

MARINE ENGINE BREAK-IN PROCEDURES

“Break-In” Procedures for 4-cycle GM/MerCruiser Engines

IMPORTANT: The first 20-hours of operation will have a dramatic affect relative to overall engine performance and expected engine life. Proper break-in practices reduce the potential for excessive oil consumption. It also helps to achieve better engine performance levels for a longer period of time.

FIRST 20-HOURS:

1. Change Oil & Filter after First **10-15 hours** of use.
2. ALWAYS let the engine warm up to normal operating temperature before accelerating.
3. Avoid fast accelerations and don't carry or pull a heavy load during this period.
4. Check the engine oil frequently.
5. During the 1st 50-100 hours, the engine can use more oil than usual. Maintain oil at proper level but do NOT overfill.
6. Vary the boat speed during break-in.
7. Do not run on the same RPM for very long.
8. Vary the boat speed during break-in.
9. Observe gauge readings and check for loose mountings, fittings, nuts, bolts, and clamps.
8. Vary the boat speed during break-in.

BREAK IN STEPS:

1. For the 1st hour, do not exceed 2000 RPM and vary RPM continuously.
2. For the 2nd hour, do not exceed 3000 RPM.
3. For the next 5 hours, do not exceed 4000 RPM.
4. After the first 10 hours of operation, change your engine oil and oil filter and have an engine checkup. If you do not know how to do this procedure, then have a certified mechanic or boat dealer properly do this.
5. During the final ten hours of break-in, after warming the engine to operating temperature, it is permissible to operate at full throttle for five to ten minutes at a time. Momentarily reduce then increase engine speed to assist break-in of rings and bearings.
6. Occasionally reduce engine speed to idle to provide cooling periods.
7. After the break-in, your engine may be operated at any RPM within the limits for the engine.
8. Vary the boat speed during break-in.
9. Observe gauge readings and check for loose mountings, fittings, nuts, bolts, and clamps.
8. Vary the boat speed during break-in.

ENGINE OIL REQUIREMENTS:

- Center State Engine recommends using 15W40 Oil meeting the API specifications of SJ/CH4/CG4 is acceptable.
- Penzoil Marine 15W-40 is recommended.
- Synthetic oil that meets the API specifications of SJ/CH4/CG4 is acceptable to use AFTER 100 hours of operation with the recommended conventional oil.

AFTER FIRST 20-HOURS:

To help extend the engine life for a new GM/MerCruiser engine, consider the following recommendations.

1. Refrain from extended periods of Wide-Open-Throttle. We recommend cruising at $\frac{3}{4}$ throttle or below for longer term operation.
2. Change the oil and filter regularly.