State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-232-12
Relating to Certification of New Heavy-Duty Motor Vehicle Engines

RENAULT VEHICULES INDUSTRIELS

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 Renault Vehicules Industriels 1988 model-year diesel engines are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 8,500 pounds:

| Engine Family | Displacement Liters | (Cubic Inches) | Exhaust Emission Control Systems (Special Features) |
|---|---|---|---|
| JRE0335FPA8 | 6.2 | (377) | Smoke Puff Limiter<br>(Turbocharger)<br>(Intercooler)<br>(Diesel Injection - Direct) |
| JRE0538FAA9 | 8.8 | (538) | Engine Modification<br>(Turbocharger)<br>(Intercooler)<br>(Diesel Injection - Direct) |

Engine models and codes are listed on attachments.

The following are the emission standards for these engine families:

| Hydrocarbons gm/bhp-hr | Carbon Monoxide gm/bhp-hr | Nitrogen Oxides gm/bhp-hr | Particulates gm/bhp-hr |
|---|---|---|---|
| 1.3 | 15.5 | 6.0 | 0.60 |

The following are the certification emission values for these engine families:

| Engine Family | Hydrocarbons gm/bhp-hr | Carbon Monoxide gm/bhp-hr | Nitrogen Oxides gm/bhp-hr | Particulates gm/bhp-hr |
|---|---|---|---|---|
| JRE0335FPA8 | 0.8 | 3.0 | 5.9 | 0.36 |
| JRE0358FAA9 | 0.8 | 1.8 | 4.9 | 0.41 |

BE IT FURTHER RESOLVED: That the Executive Officer has been provided all material required to demonstrate certification compliance with the Board's emission control system warranty regulations (Title 13, California Administrative Code, Section 2036).

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 attachment.

Executed at El Monte, California this 25th day of January, 1988.

K. D. Drachand, Chief
Mobile Source Division

E.O N°. A-232-12

# 1988 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
## HEAVY-DUTY DIESEL ENGINES

Page 1.

Manufacturer RENAULT VEHICULES INDUSTRIELS  Engine Family JRE0335FPA8

Liter (CID) 6.174 (377)  Engine-Type In-line 6

Emission Control Sys. and (Special Features) SPL (TC) (IC)

| Engine Model | Fuel Injection Pump Mfr. Part Number | Injector Mfr. Part Number | Maximum Rated HP at RPM | Fuel Rate mm3/stroke (lbs/Hr) | Maximum Rated Torque at RPM | Fuel Rate mm3/stroke (lbs/Hr) |
|---|---|---|---|---|---|---|
| MIDR060226F | R. Bosch Gmbh 5000 676 064 | R. Bosch Gmbh 5000 667 706 | 200 2350 | 95 (74.33) | 560 1500 | 108 (53.94) |
| MIDR060226I | R. Bosch Gmbh 5000 676 339 | R. Bosch Gmbh 5000 676 304 | 168 2500 | 77 (64.1) | 427 1500 | 84 (41.95) |

| Issue Date :Dec 87 | Submitted by Renault Vehicules Industriels | | | | | pg.16.16.00 |
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E.O N°. A-232-12

# 1988 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
## HEAVY-DUTY DIESEL ENGINES



Manufacturer RENAULT VEHICULES INDUSTRIELS  Engine Family JRE0538FAA9

Liter (CID) 8.8 (538)  Engine-Type In-line 6

Emission Control Sys. and (Special Features) EM (TC) (IC)

| Engine Model | Fuel Injection Pump Mfr. Part Number | Injector Mfr. Part Number | Maximum Rated HP at RPM | Fuel Rate mm3/stroke (lbs/Hr) | Maximum Rated Torque at RPM | Fuel Rate mm3/stroke (lbs/Hr) |
|---|---|---|---|---|---|---|
| MIDR062030C | R. Bosch Gmbh 5000 788 290 | R. Bosch Gmbh 5000 785 794 | 204 2300 | 108 (82) | 488 1500 | 104 (51.4) |

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| Revision Date : Revision N° : | | | | | | |