



ELECTRIC IN-TANK FUEL PUMP REPLACEMENT INSTRUCTIONS

PRECAUTIONS FOR FUEL SYSTEM SERVICE

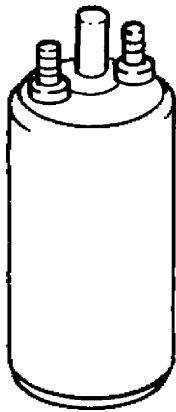
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TO REDUCE THE RISK OF FIRE AND PERSONAL INJURY IT IS NECESSARY TO OBSERVE THE FOLLOWING PRECAUTIONS:

- Perform this repair **ONLY** in a properly equipped service facility.
- Position the vehicle in a clear, level, well ventilated work area.
- Make sure there are no sources of spark or combustion near the work area.
- Perform work in a no-smoking area, or post no-smoking signs in the area selected.
- Have readily available a fully functional Class B fire extinguisher of adequate size (such as a 5 pound CO-2 as a minimum).
- Disconnect the ground cable from the vehicle's battery before performing any operation involving gasoline, gasoline tanks or gasoline lines.
- Allow the vehicle to cool before performing any operation which could possibly expose gasoline or gasoline vapors to hot parts such as catalytic converters, hot light bulbs, or similar components.

- Avoid using extension cords or lights which might overheat or cause sparks.
- Avoid inhaling gasoline fumes and prolonged skin contact with gasoline. Promptly wash any body areas which have been in contact with gasoline.
- Wear approved safety glasses while performing any repairs.
- When raising the vehicle to perform under-vehicle services, use proper hoisting or jacking equipment along with approved safety supports.
- When removing the gasoline from a fuel tank use an OSHA approved pump which is specifically designed for handling gasoline. **DO NOT USE** any other type of pump. Gasoline removed from a fuel tank must be stored in approved gasoline containers.

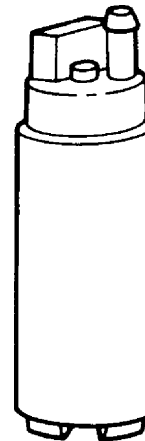
It is impossible to anticipate all possible risks and conditions under which repairs may be made to a fuel system. Therefore, in addition to the safety concerns listed you are urged to carefully evaluate the hazards involved in such a service procedure and take whatever further precautions that may be necessary.



OLD FUEL PUMP



OLD FUEL
PUMP ISOLATOR



NEW FUEL PUMP



NEW FUEL
PUMP ISOLATOR

NOTE: THIS REPLACEMENT PUMP MAY BE A DIFFERENT DIAMETER THAN THE PUMP IN YOUR **VEHICLE**. **BE ASSURED IT WILL OPERATE YOUR VEHICLE AS WELL AS THE ORIGINAL PUMP.** IN ORDER FOR THE PUMP TO FIT IN THE FUEL PUMP BRACKET CORRECTLY, USE ALL THE PARTS CONTAINED IN THE INSTALLATION KIT. DO NOT RE-USE FUEL PUMP ISOLATORS UNLESS THE INSTALLATION KIT DOES NOT CONTAIN ONE.

WARNING: This rotary fuel injection pump **WILL NOT** work on carbureted fuel systems. It is for electronic fuel injection only.

CAUTION: Read these instructions thoroughly from start to finish before attempting to replace the fuel pump.

MINIMUM TOOL REQUIREMENTS

- Hoist or end lift jack
- OSHA approved safety stands
- OSHA approved fuel transfer pump
- OSHA approved fuel storage containers
- Variety of mechanics hand tools

FUEL PUMP REPLACEMENT INSTRUCTIONS

NOTE: The words "pump bracket" used throughout these instructions mean fuel pump mounting bracket and fuel level sender assembly.

I PREPARATIONS

A) Relieve fuel system pressure (This procedure is necessary since the fuel system can retain gasoline under pressure for a considerable period of time. Opening a pressurized line could spray fuel creating a risk of fire and/or personal injury.)

- 1) Start the engine.
- 2) Remove the fuel pump relay allowing the engine to run until it quits. When the engine quits, the fuel system pressure has been relieved.

Turn the ignition switch off.

- 3) Remove the battery ground (-) cable for safety.
- 4) Reinstall the fuel pump relay.

