TWO-STROKE-CYCLE GASOLINE ENGINE LUBRICANT EVALUATION

D4863 ASTM TC SEQUENCE II Test Procedure
Title / Validity Declaration Page

VERSION VERSION 20020830 BETA

CONDUCTED FOR
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

C	V = VALID
	I = INVALID

Test Number:	CCCCCCCCCCCCCCCCCCCCCCCCCCCC				
Reference		**Non-Reference**			
Primary Oil	CCCCCCCCCCCCCCCCCCCCCCCCCCCC	Primary Oil	CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC		
EOT Date:	YYYYMMDD	EOT Date:	YYYYMMDD		
EOT Time:	HH:MM	EOT Time:	HH:MM		
Alternate Codes:	CCCCCCCCCCCCCCCC	CCCCCCCCCCCCCCCC		CCCCCCCCCCCCCCCC	
Test Stand:	CCCCC	Stand Run#:	CCCCC	Lab Run #:	CCCCC
Formulation/Stand Code:	CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC				

In my opinion this test CCCCCCCC been conducted in a valid manner in accordance with the ASTM Test Method D4863 and the appropriate amendments through the information letter system. The remarks included in this report describe the anomalies associated with this test.

SUBMITTED BY: CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

Testing Laboratory

Signature Image

Signature

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Typed Name

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Title

TWO-STROKE-CYCLE GASOLINE ENGINE LUBRICANT EVALUATION
D4863 ASTM TC SEQUENCE II

SUMMARY OF ENGINE TEST RESULTS
YAMAHA CE50S TIGHTENING TEST

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Test Number: Fuel: CCCCCCCCCCCC Start Date: YYYYMMDD
Stand Number: CCCCC Fuel/Oil Ratio: CCCCC E.O.T. Date: YYYYMMDD
Test Length: S1234 Fuel Batch ID: CCCCCCCCCCCCCC

Delta Torque, lbs. in.

Lubricant Code: CCCCCCCCC Ind. Bench: CCCCCCC Lab Code: CCCCCCCCCCC Tightening No.: CCCCCCC

Temperature, ˚C	S12	S12	S12	S12	S12	S12	S12	Mean
300	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12
325	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12
350	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12

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SUMMARY OF ENGINE TEST RESULTS
YAMAHA CE50S TIGHTENING TEST

Lubricant Code: CCCC

TWO-STROKE-CYCLE GASOLINE ENGINE LUBRICANT EVALUATION

SUMMARY OF ENGINE TEST RESULTS
YAMAHA CE50S TIGHTENING TEST

CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC Lubricant Code: CCCCCCCCCCCCC Lab Code: CCCCCCC Tightening No.:

Operating Parameters

Miscellaneous

Tightening No.	S12	S12	S12	S12	S12	S12	S12	Average
Seconds	S12.1	S12.1	S12.1	S12.1	S12.1	S12.1	S12.1	S12.1
Fuel Flow, lb/h	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12
Horsepower, ft-lbf.	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12
Barometer Press., in. Hg	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12

Temperature, ˚F

Ambient	S12	S12	S12	S12	S12	S12	S12	S12
Wet	S12	S12	S12	S12	S12	S12	S12	S12
Dry	S12	S12	S12	S12	S12	S12	S12	S12
Dynamometer	S12	S12	S12	S12	S12	S12	S12	S12
Intake Air	S12	S12	S12	S12	S12	S12	S12	S12
Fuel	S12	S12	S12	S12	S12	S12	S12	S12
Exhaust	S123	S123	S123	S123	S123	S123	S123	S123

Torque, lbf-in.

@ 170˚C	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12
@ 200˚C	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12
@ 300˚C	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12
@ 325˚C	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12
@ 350˚C	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12

Delta Torque, lbf-in.

@ 300˚C	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12
@ 325˚C	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12
@ 350˚C	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12

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SUMMARY OF ENGINE TEST RESULTS
YAMAHA CE50S TIGHTENING TEST

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TWO-STROKE-CYCLE GASOLINE ENGINE LUBRICANT EVALUATION
D4863 ASTM TC SEQUENCE II

SUMMARY OF ENGINE TEST RESULTS
YAMAHA CE50S TIGHTENING TEST

CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC Lubricant Code: CCCCCCCCCCCCC Lab Code: CCCCCCC Tightening No.:

Operating Parameters

Miscellaneous

Tightening No.	S12	S12	S12	S12	S12	S12	S12	Average
Seconds	S12.1	S12.1	S12.1	S12.1	S12.1	S12.1	S12.1	S12.1
Fuel Flow, lb/h	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12
Horsepower, ft-lbf.	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12
Barometer Press., in. Hg	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12

Temperature, ˚F

Ambient	S12	S12	S12	S12	S12	S12	S12	S12
Wet	S12	S12	S12	S12	S12	S12	S12	S12
Dry	S12	S12	S12	S12	S12	S12	S12	S12
Dynamometer	S12	S12	S12	S12	S12	S12	S12	S12
Intake Air	S12	S12	S12	S12	S12	S12	S12	S12
Fuel	S12	S12	S12	S12	S12	S12	S12	S12
Exhaust	S123	S123	S123	S123	S123	S123	S123	S123

Torque, lbf-in.

@ 170˚C	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12
@ 200˚C	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12
@ 300˚C	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12
@ 325˚C	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12
@ 350˚C	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12

Delta Torque, lbf-in.

@ 300˚C	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12
@ 325˚C	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12
@ 350˚C	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12	S1.12

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D4863 ASTM TC SEQUENCE II

SUMMARY OF ENGINE TEST RESULTS
YAMAHA CE50S TIGHTENING TEST

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TWO-STROKE-CYCLE GASOLINE ENGINE LUBRICANT EVALUATION

D4863 ASTM TC SEQUENCE II

| **Test Oil Code:** CCCC

TWO-STROKE-CYCLE GASOLINE ENGINE LUBRICANT EVALUATION

D4863 ASTM TC SEQUENCE II

Test Fuel Analysis (Last Batch)

Lab: CC	**EOT Date:** YYYYMMDD	**End Time:** HH:MM
Stand: CCCCC	**Run Number:** CCCCCCCCCCCCCCC	
Formulation / Stand Code: CC-CCCCCCCCCC-C-C-CCCCCC-CC-CC-CCCCC		
Supplier: CCCCCCCCCCCC	**Batch Identifier:**	CCCCCCCCCCCCCCC

Measurement	Specs.	Analysis	Test Method
Gravity, ˚API		S1.1	
Color		CCCCCCCC	
Doctor Test		CCCCCCCC	
Copper Corrosion, 3 h @ 212 ˚F	1 Maximum	S123	D 130
Reid Vapor Pressure, psig		S.1	
Research Octane Number		S1.1	
Motor Octane Number		S1.1	
(Research + Motor) / 2		S1.1	
Total Sulfur, % Weight	0.04 - 0.05	S1.12	D 2622
Gum, mg/100 mL		S.1	
Oxidation Stability, min		S1234	
Lead, g/gal		S1.123	
Distillation, ˚C			
IBP	Report	S1234	D 86
10%	Report	S1234	D 86
50%	Report	S1234	D 86
90%	282 - 338	S1234	D 86
EP	Report	S1234	D 86
Recovery, %		S12.1	
Pona, % vol			
Paraffins + Napthenes		S12.1	
Olefin	Report	S12.1	D 1319
Aromatics % Vol.	28 - 33	S12.1	D 1319