MERCURY Racing service bulletin

PERFORMANCE OUTBOARDS No. 2000-1

☐ WARRANTY INFORMATION ☑ SERVICE INFORMATION

Fuel Starvation

Models Affected

All 2.5 Litre Mercury Racing Pro Max/Super Magnum Models, 150 through 225 horsepower. Serial Number 0D935000 & up.

Problem

Engine stalls at low speed and/or there is a lean fuel condition at high RPM.

The following condition can cause non-warrantable engine damage.

- Fuel supply restrictions/high fuel line vacuum.

Fuel system vacuum should be checked on all new boats/engines before delivery.

Inspection/Test

Fuel system vacuum can be checked using a short piece of extra clear fuel hose, vacuum gauge, and a “TEE” fitting. (Illustration on page 2)

1. Remove pulse pump inlet hose.
2. Connect extra hose to pulse pump.
3. Connect “TEE” fitting to extra hose. (Make the “TEE” fitting connection as close to the fuel pump as possible.)
4. Connect vacuum gauge to “TEE” fitting.
5. Reconnect fuel inlet hose to “TEE” fitting.

PULSE PUMP PRELIMINARY TEST

1. Run engine at idle speed with the fuel supply hose restricted/pinched before the vacuum gauge.

Vacuum Reading for a Good Pump	Above 2.5 in. Hg (8.5 kPa)
Vacuum Readings Below Specification	1. Service fuel pump 2. Check for a lack of crankcase pressure to operate pump

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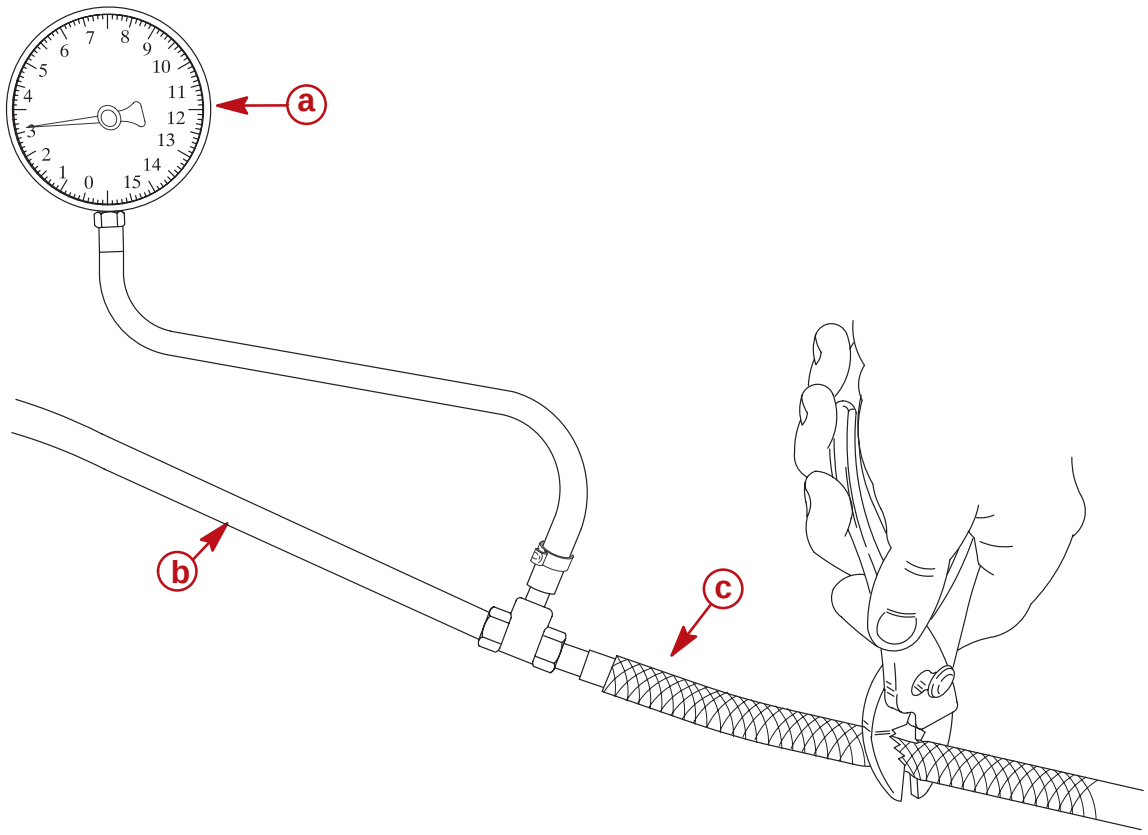

