

# Pzl<sup>®</sup> Marine XLF Synthetic Blend (TC-W3) NMMA

Certified TC-W3<sup>®</sup>

TECHNICAL DATA SHEET



PENNZOIL MARINE<sup>®</sup> XLF OUTBOARD TWO-CYCLE OIL is certified by the National Marine Manufacturer's Association (NMMA) as an approved NMMA TC-W3<sup>®</sup> lubricant. It is specifically designed for exceptional performance in marine applications.

## Performance, Features & Benefits

- PENNZOIL MARINE<sup>®</sup> XLF OUTBOARD TWO-CYCLE OIL contains only ashless components which helps prevent any lubricant related preignition and spark plug fouling. The ashless additives also help protect against piston and combustion chamber deposits, rust, and corrosion. It's "anti-gel" properties help resist gel formation due to water or other contamination. The special base stocks used resist piston and cylinder wall scuffing.
- Formulated for use in older engines that have been in service for a few years
- Specialized additive treatment, including increased detergency over the TC-W3<sup>®</sup> formulation. Helps protect engines against failures due to scuffing, ring sticking, port deposits, bearing failures and plug fouling
- Exceeds NFPA Code 30 Class IIIB liquids flash point limits. Flash point exceeds 200<sup>o</sup>F and requires no special warehousing
- NMMA TC-W3<sup>®</sup> certified. Exceeds warranty requirements for all outboard engine manufacturers
- Mixes easily with fuel for premix applications
- Excellent flow properties for oil injection systems

## Main Applications

- PENNZOIL MARINE<sup>®</sup> XLF OUTBOARD TWO-CYCLE OIL specifically designed for older engines that have been in service for a few years. This oil is formulated with a higher additive

## Specifications, Approvals & Recommendations

PENNZOIL MARINE<sup>®</sup> XLF OUTBOARD TWO-CYCLE OIL exceeds the requirements of the NMMA TC-W3<sup>®</sup> standard. It is recommended for and meets the warranty requirements of outboard engines produced by the following manufacturers:

- Evinrude
- Johnson
- Mercury
- Mariner
- U.S. Marine / Force
- Sears
- Suzuki
- Yamaha

For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Help Desk.

To find the right Pennzoil<sup>®</sup> product for your vehicles and equipment, please consult [www.pennzoil.com](http://www.pennzoil.com) to look up the right motor oil recommendation using our oil selector.

## Compatibility & Miscibility

PENNZOIL MARINE<sup>®</sup> XLF OUTBOARD TWO-CYCLE OIL mixes easily with gasoline, and is dyed blue to allow for easy detection. Follow engine manufacturer's recommended fuel/oil ratio for premix systems. It is also recommended for oil injection systems.

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## Typical Physical Characteristics

Properties			Method	Pzl Marine <sup>®</sup> XLF Synthetic Blend (TC-W3)
Gravity <sup>o</sup> API			ASTM D4052	29.8
Pounds per Gallon			ASTM D4052	7.31
Flash Point	<sup>o</sup> C ( <sup>o</sup> F)		ASTM D93	97 (207)
viscosity	@40 <sup>o</sup> C	cSt	ASTM D445	59
viscosity	@100 <sup>o</sup> C	cSt	ASTM D445	9.37
Viscosity Index			ASTM D2270	133
Brookfield Viscosity	@-25 <sup>o</sup> C	cP	ASTM D2983	6690
Pour Point	<sup>o</sup> C ( <sup>o</sup> F)		ASTM D97	-36 (-32.8)
Material Number Bulk				5054348

These characteristics are typical of current production. While future production will conform to Pennzoil's<sup>®</sup> specification, variations in these characteristics may occur.

## Health, Safety & Environment

### Health and Safety

Pennzoil Marine<sup>®</sup> XLF is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained.

Avoid contact with skin. Use impervious gloves with used oil. After skin contact, wash immediately with soap and water.

Guidance on Health and Safety is available on the appropriate Material Safety Data Sheet (MSDS), which can be obtained from [www.epc.shell.com](http://www.epc.shell.com)

### Protect the Environment

Take used oil to an authorised collection point. Do not discharge into drains, soil or water.

## Additional Information

### Advice

Advice on applications not covered here may be obtained from your Shell Lubricants distributor representative or Shell Technical Help Desk.