

PERFORMANCE TESTS

Caterpillar C-13

Scope

The C-13 is the first multi-cylinder test Caterpillar has ever offered for use in defining a new API performance category. It uses the proprietary Caterpillar ACERT (Advanced Combustion Emission Reduction Technology) emission control system as opposed to the cooled EGR used in other new tests.

Test Conditions

The C-13 is a 500 hour steady state test used to measure piston deposits and oil consumption in a high output, emissions compliant class 8 engine.

500-h Test Schedule of Conditions		
Parameters	Units	Limits
Test Length	h	500
Speed	r/min	1800 ±5
Power	kW	Record
Torque (Typical)	N•m ^(A)	1760
Fuel Flow	g/m	1200 ±6
Intake Manifold Temp.	°C	40 ±2
Blowby Flow	L/min	Record
Coolant Out Temp.	°C	88 ±2
Coolant In Temp.	°C	Record
Coolant Delta Temp.	°C	Record
Fuel In Temp.	°C	40 ±2
Oil Gallery Temp.	°C	98 ±2
Turbo Inlet Temp.	°C	Record
Intake Manifold Pressure	kPa g	275-285
Exhaust Temp.	°C	Record
Fuel Pressure	kPa	Record
Oil Gallery Pressure	kPa	Record
Oil Filter Delta Pressure	kPa	Record
Coolant System Pressure	kPa ^(B)	99-107
Exhaust Restriction	kPa	6 ±1
Crankcase Pressure	kPa	Record
Inlet Air Pressure	kPa abs.	92 – 98
Intercooler Delta Pressure	kPa	Tbd
Humidity	g/kg	Record

(A) = At standard atmospheric temperature and pressure.

(B) = Measure coolant pressure on the top of the expansion tank.