



AEROMOTIVE
Part # 17101 and 17102
93-97 F-Body Fuel System Kit
INSTALLATION INSTRUCTIONS

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.

This kit contains the following parts:

- | | |
|-------------------------------------------|------------------------------------------|
| 1 ea fuel pickup modification kit | 8 ea 1/4" flat washers |
| 2 ea hose clamps | 8 ea 1/4-20 nyloc nuts |
| 2 ea tie wraps | 4 ea rubber vibration dampers |
| 1 ea p/n 15104 adapter fitting | 1 ea p/n 11101 Pump |
| 1 ea p/n AN-10 o-ring | 1 ea p/n 12304 Filter |
| 1 ea 13 inch length 5/16 rubber fuel line | 1 ea p/n 13106 or 13107 regulator |
| 1 ea fuel pump wiring kit | 3 ea p/n AN-10 o-ring |
| 1 ea 3ft length of 10 ga. Black wire | 2 ea p/n 15608 AN-10 cutoff union |
| 1 ea 25ft length of 10 ga. Red wire | 2 ea AN-10 90-degree hose end |
| 1 ea 30 amp circuit breaker | 1 ea 1ft AN-10 Braided Hose |
| 1 ea 30 amp automotive relay | 1 ea p/n 15105 90-degree Adapter fitting |
| 2 ea blue female blade connector | |
| 2 ea yellow female blade connector | |
| 5 ea yellow #10 stud ring connector | |
| 1 ea yellow 3/8" stud ring connector | |

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 pickup modification
- Section 2 - Fuel filter and pump installation
- Section 3 – Fuel line hose end installation
- Section 4 – Electrical Installation
- Section 5 – Regulator Installation
- Section 6 – Final checks and system start-up
Fuel Pump Template

Section 1 - Fuel Tank Pickup Modification:

- 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. Remove the OEM fuel pump assembly from the OEM fuel tank by removing the 5 mounting ring nuts from the top of the fuel tank and carefully pulling upwards on the fuel pump assembly.
- 1-5. On the OEM fuel pump assembly, disconnect the fuel pump outlet line at the quick disconnect fitting located between the brown transparent ribbed tubing and the metal hard line.
- 1-6. Disconnect the fuel return line from the steel hard line. This line is the black rubber line which runs between the steel hard line and the fuel pump canister.
- 1-7. Remove the fuel canister vent line from the fuel canister. This is a black rubber line with a 90 degree molded bend on one end of it. Save this line, as it will be used in step 13 as the new return line.
- 1-8. Remove the OEM fuel pump canister and fuel pump from the fuel pickup assembly. Figure 1 shows how your pickup should look once this step has been completed.

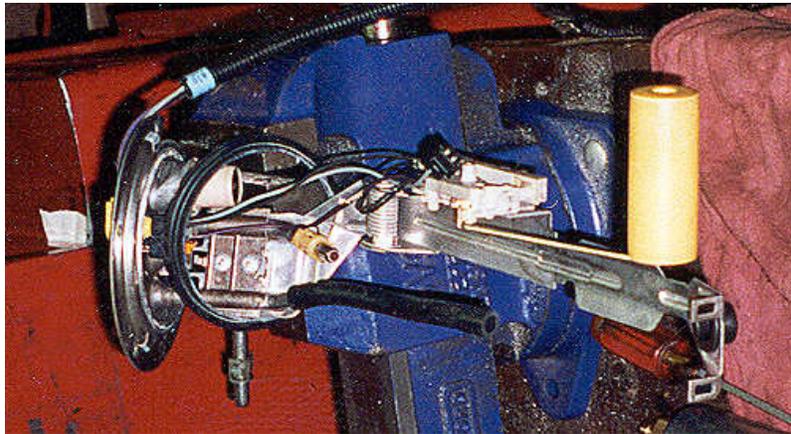


Figure 1

- 1-9. Remove the plastic retainer from the supply steel line, this was part of the supply line quick disconnect assembly, see figure 2.



Figure 2

- 1-10. Using a small metal cutting saw, remove approx. $\frac{1}{4}$ " from the end of the steel supply line pictured in figure 2. Remove any burrs or sharp edges created from cutting the steel supply line. Removing this swaged end will provide a less restrictive fuel pickup.
- 1-11. Cut one end of the supplied 13-inch length fuel line at a 45 degree angle.
- 1-12. Place the uncut end of the 13-inch length of rubber fuel line on to the steel supply line. Push the rubber fuel line over the beaded area on the steel supply line and clamp in place using one of the supplied hose clamps, see figure 3.

