

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-2-62
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 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: Crane

Engine Power Ratings Range: 175 – 750 horsepower, inclusive

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>	
YCEXL0661AAB (B353)	11.0	661	Turbocharger Charge Air Cooler Engine Control Module

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 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	0.3	6.3	0.1	6	0	16

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 30th day of December 1999.



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

Engine Model Summary Form

Manufacturer: Cummins Engine Company

Engine category: Nonroad Over 50

EPA Engine Family: YCEXL0661AAB

Mfr Family Name: B353

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
2207:FR 2800	M11-C	430 @ 1800	228	138.6	1450 @ 1300	266	116.7	TC, EC, CAC
2207:FR 2516	M11-C	400 @ 2100	186	131.8	1400 @ 1300	252	110.8	TC, EC, CAC
2207:FR 2517	M11-C	365 @ 2100	170	120.3	1409 @ 1300	256	112.3	TC, EC, CAC
2207:FR 2816	M11-C	260 @ 2100	126	88.9	1030 @ 1300	156	68.5	TC, EC, CAC
2207:FR 2827	M11-C	330 @ 2100	155	110	1075 @ 1300	196	86.1	TC, EC, CAC
2207:FR 2828	M11-C	325 @ 2100	153	108.4	1400 @ 1300	256	112.4	TC, EC, CAC
2207:FR 2861	M11-C	325 @ 1800	171	104	1075 @ 1300	196	86.1	TC, EC, CAC
2828:FR 2851	QSM11-C	335 @ 1800	181	109.9	1260 @ 1400	237	111.8	TC, EC, CAC
2828:FR 2843	QSM11-C	330 @ 2100	160	113.5	1235 @ 1400	229	108.0	TC, EC, CAC
2829:FR 2833	QSM11-C	400 @ 2100	191	135.2	1400 @ 1400	265	125.0	TC, EC, CAC
2829:FR 2836	QSM11-C	375 @ 2100	179	126.8	1400 @ 1400	265	125.0	TC, EC, CAC
2829:FR 2839	QSM11-C	350 @ 2100	170	120.4	1310 @ 1400	243	114.5	TC, EC, CAC
2207:FR 2825	M11-C	400 @ 2100	186	131.8	1350 @ 1300	247	108.2	TC, EC, CAC