II LOCATE FUEL PUMP BRACKET IN FUEL TANK

A) Some vehicles will require raising the vehicle to remove the fuel tank. Some vehicles will require removal of the rear seat, an access panel, and possibly the trunk liner in order to get to the fuel pump bracket. Refer to vehicle service manuals for specific instructions.

III DISCONNECT ELECTRICAL CONNECTIONS

If not done previously, disconnect electrical connections from the pump bracket.



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IV DISCONNECT FUEL LINE CONNECTIONS

CAUTION: Fuel lines may still be under slight pressure. Place a rag or shop towel around the fuel line connection to avoid excess fuel spillage.

V REMOVE PUMP BRACKET FROM FUEL TANK

Depending on the vehicle, either rotate a locking ring retainer (if metal use a method which will not cause sparks and a possible explosion, such as a brass drift) or loosen nuts or bolts, so that the bracket can be removed from the tank.

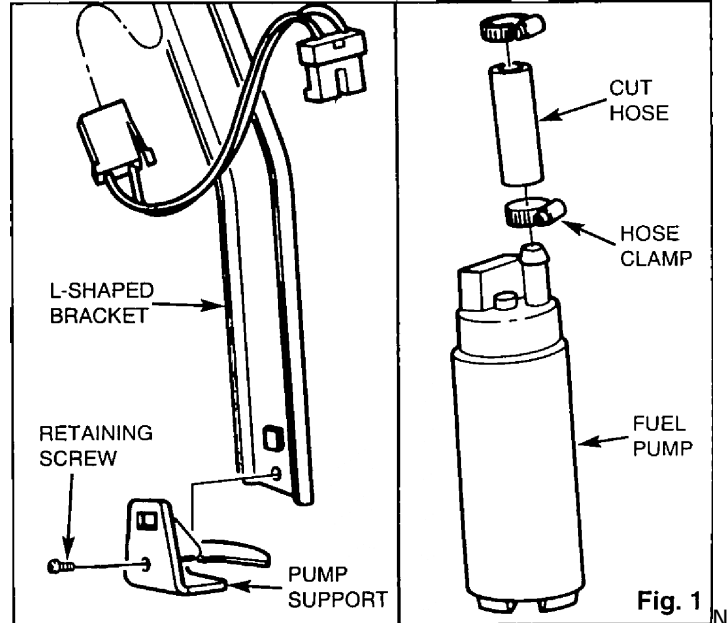
NOTE: Review markings on the pump in the bracket for + and - electrical connections. Mark the wires + or - at this time so that the proper polarity is maintained for the new **pump**.

VI DISCONNECT FUEL PUMP BRACKET ELECTRICAL CONNECTIONS FROM THE PUMP

This may be a snap fit plug type connector or it may be ring terminals attached to the pump with screws and nuts.

VII REMOVE PUMP FROM BRACKET

Many vehicle fuel pump brackets have a L-shaped bracket that is attached to the main bracket with a screw and a lockwasher. Loosening the screw and removing the L-shaped bracket allows an easier method of removing the hose from the pump and the pump from the bracket. If there is not an L-shaped bracket, cut the hose, remove the clamps, hose pieces and fuel pump from the larger bracket and discard.



OTE: Failure to use a new filter on the fuel pump inlet will likely result in premature pump failure and will void the pump warranty.



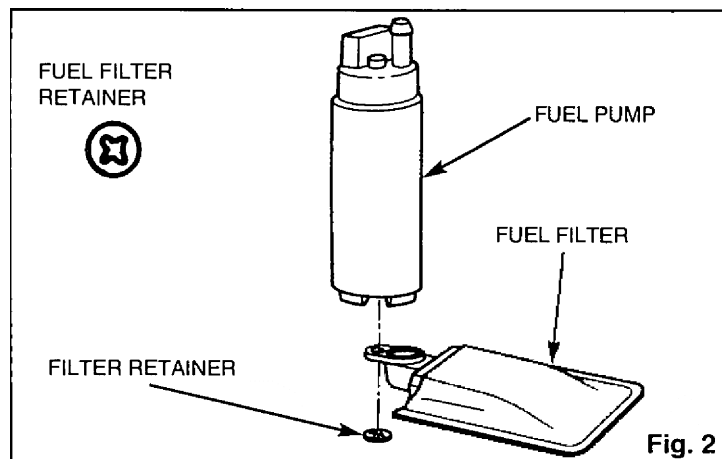
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VIII FILTER INSTALLATION