- 1-13. Using the old fuel pump canister vent line which was removed earlier, this is the black rubber line with a molded 90 degree bend on one end, slide the straight end of this hose on the steel return line and clamp in place using one of the supplied hose clamps. See figure 3 for details.
- 1-14. Using one of the supplied tie wraps secure the two rubber fuel lines together as shown in figure 3.

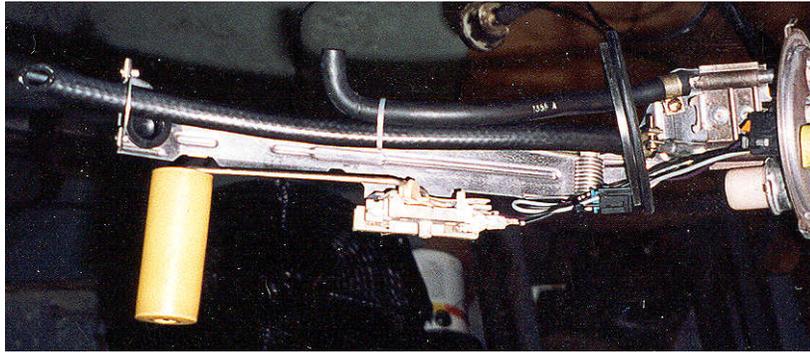


Figure 3

- 1-15. The bottom of the pickup will vary from year to year, if the bottom of your pickup has a round approx. 1" diameter hole in it, run the 13-inch length of fuel line through it. If the bottom of your pickup looks like figure 4, using one of the supplied tie wraps, loop the tie wrap through the two square outer holes trapping the bottom of the 13-inch length of fuel line between the tie wrap and the steel pickup.



Figure 4

- 1-16. Insure that the old fuel pump wiring is secure and does not interfere with any of the fuel pickup moving parts or the fuel level sender.
- 1-17. Once the fuel pick up is clean and free from debris trial fit the modified fuel pick up in the tank, making sure the angle cut on the fuel pickup is facing in the upwards direction. Once the fuel pickup is in position insure that the fuel pickup line is not too long and resting on the bottom of the fuel tank. If you fuel pickup line is too long, trim to the desired length.
- 1-18. Inspect the rubber gasket that was installed between the fuel tank and the fuel line pickup, replace this gasket if it is cracked, torn or damaged.
- 1-19. Place the rubber gasket on the pickup and position the pickup in the fuel tank. Place the round fuel pickup retainer on top of the fuel pickup and tighten down each of the securing nuts.
- 1-20. Referring to the appropriate vehicle service manual for instructions, reinstall the fuel tank and all other components that were removed during the fuel tank removal process.
- 1-21. Locate the OEM Fuel Filter, it is typically located underneath the vehicle in the area of the driver side rear seat. Remove the quick disconnect fitting from the inlet side of the filter. Carefully remove the plastic retainer left on the inlet side of the fuel filter and place the retainer on the supplied adapter fitting. Apply a thin coating of light oil on the adapter fitting and slide the adapter fitting into the quick disconnect fitting which was removed from the OEM fuel filter.
- 1-22. Place the supplied o-ring on the adapter fitting AN-10 side if not already installed.

Section 2 - Fuel Filter and Pump Installation:

- 2-1. In most applications the fuel pump will be mounted as shown in figure 8. To correctly locate the fuel pump mounting position, line up the pump outlet with the OEM fuel supply line using the 90-degree adapter fitting as a guide. Mark the four mounting holes with the pump in place or using the supplied pump template as a guide. Insure there is nothing above the area you are about to drill into and drill four ¼" holes.
- 2-2. Place each of the supplied rubber isolators through each of the ¼" holes, place the supplied washer and nut on the stud and tighten.
- 2-3. Install one of the supplied o-rings on the cutoff side of the AN-10 cutoff union fitting, if not already installed, and install on the inlet side of the pump as shown in figure 5.
- 2-4. Install one of the supplied o-rings on the AN-10 side of the 90-degree adapter fitting, if not already installed, and install the adapter on the outlet side of the pump as shown in figure 5.

