

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-21-229

Relating to Certification of New Heavy-Duty Engines and Vehicles

CUMMINS ENGINE COMPANY, INC.

Pursuant to the authority vested in the Air Resources Board at Sections 43100, 43101, and 43102 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

Pursuant to the December 15, 1998 Settlement Agreement between the Air Resources Board and Cummins Engine Company, Inc. and any modifications to the Settlement Agreement;

IT IS ORDERED AND RESOLVED: That the following 1999 model-year Cummins Engine Company, Inc. diesel engines are certified for use in motor vehicles with a manufacturer's gross vehicle-weight-rating (GVWR) over 14,000 pounds:

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>	
XCEXH0661MAI (353R)	10.8	661	Turbocharger Charge Air Cooler Electronic Control Module

The engine models and codes are listed on attachments.

BE IT ORDERED AND RESOLVED: That the following are the certification exhaust emission standards for this engine family in grams per brake horsepower-hour under the Federal Test Procedure ("FTP") for Heavy-Duty Diesel Engines (Title 13, California Code of Regulations, Section 1956.8):

	<u>Total Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Particulate Matter</u>
"FTP"	1.3	15.5	4.0	0.10

BE IT FURTHER RESOLVED: That pursuant to the Settlement Agreement and any modifications thereof, the aforementioned engine family is also subject to the following emission standards, in grams per brake horsepower-hour, under the EURO III tests in the Settlement Agreement, and a "Not-to-Exceed" nitrogen oxides emission standard of 7.0 grams per brake horsepower-hour:

	<u>Total Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Particulate Matter</u>
"EURO III"	1.3	15.5	6.0	0.10

BE IT FURTHER RESOLVED: That the following are the certification exhaust emission values for this engine family in grams per brake horsepower-hour:

	<u>Total Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Particulate Matter</u>
"FTP"	0.3	0.9	3.8	0.08
"EURO III"	0.1	0.2	5.8	0.04

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 2035 et seq.).

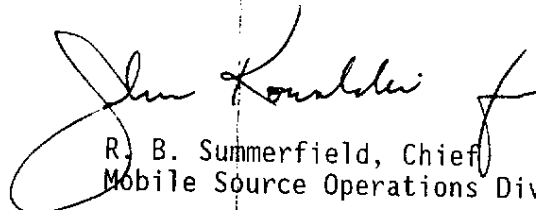
BE IT FURTHER RESOLVED: That the aforementioned engine family has been conditionally certified subject to the following conditions:

1. The Settlement Agreement is in effect.
2. The Settlement Agreement has not become null and void under Settlement Agreement Paragraph 165.
3. Cummins Engine Co., Inc. is in compliance with all applicable certification requirements of the Settlement Agreement.

Engines certified under this Executive Order must conform to all applicable California emission regulations and to all applicable terms and conditions of the Settlement Agreement.

The Bureau of Automotive Repair will be notified by copy of this order and attachments.

Executed at El Monte, California this 21<sup>st</sup> day of December 1998.

  
R. B. Summerfield, Chief  
Mobile Source Operations Division

# LARGE ENGINE MODEL SUMMARY

10/9/98

Manufacturer: **Cummins Engine Company, Inc.**

Process Code: **New Submission**

EPA Engine Family: **XCEXH0661MAI**

Manufacturer Family Name: **353R**

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
CPL2607, 2611								
FR2814	ISM 380	380@1800	200	122	1200@1200	215	87	ECM, TC, CAC
FR2584	ISM 330ESP	330@1800	171	104	1250@1200	225	91	ECM, TC, CAC
FR2585	ISM 330	330@1800	171	104	1250@1200	225	91	ECM, TC, CAC
FR2474	ISM 320	318@2100	150	106	985@1200	175	71	ECM, TC, CAC
FR2638	ISM 310	310@1800	161	98	1150@1200	205	83	ECM, TC, CAC
FR2614	ISM 305V	320@1800	166	101	1150@1200	205	83	ECM, TC, CAC
FR2817	ISM 280	288@1800	152	92	1050@1200	188	76	ECM, TC, CAC
FR2617	ISM 305VSP	320@1800	166	101	1050@1200	188	76	ECM, TC, CAC
FR2466	ISM 280	280@1800	147	89	1050@1200	188	76	ECM, TC, CAC
FR2657	ISM 330ST1	330@1800	171	104	1250@1200	225	91	ECM, TC, CAC
FR2656	ISM 310ST1	310@1800	161	98	1150@1200	205	87	ECM, TC, CAC

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