Install the new filter on the new pump inlet. Secure the filter to the pump by pressing the retainer onto the center post of the pump. (See Fig. 2)

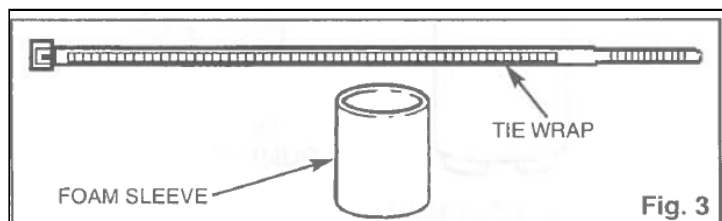
In some applications the filter **will be secured** to the pump after the pump is **placed on the isolator** in the fuel pump bracket.



IX INSTALL PUMP IN BRACKET

A) FOAM SLEEVE AND TIE WRAP

Some installation kits will contain a foam sleeve and a tie wrap. Place the sleeve over the pump and using the new pump and new or existing fuel pump isolator, test fit the pump in the bracket so that there is a minimum of 1/8" gap between the outlet tube of the pump and the bracket tube. If needed cut the hose to the proper length. Place the hose on the pump outlet tube. Place both clamps over the hose. Slide the hose onto the bracket tube and the pump and isolator assembly into the bracket. Tighten one clamp over the pump outlet tube and one over the bracket tube. Tighten the tie wrap around the pump as it sits in the bracket. It is preferred to place the tie wrap close to the bottom of the pump in order to best keep the pump secure in the bracket. (See Fig. 3)



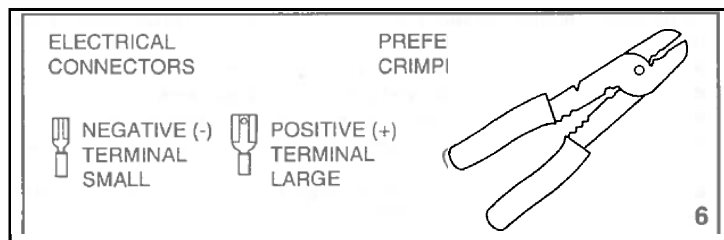
XI ELECTRICAL CONNECTIONS

A) RE-USE EXISTING CONNECTOR

Some pumps can use the existing electrical connections.

B) CRIMP ON NEW TERMINALS

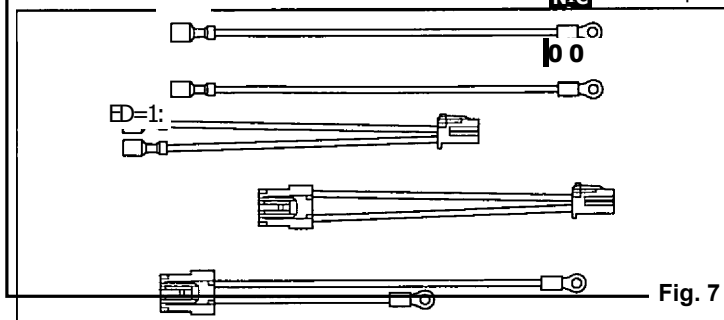
Some pumps will require cutting the wires near the existing connector or



terminals, and stripping 1/4" of insulation from the wires, then crimp on new terminals using the recommended tool shown in Fig. 6. If there is a protective rubber boot over the terminals it can be removed and discarded.

C) NEW WIRE ASSEMBLIES

Some pumps will have new wire assemblies provided in the installation kit. Note the **terminal** **on these assemblies and on the new pump**



to determine + and - **polarity connections to the bracket**. Some pumps will have protective rubber boots over the terminals. Remove the rubber boot, the nuts, and/or screws, that attach the existing wires to the bracket. Discard the rubber boots and wire assemblies. Use the screws or nuts to attach the new wire assemblies to the bracket.

13) BUTT SPlice NEW WIRING ASSEMBLY

Some pumps will require removal of a protective rubber boot over the terminals, cutting the wires near the existing connector or terminals, and stripping 1/4" of insulation from the wires. Using the recommended tool shown in Fig. 6, crimp the butt splices to the bracket wires and to the new

service manuals for information on clearing any resultant error codes.



