

# **INSTALLATION INSTRUCTIONS**

## **Mallory Fuel Series 250 Electric Fuel Pump PN 5250, PN5250A**

Parts Included in this kit:  
1 - COMP PUMP® Series 250 Electric Fuel Pump  
3 - Fittings, 3/4" - 16 x #8 AN Flare  
3 - O-rings, Nitrile 0.644ID x 0.087 thickness

**Note:** DO NOT OPERATE THIS PUMP WITHOUT FUEL EXCEPT FOR BRIEF PERIODS WHILE PRIMING

### **SPECIFICATIONS**

**Maximum recommended operating pressure:** 20 PSI (factory set at approximately 15 PSI) Maximum dry suction lift: 3 feet. This is maximum distance above the fuel level in the fuel tank that the fuel pump will prime itself.

**Oil pressure switch rating:** 15 AMP

**Fuel pump over current protection:** 15 AMP fuse

**Fuel application:** Part No. 5250, Gasoline; Part No. 5250A, Alcohol / Methanol

### **GENERAL INFORMATION**

The Mallory Fuel 250 Series Electric Fuel Pump is a high volume fuel pump designed for serious racing applications. The pump is factory set to approximately 15 PSI. In all cases, this fuel pump must be used with a fuel pressure regulator. We recommend the following:

#### **Standard Regulator**

Mallory 4 Port Regulator      PN 4200 (gasoline)  
   PN 4201 (alcohol)

#### **Return Style Regulator**

Mallory 5 Port Regulator      PN 4300M (gasoline)  
   PN 4301M (alcohol)

This fuel system must have a fuel return line going to the fuel tank. We recommend at minimum a #8 AN (1/2") line.

If you use a standard fuel pressure regulator, not a return style, run the fuel return line from the fuel pump's fuel return port. Use the 3/4"-16 thread x #8 AN flare fitting provided to connect your #8 AN line. If you use a return style fuel pressure regulator, run a #10 AN fuel return line from the fuel pressure regulator's fuel return port and install a 3/4"-16 thread plug and o-ring in the fuel pump's fuel return port. You can find a 3/4"-16 thread plug at most hardware stores. Do not try to adjust the bypass adjustment - pump damage may result.

Be sure to install a suitable fuel filter (maximum 100 micron) between the fuel tank and the fuel pump. Mallory Fuel Series Part Nos. 3140 or 3500 are recommended. This prevents debris from becoming wedged in the fuel pump's Gerotor and locking it. An additional filter(s) (maximum 40 micron) should be installed just before the carb(s).

## MOUNTING PROCEDURE

### Step 1

Mount the pump as close as possible to the fuel tank in a well ventilated area with minimal exposure to road debris. Avoid exposing the pump and fuel lines to moving parts and hot surfaces, such as the exhaust system.

The pump should be mounted at tank level or below.

**Note:** Increasing distance between pump and tank will decrease pump efficiency.

### Step 2

Using the pump mounting bracket as a template, locate mounting holes on a solid member, such as the vehicle chassis. Drill clearance holes for 5/16" bolts.

