



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	2DDXL14.0VLD	14.0	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
225 ≤ KW < 450	Tier 2	STD	N/A	N/A	6.4	3.5	0.20	20	15	50
		CERT	--	--	6.3	0.8	0.15	19	2	42

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 27th day of December 2001.

for R. B. Summerfield, Chief
Mobile Source Operations Division

Engine Model Summary Form

FO# UR-007-0072

ATTACHMENT

Manufacturer: **Detroit Diesel Corporation**
 Engine category: **Nonroad CI**
 EPA Engine Family: **2DDXL14.0VLD**
 Mfr Family Name:
 Process Code: **Running Change** *191-27, 2002*

1. Engine Code	2. Engine Model	3. BHP @ RPM (SAE Gross)	4. Fuel Rate: mm/stroke @ peak HP (for diesel only)	5. Fuel Rate: (lb/hr) @ peak HP (for diesels only)	6. Torque @ RPM (SEA Gross)	7. Fuel Rate: mm/stroke @ peak torque	8. Fuel Rate: (lb/hr) @ peak torque	9. Emission Control Device Per SAE J1930
1N21	S60, 14L	600 @ 2100	323.4	225.9	1900 @ 1350	384.6	172.7	EG, TAA
1N18	600 @ 1800	600 @ 1800	364.8	218.4	1900 @ 1350	384.6	172.7	DDI, EGR, TC, CAC
1P21	550 @ 2100	550 @ 2100	290.6	203.0	1750 @ 1350	350.7	157.5	↓
1P18	550 @ 1800	550 @ 1800	325.9	195.1	1750 @ 1350	350.7	157.5	

Engine Model Summary Form

Manufacturer: **Detroit Diesel Corporation**

Engine category: **Nonroad CI**

EPA Engine Family: **2DDXL14.0VLD**

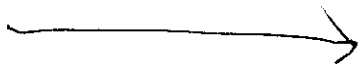
Mfr Family Name: **SERIES 60, 14.0L**

Process Code: **Running Change Feb. 11, 2002**

ATTACHMENT

EO# V-R-807-0072

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
GS2	S60, 14L	635 @ 1800	363.9	217.8	NA	NA	NA	EG-TAA bdi, ECM, TC, SAC
1J23		665 @ 2300	316.2	241.9	1900 @ 1350	364.1	163.4	
1J21		665 @ 2100	341.2	238.3	1900 @ 1350	364.1	163.4	
1K23		600 @ 2300	294.4	225.2	1900 @ 1350	364.1	163.4	
1K21		600 @ 2100	310.0	216.5	1900 @ 1350	364.1	163.4	
1L21		630 @ 2100	325.1	227.0	1900 @ 1350	364.1	163.4	
1L18		630 @ 1800	370.1	221.5	1900 @ 1350	364.1	163.4	
1M21		600 @ 2100	309.3	216.0	1900 @ 1350	364.1	163.4	
1M18		600 @ 1800	349.8	209.4	1900 @ 1350	364.1	163.4	



Engine Model Summary Form

Manufacturer: **Detroit Diesel Corporation**
 Engine category: **Nonroad CI**
 EPA Engine Family: **2DDXL14.0VLD**
 Mfr Family Name:
 Process Code: **New Sub - continued**

ATTACHMENT
EO# U-R-007-0072

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
1J23	S60, 14L	665 @ 2300	316.2	241.9	1900 @ 1350	364.1	163.4	EC, TAA
1J21		665 @ 2100	341.2	238.3	1900 @ 1350	364.1	163.4	
1K23		600 @ 2300	294.4	225.2	1900 @ 1350	364.1	163.4	
1K21		600 @ 2100	310.0	216.5	1900 @ 1350	364.1	163.4	
1L21		630 @ 2100	325.1	227.0	1900 @ 1350	364.1	163.4	
1L18		630 @ 1800	370.1	221.5	1900 @ 1350	364.1	163.4	
1M21		600 @ 2100	309.3	216.0	1900 @ 1350	364.1	163.4	
1M18		600 @ 1800	349.8	209.4	1900 @ 1350	364.1	163.4	

Engine Model Summary Form

EO#
U-R-007-0072

ATTACHMENT

Manufacturer: **Detroit Diesel Corporation**
 Engine category: **Nonroad CI**
 EPA Engine Family: **2DDXL14.0VLD**
 Mfr Family Name: **SERIES 60, 14.0L**
 Process Code: **New Submission**

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
1A21	S60, 14L	450 @ 2100	237.5	165.3	1650 @ 1350	307.4	137.7	EC TAA
1A18		450 @ 1800	258.3	154.1	1650 @ 1350	307.4	137.7	
1B21		525 @ 2100	280.0	194.6	1750 @ 1350	330.6	148.0	
1B18		525 @ 1800	308.8	184.1	1750 @ 1350	330.6	148.0	
1C21		525 @ 2100	279.1	193.9	1800 @ 1350	343.2	163.4	
1C18		525 @ 1800	308.0	183.5	1800 @ 1350	343.2	163.4	
1D20		533 @ 2000	295.1	195.4	1750 @ 1350	331.9	148.6	
1E21		550 @ 2100	294.6	204.7	1750 @ 1350	328.8	147.0	
1E18		550 @ 1800	325.2	193.8	1750 @ 1350	328.8	147.0	
1F21HT		550 @ 2100	294.6	204.7	1750 @ 1350	328.8	147.0	
1F18HT		550 @ 1800	325.2	193.8	1750 @ 1350	328.8	147.0	
1G23		550 @ 2300	278.8	212.2	1750 @ 1350	328.0	146.9	
1H21		575 @ 2100	307.2	213.6	1750 @ 1350	330.0	147.7	
1H18		575 @ 1800	342.6	204.2	1750 @ 1350	330.0	147.7	
GS1		550 @ 1800	318.8	190.1	NA	NA	NA	
GS2		635 @ 1800	363.9	217.8	NA	NA	NA	