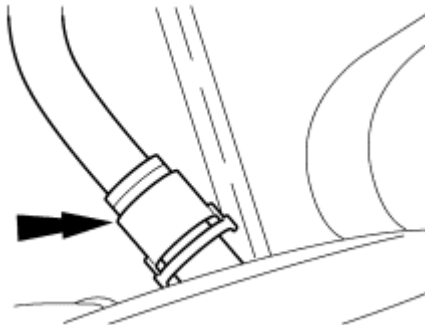
A0031082

6. Disconnect the fuel tank electrical connector.



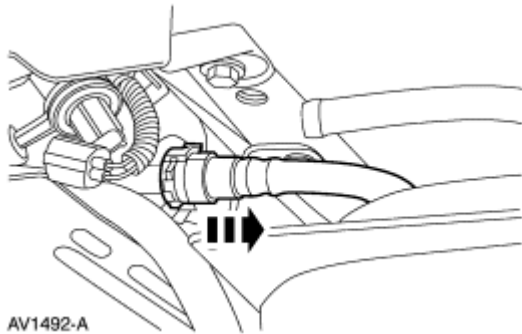
AV1774-A

7. Disconnect the vapor tube fitting at the left front of the fuel tank.



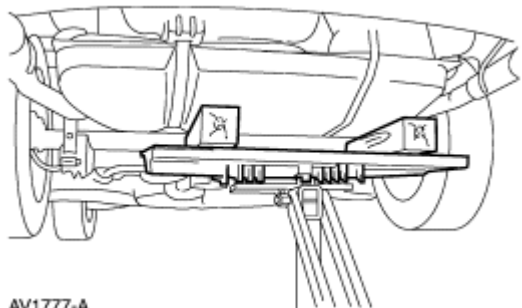
AV1776-A

8. Disconnect the EVAP canister tube and hose.



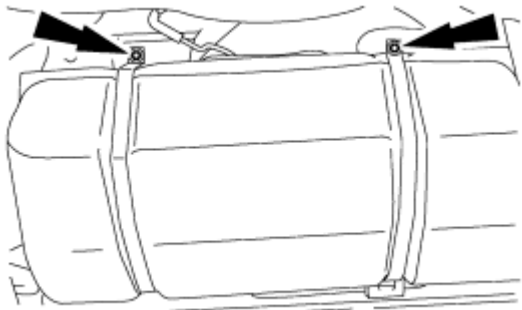
AV1492-A

9. Place a safety support under the fuel tank.



AV1777-A

10. Remove the front bolts from the fuel tank support straps and swing the LH strap out of the way.



AV1778-A

11. Remove the RH fuel tank support strap bolt and remove the strap.

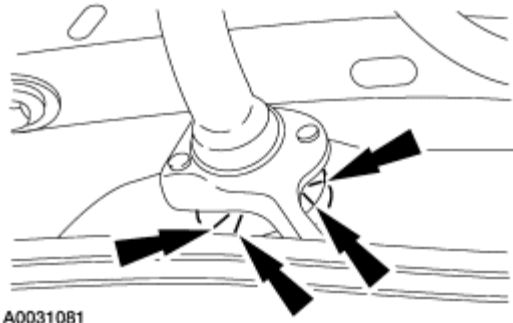


AV1779-A

12. Partially lower the fuel tank and disconnect the fuel line.


13.  **CAUTION: The filler pipe grommet must be removed prior to removing the fuel tank from the filler pipe or damage to the fill tube check valve will occur.**

Cut outer edge of pipe-to-tank grommet to facilitate pipe removal and carefully remove the grommet from the fuel tank. Take care to avoid damage to the filler pipe check valve.

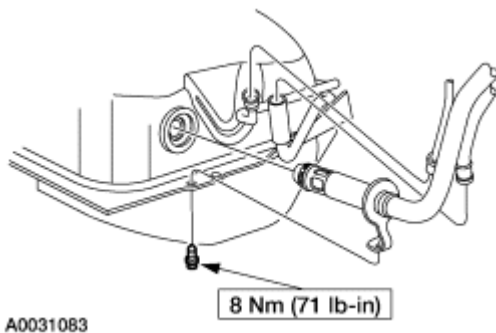
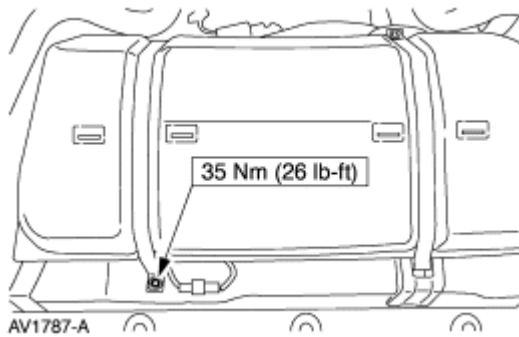
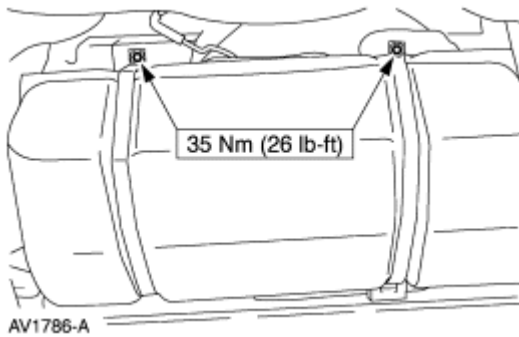


14. Lower the fuel tank from the vehicle.

Installation

1.  **CAUTION:** Lubricate the filler pipe check valve area and the tank-to-filler pipe grommet with Serfactant prior to assembly or damage to the filler pipe check valve will occur.

NOTE: A new grommet must be used for the installation procedure due to its destruction during removal. To install, reverse the removal procedure.