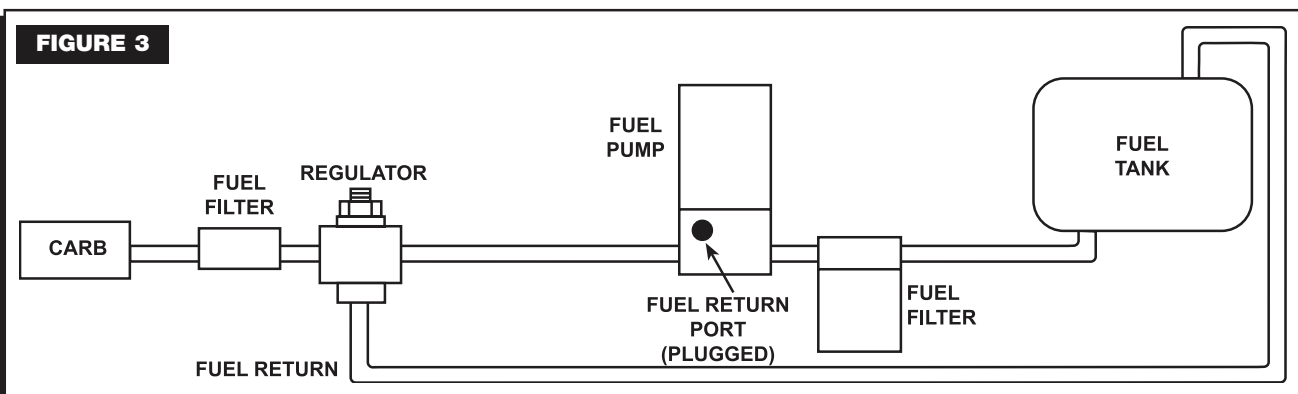
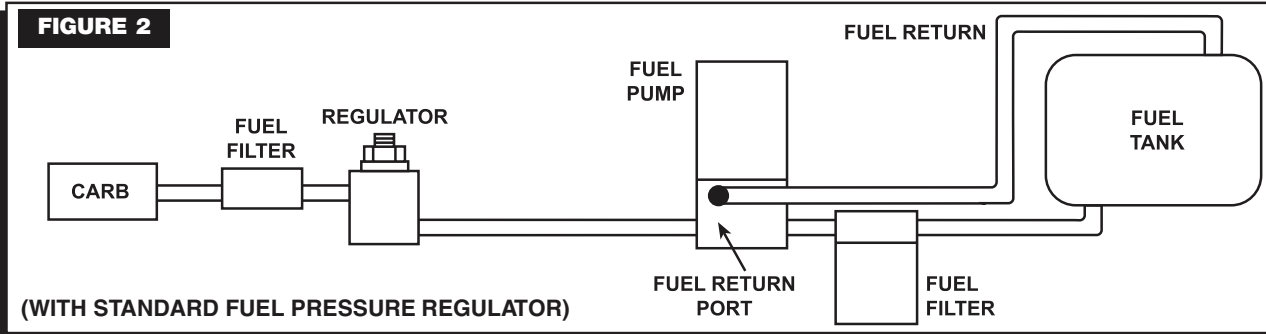
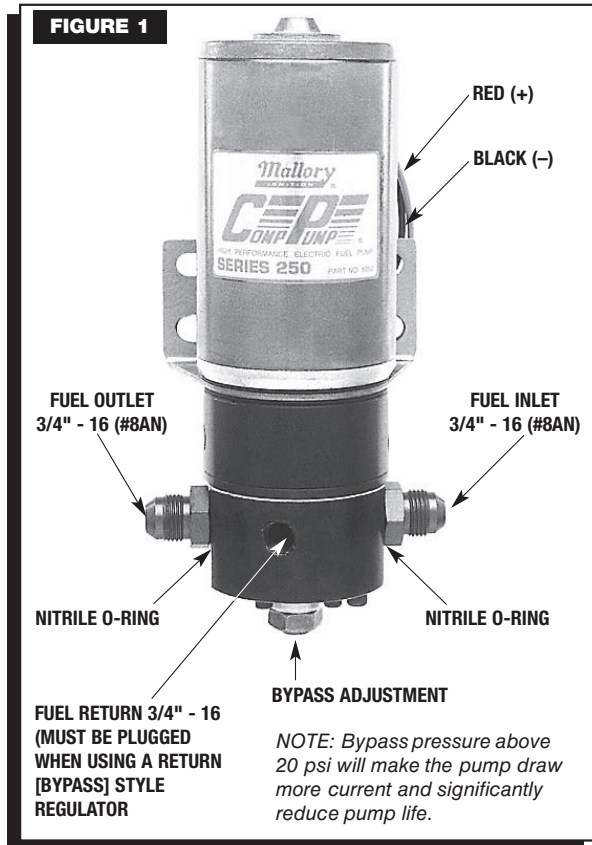
**Note:** To ensure against a potential fire hazard from pump flooding, mount the pump in a vertical position with the motor on top (Figure 1).

### Step 3

To prolong pump life and efficiency, a high volume fuel filter such as the Mallory Fuel Filter Series 500 Fuel Filter (Part No. 3500) must be installed between the pump and fuel tank. Connect #8 AN fuel lines as shown in Figure 2 for Standard Regulator or #10 AN lines as shown in Figure 3 for Return (Bypass) Style Regulator.

