

API CJ-4 / Mack T12

300 Hours, Fuel Sulfur 15 ppm

SPECIFICATIONS

This procedure is approved for API CJ-4 and Mack EO-O Premium Plus.

OBJECTIVE

This procedure evaluates an oil's ability to minimize cylinder liner, piston ring and bearing wear in engines with heavy exhaust gas recirculation (EGR).

FIELD SERVICE SIMULATED

Heavy-duty on-highway truck operations after 2007 are simulated.

PROCEDURE FIXTURE

The test engine is a modified Mack E7 E-Tech 460 rated at 460 bhp and 1800 rpm, with EGR and 2002 low-swirl with combustion system.

PROCEDURE PARAMETERS

This is a 300-hour engine procedure. The first 100 hours are at rated speed and power to generate soot; the last 200 hours are over-fueled at peak torque rpm to maximize the wear rates on the rings and liner.

CRITICAL PARTS EVALUATED

Piston ring wear, cylinder liner wear, lead bearing corrosion, oil consumption, and oxidation are evaluated.

USED OIL ANALYSIS

Used oil analysis includes viscosity @ 100°C soot, TBN, TAN, lead content, FTIR oxidation.

PASS/FAIL CRITERIA

Parameter	Anchor	Merit Wt	Max	Min
RWL	70	200	105	35
LWS	20	250	24	12
Lead	25	200	35	10
Lead delta	10	200	15	0
O/C	65	150	85	50
Merits	1000			

