

# Engine Oil Aeration Test

## SPECIFICATIONS

This test is part of API categories CG-4, CH-4, and CI-4.

## OBJECTIVE

The objective of this test is to determine the effectiveness of engine lubricating oils at minimizing air entrainment.

## FIELD SERVICE SIMULATED

The engine is used in large pickups and medium-duty trucks. The test simulates high-speed, high-load applications.

## TEST FIXTURE

The test engine is a 1994 International Truck 7.3 liter V-8, four-stroke, turbocharged, compression ignition engine using the HEUI (hydraulically actuated, electronically controlled, unit injectors) fuel injection system. The engine is rated at 215 bhp at 3000 rpm.

## TEST PARTS EVALUATION

At 0, 5, and 20 test hours, the oil is evaluated to determine the amount of entrained air in the oil.

## USED LUBRICANT ANALYSIS

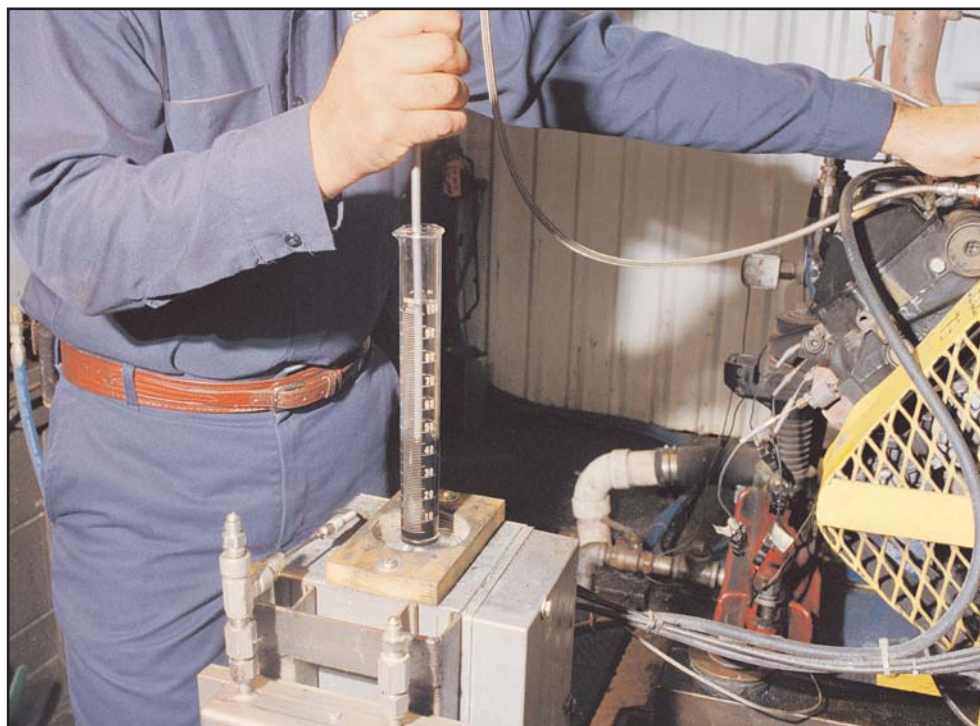
The lubricant is analyzed for wear metals at 0 and 20 hours.

## PASS/FAIL CRITERIA

At 20 hours, the maximum allowable amount of air entrained in the oil is 8.0% for CH-4 and CI-4, and 10.0% for CG-4.

## TEST PARAMETERS

Each test is run for 20 hours at rated speed and load conditions with controlled water out, fuel, and inlet air temperatures and intake air restriction. Between tests, the engine is flushed twice, for one hour each, with the next test oil.



DE123125

