

## PERFORMANCE TESTS

### Mack T-11

#### Test Conditions

The test runs at steady state speed with variable timing and EGR to hit specified soot target windows.

Parameters	Limits Test
Time, h	252
Injection Timing, °BTDC	Variable <sup>(A)</sup>
<b>Controlled Parameters<sup>(B)</sup></b>	
Speed, r/min	1800
Fuel Flow, kg/h (lb/h)	53.5 (118.0)
Intake CO <sub>2</sub> Level, %	1.5+/-0.05
Inlet Manifold Temp., °C (°F)	70 (158)
Coolant Out Temp., °C (°F)	66 (150)
Fuel In Temp., °C (°F)	40 (104)
Oil Gallery Temp., °C (°F)	88 (190)
Intake Air Temp., °C (°F)	25 (77)
<b>Ranged Parameters<sup>(C)</sup></b>	
Inlet Air Restriction, kPa (in. H <sub>2</sub> O)	3.5 – 4.0 (14 – 16)
Inlet Manifold Pressure, kPa (in. Hg)	140 Minimum
Exhaust Back Pressure, kPa (in. H <sub>2</sub> O)	2.7 – 3.5 (11 – 14)
Crankcase Pressure, kPa (in. H <sub>2</sub> O)	0.25 – 0.75 (1 – 3)
<b>Uncontrolled Parameters</b>	
Power, kW (bhp)	~257 (~345)
Torque, N•m (lb•ft) <sup>(D)</sup>	Record <sup>(D)</sup>
Exhaust Temp., °C(°F)	
Pre-turbine	Record
Tailpipe	Record
Oil Sump Temp., °C(°F)	Record
Coolant In Temp., °C(°F)	Record
EGR Cooler Inlet Temp. Front, °C(°F)	Record
EGR Cooler Outlet Temp. Rear °C(°F)	Record
EGR Pre-Venturi Temp., °C(°F)	Record
Inlet Air Dew Point, °C(°F)	Record
Inlet Air Humidity, g/kg(gr/lb)	Record
Blowby, L/min (ft <sup>3</sup> /min)	Record
Pre-turbine Exhaust Pressure, kPa (in. Hg)	Record
Main Gallery Oil Pressure, kPa (psi)	Record
Fuel Pressure	Record
Oil Filter ΔP, kPa (psi)	Not to exceed 207 (30) <sup>(E)</sup>

(A) = For pretest and post test oil flushes, injection timing is not specified.

(B) = All control parameters shall be targeted at the mean indicated.

(C) = All ranged parameters shall fall within the specified ranges.

(D) = At 98.2 kPa (29 in. Hg) and 29.5 °C (85°F) dry air.

(E) = If oil filter ΔP exceeds 207 kPa (30 psi), change the two full flow filters. If the filters are changed, attempt to recover as much oil as possible by draining the filters. No new oil is to be added. The test report shall indicate if the filters are changed.