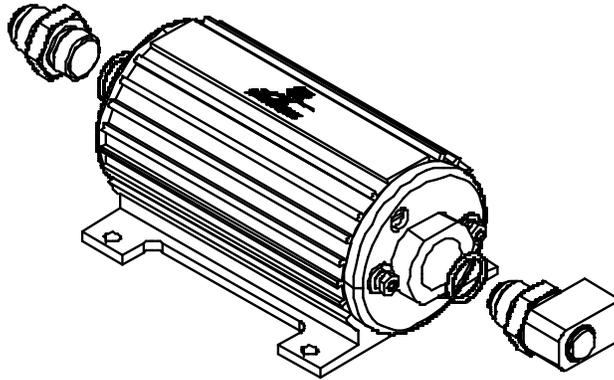


Figure 5

- 2-5. Position the pump on the rubber isolators installed earlier and secure in place using the supplied washers and nuts, as shown in figure 6.

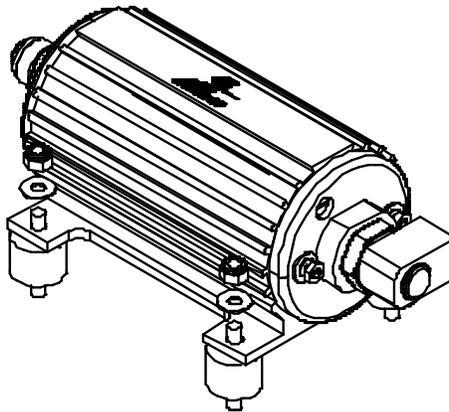


Figure 6

- 2-6. Inspect the o-ring on the OEM supply line and replace if damaged. Thread the OEM supply line into the 90-degree adapter fitting and tighten as shown in figure 7.

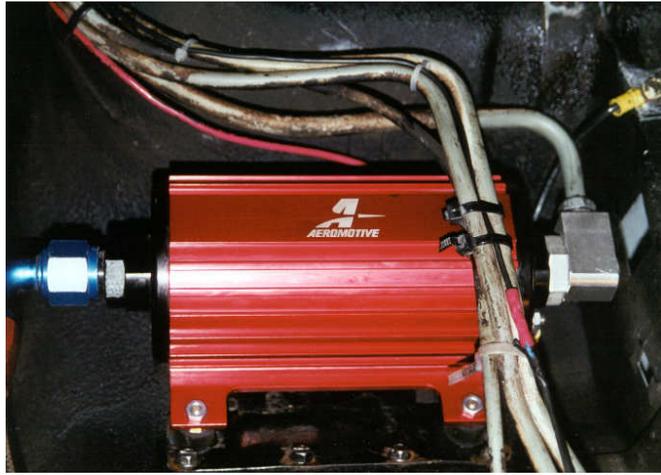


Figure 7

- 2-7. Locate the fuel supply line from the fuel tank that you attached the AN-10 adapter fitting (step 1-21). Insure there is an o-ring installed on the AN-10 fitting side of the adapter. Thread the fuel filter inlet onto this fitting.
- 2-8. Install one of the supplied o-rings on the cutoff side of a AN-10 cutoff union fitting, if not already installed, and install on the outlet side of the fuel filter.
- 2-9. Position the fuel filter in the desired location, typically it will need to be located as shown in figure 8.
- 2-10. With the fuel filter in its desired position measure the amount of braided hose needed to connect the fuel filter to the fuel pump, using the two supplied 90-degree AN-10 hose ends as a guide.
- 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.**
- 2-11. Install the hose ends on the braided hose as shown in Section 3.
- 2-12. With the completed hose, connect the fuel filter to the fuel pump. Your fuel pump plumbing should now look similar to figure 8.

