



HP Marine[®] Synthetic 2-Stroke Oil

High-Performance Marine 2-Stroke Oil

High-quality oil is critical for maximum performance in modern two-stroke marine motors. Direct fuel injection (DFI) improves combustion efficiency, delivering the extra power boaters want, while leaner gas-to-oil ratios provide the reduced exhaust emissions the government mandates. The leaner ratio leaves less oil to lubricate and protect these hotter, more powerful motors, which invites deposits and wear that threaten engine performance and life. HP Marine is proven to excel in these harsh conditions. It controls performance-robbing friction, heat and wear, yet produces low smoke and has low aquatic toxicity properties. It's an oil as advanced as the engines it protects.

Outstanding Wear Protection

The elevated heat and friction of modern two-stroke marine motors can exceed the film strength of inferior oils, increasing the likelihood of scuffing and wear. HP Marine's exclusive synthetic formulation provides increased lubricity for reduced wear during normal and lean-mix operation.

HP Marine was used in a 40-hp Evinrude E-TEC outboard motor owned by a northern Minnesota fishing outfitter. After a full season of rental use with the motor set at its factory-lean setting, HP Marine prevented piston ring sticking and piston scuffing for maximum power and long engine life. Results prove HP Marine's ability to protect two-stroke engines in the toughest conditions, including lean-mix operation, helping enthusiasts get the most out of their equipment.

Excellent Deposit Control

HP Marine is formulated with MAXDOSE,[™] a system of advanced additives for "super-clean" operation. It helps prevent deposits that lead to poor performance. In field testing, HP Marine prevented ring sticking and ring jacking (carbon buildup behind the ring, forcing it outward), a phenomenon that occurs in modern DFI outboard motors. It also virtually eliminated exhaust port deposits for reliable, efficient operation.

Evinrude E-TEC Piston



- No piston ring sticking for maximum power
- No scuffing for long engine life



- **Excellent** for Evinrude* E-TEC* factory-lean setting
- **Helps prevent** deposits
- **Protects** against wear
- **Low** smoke
- **Protects** against rust
- **Low** aquatic toxicity
- **Superior performance** as an injection oil or at 50:1 pre-mix

TYPICAL TECHNICAL PROPERTIES

HP Marine® Synthetic 2-Stroke Oil (HPM)

Kinematic Viscosity @ 100°C, cSt (ASTM D445) 7.3
Kinematic Viscosity @ 40°C, cSt (ASTM D445) 37.3
Viscosity Index (ASTM D2270) 160
Pour Point °C (°F) (ASTM D97) -55 (-67)
Flash Point °C (°F) (ASTM D92) 104 (219)
Fire Point °C (°F) (ASTM D92) 104 (219)
Brookfield Viscosity @ -40°C, cP (ASTM D2983) 13,696

NMMA TC-W3® Rust Test Pass
Jaso M 342-92 Smoke Test (FD) Pass
TC-W3 Lubricity Test (ASTM D4863) Pass
OECD – Guideline 203, Fish
Acute Toxicity Test 100% Survival Rate
OECD – Guideline 202, Daphnia
Acute Immobilization Test 100% Survival Rate

APPLICATIONS

Use in two-stroke marine applications that specify TC-W3, including those made by Johnson/Evinrude,* FICHT,* E-TEC,* Mercury* EFI & Optimax,* Yamaha,* Nissan,* Tohatsu* TLDI,* Suzuki,* Mariner,* Force.* Use as injection oil or 50:1 premix (2.6 oz. per U.S. gallon of gas).

COMPATIBILITY

Compatible with mineral and synthetic TC-W3-type two-stroke oils; however, mixing two-stroke oils should be minimized.

WARRANTY SECURE®

HP Marine Synthetic 2-Stroke Oil is Warranty Secure, keeping your factory warranty intact. HP Marine is a high-performance replacement for vehicle manufacturer-branded products and is also backed by the AMSOIL Limited Warranty (G1363). For details, visit AMSOIL.com/warrantysecure.



HEALTH AND SAFETY

This product is not expected to cause health concerns when used for the intended applications and according to the recommendations in the Safety Data Sheet (SDS). An SDS is available online at AMSOIL.com or upon request at (715) 392-7101. **Keep Out of Reach of Children.** Recycle used oil and bottle.

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