

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-21-214

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 (Cubic Inches)</u>		<u>Exhaust Emission Control Systems and Special Features</u>
WCEXH0661MAD (353M)	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>
0.2	0.9	3.7	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.).

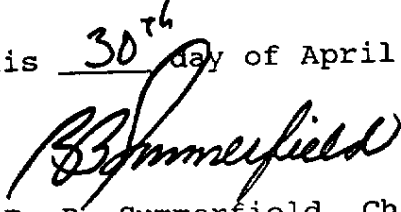
BE IT FURTHER RESOLVED: That the aforementioned engine family has been conditionally certified subject to the following conditions:

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 of fuel injection timing, including timing during the fuel for 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 30<sup>th</sup> day of April 1998.

  
R. B. Summerfield, Chief  
Mobile Source Operations Division

# LARGE ENGINE MODEL SUMMARY

1/13/98

Manufacturer: Cummins Engine Company, Inc.

Process Code: New Submission

EPA Engine Family: WCEXH0661MAD

Manufacturer Family Name: 353M

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
CPL2200								
FR2571	ISM 450	450@1800	249	151	1450@1200	259	105	PCM, TC, CAC
FR2572	ISM 450	450@1800	249	151	1450@1200	259	105	PCM, TC, CAC
FR2469	ISM 400	400@1800	213	129	1450@1200	259	105	PCM, TC, CAC
FR2573	ISM 400	400@1800	213	129	1450@1200	259	105	PCM, TC, CAC
FR2446	ISM 400	400@1800	213	129	1450@1200	259	105	PCM, TC, CAC
FR2663	ISM 400	400@1800	213	129	1450@1200	259	105	PCM, TC, CAC
FR2470	ISM 370	385@1800	203	123	1350@1200	245	99	PCM, TC, CAC
FR2449	ISM 370	385@1800	203	123	1350@1200	245	99	PCM, TC, CAC
FR2611	ISM 370	385@1800	302	123	1350@1200	245	99	PCM, TC, CAC
FR2574	ISM 370	370@1800	194	118	1450@1200	259	105	PCM, TC, CAC
FR2576	ISM 370	370@1800	194	118	1350@1200	245	99	PCM, TC, CAC
FR2575	ISM 370ESP	370@1800	194	118	1350@1200	245	99	PCM, TC, CAC
FR2452	ISM 350	365@1800	191	116	1350@1200	245	99	PCM, TC, CAC
FR2471	ISM 350	365@1800	191	116	1350@1200	245	99	PCM, TC, CAC
FR2579	ISM 350	350@1800	181	110	1350@1200	245	99	PCM, TC, CAC
FR2577	ISM 350ESP	350@1800	181	110	1350@1200	245	99	PCM, TC, CAC
FR2580	ISM 335V	350@1800	181	110	1450@1200	259	105	PCM, TC, CAC
FR2581	ISM 335V	350@1800	181	110	1350@1200	245	99	PCM, TC, CAC
FR2612	ISM 335VSP	350@1800	181	110	1350@1200	245	99	PCM, TC, CAC
FR2472	ISM 330	340@1800	176	107	1350@1200	245	99	PCM, TC, CAC
FR2582	ISM 330	330@1800	171	104	1350@1200	245	99	PCM, TC, CAC
FR2660	ISM 370ST1	370@1800	194	118	1350@1200	245	99	PCM, TC, CAC
FR2666	ISM 350	350@1800	181	110	1450@1200	259	105	PCM, TC, CAC
FR2659	ISM 350ST1	350@1800	181	110	1350@1200	245	99	PCM, TC, CAC
FR2665	ISM 330	330@1800	171	104	1350@1200	245	99	PCM, TC, CAC
FR2658	ISM 330ST1	330@1800	171	104	1350@1200	245	99	PCM, TC, CAC