CAUTION:

Installation of this product requires detailed knowledge of automotive systems and repair procedures. We recommend that this installation be carried out by a qualified automotive technician.

Installation of this product requires handling of gasoline. Ensure you are working in a well ventilated area with an approved fire extinguisher nearby. Extinguish all open flames, prohibit smoking and eliminate all sources of ignition in the area of the vehicle before proceeding with the installation.

When installing this product, wear eye goggles and other safety apparel as needed to protect yourself from debris and sprayed gasoline.

WARNING!

The fuel system is under pressure. Do not open the fuel system until the pressure has been relieved. Refer to the appropriate vehicle service manual for the procedure and precautions for relieving the fuel system pressure.

Aeromotive system components are not legal for sale or use on emission controlled motor vehicles.

Warning – The included Aeromotive fuel pump is not compatible with alcohol based fuels or fuel additives!

The following steps are typical of most installations:

Section 1 - Fuel Tank Installation

Section 2 – Fuel Line Hose End Installation

Section 3 – Electrical Installation

Section 4 – Final Checks and System Start-up

Section 5 – Filter Maintenance
Typical hose end to fitting connection:

Do not connect hose end to cutoff side of union!

Connect hose end to 37-degree flare side of union.

Hose End

Typical o-ring sealed port connection:

O-ring sealed AN style port

O-ring
(Install on union fitting between back of threads and face of hex nut.)

Typically the cutoff side of the union is used as the o-ring sealed side, leaving the 37-degree flare side for your hose end connection. In some cases both sides of the union utilize an o-ring seal.
Section 1 - Fuel Tank Installation:

1-1. Once the engine has been allowed to cool, disconnect the negative battery cable and relieve the fuel system pressure.

1-2. Raise the vehicle and support it with jack stands.

1-3. Referring to the appropriate vehicle service manual for instructions, drain, disconnect any electrical and fuel component connections and remove the OEM fuel tank. The removal of the vehicles exhaust system may be necessary for fuel tank removal.

1-4. Once the OEM fuel tank has been removed, remove the plastic fuel tank shield from the bottom of the tank.

1-5. Measure the position of the sump on the supplied Aeromotive fuel tank and mark the plastic fuel tank shield accordingly. Using a ½” drill bit, drill the four corners of the sump cutout in the plastic fuel tank shield. Using a small hand saw or reciprocating saw, cut out the remaining area from the plastic fuel tank shield. Once you have completed this step your plastic fuel tank shield should look similar to Figure 1-1.

1-6. Position the filter bracket on the side of the plastic fuel tank shield opposite the sump cutout. Center the bracket in all directions on the flat. Using the bracket as a guide, mark the two mounting holes. Insure there are no obstructions behind the plastic fuel tank shield and drill two ¼” mounting holes.

1-7. The fuel filter should be installed such that when the plastic fuel tank shield is installed the fuel filter outlet is on the driver side of the vehicle. Secure the fuel filter to the plastic fuel tank shield by installing each of the two ¼” socket head cap screws thru the bracket holes and the holes drilled in the fuel tank shield. Install each of the two provided flat washers and nuts on the bolts and tighten. Slide the filter into the bracket and tighten the clamping screw.

1-8. Inspect the inside of the plastic fuel tank shield for any sharp edges that could puncture the fuel tank. If any sharp edges are found, correct before proceeding.

1-9. Position the plastic fuel tank shield on the Aeromotive fuel tank.

1-10. Install one of the supplied AN-10 o-rings on each of two AN-10 cutoff fittings and install one fitting in the pump outlet port located on the driver (left) side of the fuel tank sump and the other in the filter inlet.

1-11. Using the two supplied AN-10 hose ends as a guide, measure the length of AN-10 steel braided line needed to connect the fuel pump outlet to the fuel filter inlet.

1-12. Cut and assemble the steel braided hose and hose ends as shown in Section 2.

1-13. Using the above steel braided hose assembly, connect one end to the pump outlet and the other end to the fuel filter inlet and tighten.
1-14. Using any type of household tape, secure the plastic fuel tank shield to the Aeromotive fuel tank along each of the fuel tank strap indentations.

1-15. Carefully flip the fuel tank / plastic fuel tank shield assembly over.

1-16. From the old OEM fuel tank, remove the filler neck rubber grommet, fuel level sender, vent and vent grommet, and wiring harness. Reinstall each of these components in the new Aeromotive fuel tank while inspecting them for any damage. If any of the OEM components are damaged replacement parts are available through your local Ford dealer or auto parts store. See figure 1-2.

