



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-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems 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)
2004	4DDXL90.0XTP	90.0	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Engine Control Module, Turbocharger, Charge Air Cooler			Haul Truck, Generator Set	

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 (NO_x), or non-methane hydrocarbons plus oxides of nitrogen (NMHC+NO_x), 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	NO _x	NMHC+NO _x	CO	PM	ACCEL	LUG	PEAK
kW > 560	Tier 1	STD	1.3	9.2	N/A	11.4	0.54	20	15	50
		CERT	0.6	8.3	--	0.7	0.16	8	2	16

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 23RD day of December 2003.

Allen Lyons, Chief
Mobile Source Operations Division

Engine Model Summary Form

Manufacturer: Detroit Diesel Corporation and MTU
Engine category: Nonroad CI
EPA Engine Family: 4DDXL90.0XTP
Mfr Family Name:
Process Code: New Sub - continued

EO#U-R-007-0091

ATTACHMENT (PAGE 1 OF 2)

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
					Constant speed (all ratings)	NA (all ratings)	NA (all ratings)	EC TAW (all ratings)
5349	Std. (S)	3674 @ 1800	631	1247				
5350	(P)	3339 @ 1800	568	1123				
5351	(S)	4036 @ 1800	705	1393				
5352	(P)	3674 @ 1800	631	1247				
5353	(C)	2762 @ 1800	467	922				
5354	Switchable (S)	3674 @ 1800 3245 @ 1500	640 648	1269 1069				
5355	(P)	3339 @ 1800 2949 @ 1500	578 594	1143 982				
5356	(S)	4036 @ 1800 3580 @ 1500	711 716	1406 1179				
5357	(P)	3674 @ 1800 3245 @ 1500	640 648	1269 1069				
5358	(C)	2762 @ 1800 2691 @ 1500	480 551	951 910				
5359	Low NOx (S)	3674 @ 1800	653	1293				
5360	(P)	3339 @ 1800	594	1174				
5361	(S)	4036 @ 1800	710	1407				
5362	(P)	3674 @ 1800	653	1293				
5363	(C)	2762 @ 1800	486	962				

DDI, ECM, TC, CAC
(ALL RATINGS)

P - prime
 S - standby
 C - continuous

Engine Model Summary Form

EO# U-R-007-0091

ATTACHMENT (PAGE 2 of 2)

Manufacturer: Detroit Diesel Corporation and MTU
Engine category: Nonroad CI
EPA Engine Family: 4DDXL90.0XTP
Mfr Family Name: SERIES 20V-4000 MDEC
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 Devices Per SAE J1930
5339	C & I	3647 @1900	597	1266	11968 @ 1600	688	1227	EC TAW
5340	I	3647 @ 1800	612	1225	11968 @ 1600	688	1227	(all ratings)
5341	V	3151 @ 1800	535	1074	11029 @ 1500	632	1058	DDI, TC, CAC, EDM CAL RATINGS