### Step 4

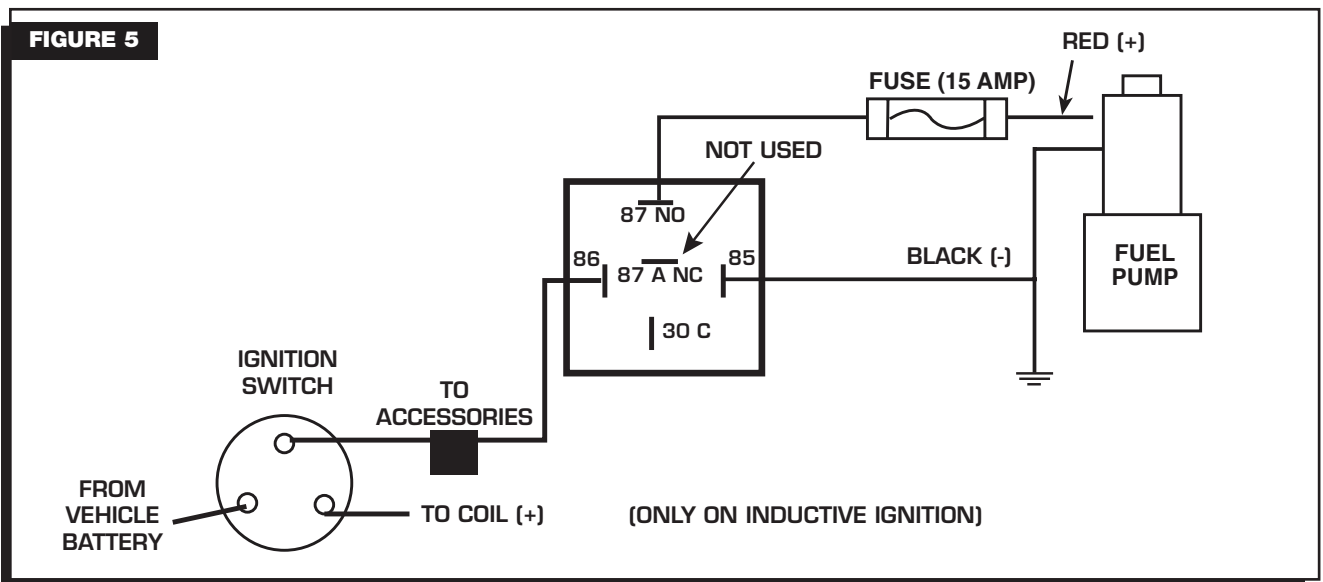
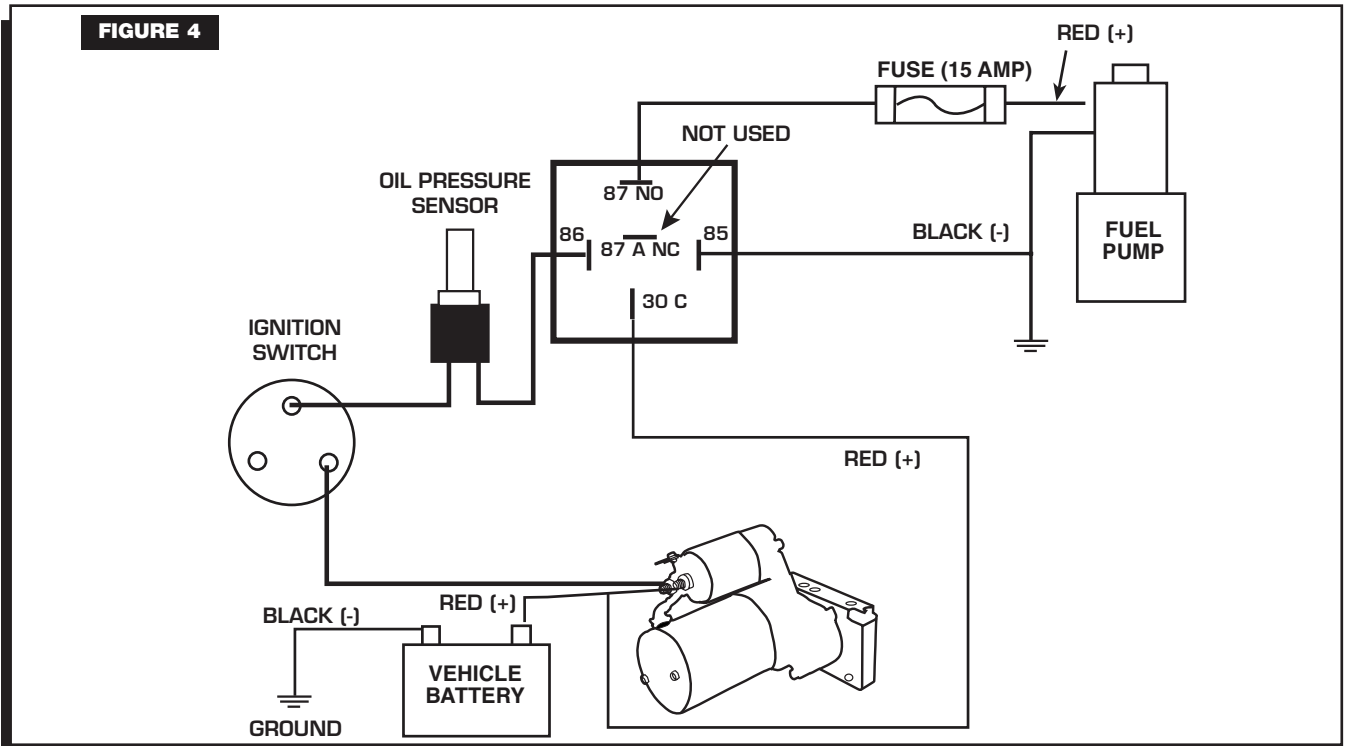
Be sure to install one of the Mallory High Volume Fuel Pressure Regulators between the pump and carburetor. For maximum efficiency, mount the pressure regulator as close as possible to the carburetor. See instructions packaged with the pressure regulator. Make sure all fittings are tight so that air cannot enter the system.



