

	Cummins Inc. Columbus, Indiana 47201 EXHAUST EMISSIONS DATA SHEET	Basic Engine Model: QSM11-G4 NR3	Curve Number: FR-20138	G-DRIVE QSM 1
		Engine Critical Parts List: CPL: 41778	Date: 17Dec07	
Displacement : 10.8 litre (661 in³)		Bore : 125 mm (4.92 in.) Stroke : 147 mm (5.79 in.)		
No. of Cylinders : 6		Aspiration : Turbocharged and Air to Air Aftercooled		

Engine Speed RPM	Standby Power		Prime Power		Continuous Power	
	kWm	BHP	kWm	BHP	kWm	BHP
1500	322	431	292	392	259	347
1800	351	470	318	426	282	378

US EPA/CARB (1500/1800 RPM)

This engine, tested in accordance with 40 CFR 89, is in compliance with the US EPA Nonroad Tier 3 regulations:

Component	g/BHP-hr	g/kW-hr
NO_x (Oxides of Nitrogen + HC)	3.0	4.0
CO (Carbon Monoxide)	2.6	3.5
PM (Particulate Matter)	0.15	0.20

Test Methods and Conditions:

Tests to demonstrate compliance with the regulated levels shown above were conducted per 40CFR89 (ref. ISO8178-1) and weighted at load points prescribed in Subpart E, Appendix A for Constant Speed Engines. (ref. ISO8178-4,D2).

Fuel Specifications:

40-46 Cetane Number, 0.03 - 0.05 Wt.% Sulfur; Reference ISO8178-5, 40CFR86, 1313-98 Type 2-D and ASTM D975 No. 2 D.

Reference:

25°C (77°F) Air Inlet Temperature, 40°C (104°F) Fuel Inlet Temperature, 100 kPa (29.53 in Hg) Barometric Pressure; 10.7 g/kg (75 grains H2O/lb) of dry air Humidity (required for NOx correction); Intake Restriction set to maximum allowable limit for clean filter; Exhaust Back Pressure set to maximum allowable limit.

TA-Luft

The Prime rating with emissions corrected to 5% O₂ content, is in compliance with the following TA-Luft standards (see test conditions below):

NO_x : 4000 mg/nm³	NMHC : 150 mg/nm³
CO : 650 mg/nm³	Particulates : 130 mg/nm³

Test Methods and Conditions:

Steady-State emissions recorded per ISO8178-1 during operation at rated engine speed (+/-2%) and stated constant load (+/-2%) with engine temperatures, pressures and emission rates stabilized.

Fuel Specifications:

40-48 Cetane Number, 0.03 -0.05 Wt.% Sulfur; Reference ISO8178-5, 40CFR86, 1313-98 Type 2-D and ASTM D975 No. 2-D.

Reference Conditions:

25°C (77°F) Air Inlet Temperature, 40°C (104°F) Fuel Inlet Temperature, 100 kPa (29.53 in Hg) Barometric Pressure; 10.7 g/kg (75 grains H2O/lb) of dry air Humidity (required for NOx correction); Intake Restriction set to maximum allowable limit for clean filter; Exhaust Back Pressure set to maximum allowable limit. Data was taken from a single engine test according to the test methods, fuel specification and reference conditions stated above and is subject to engine-to-engine variability. Test conducted with alternate test methods, instrumentation, fuel or reference conditions can yield different results.

EU NRMM (1500/1800 RPM)

This engine, tested in accordance with directive 97/68/EC, is in compliance with the EU NRMM Stage II regulations.

Component	g/BHP-hr	g/kW-hr
NO_x (Oxides of Nitrogen)	4.5	6.0
HC (Hydrocarbons)	.75	1.0
CO (Carbon Monoxide)	2.6	3.5
PM (Particulate Matter)	0.15	0.20

Test Methods and Conditions:

Tests to demonstrate compliance with the regulated levels shown above were conducted per 97/68/EC (ref. ISO8178-1) and weighted at load points prescribed in 97/68/EC Annex 3, "test procedures". (ref. ISO8178-4,D2).

Fuel Specifications:

52-54 Cetane Number, 0.03 Max. Wt.% Sulfur; as referenced by directive 97/68/EC.

Reference:

25°C (77°F) Air Inlet Temperature, 40°C (104°F) Fuel Inlet Temperature, 100 kPa (29.53 in Hg) Barometric Pressure; 10.7 g/kg (75 grains H2O/lb) of dry air Humidity (required for NOx correction); Intake Restriction set to maximum allowable limit for clean filter; Exhaust Back Pressure set to maximum allowable limit.