1-17. Remove the OEM fuel pick up from the OEM fuel tank, inspect the gasket for any damage. Using the OEM gasket install the Aeromotive provided return pick-up block off plate in the new Aeromotive fuel tank.

1-18. Install the supplied AN-10 o-ring on the AN-10 side of one of the AN-10 cutoff to AN-06 reducer unions and install this fitting in the AN-10 return port on the sump.

1-19. Position the fuel tank under the vehicle, insuring that the retaining rings on the return and fuel level sender are secure. Apply a light weight oil to the filler neck grommet to ease installation.

1-20. In vehicles engine compartment, locate the OEM return line quick disconnect coupler. Disconnect the coupler and install the supplied adapter fitting.

1-21. Starting from the return adapter fitting, plan a route to run an AN-06 return line back to the Aeromotive fuel tank sump return port and measure the required length. Cut the return line to the determined length and install one AN-06 90-degree hose end and one AN-06 straight hose end, as detailed in Section 2.

Note: Be sure to route all fuel lines clear of any moving suspension or drivetrain components and any exhaust components! Protect fuel lines from abrasion and road obstructions or debris.

1-22. Thread the 90-degree hose end side of the AN-06 return line onto the AN-06 return port fitting located on the Aeromotive sump, and tighten.

1-23. As the Aeromotive fuel tank is lifted into position reattach the vent line to the top of the fuel tank and work the filler neck in to the grommet on the side of the fuel tank. Once the Aeromotive fuel tank is in position, align tank straps, ensure that there are not any hoses or wiring pinched and tighten the strap bolts.

1-24. Secure the AN-6 return line along the route you planned out in step 1-21, using the clamps and screws provided. Make any line or electrical adjustments necessary to clear the vehicles exhaust, suspension, and drivetrain components. Secure the free end of the return line to the return adapter fitting in the engine compartment.

1-25. Under the car, just in front of the fuel tank, locate the OEM supply line quick disconnect coupler. Remove the OEM coupler. Apply a light coat of oil to the surface of the supplied adapter fitting and install it, replacing the OEM fitting you just removed.
1-26. Install one of the supplied AN-10 to An-6 adapter fittings, with one of the supplied AN-10 o-rings into the outlet port of the fuel filter. Using the 2 supplied AN-6 hose ends as a guide, cut a length of AN-6 hose to run from the supply adapter fitting to the fuel filter outlet. Cut the hose to length and install the hose ends as described in section 2. Install the hose and tighten the fittings.

Section 2 - Fuel Line Hose End Installation:

**CAUTION:**

When assembling this product, wear eye goggles and other safety apparel as needed to protect yourself from debris and sharp edges.

2-1. Wrap hose with masking tape at desired cutoff length. Cut hose through masking tape squarely to desired length using a cut-off machine or a fine tooth hacksaw. Remove the masking tape.

2-2. Unthread the hose socket from the rest of the hose end fitting.

2-3. Insert hose in the socket with a twisting and pushing motion until the hose is fully seated in the socket.

2-4. Using a grease pencil, marker or tape, mark the location of the hose in relation to the hose socket that you just installed.

2-5. Using a light oil, lubricate the inside of the hose and hose end mating parts.

2-6. Carefully thread the hose end onto the hose socket, making sure that the hose does not push out of socket, by
observing the mark you placed on the hose in step 3-4.

2-7. Using a properly sized wrench, complete threading the two components together (The maximum allowable gap between the two fitting components is .030 inches).

2-8. Inspect the hose for push out by comparing the mark you made on the hose in step D to the hose end socket location.

2-9. Clean all debris from exterior and interior of hose.

2-10. All lines should be tested to twice their operation pressure prior to use.

Section 3 - Electrical Installation:

3-1. Find a suitable place to mount the supplied relay, the relay is typically mounted by the OEM fuel pump wiring connector (Never mount the relay inside of the fuel tank or next to fuel tank vents!). Insure the relay and any associated parts are clear of the exhaust, any moving suspension or drivetrain components and any possible road obstructions or debris.

3-2. Attach the OEM fuel pump wires (These typically are the red and black wires from the OEM wiring harness going to the fuel tank) to relay terminals 85 and 86 using two of the supplied blue female blade connectors (See Figure 5-1 Below).

Note: Be sure to route all electrical wires clear of any moving suspension or drivetrain components, and any exhaust components! Protect wires from abrasion and road obstructions or debris.

