

Leisure Marine and Small Engine Lubricants Section

Recertified NMMA TC-W3® Preignition Test

SPECIFICATIONS

NMMA TC-W3®

OBJECTIVE

The objective of this test is to evaluate the effect of a lubricant on preignition caused by combustion chamber deposits.

FIELD SERVICE SIMULATED

Typical two-stroke cycle, air-cooled engines operated at full power are simulated in this test.

TEST FIXTURE

A Yamaha CE50S single-cylinder, air-cooled, two-stroke cycle, spark-ignition engine is set up on a test bed and coupled to a high-speed 10-HP dynamometer. External cooling air is supplied to the engine by a variable delivery fan.

TEST PARAMETERS

The test is run under the following steady-state conditions for 100 hours:

Engine, rpm	4000
Load	WOT
Spark plug gasket temperature, °F	392°F (200°C)
Fuel/oil ratio	20:1

TEST PARTS EVALUATED

General engine condition is evaluated.

USED LUBRICANT ANALYSIS

There is no used lubricant analysis.

TEST PARTS EVALUATED

No more major preignitions than occurred in the most recent reference test on NMMA 93738 reference oil is acceptable.

