

Section IV — Supply Pump and Hand Primer Assembly

Introduction

The Model 100 pump is equipped with a gear type fuel supply pump which is mounted on the rear of the governor housing. It is a positive displacement spur gear pump driven by the governor shaft.

Supply Pump Operation

As fuel is drawn from the fuel tank, it flows through the inlet valve and duct to the suction side of the gears (refer to figure 4-1). It is then carried around the outside of the cavities between the gear teeth to the pressure side where it is forced through the outlet valve.

A spring-loaded regulating valve is incorporated in the supply pump cover, and a duct connects the valve with the pressure side of the pump. When discharge pressure opens the valve, the valve recirculates excess fuel to the suction side of the gears.

Hand Primer Description

The hand primer consists of three main sections: the threaded barrel that acts as a fuel reservoir, mounting base and a housing

for the plunger; the plunger with its piston, sealing gaskets and knob handle; and the bracket assembly with wing nut that holds the plunger and piston at the bottom of the barrel when the unit is not in use. The plunger is clamped down during fuel pump operation to prevent fuel, flowing through the supply pump, from entering the reservoir of the barrel.

The hand primer provides a means of manually priming the system with fuel and forcing out trapped air prior to engine starting.

Hand Primer Operation

When the plunger is lifted, a vacuum is created that causes the supply pump and hand primer inlet check valves to open (refer to figure 4-1). Fuel is then drawn into the barrel. On the downward stroke, the plunger piston forces fuel through the hand primer and supply pump outlet check valves and into the supply line to the fuel injection pump.

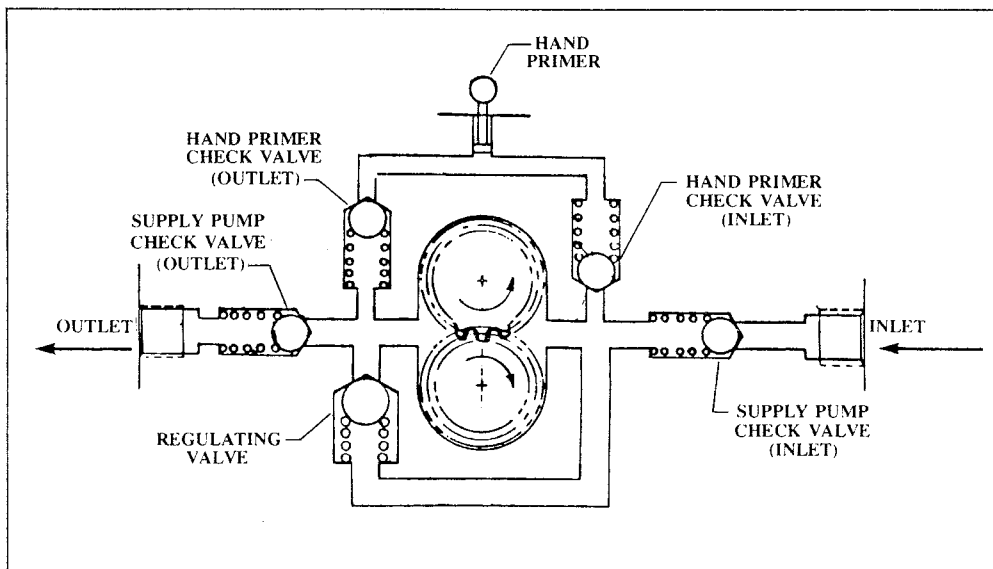


FIGURE 4-1
SCHEMATIC OF SUPPLY PUMP AND
HAND PRIMER ASSEMBLY

Parts List

HAND PRIMER

1. BRACKET ASSEMBLY
2. KNOB
3. GASKET
4. BARREL
5. PLUNGER
6. GASKET, "o" ring
7. GASKET

SUPPLY PUMP

8. COVER ASSEMBLY
9. CHECK VALVE ASSY., supply pump (2)
10. VALVE, regulating
11. SPRING
12. SCREW, regulating valve
13. GEAR, idler
14. GEAR, drive
15. CHECK VALVE ASSY., hand primer (2)
16. INSERT ASSEMBLY
17. SEAL, governor shaft
18. SCREW AND LOCKWASHER (5)

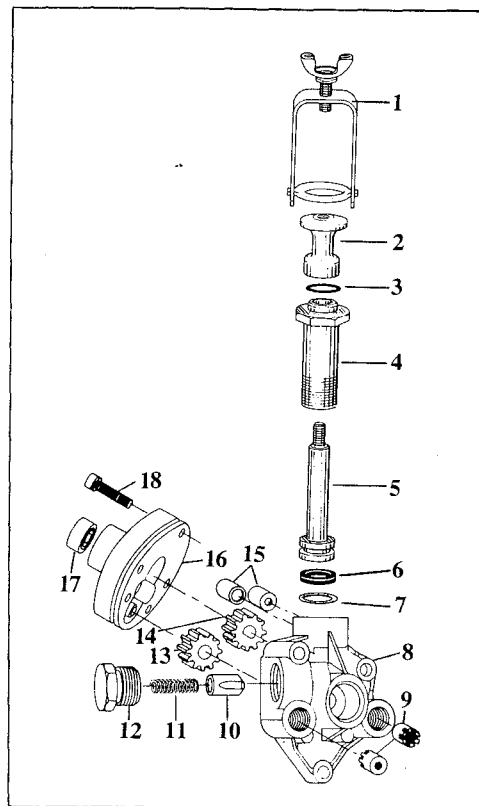


FIGURE 4-2
EXPLODED VIEW OF SUPPLY PUMP AND
HAND PRIMER ASSEMBLIES

A. Removal of Supply Pump and Hand Primer

Note: All work on injection equipment must be done in the cleanest possible location. No filing, sawing or scraping should be done on the bench where repairs are made.

- (1) Clean all external dirt and grease from the supply pump and hand primer areas.
- (2) Remove protective caps or plugs from the supply pump and drain out all fuel oil.
- (3) Loosen the regulating valve screw on side of supply pump.

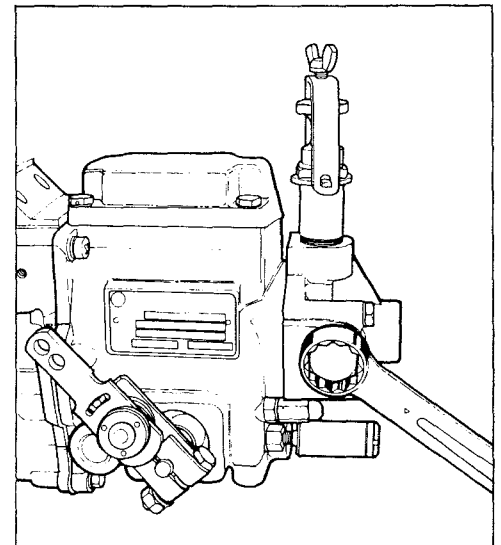


FIGURE 4-3
LOOSENING SCREW

- (4) Loosen wing nut on hand primer bracket assembly and swing bracket off plunger knob. Then, loosen hand primer barrel by applying wrench to barrel hex.