

API CJ-4 /Roller Follower Wear Test

ASTM D 5966 – 50 Hours, Fuel Sulfur 500 ppm

SPECIFICATIONS

This procedure is approved for API CJ-4.

OBJECTIVE

This procedure determines the effects of lubricating oils on camshaft roller follower axle wear.

FIELD SERVICE SIMULATED

The engine is used in several commercial and military applications.

PROCEDURE FIXTURE

The engine used is a General Motors 6.5-liter, indirect-injected diesel engine, rated at 160 horsepower at 3,400 rpm and run at 1000 rpm with near maximum load for 50 hours without an oil change.

PROCEDURE PARAMETERS

Make-up oil is added at 25 hours; oil gallery and coolant-out temperatures are controlled at 120°C. New roller followers are installed at the beginning of each procedure.

CRITICAL PARTS EVALUATED

At procedure end, the roller follower axles are removed and their wear is measured using a linear profilometer. Oil samples are taken at 25 and 50 hours.

USED OIL ANALYSIS

The used lubricant is analyzed for viscosity at 100°C, soot quantity, and wear metals as specified.

PASS/FAIL CRITERIA

Average Pin Wear	MTAC Limits
Mils, max. or	0.30 / 0.33 / 0.36
µm, max.	7.6 / 8.4 / 9.1

