

 AIR RESOURCES BOARD	DETROIT DIESEL CORPORATION	EXECUTIVE ORDER U-R-007-0101
		New Off-Road Compression-Ignition Engines

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)
2005	5DDXL31.8XRR	23.9, 31.8	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 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 (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):

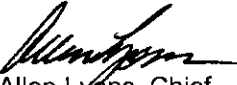
RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kW-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
kW > 560	Tier 1	STD	1.3	9.2	N/A	11.4	0.54	20	15	50
		CERT	0.2	5.8	--	1.5	0.15	18	3	28

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 9TH day of December 2004.


 Allen Lyons, Chief
 Mobile Source Operations Division

Engine Model Summary Form

*EO# U-R-007-0101
ATTACHMENT 1 of 1*

Manufacturer: **Detroit Diesel Corporation**
 Engine category: **Nonroad CI**
 EPA Engine Family: **5DDXL31.8XRR**
 Mfr Family Name: **S2000 - TIER 2**
 Process Code: **New Submission**
RUNNING CHANGE

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm ³ /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 ³ /stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
5365	12V-2000 SCCC	760 @ 2100	207	288	2277 @ 1350	223	201	EC TAW (all ratings)
5492	16V-2000 SCCC	1500 @ 2100	295	547	4429 @ 1500	331	440	<i>DDI, ECM, TC, C</i>
5541	16V-2000 SCCC	1050 @ 2100	219	407	3290 @ 1350	242	289	
5542	16V-2000 SCCC	1050 @ 1800	237	376	3290 @ 1350	242	289	
5543	16V-2000 SCCC	1205 @ 1800	270	428	3905 @ 1500	288	383	
5544	16V-2000 SCCC	1205 @ 2100	249	461	3905 @ 1500	288	383	
5545	16V-2000 SCCC	1340 @ 2100	267	495	3905 @ 1500	288	383	