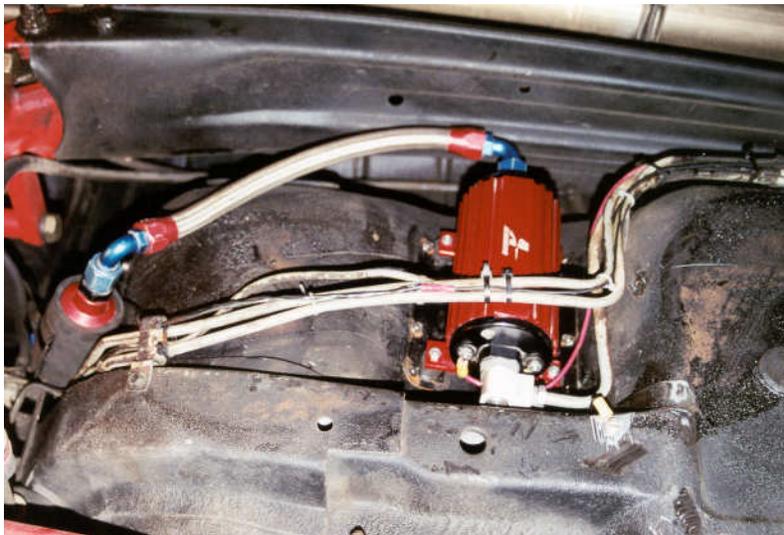


Figure 8

Section 3 - 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.

3-1. 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.

3-2. Unthread the hose socket from the rest of the hose end fitting.



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



3-4. Using a grease pencil, marker or tape, mark the location of the hose in relation to the hose socket that you just installed.

3-5. Using a light oil, lubricate the inside of the hose and hose end mating parts.

3-6. 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.



3-7. Using a properly sized wrench, complete threading the two components together (The maximum allowable gap between the two fitting components is .030 inches).



3-8. Inspect the hose for push out by comparing the mark you made on the hose in step D to the hose end socket location.

3-9. Clean all debris from exterior and interior of hose.

3-10. All lines should be tested to twice their operation pressure prior to use.

Section 4 - Electrical Installation:

- 4-1. 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.
- 4-2. Attach the OEM fuel pump wires (These typically are the gray wire from the wiring harness going to the fuel tank and a clean ground) to relay terminals 85 and 86 using two of the supplied blue female blade connectors (See Figure 9 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.

- 4-3. 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.
- 4-4. 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.

- 4-5. 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.
- 4-6. 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.
- 4-7. 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.
- 4-8. Ensure that electrical components and wires are connected properly (See Figure 9) and are clear of any moving suspension or drivetrain components and any exhaust components! Protect wires from abrasion and road obstructions or debris.

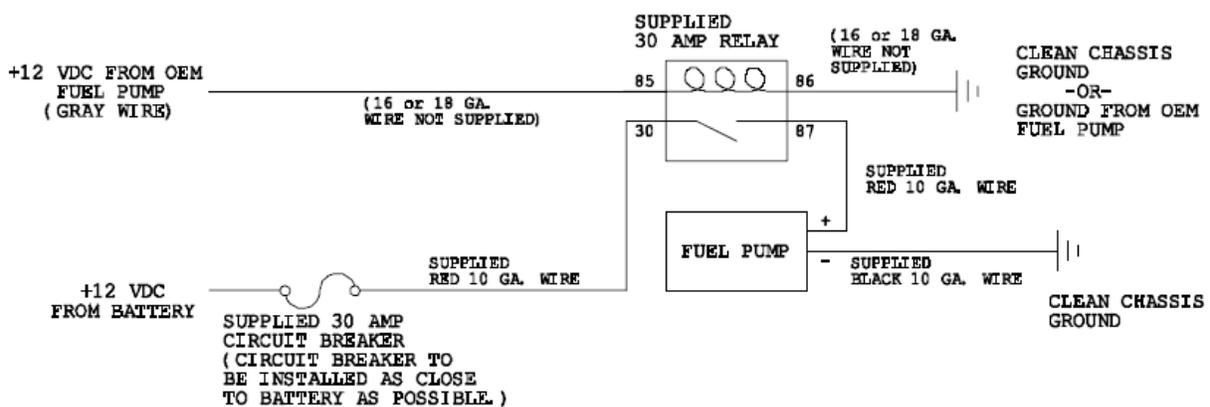
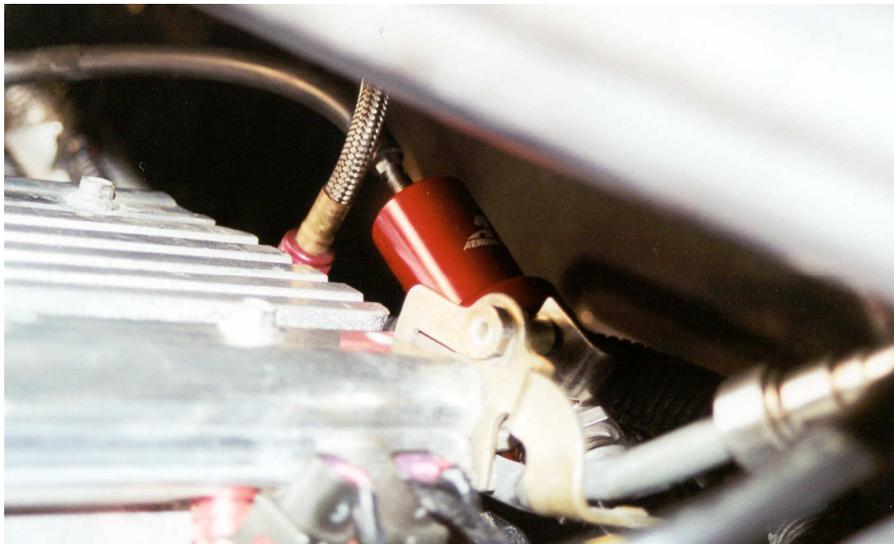