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X L-SHAPED BRACKET

A). Using the new pump and new or existing isolator, test fit the pump and isolator assembly in the fuel pump bracket so that there is a minimum 1/8" gap between the outlet tube of the pump and the bracket tube. If needed cut the hose to the proper length. Place the hose on the pump outlet tube. Place both clamps over the hose. Slide the hose onto the bracket tube. Attach the L-shaped bracket to the main bracket. Adjust the pump in the bracket so that the tab of the isolator matches the hole in the L-shaped bracket. Tighten one clamp over the pump outlet tube and one over the bracket tube. If required tighten the tie wrap around the pump as it sits in the bracket. It is preferred to place the tie wrap close to the bottom of the pump in order to best keep the pump secure in the bracket. (See Fig. 4)

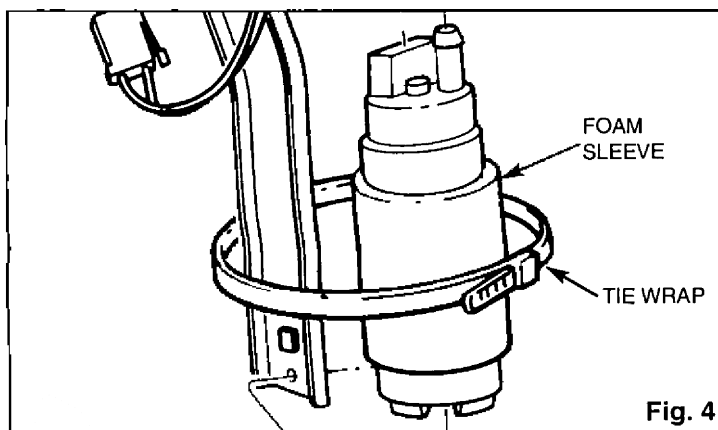


Fig. 4

B) For some vehicles the pump outlet is sealed with an o-ring inside a tube welded to the pump bracket. Pull the pump out of the tube. Remove the cap, o-ring and spacer from the pump. (See Fig. 5) **Keep** the spacer. Place the spacer on the outlet fitting of the new pump. Then the new o-ring and cap from the installation kit. Slide the pump outlet into the bracket tube. Using the new or existing fuel pump isolator, slide the pump and isolator assembly into the bracket and securely tighten the screw that attaches the L-shaped bracket to the pump bracket, or fit the isolator tabs into the matching openings on the pump bracket.

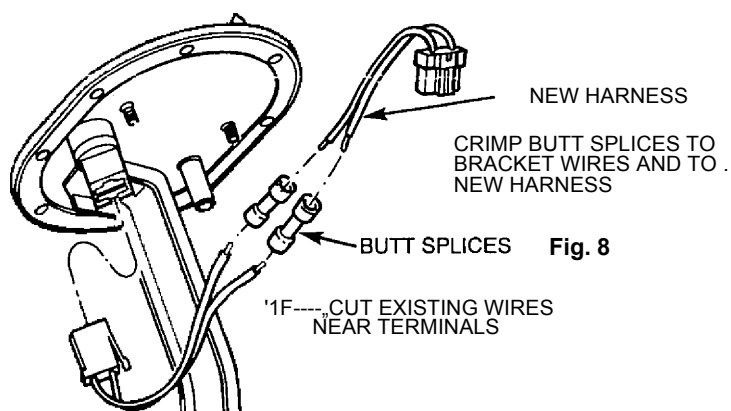


Fig. 8

wiring assembly, making sure proper polarity is maintained. Snap the electrical connector into the pump.

Make sure proper polarity is maintained! If polarity is **reversed** the pump will run backwards and will not pump!

XII REINSTALL FUEL PUMP BRACKET IN TANK

Using the new or existing tank seal, place the pump and bracket assembly into the fuel tank. Tighten the lock ring or tighten the existing nuts to seal the bracket into the tank.

XIII INSTALL FUEL TANK IN VEHICLE

Install the fuel tank in the vehicle. Connect the electrical connections and the fuel lines to the proper locations on the fuel pump bracket.

XIII CHECK INSTALLATION

Start the vehicle and check for leaks. Refer to the vehicle service manuals for information on clearing any resultant error codes.



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TROUBLE SHOOTING

Should the fuel pump fail to operate:

Check the fuel pump fuse and fuel pump relay as outlined in the service manual.

If the fuel pump has power and proper polarity, check the remainder of the fuel system as outlined in the service manual.

NOTE: This fuel

pump will not **remedy malfunctions** of
the fuel pressure regulator, fuel injector(s), or
other fuel system compo

