

State of California  
AIR RESOURCES BOARD

EXECUTIVE ORDER A-21-104-2

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-45-3;

IT IS ORDERED AND RESOLVED: That the following Cummins Engine Company, Inc. 1994 model diesel engines are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 8,500 pounds:

Fuel Type: Diesel

| <u>Engine Family</u>   | <u>Liters (Cubic Inches)</u> |       | <u>Exhaust Emission Control Systems and Special Features</u>   |
|------------------------|------------------------------|-------|--|
| RCE661EJDARW<br>(353A) | 10.8                         | (661) | Powertrain Control Module<br>Turbocharger<br>Charge Air Cooler |

Engine models and codes are listed on attachments.

The certification exhaust emission standards and, in accordance with the manufacturer's particulates averaging program, the particulates emission limit for this engine family in grams per brake horsepower-hour are:

| <u>Total Hydrocarbons</u> | <u>Carbon Monoxide</u> | <u>Nitrogen Oxides</u> | <u>Particulates</u>      |                        |                     |
|---------------------------|------------------------|------------------------|--------------------------|------------------------|---------------------|
|                           |                        |                        | <u>Emission Standard</u> | <u>Averaging Value</u> | <u>Family Limit</u> |
| 1.3                       | 15.5                   | 5.0                    | 0.10                     | 0.10                   | 0.09                |

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

| <u>Engine Family</u>   | <u>Total Hydrocarbons</u> | <u>Carbon Monoxide</u> | <u>Nitrogen Oxides</u> | <u>Particulates</u> |
|------------------------|---------------------------|------------------------|------------------------|---------------------|
| RCE661EJDARW<br>(353A) | 0.2                       | 1.3                    | 4.2                    | 0.06                |

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.).

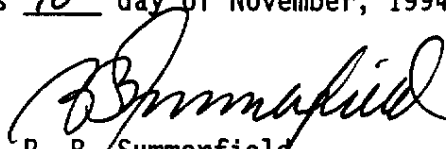
BE IT FURTHER RESOLVED: That these engines are included in a diesel heavy-duty particulates averaging program as permitted in the "California Exhaust Emission Standards for 1985 and Subsequent Model Heavy-Duty Engines and Vehicles, amended July 12, 1991", referenced section 86.091-11(a)(1)(iv)(c).

Executive Order A-21-104 dated December 10, 1993, and Executive Order A-21-104-1 dated March 9, 1994, are hereby superseded by Executive Order A-21-104-2.

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 10<sup>th</sup> day of November, 1994.



R. B. Summerfield  
Assistant Division Chief  
Mobile Source Division

1994 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET  
HEAVY-DUTY DIESEL ENGINES

Manufacturer Cummins Engine Company, Inc. Engine Family 353A RCE661EJDARW

Liter (CID) 10.8 (661) Fuel Type Diesel Engine Config. I-6

Exhaust ECS & Special Features (ECM/PCM, PTOX, IFI, etc.) PCM (TC, CAC)  
(Use abbreviations per SAE J1930 May91)

| Engine Model<br>(Eng. Code) | Rated HP<br>@ RPM | Fuel Rate<br>@ Rated HP<br>$\text{mm}^3/\text{stroke}$<br>(lbs/hr) | Injector<br>P/N | ECM/PCM<br>P/N | Part. Trap/<br>Catalyst<br>P/N |
|-----------------------------|-------------------|--|-----------------|----------------|--------------------------------|
| M11-370E<br>(1856)          | 370 @ 1800        | 194 (118)  | 3083849         | 3084473        | NA                             |
| M11-350E<br>(1856)          | 350 @ 1800        | 183 (111)  | 3083849         | 3084473        | NA                             |
| M11-330E<br>(1856)          | 330 @ 1800        | 172 (105)  | 3083849         | 3084473        | NA                             |

Revisions:

SUBMITTED

OCT 25 1993