Figure 9

Section 5 – Regulator Installation:

- 5-1. Remove any cosmetic covers necessary to allow access to the fuel pressure regulator. On most models, the regulator is located on the fuel crossover tube between the fuel rails or on the passenger side fuel rail. Some models require removal of the fuel rail(s) to install this product. If your vehicle requires removal of the fuel rail(s), refer to the appropriate vehicle service manual for the procedure for doing so.
- 5-2. Remove the vacuum line from the top of the regulator.
- 5-3. Place shop towels around the regulator to catch any gasoline that is spilled during this step of the installation. Remove the regulator mounting bolt and carefully remove the regulator from the fuel rail.
- 5-4. Remove the clip at the base of the regulator holding the return line in place and remove the regulator from the car.
- 5-5. Apply light oil to the o-rings supplied in the Aeromotive package. Replace the o-ring on the fuel return line with the Aeromotive supplied o-ring.
- 5-6. Install the new Aeromotive regulator using the reverse of the foregoing removal procedure.
- 5-7. Once the regulator is installed, attach a suitable fuel pressure gauge to the fuel system schrader valve.
- 5-8. Ensure that any spilled gasoline and any gasoline soaked shop towels are cleaned up and removed from the vicinity of the vehicle!**



Section 6 – Final Checks and System Start-up

6-1. **Ensure that any spilled gasoline and any gasoline soaked shop towels are cleaned up and removed from the vicinity of the vehicle!**

6-2. Carefully lower the car onto the ground.

6-3. 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!

6-4. 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.

