



BREAK IN PERIOD – FIRST 10 HOURS OF OPERATION INBOARD MODELS

IMPORTANT: The first 10 hours of operation is the engine break - in period. Correct break - in is essential to obtain minimum oil consumption and maximum engine performance.

DURING THE BREAK - IN PERIOD, THE FOLLOWING RULES MUST BE OBSERVED

- Do not operate below 1500 RPM for extended periods of time for first 10 hours. Shift into gear as soon as possible after starting and advance throttle above 1500 RPM if conditions permit safe operation.
- Do not operate at one speed consistently for extended periods.
- Do not exceed 3/4 throttle during first 10 hours. During next 10 hours, occasional operation at full throttle is permissible (5 minutes at a time maximum.)
- **AVOID FULL THROTTLE ACCELERATION FROM IDLE SPEED.**
- Do not operate at full throttle until engine reaches normal operating temperature.
- Frequently check crankcase oil level. Add oil if needed. It is normal for oil consumption to be high during break-in period.

AFTER 10-HOUR BREAK-IN PERIOD, DRAIN CRANKCASE OIL AND REPLACE OIL FILTER (SEE MAINTENANCE). FILL CRANK-CASE WITH CORRECT OIL (SEE SPECIFICATIONS). MANUFACTURER RECOMMENDS: ROTELLA 15W-40 MOTOR OIL.

After first 10 hours of operation, your marine mechanic should be contacted for the following maintenance. The boat owner is responsible for any charges.

- Change crankcase oil and filter.
- Hurth transmission (if so equipped) change filter.
- Check all fluid levels.
- **COOLING SYSTEM** - Inspect all hoses for damage and deterioration; check all hose clamps for adequate tightness.
- Check carburetor adjustment.
- Inspect ignition system and timing.
- Check for loose, missing or damaged parts.
- Check shift and throttle cable adjustments - lubricate and inspect for loose, damaged or missing parts.
- **STEERING SYSTEM** - Lubricate and inspect for loose, damaged or missing parts.
- Inspect all drive belts.
- Check engine alignment.
- **COMPLETE ENGINE EXHAUST SYSTEM** - Inspect for damage and deterioration; check all hose clamps for adequate tightness.



IMPORTANT ITEMS TO LOOK FOR WHEN INSTALLING A REPLACEMENT ENGINE

- 1.) Determine why old engine failed. Do not install replacement engine with defective components, this could cause premature failure.
- 2.) Compare rebuilt engine with old engine as to crankshaft flange, pilot hole and bearing, oil pan, timing cover, engine mounting provisions and cylinder head mounting holes.
- 3.) Prime the oil pump in any acceptable Industry Standard Method! This is very important.
- 4.) All related parts not furnished by us should be thoroughly cleaned.
- 5.) If original engine has blown and scattered pieces, such as piston particles, you Must thoroughly inspect intake manifold for foreign material to avoid destroying the new engine.
- 6.) Make sure that dipstick tube and dipstick are of proper length to register required amount of oil.
- 7.) Check motor mounts for oil soak and parting of rubber from metal.
- 8.) Replace thermostat to avoid possible failure.
- 9.) All hoses, cooling, heater, and by pass should be replaced if necessary.
- 10.) Always replace oil filter cartridge and flush any cooler lines.
- 11.) Oil pressure and temperature sending units may need to be replaced because they have a tendency to leak oil and register improper after a reinstall.
- 12.) Always install new spark plugs of proper heat range and check to make sure the spark plug wires are in good condition.
- 13.) Check distributor, advance controls and distributor cap for cracks.
- 14.) Water pump should be checked for signs of leaking.



- 15.) Belts should be checked for cracks and other defects.
- 16.) Check smog components and computer sensors. Replace defective or old parts.
- 17.) When filling Fresh Water Cooling System make sure it is filled to proper capacity and that there are no air locks, as this can cause cracking of cylinder block and heads.
- 18.) Start engine, check oil pressure, adjust ignition timing to manufacturers' specifications and adjust carburetor after engine has warmed up fully. Also, at this time be sure to check for any water or oil leaks.
- 19.) Take the boat for a test run. After testing, re-check installation, oil and other fluid levels, look for any leaks, recheck timing and adjust carburetor if necessary.

ATTENTION: WARNING TO INSTALLING MECHANIC!!!

Every effort has been made to accurately supply the proper item; however it is the responsibility of the installing mechanic to verify engine and parts for correct size and application by comparing the old parts.

This is due to the many combinations available on the market today. You are responsible for the correct installation of the engine. The engine life and performance depends on a good professional installation.

Follow the instructions carefully. Seek professional help if you are uncertain about **ANYTHING!**

Customer Signature

Date