EXHAUST EMISSION DATA SHEET

MQ POWER GENERATOR SET





Date: August 2012

The engine used in this generator set is certified to comply with United States EPA Tier 4i and CARB Mobile Off-Highway emission regulations.

ENGINE DATA

Manufacturer:CUMMINSBore:4.49 in.(114 mm)Model:QSL9-G8Stroke:5.69 in.(145 mm)Type:4-Cycle, In-Line, 6-cylinder, DieselDisplacement: 543 cid (8.9 liters)

Aspiration: Turbocharger, Charge Air Cool Compression Ratio: 16.6:1

ECM, EGR, DOC, PTO

PERFORMANCE DATA

SAE Gross HP @ 1800 RPM (60 Hz) 433
Rated Load Fuel Consumption (gal/Hr) 16.3
Rated Load Exhaust Gas Flow (cfm) 1496
Rated Load Exhaust Gas Temperature (°F) 913

United States EPA - Mobile Off-Highway Tier 4i Limits - 174.3 ≤ ~ < 750.9 BHP

Criteria Pollutant	Emission Requirements	Certified Engine Emissions		
NOx (Oxides of Nitrogen as NO2)	1.49 gr/bhp-hr	1.27 gr/bhp-hr		
HC (Total Unburned Hydrocarbons)	0.141 gr/bhp-hr	0.007 gr/bhp-hr		
NOx + HC (Combined)	N/A gr/bhp-hr	N/A gr/bhp-hr		
CO (Carbon Monoxide)	2.609 gr/bhp-hr	0.015 gr/bhp-hr		
PM (Particulate Matter)	0.0149 gr/bhp-hr	0.002 gr/bhp-hr		

EPA Engine Family: CCEXL08.9AAI
EPA Certificate of Conformance: CCEXL08.9AAI-002
ARB Executive Order: U-R-002-0576
Effective Date: Model Year 2012

Note: Engine operation with excessive air intake or exhaust restriction beyond factory published maximum limits, or with improper service maintenance, may result in higher emission levels.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 2012 MODEL YEAR CERTIFICATE OF CONFORMITY WITH THE CLEAN AIR ACT OF 1990

OFFICE OF TRANSPORTATION AND AIR QUALITY ANN ARBOR, MICHIGAN 48105

Certificate Issued To: Cummins Inc.

(U.S. Manufacturer or Importer)

Certificate Number: CCEXL08.9AAI-002

Effective Date: 05/05/2011

Expiration Date: 12/31/2012

05/05/2011

Revision Date:
N/A

Issue Date:

Model Year: 2012

Manufacturer Type: Original Engine Manufacturer

Engine Family: CCEXL08.9AAI

Mobile/Stationary Indicator: Both

Emissions Power Category: 130<kW<=560

Fuel Type: Diesel

After Treatment Devices: Diesel Oxidation Catalyst, PTOX-DPF-Active

Karl J. Simon, Director

Compliance and Innavative Strategies Division

Non-after Treatment Devices: Electronic/Electric EGR - Cooled, Electronic Control

Pursuant to Section 111 and Section 213 of the Clean Air Act (42 U.S.C. sections 7411 and 7547) and 40 CFR Parts 60 and 1039, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following engines, by engine family, more fully described in the documentation required by 40 CFR Parts 60 and 1039 and produced in the stated model year.

This certificate of conformity covers only those new compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Parts 60 and 1039 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Parts 60 and 1039.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Parts 60 and 1039. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Parts 60 and 1039.

This certificate does not cover engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

CUMMINS INC.

EXECUTIVE ORDER U-R-002-0576 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)		
2012	CCEXL08.9AAI	8.9	Diesel	8000		
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION			
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Electronic Control Module, Exhaust Gas Recirculation, Diesel Oxidation Catalyst, and Periodic Trap Oxidizer		lule, Exhaust Gas atalyst, and Periodic	Generator Set			

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)			OPACITY (%)				
			нс	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
130 ≤ kW < 560	Tier 4 Alt NOx	STD	0.19	2.0	N/A	3.5	0.02	N/A	N/A	N/A
		CERT	0.01	1.7		0.02	0.002			

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this ______ day of July 2011.

Annette Hebert, Chief

Mobile Source Operations Division