NMMA 70 HP Detergency Test

Specifications
• NMMA TC-W3®

E92461

Objective
• Evaluate the general performance of a lubricant for application in two-stroke cycle, water-cooled outboard engines, with emphasis on piston deposits and ring sticking.

Field Service Simulated
• Two-stroke cycle outboard engines operating at a 50:1 premixed fuel/lubricant ratio.

Test Fixture
• An OMC 70 hp, two-stroke cycle, water-cooled, spark-ignition outboard engine is mounted in a 1700-gallon test tank.
• A closed coolant system maintains engine temperature and a special load wheel replaces the propeller to obtain proper rpm at wide-open throttle (WOT).

Test Parameters
• The test duration is 100 hours.
• Following a two-hour break-in, the engine is operated for 98 hours on a 55-minute WOT, 5-minute idle cycle.
• The following conditions are maintained throughout the test:

Parameter	Value
Engine speed, rpm	5000
Coolant-out temp, °C	54.4
Fuel flow, lb/hr	37.4
Fuel/lubricant ratio	50:1

Test Parts Evaluation
• General engine condition is evaluated, with particular emphasis on pistons and rings.

Used Lubricant Analysis
• None.

Pass/Fail Criteria
• The average piston ring sticking rating of the second rings on the candidate lubricant test are compared to the results obtained on the concurrent NMMA 93738 reference lubricant result.
• The candidate must perform better than the reference by a specified amount.

We welcome your inquiries.

For additional information, please contact:

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