State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-7-11

Relating to Certification of New Heavy-Duty Off-Road Equipment Engines

DETROIT DIESEL CORPORATION

Pursuant to the authority vested in the Air Resources Board by Sections 43000.5, 43013 and 43018 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 1997 model-year engine, with rated power between 175 and 750 horsepower, and exhaust emission control systems are certified as described below for use in heavy-duty off-road equipment:

Typical Equipment Usage: Industrial/Construction Equipment

Fuel Type: Diesel

Engine Family	Liters	(Cubic Inches)	Exhaust Emission Control Systems and Special Features
VDD11.TJDARE (Series 60)	11.1	(677)	Turbocharger Charge Air Cooler Engine Control Module

Engine models and codes are listed on attachments. Production engines shall be in all material respects the same as those for which certification is granted.

The total hydrocarbons (THC), carbon monoxide (CO), nitrogen oxides (NOx), and particulate matter (PM) certification exhaust emission standards, in grams per brake horsepower-hour (g/bhp-hr), and the opacity of smoke emission standards, in percent (%), during acceleration (Accel), lugging (Lug), and peak (Peak) modes, for this engine family are (Title 13, California Code of Regulations, Section 2423):

Exhaust Emissions (g/bhp-hr)				Smoke Opacity (%)		
THC	CO	NOx	PM	Accel	Lug	Peak
1.0	8.5	6.9	0.4	20	15	50

The THC, CO, NOx and PM exhaust emission certification values, in g/bhp-hr, and the opacity of smoke emission certification values, in percent (%), for this engine family are:

Engine Family	Exhaust Emission (g/bhp-h)				Smoke Opacity (%)		
	THC	CO	NOx	PM	Accel	Lug	Peak
VDD11.TJDARE (Series 60)	0.1	0.6	6.7	0.1	4	1	9

IT FURTHER RESOLVED: That the listed engine models comply with the "Exhaust Emission Standards and Test Procedures--Heavy-Duty Off-Road Diesel Cycle Engines" (Title 13, California Code of Regulations, Section 2423) for the aforementioned model year.

BE IT FURTHER RESOLVED: That the listed engine models also comply with the "Emission Control Labels--1996 and Later Heavy-Duty Off-Road Diesel Cycle Engines" (Title 13, California Code of Regulations, Section 2424) for the aforementioned model year.

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 2425 et seq.).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

Executed at El Monte, California this _9th_ day of January 1997.

R. B. Summerfield, Chief
Mobile Source Operations Division

17-VDD11.TJDARE-5

1997 AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET
HEAVY-DUTY DIESEL-STANDARD ENGINES

Manufacturer: Detroit Diesel Corporation

Engine Family: VDD11.TJDARE

Displacement: __ / 11.1 __ Liters   __ / 677 __ Cubic Inches

All Engine Codes in Family: CA__49S__50S _X_; Strokes/Cycle: _4_; Valves/Cylinder: _4_

Ignition: Compression _X_;   Compression with Glow Plug __;   Spark__.

Fuel Type(s): Dedicated _X_;   Flex Fuel___; Dual-Fuel___; Diesel _X_; M100___; M85___

          CNG/LNG__;   LPG__; Other (Specify)_____

Diesel Cert Fuel: 13CCR 2282___; 40 CFR 86.1313-90___; 40 CFR 86.1313-94 _X_

Maximum Rated Power: _340 HP @ 1800_ RPM

Engine Configuration: L-6

Exhaust ECS: _ECM.CAC.(TC)_

EQUIP. TYPE : INDUSTRIAL / CONSTRUCTION EQUIPMENT

Engine Model (Eng Code)	Rated HP @ RPM	Fuel Rate @ Rated HP mm3/Stroke (Lbs/Hr)	Fuel Pump & Injector Part No.	ECM/PCM Part No.	EGR Valve Part No.	PTOX/ Catalytic Converter Part No.
SERIES 60, 11.1L						
(1A)	325 @ 2100	156.1 (109.0)	5235605	23518743 23518645		
(1B)	300 @ 2100	146.1 (102.0)				
(1C)	285 @ 2100	139.9 (97.7)				
(1D21)	330 @ 2100	158.5 (110.7)				
(1D18)	340 @ 1800	178.9 (107.1)	▼	▼		

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