FUEL INJECTION FUEL PUMP TANK UNIT REPLACEMENT INSTRUCTIONS
PRECAUTIONS FOR FUEL SYSTEM SERVICE

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 of your 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.

Precautionary Statement

This pump is used in modified vehicles ONLY, and to be installed by an automotive service professional. Vehicles in which this pump is to be installed should have the following upgrade performed prior to pump installation;

- Upgraded fuel pressure regulator
- Larger fuel supply and return lines
- 14 gauge or larger pump wiring
- Minimum 15 amp fuse

Failure to follow the above noted requirements while using this pump in a stock factory fuel system will cause severe drivability issue and could lead to damage of the vehicles fuel system.

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.

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 an 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.

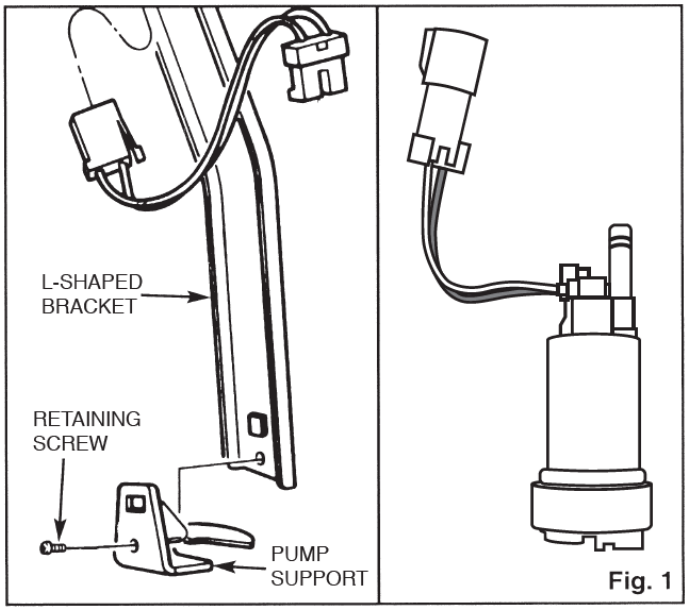


Fig. 1

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

VIII FILTER INSTALLATION

Replace hose on pump to module, (due to different applications hose is not supplied).

Secure both hose ends with clamps. Locate pump in module bracket.
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.

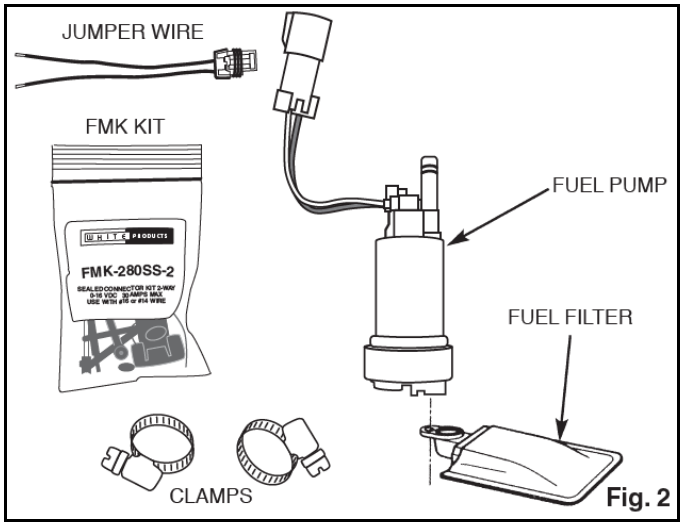


Fig. 2

IX INSTALL PUMP IN BRACKET

X ELECTRICAL CONNECTIONS

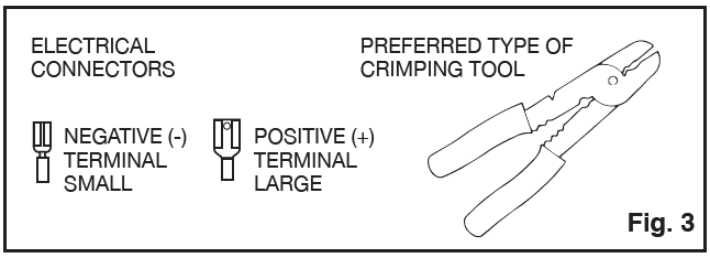


Fig. 3

***Flex Fuel Applications options for electrical connections**

A) REUSE EXISTING CONNECTOR

Some pumps can use the existing electrical connections to connect pump to module.

B) NEW WIRE ASSEMBLIES

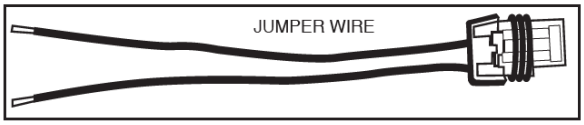
Some pumps will have new wire assemblies provided in the installation kit. Note the terminals on these assemblies and on the new pump to determine + and - polarity connections to the bracket.

If a longer wire is needed a jumper wire is provided.

To be FFV compatible a sealed wire termination must be used. A Weather Pac seal kit is included, part# FMK-280SS-2. This will terminate the jumper wire or you may cut off wire connections on the Pump and the leads from the module to connect the pump to module with weather pack connectors.

Weather pack seal kit installation:

1. Cut wire to desired length

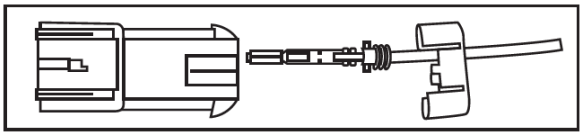


2. Select the correct sized seal and slip this over the insulation. This should fit snugly. Two different sizes of grommets are provided, but only 1 set will be used.

3. Strip the wire about 3/16”.

4. Use a high quality weather pack crimping tool this is important to ensure a good crimp.

5. Slip the already stripped wire and seal into the terminal. Note that there are male and female terminals. Male terminals will plug into female plastic connector housing. Female terminals will plug into male plastic connector housing. The small portion of the seal should be inside the tangs of the terminal. Once crimped the tangs retain the seal.



6. Crimp terminals onto wire and seal.

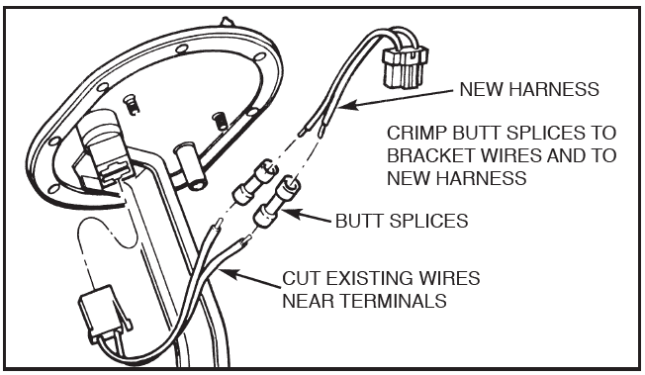
7. Insert terminals into corresponding connector housings. Ensure grommets are fully seated into the connector housing.

8. Place blue retaining lock on to the back side of the connector housing.

9. Repeat steps for mating connector.

****Gas Applicatons options for electrical connections**

C) 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 strip-ping 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 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!

XI REINSTALL FUEL PUMP BRACKET IN TANK
Using the new or existing tank seal, place the pump and bracket assembly into the duel tank. Tighten the lock ring or tighten the existing nuts to seal "the bracket into the tank.

XII 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.

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 components.

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