



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)
2003	3DDXL31.8XRE	15.9, 23.9, and 31.8	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Engine Control Module, Turbocharger, Charge Air Cooler			Crane, 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	0.3	8.9	--	1.2	0.17	16	5	23

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 5TH day of December 2002.

Allen Lyons, Chief
Mobile Source Operations Division

Engine Model Summary Form

EOA V-R-007-0082-
 9/24/03
 RUNNING CHANGE #05
 ATTACHMENT
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Manufacturer: **Detroit Diesel Corporation**
 Engine category: **Nonroad CI**
 EPA Engine Family: **3DDXL31.8XRE**
 Mfr Family Name: **SERIES 2000**
 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	8V-2000 SCCC	760 @ 2100	294	274	2225 @ 1350	324	194	EC TAW (all ratings)
2A23	8V-2000 SCCC	760 @ 2300	276	281	2225 @ 1350	324	194	
3AGS18	8V-2000 SCCC	765 @ 1800	325	259	GENSET - NA	NA	NA	
1B21	12V-2000 SCCC	1250 @ 2100	312	436	3424 @ 1500	318	317	
2BGS18	12V-2000 SCCC	1120 @ 1800	324	388	GENSET - NA	NA	NA	
2BGS15	12V-2000 SCCC	912 @ 1500	298	297	GENSET - NA	NA	NA	
3B21	12V-2000 SCCC	960 @ 2100	204	339	3097 @ 1500	255	304	
4B21	12V-2000 SCCC	860 @ 2100	200	302	2471 @ 1350	181	215	
5B21	12V-2000 SCCC	1110 @ 2100	290	405	3200 @ 1500	304	303	
6B21	12V-2000 SCCC	1005 @ 2100	256	358	3100 @ 1350	296	266	
7B21	12V-2000 SCCC	905 @ 2100	233	325	2890 @ 1350	275	246	
7B18	12V-2000 SCCC	905 @ 1800	252	302	2890 @ 1350	275	246	
8B21	12V-2000 SCCC	850 @ 2100	215	300	2715 @ 1350	260	233	
8B18	12V-2000 SCCC	850 @ 1800	236	283	2715 @ 1350	260	233	
9BGS18	12V-2000 SCCC	1120 @ 1800	317	379	GENSET - NA	NA	NA	
1CGS18	12V-2000 JWCC	910 @ 1800	261	312	GENSET - NA	NA	NA	
1CGS18TL	12V-2000 JWCC	823 @ 1800	236	283	GENSET - NA	NA	NA	

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2C21	12V-2000 JWCC	760 @ 2100	198	27"	2440 @ 1200	245	196
2C18	12V-2000 JWCC	760 @ 1800	215	2"	2440 @ 1200	245	196

Engine Model Summary Form

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Manufacturer: Detroit Diesel Corporation
Engine category: Nonroad CI
EPA Engine Family: 3DDXL31.8XRE
Mfr Family Name: SERIES 2000
Process Code: New Sub - continued

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
1DGS15	16V-2000 SCCC	1200 @ 1500	301	401	GENSET - NA	NA	NA	EC TAW
1DGS18	16V-2000 SCCC	1350 @ 1800	284	453	GENSET - NA	NA	NA	(all ratings)
2D21	16V-2000 SCCC	1205 @ 2100	225	419	3918 @ 1350	283	339	
2D18	16V-2000 SCCC	1205 @ 1800	256	408	3918 @ 1350	283	339	
3D21	16V-2000 SCCC	1340 @ 2100	244	454	4204 @ 1500	301	400	
4DGS18	16V-2000 SCCC	1495 @ 1800	315	503	GENSET - NA	NA	NA	
5DGS18	16V-2000 SCCC	1495 @ 1800	319	509	GENSET - NA	NA	NA	
6DGS18	16V-2000 SCCC	1350 @ 1800	284	453	GENSET - NA	NA	NA	
7DGS15	16V-2000 SCCC	1200 @ 1500	298	397	GENSET - NA	NA	NA	
7DGS18	16V-2000 SCCC	1350 @ 1800	284	453	GENSET - NA	NA	NA	
8D21	16V-2000 SCCC	1340 @ 2100	244	454	4204 @ 1500	301	400	
1E21	16V-2000 JWCC	1050 @ 2100	205	382	3415 @ 1350	258	309	
1E18	16V-2000 JWCC	1050 @ 1800	226	360	3415 @ 1350	258	309	
2EGS18	16V-2000 JWCC	1200 @ 1800	252	403	GENSET - NA	NA	NA	
2EGS18TL	16V-2000 JWCC	1086 @ 1800	225	359	GENSET - NA	NA	NA	

Engine Model Summary Form

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Manufacturer: Detroit Diesel Corporation
Engine category: Nonroad CI
EPA Engine Family: 3DDXL31.8XRE
Mfr Family Name:
Process Code: New Sub - continued

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
3C21	12V-2000 JWCC	760 @ 2100	200	276	2300 @ 1200	231	184	EC TAW (all ratings)
4C18	12V-2000 SCCC (R1238K39)	1005 @ 1800	285	340	3100 @ 1350	297	264	
4C21		1005 @ 2100	255	354	3100 @ 1350	297	264	
5C18		905 @ 1800	255	304	2890 @ 1350	281	251	
5C21		905 @ 2100	230	320	2890 @ 1350	281	251	
6C18		850 @ 1800	239	284	2715 @ 1350	269	239	
6C21	V	850 @ 2100	213	296	2715 @ 1350	269	239	

Engine Model Summary Form

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Manufacturer: Detroit Diesel Corporation
Engine category: Nonroad CI
EPA Engine Family: 3DDXL31.8XRE
Mfr Family Name:
Process Code: Running Change

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
4C18	12V-2000 SCCC	1005 @ 1800	285	340	3100 @ 1350	297	264	EC TAW
4C21	(R1238K39)	1005 @ 2100	255	354	3100 @ 1350	297	264	(all ratings)
5C18		905 @ 1800	255	304	2890 @ 1350	281	251	
5C21		905 @ 2100	230	320	2890 @ 1350	281	251	
6C18		850 @ 1800	239	284	2715 @ 1350	269	239	
6C21		850 @ 2100	213	296	2715 @ 1350	269	239	