MERCURY Racing **service bulletin**

☐ WARRANTY INFORMATION ☑ SERVICE INFORMATION
☐ PARTS INFORMATION

Outboard No. 2002-02

Circulate to: ☑ Sales Manager ☐ Accounting ☑ Service Manager ☑ Technician ☐ Parts Manager

This bulletin was reprinted because the bars in the bulletin header were blue rather than the correct color of orange. The information in this reprinted bulletin is unchanged.

Exceeding Engine RPM Limit

Models

All Mercury Racing outboard engines.

Situation

Engines are being incorrectly propped to run at the engine's rpm limit rather than the required engine rpm.

MERCURY RACING OPTIMAX AND PRO MAX MODELS SERIAL NUMBERS 0T235000 AND ABOVE

Engines with a 555 Propulsion Control Module (PCM) are designed with a two level rev limiter. The first level is set above the maximum rpm requirement for the engine and after the horsepower and torque have started to decline. The engine rpm should not reach the first level of the limiter with proper usage. This level of the rev limiter is designed to prevent power head damage in the event of an occasional over revving of the engine due to a sudden loss of load (i.e. impact damage to prop, or internal gear case failure).

If the boat is under-propped, the engine can reach the first level of the rev limiter with enough power to go past that level. The second level of the limiter will activate, shutting off the ignition on all cylinders.

⚠ CAUTION

Avoid power head damage. Internal power head damage will occur if the second level of the engine's rev limit is activated multiple times.

Correction

Engines must be propped to limit the rpm within the required full throttle rpm range.

Checking Run History of Engines with a 555 Propulsion Control Module (PCM)

Most operators of high speed boats do not hold the engine at full throttle for prolonged periods of time. Consequently, it is not uncommon to see little or no time recorded in the higher rpm ranges of the run history. For time to be displayed in a given range of the run history, the engine must be run in that range for six accumulated minutes. When the engine has less then six minutes in a given rpm range of the run history, that time is stored in memory for later display. If the engine is turned off without completing a minimum of 60 seconds in any given rpm range, those seconds will not be stored in the memory. Therefore the rpm ranges in run history do not show all of the time an engine has run in any particular range.

Run history will show the total amount of the following:

- Total run time of the engine.
- Total number of times the rev limiter was activated (count).
- Total number of seconds the engine has been on the rev limiter.

OTHER MERCURY RACING ENGINES AFFECTED

⚠ CAUTION

Avoid engine damage. Internal power head damage may occur if the engine's rev limit is activated multiple times.

The follow engines store the engine's run history in a similar format to the 555 (PCM) controller listed above.

- 300 Pro Max 1998-2000 model years.
- 2.5 EFI (280 HP engines) 1999 model year and later.

The following engines do not display run history on a Digital Diagnostic Tester (DDT):

- 225, 200, & 150 Pro Max engines prior to model year 2001.
- 2.5 EFI (260 HP engines) prior to model year 1999.
- All carburetor models

Engines must be propped to limit the rpm within the required full throttle rpm range.

Warranty

Power head damage on engines that have a high rev limit count or a high number of seconds at rev limit recorded in the run history are not covered by the limited product warranty.