

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-21-213

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>
WCEXH0661MAB (353K)	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	0.7	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.).

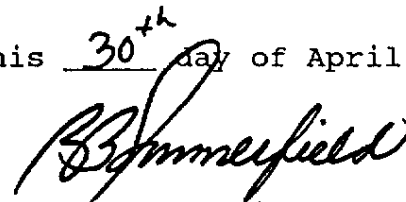
BE IT FURTHER RESOLVED: That the aforementioned engine family has been conditionally certified subject to the following conditions:

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 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 30<sup>th</sup> day of April 1998.



R. B. Summerfield, Chief  
Mobile Source Operations Division

E.O. A-21-213

8/29/97

# LARGE ENGINE MODEL SUMMARY

Manufacturer: **Cummins Engine Company, Inc.** Process Code: **New Submission**  
 EPA Engine Family: **WCEXH0661MAB** Manufacturer Family Name: **353K**

1. Engine Code	2. Engine Model	3. BHP@RPM (SAE Gross)	4. Fuel Rate: mm <sup>3</sup> /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 <sup>3</sup> /stroke@peak torque	8. Fuel Rate: (lbs/hr)@peak torque	9. Emission Control Device Per SAE J1930
CPL2370								
FR2568	M11-335V	350@1800	180	109	1250@1200	220	89	PCM, TC, CAC
FR2558	M11-350E+	350@1900	182	117	1050@1200	185	75	PCM, TC, CAC
FR2542	M11-330E+	340@1800	173	105	1250@1200	220	89	PCM, TC, CAC
FR2533	M11-330E+	330@1800	170	103	1250@1200	220	89	PCM, TC, CAC
FR2541	M11-330E+	330@1800	170	103	1250@1200	220	89	PCM, TC, CAC
FR2538	M11-330 ESP+	330@1800	170	103	1250@1200	220	89	PCM, TC, CAC
FR2554	M11-320E+	320@2100	147	104	950@1200	173	70	PCM, TC, CAC
FR2534	M11-310E+	319@1800	163	99	1150@1200	203	82	PCM, TC, CAC
FR2540	M11-310E+	310@1800	158	96	1150@1200	203	82	PCM, TC, CAC
FR2559	M11-310 ESP+	310@1800	158	96	1150@1200	203	82	PCM, TC, CAC
FR2557	M11-300E+	310@1800	158	96	1100@1200	193	78	PCM, TC, CAC
FR2556	M11-300E+	310@1800	158	96	990@1200	173	70	PCM, TC, CAC
FR2535	M11-280E+	288@1800	148	90	1050@1200	185	75	PCM, TC, CAC
FR2560	M11-280E+	288@1800	148	90	1150@1200	203	82	PCM, TC, CAC
FR2539	M11-280E+	280@1800	145	88	1050@1200	185	75	PCM, TC, CAC
FR2565	M11-280 ESP+	280@1800	145	88	1050@1200	185	75	PCM, TC, CAC