⚠ WARNING

FIRE AND EXPLOSION HAZARD. Observe fire prevention rules, particularly NO SMOKING. Drain the fuel system completely. Use an approved container to collect and store fuel. Wipe up any spillage immediately. Materials used to contain spillage must be disposed of in an approved receptacle. Any fuel system service must be performed in a well ventilated area.

FUEL LEAKAGE FROM ANY PART OF THE FUEL SYSTEM CAN BE A FIRE AND EXPLOSION HAZARD WHICH CAN CAUSE SERIOUS BODILY INJURY OR DEATH. Careful periodic inspection of the entire fuel system is mandatory, particularly after engine storage. All fuel components, including fuel tanks, whether plastic, metal, or fiberglass, fuel lines, primer bulbs and fittings, must be inspected for corrosion or any sign of leakage or deterioration which will necessitate replacement before further engine operation.

Fuel Pump

General Information

FUEL PUMP DESCRIPTION/OPERATION

The fuel pump is a crankcase-pressure-operated, diaphragm-type pump. Crankcase pulsating pressure is transferred by way of a passage (hole) from the crankcase to the fuel pump.

When the piston travels upward, a vacuum is created in the crankcase. This vacuum pulls in the fuel pump diaphragm, the inlet check valve (in fuel pump) is opened and, fuel is drawn into fuel pump.

Downward motion of the piston forces out the fuel pump diaphragm, closes the inlet check valve (to keep fuel from returning to fuel tank) and opens the outlet check valve, forcing fuel to the carburetor.

CHECKING FOR RESTRICTED FUEL FLOW CAUSED BY ANTI-SIPHON VALVES

While anti-siphon valves are helpful from a safety stand-point, they clog, they may be too small, or they may have too heavy a spring. The pressure drop that occurs with these valves can create operational problems and/or powerhead damage by restricting flow of fuel. Some symptoms of restricted (lean) fuel flow, are:

- Loss of fuel pump pressure
- Loss of power
- High speed surging
- Preignition/detonation (piston dome erosion)
- Outboard hesitates upon acceleration
- Outboard runs rough
- Outboard quits and cannot be restarted
- Outboard will not start
- Vapor lock

Any type of anti-siphon device must be located between the outboard fuel inlet and fuel tank outlet. A method of checking [if such a device (or bad fuel) is a problem source] is to operate the outboard with a separate fuel supply which is known to be good.

If it is found that the anti-siphon valve is the cause of the problem, either 1) replace the anti-siphon valve, or 2) replace it with a solenoid-operated fuel shutoff valve.

Testing

Install clear fuel hose(s) between fuel pump and carburetor(s). Run engine, and inspect hose(s) for air bubbles. If air bubbles are found, see “Air Bubbles in Fuel Line”. If air bubbles are NOT found, see “Lack of Fuel Pump Pressure”.