a - Vacuum Gauge
b - Extra Clear Fuel Hose Connected to Pump
c - Fuel Supply Hose from Tank

PULSE PUMP VACUUM TEST (IF PUMP PASSES PRELIMINARY TEST)

Perform system vacuum test with fuel line unrestricted and engine at idle speed.

Normal Reading →	Below 2.5 in (8.5 kPa) of vacuum (mercury)
Reading above 2.5 in. of vacuum (mercury) →	Restriction within the fuel system • Restricted anti-siphon valve • Restricted or malfunctioning primer bulb. • Kinked or collapsed fuel hose • Plugged water separating fuel filter (in the boat) • Restriction in fuel line thru-hull fitting • Restriction in fuel tank switching valves • Plugged fuel tank pick-up screen

Pulse Pump Passes Test But Engine Continues to Stall at Low Speed

Two upgrades are available to the fuel system to resolve stalling of the engine at low speeds when the pulse pump passes the vacuum test.

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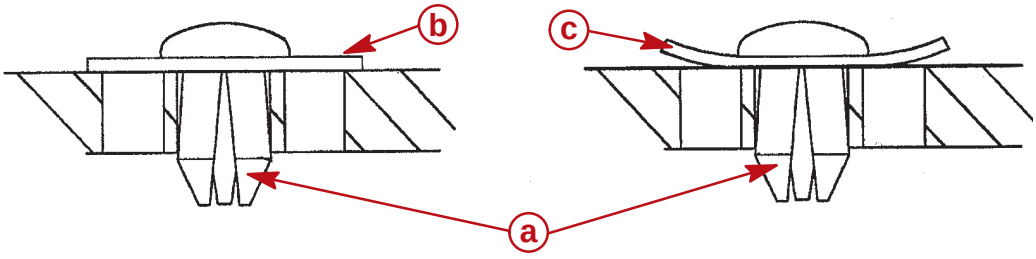
PULSE PUMP REPAIR KIT

The new repair kits contain check valves made of a plastic material impervious to damage from additives. When repairing the fuel pump discard old rubber and small plastic check valve disks, and install one new plastic disk under each retainer. **Pushing the check valve retainer too tightly against the check valve may cause valve to deform.**



a - Check Valve Retainer
b - Check Valve Disk Installed Correctly
c - Check Valve Disk (Deformed)

Plastic Check Valve Start: The following serial numbers were the start of the plastic check valves into production.

Model	Serial Number Start
225 Pro Max	0G858078
300 Pro Max	0G857900

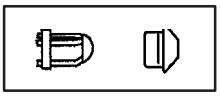
PRIMER BULB REPLACEMENT

Problem: Check valves may stick closed during to the following running conditions.

- Idle Speed
- HOT Weather
- Using Winter Blend Fuels

The new primer bulb is not affected by these conditions.

Old Shuttle Valve Style Primer Bulb Check Valves



New Style Check Ball and Spring



Primer bulb use in production: The new primer bulb started in production with the following serial numbers.

Model	Serial Number Start
225 Pro Max	0G981453
300 Pro Max	0G981453

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Parts List for Fixes

Fuel Pump: Qty. 1 of part number 21-857005A1
Primer Bulb: Qty. 1 of part number 13330A5

Warranty

If pulse fuel pump check valves or the primer bulb are found to be defective, they will be covered for the normal factory warranty only. **This bulletin is not a recall or rework campaign.** Warranty will not cover up-grades to engines if a failure has not occurred.

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