

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-21-215

Relating to Certification of New Heavy-Duty Motor Vehicle Engines

CUMMINS ENGINE COMPANY, INC.

Pursuant to the authority vested in the Air Resources Board by Sections 43100, 43102 and 43103 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 Cummins Engine Company, Inc. 1998 model 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>Liters</u>	<u>(Cubic Inches)</u>	<u>Exhaust Emission Control Systems and Special Features</u>
WCEXH0661MAE (353N)	10.8	661	Charge Air Cooler Turbocharger Powertrain Control Module

Engine models and codes are listed on attachments.

The following are the certification exhaust emission standards for this engine family in grams per brake-horsepower-hour:

<u>Non-Methane Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Particulates</u>
1.3	15.5	4.0	0.10

The following are the certification exhaust emission values for this engine family in grams per brake-horsepower-hour:

<u>Non-Methane Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Particulates</u>
0.3	0.9	3.8	0.08

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, Section 2035 et seq.).

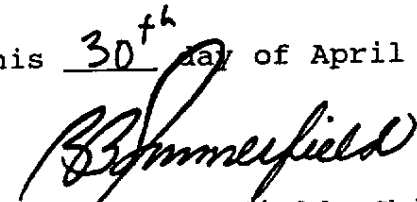
BE IT FURTHER RESOLVED: That the aforementioned engine family has been conditionally certified subject to the following conditions:

1. Any engine which employs a defeat device shall not be covered by this Executive Order.
2. Within 90 days following the issuance of this Executive Order, the manufacturer must show cause, to the satisfaction of the Executive Officer or his designee, that the strategy for fuel injection timing, including timing during the fuel economy mode, is not a defeat device.

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

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

Executed at El Monte, California this 30th day of April 1998.



R. B. Summerfield, Chief
Mobile Source Operations Division

LARGE ENGINE MODEL SUMMARY

1/14/98

Manufacturer: **Cummins Engine Company, Inc.** Process Code: **New Submission**
 EPA Engine Family: **WCEXH0661MAE** Manufacturer Family Name: **353N**

1. Engine Code	2. Engine Model	3. BHP@RPM (SAE Gross)	4. Fuel Rate: mm ³ /stroke @ peak HP (for diesel only)	5. Fuel Rate: (bs/hr) @ peak HP (for diesels only)	6. Torque @ RPM (SEA Gross)	7. Fuel Rate: mm ³ /stroke@peak torque	8. Fuel Rate: (lbs/hr)/@peak torque	9. Emission Control Device Per SAE J1930
CPL2199								
FR2583	ISM 335V	350@1800	182	110	1250@1200	225	91	PCM, TC, CAC
FR2473	ISM 350	360@1900	181	116	1050@1200	188	76	PCM, TC, CAC
FR2584	ISM 330ESP	330@1800	171	104	1250@1200	225	91	PCM, TC, CAC
FR2585	ISM 330	330@1800	171	104	1250@1200	225	91	PCM, TC, CAC
FR2474	ISM 320	318@2100	150	106	985@1200	175	71	PCM, TC, CAC
FR2638	ISM 310	310@1800	161	98	1150@1200	205	83	PCM, TC, CAC
FR2614	ISM 305	320@1800	166	101	1150@1200	205	83	PCM, TC, CAC
FR2613	ISM 305	305@1800	160	97	1150@1200	205	87	PCM, TC, CAC
FR2616	ISM 305	320@1800	166	101	1050@1200	188	76	PCM, TC, CAC
FR2617	ISM 305VSP	320@1800	166	101	1050@1200	188	76	PCM, TC, CAC
FR2615	ISM 305	305@1800	160	97	1050@1200	188	76	PCM, TC, CAC
FR2588	ISM 280	288@1800	152	92	1050@1200	188	76	PCM, TC, CAC
FR2466	ISM 280	280@1800	147	89	1050@1200	188	76	PCM, TC, CAC
FR2657	ISM 330ST1	330@1800	171	104	1250@1200	225	91	PCM, TC, CAC
FR2664	ISM 310	310@1800	161	98	1250@1200	225	91	PCM, TC, CAC
FR2656	ISM 310ST1	310@1800	161	98	1150@1200	205	87	PCM, TC, CAC