

TO: SERVICE MANAGER  TECHNICIANS   
PARTS MANAGER

**No. 81-31**

## Anti-Siphon Devices Used In Conjunction With MerCruiser Engines

In order to meet industry standards, boat manufacturers are installing anti-siphon devices, such as anti-siphon valves, manually operated fuel shut-off valves or solenoid actuated fuel shut-off valves. While these devices may be helpful from a safety standpoint, a malfunction or misuse of the device may pose troubleshooting problems for the dealer mechanic and be harmful to the engine.

Following are some possible causes of restricted fuel flow from anti-siphon devices:

1. Anti-siphon valve
  - a. Valve orifice too small.
  - b. Valve stuck in partially closed position.
  - c. Valve stuck in closed position.
  - d. Valve fluctuates between open and closed position.
  - e. Thread sealer from valve fitting clogs valve orifice.
2. Solenoid operated fuel shut-off valve
  - a. Solenoid does not function and leaves valve in closed position.
  - b. Solenoid pulls up only partially and leaves valve in partially closed position.
3. Manually operated fuel shut-off valves
  - a. Valve left in completely closed position.
  - b. Valve not fully opened.

Some symptoms of restricted (lean) fuel flow are:

1. Loss of power.
2. Backfiring through the carburetor.
3. Engine cutout or hesitation upon acceleration.
4. Engine runs rough.
5. Engine quits and cannot be restarted.
6. Engine will not start.
7. Rapid valve seat deterioration.

Since any type of anti-siphon device must be located between the engine fuel inlet and the fuel tank outlet, a simple method of eliminating such a device (or bad fuel) as a potential problem source is to operate the engine with a remote fuel supply, such as a 6 gallon outboard fuel tank.

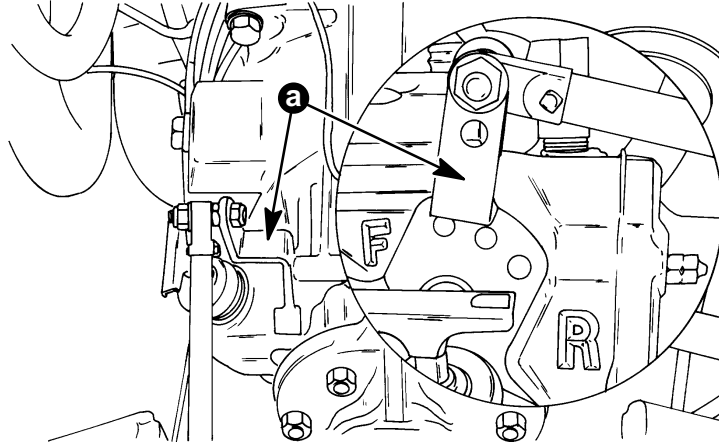
### CAUTION

**When using this procedure, extreme care must be taken that raw fuel is not allowed to spill into the engine compartment from the boat fuel system or your fuel connections. After the test is completed, reconnect the original fuel supply and check carefully for leaks.**

If an anti-siphon device – other than a manually operated shut-off valve left shut or not completely opened – is found to be the cause of the problem, contact the boat manufacturer for replacement part or repair procedures.

## Shift Lever Used On Borg-Warner In-Line or V-Drive Transmission – MIE 230/260/340 and Later Production MIE 470 Engines

The shift lever that is used on the Borg-Warner transmission, on the above model engines, is not available from Mercury Marine. If a replacement shift lever is required, order Part No. 71-79B from a Borg-Warner Distributor or dealer.



14966

a - 71-79B Shift Lever

**Figure 1. Transmission Shift Lever**

## Replacement Light Bulb for Micro-Card Viewer

A replacement light bulb (88-65158) now is available for the Micro-Card Viewer.

**88-65158 Replacement Bulb, Micro-Card Viewer**

## Ink Roller Replacement – Data Imprinter

If your data imprinter is not printing clearly or is too light, it is time to replace the ink roller.

A replacement ink roller can be obtained from your Regional Distribution Center by ordering Mercury Marine Part No. 91-66220. If your Regional Distribution Center is temporarily out-of-stock, the ink roller can be purchased from your local Addressograph Multigraph dealer by ordering its Part No. 12-506-51.