WIRING PROCEDURE

Wiring the pump to an oil pressure switch provides power only when the ignition switch is on and the engine is running. This prevents the pump from running if your engine stalls. Use 12 gauge wire or larger and be sure to disconnect the battery ground cable before wiring the pump. Refer to Figure 4 when connecting the pump to an oil pressure switch.

The pump may be wired directly to the ignition switch "ON" terminal and grounded to the frame or battery. Refer to Figure 5 when connecting the pump to the ignition switch "ON" terminal.



**MAINTENANCE – PUMP DISASSEMBLY**

If your pump fails to produce adequate pressure or volume, it may require cleaning. Follow the steps below to disassemble and clean your Mallory Electric Fuel Pump. Refer to Figure 6 while performing the following steps.

**Step 1**

Remove the pump from the vehicle and clean pump exterior. Place the pump on its side on a clean work surface. Scribe or draw a line across the pump housing, port plate and fuel chamber so that you can reassemble the pump correctly.

**Step 2**

Remove the two fuel chamber screws from the bottom of the pump. Remove fuel chamber and port plate from the pump. NOTE: Do not drop the gerotor from the pump cavity.

**Step 3**

Place your hand beneath the gerotor and hold the pump in an upright position. The gerotor should slide out of the pump and into your hand.

**Step 4**

To disassemble the fuel chamber, first remove the lock nut and adjusting screw, then turn the fuel chamber over so that the diaphragm spring falls into your hand. Remove the four screws holding the diaphragm cap to the fuel chamber. Remove the diaphragm cap, diaphragm, and damper spring from the fuel chamber.

**Step 5**

Clean the gerotor and reinstall it in the pump housing. Inspect the O-ring and gasket, and replace them if necessary. Inspect the diaphragm for any small tears or bubbles in the surface, and replace it if necessary. Inspect the gerotor housing and port plate for wear. If the generator has worn through the plating, return the pump to Mallory for repair.

**Step 6**

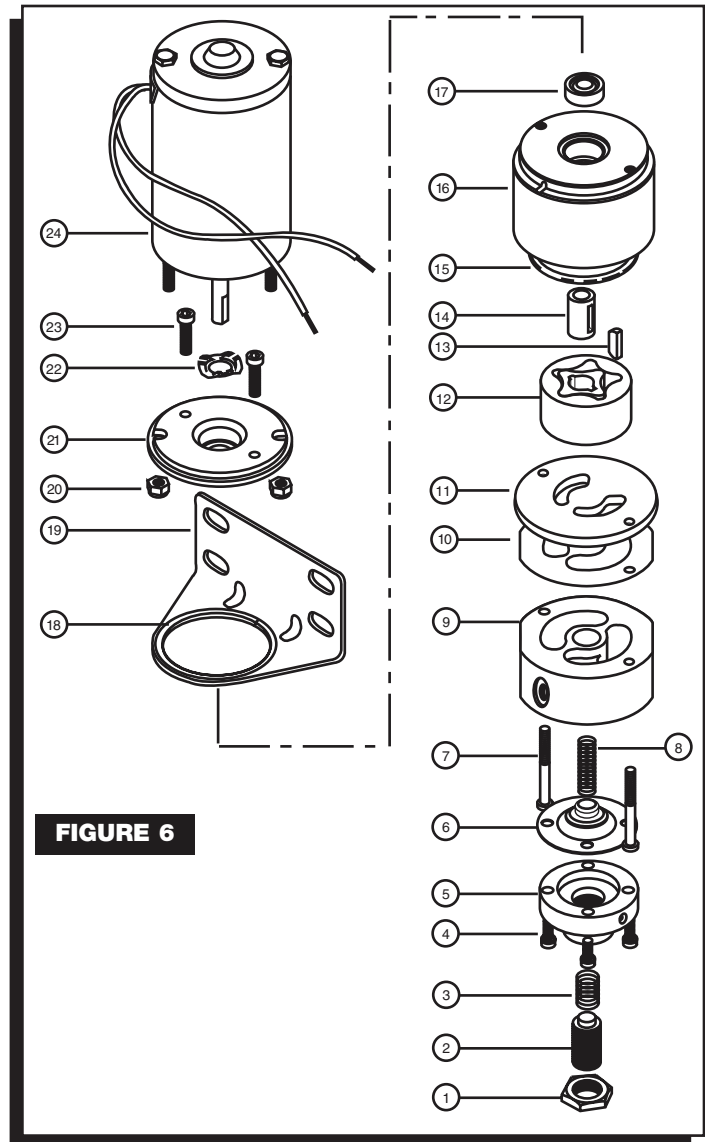
Assemble the pump in the reverse order that you disassembled it. Test bypass pressure. Adjust bypass so that pump is producing between 13 and 20 psi.

