State of California AIR RESOURCES BOARD

EXECUTIVE ORDER A-290-48

Relating to Certification of New Heavy-Duty Motor Vehicle Engines

DETROIT DIESEL CORPORATION

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 Detroit Diesel Corporation 1996 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

| Engine Family | <u>Liters</u> | (Cubic Inches) | Exhaust Emission Control Systems and Special Features |
|-----------------------------|---------------|----------------|--|
| TDD8.5EJDARA (SERIES-50) | 8.5 | (518) | Powertrain Control Module Turbocharger Charge Air Cooler |

Engine models and codes are listed on attachments.

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

| Total | Carbon | Nitrogen | <u>Particulates</u> | |
|---------------------|-----------------|----------|---------------------|--|
| <u>Hydrocarbons</u> | <u>Monoxide</u> | Oxides | | |
| 1.3 | 15.5 | 5.0 | 0.10 | |

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

| Engine | Total | Carbon | Nitrogen | <u>Particulates</u> |
|-----------------------------|---------------------|-----------------|---------------|---------------------|
| <u>Family</u> | <u>Hydrocarbons</u> | <u>Monoxide</u> | <u>Oxides</u> | |
| TDD8.5EJDARA (SERIES-50) | 0.1 | 1.6 | 4.7 | 0.09 |

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.).

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 Phase

day of November 1995.

R. B. Summerfield Assistant Division Chief Mobile Source Division

17-TDD8.5EJDARA-5A

E.O. No. A-290-48

1996 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET HEAVY-DUTY DIESEL-STANDARD ENGINES

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|----------------|-----------------|-------------------------------|------------------|-------------------------------|--------------|-----------------------|
| Manufacturer: | Detroit Diesel | l Corporation | | Engine Fa | mily: TDD | 8.5EJDARA |
| Displacement: | 8.5 Liters | 518 Cubic Inc HP @ 2100 RP | ches M | Er | ngine Config | guration: I-4 |
| Ignition: Com | pression X | Compressi | on with Glow Plu | ug S | park | |
| Fuel Type(s): | Dedicated X | Flex-Fuel | Dual-Fuel | $_{-}$ Diesel $_{-}$ X $_{-}$ | M100 | M85 |
| | CNG LN | JG LPG | Other (specif | y) | | |
| Diesel Cert Fu | el: 13 CCR 22 | 282 40 (| CFR 86.1313-90 | 40 CF | R 86.1313-9 | 94 _X_ |
| Primary Intend | led Service Cla | ass: LHD | MHD HI | HD_X_ Url | ban Bus | - |
| Exhaust ECS (| include. MFI, | TC, CAC): EC | CM/PCM, CAC, (| TC) | | |
| | | Fuel Rate | Fuel Pump | | EGR | PTOX/ |
| Engine Model | Rated HP | @Rated HP | • | ECM/PCM | | Catalytic |
| (Eng Code) | @ RPM | mm3/Stroke (lbs/hr) | Part No. | Part No. | Part No. | Converter Part No. |
| SERIES 50 | | | | | | |
| 1D | | | (RESERVED) | | | |
| 2D | | | (RESERVED) | | | |
| 3D . | 300@2100 | 215.2 (100.2) | 5235550 | 23513553 | | |
| 4D | 300@1800 | 239.1 (95.4) | 5235550 | 23513553 | | |
| 5D | 275@2100 | 197.9 (92.2) | 5235550 | 23513553 | | |
| 6D | 250@2100 | 179.3 (83.5) | 5235550 | 23513553 | | |

Date Issued: 05-15-95

Rev.: