

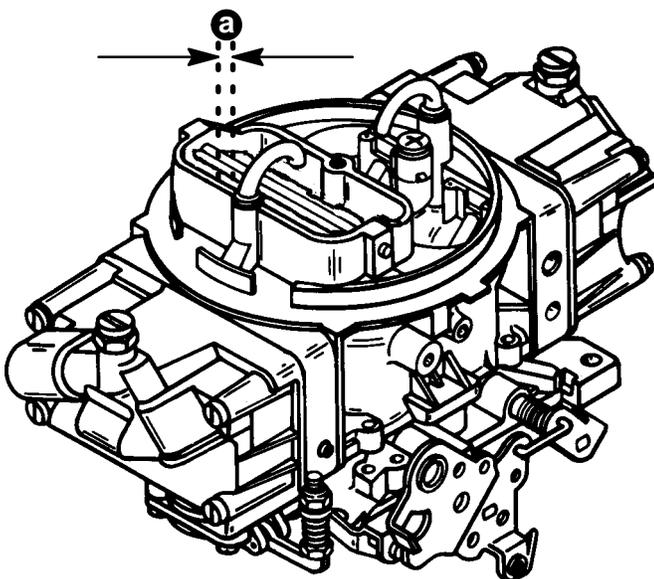
TO: SERVICE MANAGER  MECHANICS   
PARTS MANAGER

## Rich Idle or Loading Up of MCM Hi-Performance Engines

**MODELS: HP425, HP450, HP465, HP500, & HP500 BULLDOG,**

Mercury Hi-Performance has received several Holley carburetors returned under warranty for a rich idle or loading up condition that were easily fixed with minor adjustments. Make the following checks before considering a replacement carburetor.

1. Check that the choke is opening completely within the proper amount of time for the ambient temperature. At 75 °F (24°C), the choke should be completely open in a minute and a half. Initial choke opening before start up should be 1/8" (3.2mm).



a - Initial Choke Opening Before Start Up: 1/8" (3.2mm)

2. Check the plastic tubing between the fuel pump and carburetor flame arrestor to see that it is not pinched or kinked. A crimped line can cause high fuel pressure.
3. Start engine and remove flame arrestor. Inspect the throttle bores for signs of fuel. During idle, the throttle bores should be dry. Note that if the engine is cold, there will be fuel dripping from the nozzles after the choke is fully open until the engine is revved above 2000 RPM. If throttle bores are not dry, continue with the following checks.
4. Check that the fuel pressure is not above 8 psi (55 Kpa).
5. Check that the secondary throttle plates have been properly adjusted (See MerCruiser HP Service Bulletin 94-7).
  - S 1995 and earlier engines: .017" (.43mm) secondary opening
  - S 1996 engines with PCV system: .010 (.25mm) secondary opening

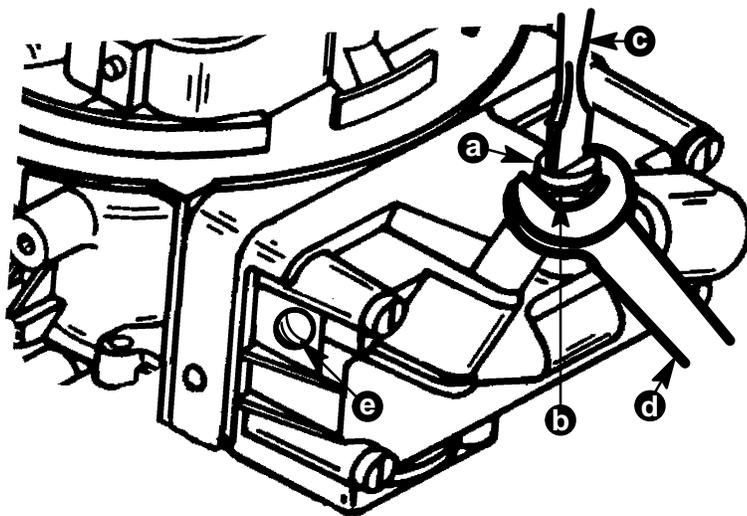
6. Check the float level during lowest idle. Adjust idle speed in neutral to 600-650 RPM to simulate in-gear idle RPM. In water boat attitude of the carburetor must be maintained for this adjustment so that floats will be adjusted to an "as run" condition. Remove sight screw from float bowls.

### **⚠ WARNING**

**Avoid fuel leaks and possible fire. If floats require adjustment, it may be necessary to replace the gaskets under the adjustment screw to avoid fuel leaks and engine running problems.**

- S Pre-1996 model year: Adjust float so that fuel is just "weeping" out of sight hole.
- S 1996 models: Adjust float so the fuel is just below sight hole.
- S Float adjustment screw gasket kit P/N 27-848742A1. (Enough for both float adjusters)

*NOTE: Turning adjusting nut counterclockwise raises the float.*



- a - Locking Screw
- b - Adjustment Nut
- c - Screwdriver
- d - Wrench
- e - Sight Plug Hole

7. Adjust neutral idle back to specification.
8. If fuel is still present in the throttle bores during idle after the above checks and adjustments have been made, check manifold vacuum in-gear (engine warm and all cylinders firing), particularly on HP 465 and 500 Bulldog engines. In-gear idle vacuum should be at least two points above power valve opening.  
Example: A 6.5 power valve will need at least 8.5 inches of manifold vacuum to assure that fuel is not being pulled from the power valve circuit during idle. If intake manifold vacuum is too low for the installed power valve, replace with a lower opening valve to get proper spread (See Section 5, Hi-Performance Service Manual 90-848294).

**IMPORTANT: Power valve failures are usually indicated by a sudden deterioration in engine idle. Also, low manifold vacuum can be caused by an intake leak, excessive ring wear, etc. Eliminate all causes for low vacuum before replacing power valve with one having a lower setting.**

9. If intake manifold vacuum is high enough for the power valve but the engine still has wet throttle bores, replace the power valve.