

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-2-103

Relating to Certification of New Off-Road Compression-Ignition Equipment Engines

CUMMINS ENGINE COMPANY, INC.

Pursuant to the authority vested in the Air Resources Board (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-45-9;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engine and exhaust emission control system produced by the manufacturer are certified as described below for use in off-road equipment:

Model Year: 2001

Typical Equipment Usage: Generator and Other Industrial Equipment

Fuel Type: Diesel

<u>Engine Family</u>	<u>Engine Displacement (liters)</u>	<u>Useful Life (hours)</u>	<u>Exhaust Emission Control Systems and Special Features</u>
1CEXL060.ABA (B593)	60 and 45	8000	Direct Diesel Injection Turbocharger Charge Air Cooler Engine Control Module

Engine models and codes are listed on attachments. Production engines shall be in all material respects the same as those for which certification is granted.

The exhaust emission certification standards and certification values for total hydrocarbons (THC), carbon monoxide (CO), oxides of nitrogen (NOx), and particulate matter (PM) (units are expressed in grams per kilowatt-hour (g/kw-hr)), and the opacity-of-smoke certification standards and certification values in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family are as follows (Title 13, California Code of Regulations, Section 2423):


<u>Engine Power Rating (kw)</u>	<u>Emission Standard Category</u>		<u>Exhaust Emissions (g/kw-hr)</u>				<u>Smoke Opacity (%)</u>		
			<u>THC</u>	<u>CO</u>	<u>NOx</u>	<u>PM</u>	<u>Accel</u>	<u>Lug</u>	<u>Peak</u>
560<KW	Tier 1	Standard	1.3	11.4	9.2	0.54	20	15	50
		Certification	0.3	1.0	7.5	0.18	--	--	--

BE IT FURTHER RESOLVED: That the listed engine models also comply with "Emission Control Labels— 1996 and Later Off-Road Compression-Ignition Engines" (Title 13, California Code of Regulations, Section 2424) for the aforementioned model-year.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with the Board's emission control system warranty provisions (Title 13, California Code of Regulations, Sections 2425 and 2426).

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

Executed at El Monte, California this 6<sup>th</sup> day of February 2001.

  
R. B. Summerfield, Chief  
Mobile Source Operations Division

# Engine Model Summary Form

**Manufacturer:** Cummins Engine Company, Inc.  
**Engine category:** Nonroad CI  
**EPA Engine Family:** 1CEXL060.ABA  
**Mfr Family Name:** B593  
**Process Code:** New Submission

1. Engine Code	2. Engine Model	3. BHP @ RPM (SAE Gross)	4. Fuel Rate: mm/stroke @ peak HP (for diesel only)	5. Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6. Torque @ RPM (SEA Gross)	7. Fuel Rate: mm/stroke @ peak torque	8. Fuel Rate: (lbs/hr) @ peak torque	9. Emission Control Device Per SAE J1930
2920:FR6358	QSK60-G6	3067@1800	689	1035				EG, TC, CAC
2920:FR6364	QSK60-G6	2922@1800	602	975				EG, TC, CAC
2920:FR6346	QSK60-G5	2547@1800	511	827				EG, TC, CAC
2920:FR6371	QSK60-G6	2922@1800	627	1015				EG, TC, CAC
2935:FR6316	QSK45-G8	2205@1800	592	719				EG, TC, CAC
2655:FR6317	QSK45-G4	1850@1800	503	611				EG, TC, CAC
2655:FR6317	QSK45-G4	1823@1500	578	585				EG, TC, CAC