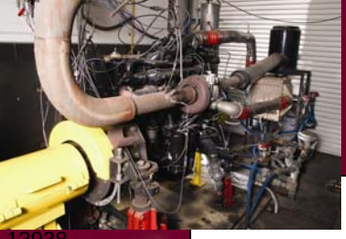


13938

API CJ-4 / Cummins ISM

200 Hours, Fuel Sulfur 500 ppm

SPECIFICATIONS

This procedure is approved for API CJ-4, Cummins CES-20081, and Mack EO-O Premium Plus. This is a replacement procedure for Cummins M11-EGR.

OBJECTIVE

This procedure is used to evaluate a lubricant's effectiveness at reducing soot-related overhead wear, sludge, and oil filter plugging.

FIELD SERVICE SIMULATED

High-load, heavy-duty field conditions with high soot and EGR flow rates using a 2007 emission compliant engine are simulated.

PROCEDURE FIXTURE

This procedure uses a Cummins ISM engine equipped with EGR and is intended as a replacement procedure for the M-11 EGR, using newer hardware.

PROCEDURE PARAMETERS

This is a 200-hour procedure. The engine has a variable geometry turbocharger, production EGR cooler, and electronically controlled EGR valve.

CRITICAL PARTS EVALUATED

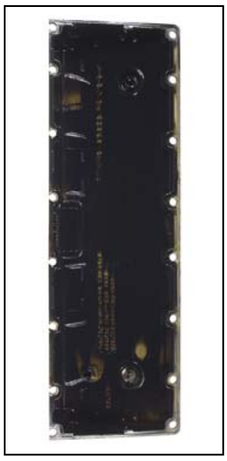
Injector adjusting screw, sludge, crosshead, top ring wear, oil filter plugging

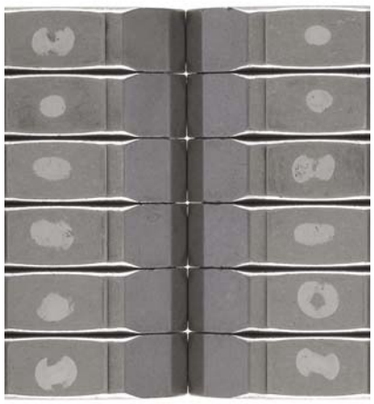
USED OIL ANALYSIS

Wear metals, viscosity, TAN, TBN, soot

PASS/FAIL CRITERIA

Parameter	Anchor	Merit Wt	Max	Min
XHD	5.7	350	7.1	4.3
RWL	100	0	100	0
Ofdp	13	150	19	7
IAS	27	350	49	16
Sludge	9	150	9.3	8.7
Merits	1000			





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