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- 1. JAM NUT
- 2. ADJUSTING SCREW
- \*3. PRESSURE ADJUSTMENT SPRING
- \*4. CAP SCREW (4)
- 5. REGULATOR CAP
- \*6. GASOLINE DIAPHRAGM ALCOHOL/  
METHANOL DIAPHRAGM
- \*7. FUEL CHAMBER SCREW
- \*8. DAMPER SPRING
- 9. FUEL CHAMBER
- \*10. FUEL CHAMBER GASKET
- 11. PORT PLATE
- 12. GEROTOR
- \*13. GEROTOR BUSHING KEY
- \*14. GEROTOR BUSHING
- \*15. O-RING
- 16. GEROTOR HOUSING
- \*17. SEAL
- \*18. BRACKET VIBRATION GASKET
- 19. BRACKET
- 20. MOTOR HOUSING NUT (2)
- 21. MOTOR ADAPTER
- 22. SPRING WASHER
- 23. MOTOR ADAPTER SCREW (2)
- 24. MOTOR

\* These parts are included in seal/diaphragm kits:  
 PN 3171 (gasoline)  
 PN 3172 (alcohol)

**IMPORTANT:** Turn fuel chamber screws by hand until they contact the chamber. Then torque to 24 in./lb.









# INSTALLATION INSTRUCTIONS

## TECH NOTES

### Service

In case of malfunction, this MSD component will be repaired free of charge according to the terms of the warranty. When returning MSD components for warranty service, **Proof of Purchase** must be supplied for verification. After the warranty period has expired, repair service is based on a minimum and maximum fee.

**All returns must have a Return Material Authorization (RMA) number** issued to them before being returned. To obtain an RMA number please contact MSD Customer Service at 1 (888) MSD-7859 or visit our website at [www.msperformance.com/rma](http://www.msperformance.com/rma) to automatically obtain a number and shipping information.

When returning the unit for repair, leave all wires at the length in which you have them installed. Be sure to include a detailed account of any problems experienced, and what components and accessories are installed on the vehicle. The repaired unit will be returned as soon as possible using Ground shipping methods (ground shipping is covered by warranty). For more information, call MSD at (915) 855-7123. MSD technicians are available from 7:00 a.m. to 5:00 p.m. Monday - Friday (mountain time).

### Limited Warranty

MSD warrants this product to be free from defects in material and workmanship under its intended normal use\*, when properly installed and purchased from an authorized MSD dealer, for a period of one year from the date of the original purchase. This warranty is void for any products purchased through auction websites. If found to be defective as mentioned above, it will be repaired or replaced at the option of MSD. Any item that is covered under this warranty will be returned free of charge using Ground shipping methods.

This shall constitute the sole remedy of the purchaser and the sole liability of MSD. To the extent permitted by law, the foregoing is exclusive and in lieu of all other warranties or representation whether expressed or implied, including any implied warranty of merchantability or fitness. In no event shall MSD or its suppliers be liable for special or consequential damages.

\*Intended normal use means that this item is being used as was originally intended and for the original application as sold by MSD. Any modifications to this item or if it is used on an application other than what MSD markets the product, the warranty will be void. It is the sole responsibility of the customer to determine that this item will work for the application they are intending. MSD will accept no liability for custom applications.