MERCRUISER STERN DRIVES

SERVICE BULLETIN

Section : 10 (Bulletins)
Number: 73-10-05
Date : 5/10/73

A. Anti-Siphon Devices Used in Conjunction with MerCruiser Engines
B. New Slave Solenoid for MerCruiser 888-215-225 and 255 Engines

A. ANTI-SIPHON DEVICES USED in CONJUNCTION with MERCRUISER ENGINES

(Attach Bulletin Reference Sticker to P. 4B-2 of Your Service Manual.)

In order to meet proposed industry standards, some 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.

(OVER)

B. NEW SLAVE SOLENOID for MERCRUISER 888-215-225 and 255 ENGINES

(Attach Bulletin Reference Sticker to P. 3A-27 of Your Service Manual.)

There have been some instances of starter motors continuing to run after the key is turned to the OFF position or the starter pinion remaining engaged in the flywheel ring gear after the engine has started. This is caused by the contacts in the slave solenoid which are welded together in the closed position. The welding occurs when the solenoid plunger (contact) "chatters" from reduced battery voltage at the solenoid. This reduced voltage can be caused by a battery that is not fully charged or by poor battery cable connections at the battery or solenoid.

After adding electrolyte, new batteries must be fully charged before attempting to start an engine. The low voltage of a new, uncharged battery can cause solenoid failure.

All MerCruiser 888 Engines (above Serial No. 3560142), MerCruiser 225 Engines (above Serial No. 3523080) and all MerCruiser 255 Engines (above Serial No. 3415950) are equipped with a new solenoid (B-65057) which is less susceptible to failure from low battery voltage. This does not mean, however, that engines equipped with the new solenoid should be operated on poor or undercharged batteries.

If a failure occurs on engines below the above listed serial numbers or on MerCruiser 215 Engines, replace the old solenoid with the new style B-65057.