

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-2-47
Relating to Certification of New Heavy-Duty Off-Road Equipment Engines

CUMMINS ENGINE COMPANY, INC.

Pursuant to the authority vested in the Air Resources Board at Sections 43000.5, 43013, and 43018 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned at Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-9; and

IT IS ORDERED AND RESOLVED: That the following diesel engines and the exhaust emission control systems produced by the manufacturer are certified as described below for use in heavy-duty off-road equipment:

Model Year: 2000

Typical Equipment Usage: Generator Set and Other Industrial Equipment

Engine Power Ratings Range: over 750 horsepower

Fuel Type: Diesel

<u>Engine Family</u>	<u>Displacement</u>		<u>Exhaust Emission Control Systems and Special Features</u>
	<u>Liters</u>	<u>Cubic Inches</u>	
YCEXL060.AAA	60.0 &	3684 & 2763	Engine Control Module
(A593)	45.0		Turbocharger
			Charge Air Cooler

The 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 in grams per brake horsepower-hour (g/bhp-hr) for engines with power ratings above 750 horsepower for total hydrocarbons (THC), carbon monoxide (CO), nitrogen oxides (NOx), and particulate matter (PM), and the opacity-of-smoke certification standards and certification values in percent (%) during acceleration (Accel), lugging (Lug), and the peak-values from either mode (Peak) for this engine family are as follows (Title 13, California Code of Regulations, Section 2423):

	<u>Exhaust Emissions (g/bhp-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>
Standard	1.0	8.5	6.9	0.4	20	15	50
Certification	0.2	1.4	6.4	0.1	15	5	25

BE IT FURTHER RESOLVED: That the listed engine models comply with "Exhaust Emission Standards and Test Procedures—Heavy-Duty Off-Road Diesel-Cycle Engines" (Title 13, California Code of Regulations, Section 2423) for the aforementioned model-year.

BE IT FURTHER RESOLVED: That the listed engine models also comply with "Emission Control Labels—1996 and Later Heavy-Duty Off-Road Diesel-Cycle 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 *et seq.*).

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

Executed at El Monte, California this 28th day of December 1999.



for R. B. Summerfield, Chief
Mobile Source Operations Division

Engine Model Summary Form

U-R-2-47

Manufacturer: Cummins Engine Company, Inc.
Engine category: Nonroad CI
EPA Engine Family: YCEXL060.AAA
Mfr Family Name: A593
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
2850:FR6343	QSK60-C	2750@1900	552	943	8050@1500	560	756	EC,TC,CAC
2850:FR6339	QSK60-C	2700@1900	535	915	7840@1500	546	737	EC,TC,CAC
2850:FR6340	QSK60-C	2500@1900	495	845	7257@1500	515	694	EC,TC,CAC
2850:FR6359	QSK60-C	2160@1800	459	743	6616@1400	483	608	EC,TC,CAC
2851:FR6343	QSK60-C	2750@1900	552	943	8050@1500	560	756	EC,TC,CAC
2851:FR6339	QSK60-C	2700@1900	535	915	7840@1500	546	737	EC,TC,CAC
2851:FR6340	QSK60-C	2500@1900	495	845	7257@1500	515	694	EC,TC,CAC
2850:FR6359	QSK60-C	2160@1800	459	743	6616@1400	483	608	EC,TC,CAC
2854:FR6262	QSK45-C	2000@1900	535	686	5805@1500	530	536	EC,TC,CAC
2854:FR6305	QSK45-C	1600@1800	444	539	5042@1500	469	474	EC,TC,CAC
2854:FR6291	QSK45-C	1500@1800	419	509	4727@1500	442	447	EC,TC,CAC
2853:FR6289	QSK45-C	1500@1900	402	515	5042@1300	464	407	EC,TC,CAC
2853:FR6268	QSK45-C	1487@1900	398	510	5042@1300	464	407	EC,TC,CAC
2853:FR6307	QSK45-C	1350@1800	377	458	4525@1300	419	367	EC,TC,CAC
2823:FR6262	QSK45-C	2000@1900	535	686	5805@1500	530	536	EC,TC,CAC
2823:FR6305	QSK45-C	1600@1800	444	539	5042@1500	469	474	EC,TC,CAC
2823:FR6291	QSK45-C	1500@1800	419	509	4727@1500	442	447	EC,TC,CAC
2469:FR6289	QSK45-C	1500@1900	402	515	5042@1300	464	407	EC,TC,CAC
2469:FR6268	QSK45-C	1487@1900	398	510	5042@1300	464	407	EC,TC,CAC
2469:FR6307	QSK45-C	1350@1800	377	458	4525@1300	419	367	EC,TC,CAC