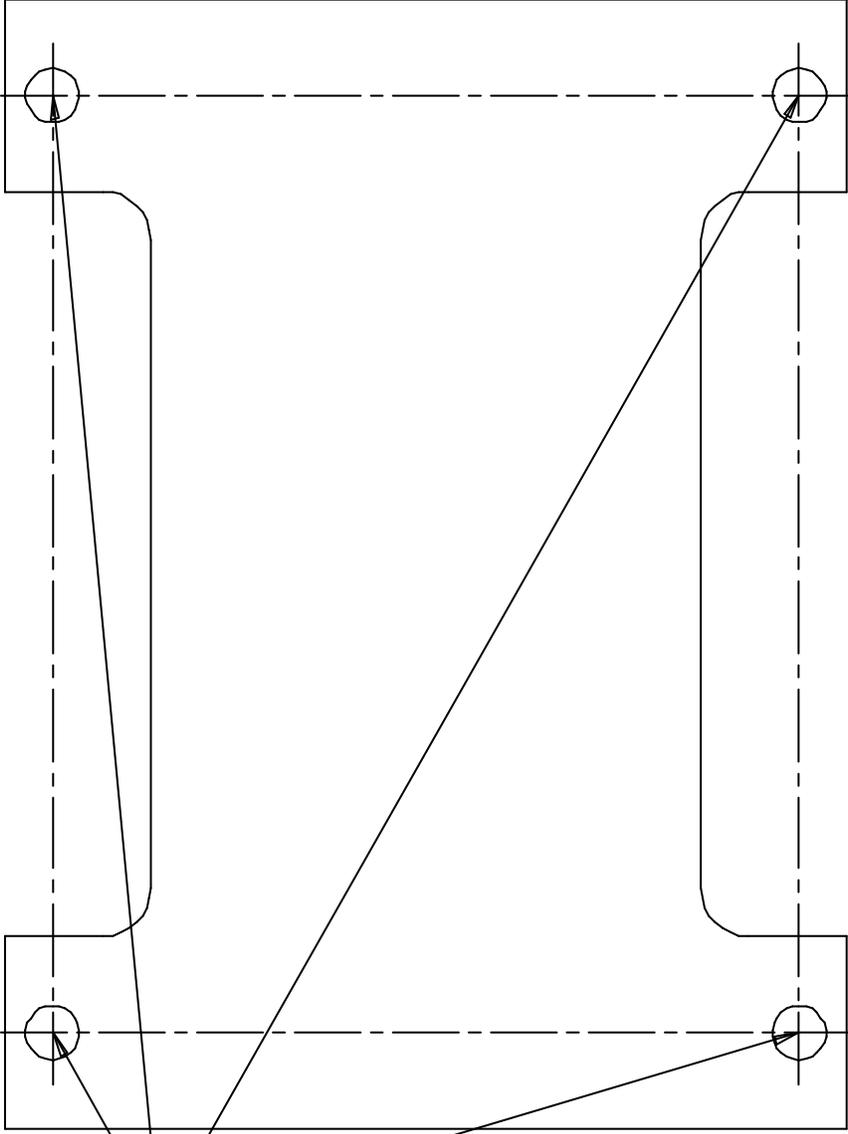
6-5. With the fuel pressure gauge registering fuel system pressure, check for fuel leaks throughout the entire fuel system! If any fuel leaks are found, turn the ignition key to the OFF position, remove any spilled fuel and repair the leak before proceeding!

6-6. 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.

6-7. Once the desired fuel pressure is achieved, tighten the regulator adjustment jam nut and attach the vacuum line.

6-8. Remove the fuel pressure gauge and replace the cover on the schrader valve.

6-9. 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)!



**DRILL 4 HOLES TO
ACCEPT 1/4" BOLTS**



WARNING: This product can expose you to chemicals, including chromium, which is known to the State of California to cause cancer or birth defects or other reproductive harm. For more information, visit: www.p65Warnings.ca.gov

AEROMOTIVE, INC. LIMITED WARRANTY

This Aeromotive Product, with proof of purchase dated on or after January 1, 2003, is warranted to be free from defects in materials and workmanship for a period of one year from the original date of purchase. No warranty claim will be valid without authentic, dated proof of purchase.

This warranty is to the original retail purchaser and none other and is available directly from Aeromotive and not through any point of distribution or purchase.

If a defect is suspected, the retail purchaser must contact Aeromotive directly to discuss the problem, possible solutions and obtain a Return Goods Authorization (RGA), if deemed necessary by the company. Please call 913-647-7300 and dial option 3 for the technical service dept. All returns must be shipped freight pre-paid to the company and with valid RGA before they will be processed.

Aeromotive will examine any product returned with the proper authorization to determine if the failure resulted from a defect or from abuse, improper installation, misapplication or alteration. Aeromotive will then, at it's sole discretion, return, repair or replace the product.

If any Aeromotive product is determined defective, buyer's exclusive remedy is limited in value to the sale price of the good. In no event shall Aeromotive be liable for incidental or consequential damages.

Aeromotive expressly retains the right to make changes and improvements in any product it manufactures and sells at any time. These changes and improvements may be made without notice at any time and without any obligation to change the catalogs or printed materials.

Aeromotive expressly retains the right to discontinue at any time and without notice any Aeromotive product that it manufactures or sells.

This warranty is limited and expressly limits any implied warranty to one year from the date of the original retail purchase on all Aeromotive products.

No person, party or corporate entity other than Aeromotive shall have the right to: determine whether or not this Limited Warranty is applicable to any Aeromotive product, authorize any action whatsoever under the terms and conditions of this Limited Warranty, assume any obligation or liability of any nature whatsoever on behalf of Aeromotive under the terms and conditions of this Limited Warranty.

This Limited Warranty covers only the product itself and not the cost of installation or removal.

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