

PERFORMANCE TESTS

Cummins M-11 With EGR

SCOPE:

The Cummins M-11 test with EGR is a new test developed for PC-9. The test is run in a six-cylinder Cummins M-11 engine which has a specially programmed electronic controller and EGR.

TEST CONDITIONS:

Test conditions are similar in concept to the M-11 as used in API CH-4, but with the addition of EGR and two extra test cycles. The test will run for six, fifty hour cycles with cycles one, three, and five designed to generate soot while cycles two, four, and six promote wear. The soot generation and wear cycles will run at different engine speeds, EGR rates, and injection timing settings. Target soot level at 250 hrs is 8.0 to 9.5%. Cummins earlier plans to use a continuously cycling test have been dropped.

←
4/00

STATUS:

At the October 16 HDEOCP meeting the M11-EGR test and proposed pass/fail limits were endorsed to go forward to a subcommittee B ballot to revise ASTM D4485.

←
10/01

Pass / Fail targets:

	<u>1 Test</u>	<u>2 Test</u>	<u>3 Test</u>
Crosshead weight loss, mg max (corrected to 4.6% avg soot)	20	21.8	22.6
Top Ring Weight Loss, mg max	175	186	190.9
Oil Filter Delta Pressure at 250 hrs, kPa max	275	319	339.9
Sludge merits, min	7.8	7.62	7.54
Adjusting screw weights loss	- Rate and report		
Rod Bearing Weight Loss	- Rate and report		

←
10/01

October 2001