



API CJ-4 / Caterpillar C13

500 Hours, Fuel Sulfur 15 ppm

SPECIFICATIONS

This procedure is approved for API CJ-4.

OBJECTIVE

This procedure is used to evaluate the performance of crankcase lubricants with regard to piston deposits and oil consumption.

FIELD SERVICE SIMULATED

Heavy-duty diesel engines configured to meet 2007 on-highway emissions regulations are simulated.

PROCEDURE FIXTURE

An inline, six-cylinder Caterpillar C13 engine with one-piece steel pistons, dual-stage turbocharging and "ACERT" technology is used. This engine does not use cooled, recirculated exhaust gas (EGR) in the same manner as other competing engines of this class.

PROCEDURE PARAMETERS

Test parameters are: 1800 rpm, 1200 g/min fuel flow, 40°C intake manifold temp, 88°C coolant out temp, 40°C fuel in temp, 98°C oil gallery temp, 280 Kpa intake manifold pressure for 500 hours.

CRITICAL PARTS EVALUATED

Liner (1Y-4107)
Piston (1Y-4106)
Top Ring (1Y-4108)
2nd Ring (1Y-4109)
Oil Ring (1Y-4110)

USED OIL ANALYSIS

Viscosity, TAN, TBN, wear metals, TGA soot, fuel dilution

PASS/FAIL CRITERIA

	Max	Merit Wt	Anchor	Min
Delta O/C	31	300	25	10
ATLC	35	300	30	15
ATGC	53	300	46	30
R2TCA	33	100	22	5
Merits	1000			



Pass



Fail