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 AIR RESOURCES BOARD	DETROIT DIESEL CORPORATION	EXECUTIVE ORDER U-R-007-0070 New Off-Road Compression-Ignition Engines
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Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 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 compression-ignition engine and emission control system produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2002	2DDXL08.5YJD	8.5	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Engine Control Module, Turbocharger, Charge Air Cooler			Crane, Loader, Tractor, Pump, Compressor, Generator	

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbons (HC), oxides of nitrogen (NOx), or non-methane hydrocarbons plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

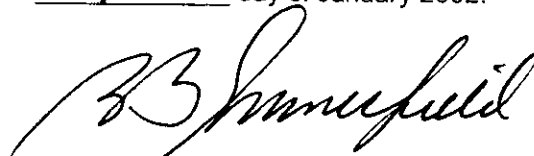
RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
130 ≤ KW < 225	Tier 2	STD	N/A	N/A	6.6	3.5	0.20	20	15	50
225 ≤ KW < 450	Tier 2	STD	N/A	N/A	6.4	3.5	0.20	20	15	50
		CERT	--	--	6.3	1.2	0.15	20	4	37

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

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

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 7th day of January 2002.



R. B. Summerfield, Chief
 Mobile Source Operations Division

Engine Model Summary Form

Manufacturer: Detroit Diesel Corporation
 Engine category: Nonroad CI
 EPA Engine Family: 2DDXL08.5YJD
 Mfr Family Name: SERIES 50 (TIER 2)
 Process Code: New Submission

ATTACHMENT

F0 U-R-00?-0070

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/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/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
A22	Series 50	350 @ 2200	278.8	136.0	1050 @ 1350	314.5	94.1	DD, ECM, TC, CAC (all ratings)
A18		350 @ 1800 (261 kw)	319.4	127.5	1050 @ 1350	314.5	94.1	
B22		315 @ 2200	258.0	125.8	1050 @ 1350	312.4	93.5	
B18		315 @ 1800	292.1	116.6	1050 @ 1350	312.4	93.5	
C21		350 @ 2100	285.5	132.9	1050 @ 1350	313.7	93.9	
C18		350 @ 1800	319.1	127.3	1050 @ 1350	313.7	93.9	
D21		315 @ 2100	261.9	121.9	1050 @ 1350	313.1	93.7	
D18		315 @ 1800	292.5	116.7	1050 @ 1350	313.1	93.7	
E21 *		300 @ 2100	249.4	116.1	1000 @ 1350	298.1	89.2	
E18 *		300 @ 1800	279.4	111.5	1000 @ 1350	298.1	89.2	
F21 *		275 @ 2100	229.8	107.0	900 @ 1350	268.4	80.3	
F18 *		275 @ 1800	255.0	101.8	900 @ 1350	268.4	80.3	
G21 *		250 @ 2100	209.9	97.7	800 @ 1350	242.1	72.5	
G18 *		250 @ 1800 (186.5 kw)	229.7	91.7	800 @ 1350	242.1	72.5	

GS1	Series 50	350 @ 1800	315.1	125.8	NA	NA	NA	NA
GS2		315 @ 1800	285.6	114.0	NA	NA	NA	NA
GS3 *		250 @ 1800	229.4	91.5	NA	NA	NA	NA

* These engine codes are certified to the Tier 2 (2003-2005) NR-6 standard per VDC e-mail of 1/3/02.