3-3. Find a suitable location for mounting the supplied circuit breaker. For optimal circuit protection, the circuit breaker needs to be mounted as close to the battery as possible.

3-4. Connect terminal number 30 on the relay to the circuit breaker by using the supplied red 10 ga. wire, one of the yellow female blade connectors on the relay end of the wire and one of the yellow #10 ring connectors on the circuit breaker side of the wire.

Note: Be sure to route all electrical wires clear of any moving suspension or drivetrain components and any exhaust components! Protect wires from abrasion and road obstructions or debris.

3-5. Connect terminal number 87 on the relay to the positive terminal on the fuel pump. This is accomplished by using the supplied red 10 ga wire, one of the yellow female blade connectors on the relay side of the wire and one of the yellow #10 ring connectors (or appropriate connector for the installation) on the fuel pump side of the wire.

3-6. Connect the negative terminal on the fuel pump to a clean chassis ground using the supplied black 10 ga wire and two yellow #10 ring connectors.

3-7. Connect 12VDC to the circuit breaker using the supplied red wire and one of the yellow #10 ring connectors and the supplied yellow 3/8” ring connector.
3-8. Ensure that electrical components and wires are connected properly (See Figure 5-1) and are clear of any moving suspension or drivetrain components and any exhaust components! Protect wires from abrasion and road obstructions or debris.

![Figure 3-1](image_url)

**Section 4 – Final Checks and System Start-up**

4-1. Ensure that any spilled gasoline and any gasoline soaked shop towels are cleaned up and removed from the vicinity of the vehicle!

4-2. Carefully lower the car onto the ground.

4-3. Fill the fuel tank with gasoline and check for any leaks in the system, if any leaks are found repair immediately.

**CAUTION:** While performing the following steps, if any fuel leaks are detected, immediately turn the ignition of OFF, remove any spilled fuel and repair the leak(s) before proceeding!

4-4. Reconnect the battery and turn the ignition to the ON position **WITHOUT** starting the car. After several seconds, check the fuel pressure. If there is no fuel pressure, turn the ignition key to the OFF position, wait one minute, return the ignition to the ON position, and recheck the fuel pressure. Repeat this ignition OFF and ON procedure until the fuel pressure gauge registers fuel pressure.

4-5. With the fuel pressure gauge registering fuel system pressure, check for fuel leaks throughout the entire fuel system! If any fuel leaks are found, turn the ignition key to the OFF position, remove any spilled fuel and repair the leak before proceeding!

4-6. Once the fuel pressure gauge registers fuel system pressure and there are no fuel leaks, start the engine and adjust the regulator to the desired fuel pressure. Turning the adjustment screw clockwise will increase fuel pressure. OEM regulators are typically set at approximately 43 psi, without the vacuum line attached. The fuel pressure adjustment range for this regulator is 35-80 psi.

4-7. Once the desired fuel pressure is achieved, tighten the regulator adjustment jam nut and attach the vacuum line.

4-8. Test drive the car to insure proper operation and re-check the fuel system for leaks. **If any leaks are found, immediately discontinue use of the vehicle and repair the leak(s)!**
Section 5 – Filter Maintenance

Follow this procedure to check and clean the filter element contained in the fuel sump.

5-1. Raise the vehicle and support it with jack stands. Disconnect the battery ground cable.

CAUTION: While performing the following steps, a small amount of fuel will leak from the sump filter assembly. Extinguish all sources of ignition and prohibit smoking in the area before continuing. Make sure there is an approved fire extinguisher nearby.

5-2. Place a small drain pan underneath the sump. Remove the 8-32 screw and lock washer locking the filter endcap in place.

5-3. Turn the filter endcap counter clockwise until the tabs on the endcap line up with the slots in the filter cover. Pull the endcap out of the filter housing and set aside.

5-4. Grasp the end of the fuel filter element, contained inside of the filter housing, and pull it out. Clean or replace the element as needed.

5-5. Apply a small amount of grease to the o-ring on the inside edge of the filter element. Slide the element into the filter housing until you feel it snap into place.
5-6. Apply a small amount of grease to the o-ring on the filter endcap. Position the endcap over the filter cover, aligning the tabs and slots. Push the endcap into the housing, being careful not to nick or cut the o-ring.

5-7. Rotate the endcap clockwise until it stops. Insert and tighten the 8-32 screw and lock washer that were previously removed.

5-8. Check the sump for any leakage from the filter housing area.