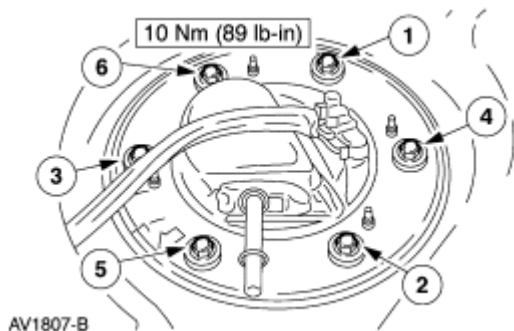


Fuel Pump Module

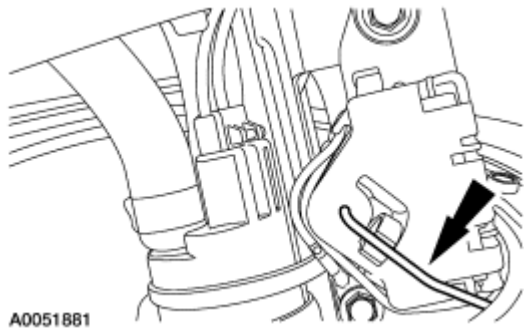
Removal and Installation

1. Remove the fuel tank. For additional information, refer to Fuel Tank in this section.
2. **NOTE:** For installation, tighten the bolts in the sequence shown.

Remove the module assembly flange bolts.



3. Clean the area around the fuel delivery module mounting flange.
4. Lift the fuel pump, carefully detach the fuel float arm and remove the fuel pump from the fuel tank.



5. **NOTE:** Install a new fuel pump O-ring.

To install, reverse the removal procedure.



Remove the screws that hold the top to the lower basket on the original fuel pump.



New pump on right with new filter is inserted into old basket.



Final assembly shown with new pump in original basket and it is ready to go back in the tank.



We **HIGHLY** recommend you put a new fuel filter in while your tank is down!

The new high volume fuel pump that we provide is to be removed from its plastic basket by removing the small screws. The pump and the inner and outer screen filters is the only item used from this assembly. Insert this pump and the new filters into your original Mustang basket. Swapping the pump and filters only take about 5 to 10 minutes. Then reinsert the entire original assembly with the new pump back into your gas tank and reinstall the tank.

Computer Tune:

Your car will require a custom computer tune because of the supercharger. Tork Tech can provide you a safe "Starter" type tune if needed if you already have a SCT Handheld unit. Otherwise consult a local tuning shop. We always recommend a detailed custom tune for all cars on a chassis dyno to verify correct air/fuel ratios.

should be checked regularly during the first few test drives to ensure any air has been removed from the system.

ATTENTION!
Your Tork Tech kit is sensitive to corrosion!
Take care of your engine coolant and IC fluid system by using 50/50 Anti-freeze with de-ionized (distilled) water

Purging & Filling the IC Fluid System:

Begin by removing the cap for the IC fluid reservoir and fill to about 1.5 to 2" below the top of the tank. **DO NOT** fill to the top to leave some room for expansion/contraction of the fluid. Use appropriate fluid for your climate. Water is the best coolant but will obviously freeze, so a coolant/water mix is suggested for the majority of customers.

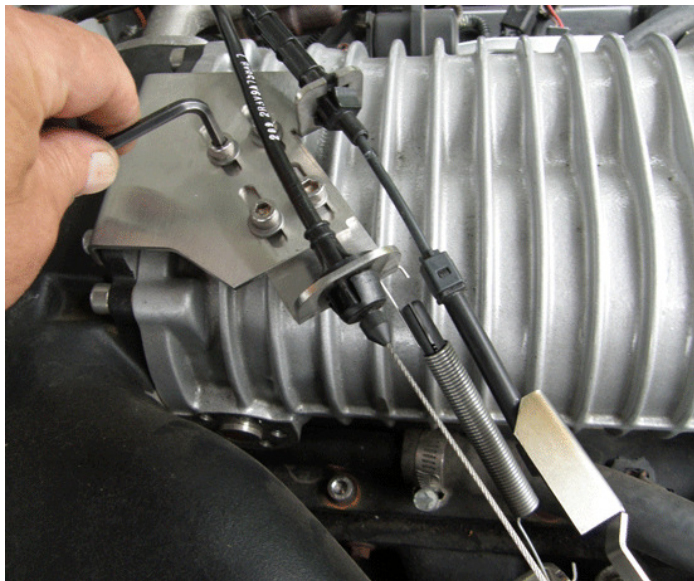
Cycle the key to the ON position, but do not start the car. Fluid will be drawn into the pump by gravity and will begin to evacuate trapped air from the system. With pump running, continue adding fluid until all air is evacuated. This will happen quickly if routing and pump orientation is proper. This level

Throttle Cable Adjustment Procedure:

For maximum performance it is important the throttle body butterfly opens completely when the throttle peddle is depressed to the floor.

Have a helper fully depress the throttle peddle to the floor and slide the bracket to adjust for wide open throttle then tighten the four screws securely.

Note how the return spring is attached. It is very important it is installed as the picture shows so everything clears properly.



Initially Starting the Car:

Expect that the car will run roughly for the first few minutes until the computer adjusts to the changes performed. The car will smooth out after five minutes of run time and even more so after a short drive. Check for fuel leaks and coolant leaks during initial start up.

Throttle Body Idle Adjustment Procedure (if engine does not idle properly):

Disconnect the Idle Air Control (IAC) Valve.

Turn the throttle blade adjustment setscrew counter clockwise to slow idle speed until the engine barely idles. At this point plug the IAC back in and the engines computer should take over and allow the engine to idle properly.

Reference Pictures of Kit Assembled On Car:



