mercruiser
STERN DRIVES & INBOARDS

# service bulletin

TO: SERVICE MANAGER ☐ MECHANICS ☐
PARTS MANAGER ☐

**No. 91-7**

## A. NEW ENGINE BREAK-IN PROCEDURE FOR DIESEL ENGINES

### Models

All 5 and 6 Cylinder Diesel Stern Drive or Inboard Engines

### New Break-In Procedure

Please follow this new procedure on new or rebuilt diesel engines. This break-in procedure allows the proper seating of the pistons and rings, which greatly reduces the likelihood of problems.

### Initial Break-In Procedure

1. Allow engine to idle until engine has reached normal operating temperature.
2. Run engine in gear for 3 minutes at each of the following RPMs: 1200 RPM, 2400 RPM and 3000 RPM.
3. Run engine in gear for 3 minutes at each of the following RPMs: 1500 RPM, 2800 RPM and 3400 RPM.
4. Run engine in gear for 3 minutes at each of the following RPMs: 1800 RPM, 3000 RPM and Maximum Rated Full Throttle RPM.

**IMPORTANT: It is recommended that the boat not be accelerated hard until this procedure has been completed.**

**IMPORTANT: The first 20 hours of operation is the engine break-in period. Correct break-in is essential to obtain minimum oil consumption and maximum engine performance. During this break-in period, the following rules must be observed:**

- DO NOT operate engine below 1500 RPM for extended periods during the first 10 hours. During this period, shift into gear as soon as possible after starting engine and advance throttle so that RPM is above 1500 (provided that conditions permit safe operation at this speed).
- DO NOT operate at any one constant speed for extended periods.
- DO NOT exceed 75% of full throttle during the first 10 hours. During the next 10 hours, occasional operation at full throttle (5 minutes at a time maximum) is permissible.
- AVOID full throttle acceleration from stopped position.
- DO NOT operate at full throttle until engine reaches normal operating temperature.
- Observe instruments. If an abnormal reading occurs, stop engine immediately and determine cause.
- Frequently check crankcase oil level. Add if necessary. It is normal for oil consumption to be somewhat high during the break-in period.
- At end of 20-hour break-in period, remove break-in oil and replace oil filter. Fill crankcase with correct grade and viscosity oil.



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**Water Testing New Engines**

If a new engine has to be water-tested at full throttle before the engine 20-hour break-in period is complete, follow this procedure ONLY AFTER the Engine Initial Break-In Procedure has been completed.

1. Complete Engine Initial Break-In Procedures if not already accomplished.
2. Start engine and run at idle RPM until normal operating temperature is reached.
3. Run boat up on plane.
4. Advance engine RPM (in 200 RPM increments) until engine reaches its maximum rated RPM.

**IMPORTANT: Do not run at maximum RPM for more than 2 minutes.**



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