

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)
2008	8MDDL31.8XRR	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, Genset	

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):

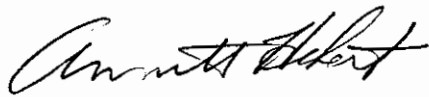
RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kW-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
kW > 560	Tier 2	STD	N/A	N/A	6.4	3.5	0.20	20	15	50
		CERT	--	--	6.1	1.6	0.16	8	3	10

**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 10 day of December 2007.



Annette Hebert, Chief  
 Mobile Source Operations Division

# Engine Model Summary Template

ED# V-R-052-0005  
ATTACHMENT, P. 1 OF 2

Engine Family	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 torqueDevice Per SAE J1930	9.Emission Control
8MDDL31 8XRR	5492	16V-2000 S	1500 @ 2100	295	547	4429 @ 1500	331	440	DFI, TC, CAC, ECM
8MDDL31 5XRR	5541	16V-2000 S12	1050 @ 2100	219	407	3290 @ 1350	242	289	DFI, TC, CAC,
8MDDL31 8XRR	5542	16V-2000	1050 @ 1800	237	407	3290 @ 1350	242	289	DFI, TC, CAC,
8MDDL31 6XRR	5543	16V-2000	1205 @ 1800	270	428	3905 @ 1500	288	383	DFI, TC, CAC,
8MDDL31 8XRR	5544	16V-2000	1205 @ 2100	249	461	3905 @ 1500	288	383	DFI, TC, CAC,
8MDDL31 8XRR	5545	16V-2000 S52	1340 @ 2100	267	495	3905 @ 1500	288	383	DFI, TC, CAC,
8MDDL31 8XRR	5365	12V-2000	760 @ 2100	207	288	2277 @ 1350	223	201	DFI, TC, CAC,
8MDDL31 8XRR	5568	12V-2000 S/C	760 @ 2100	210	293	2452 @ 1350	249	224	DFI, TC, CAC,
8MDDL31 8XRR	5569	12V-2000 S12	850 @ 2100	232	324	2762 @ 1500	278	277	DFI, TC, CAC,
8MDDL31 6XRR	5570	12V-2000	905 @ 2100	247	345	2946 @ 1500	296	295	DFI, TC, CAC,
8MDDL31 8XRR	5571	12V-2000 C22	1005 @ 2100	273	381	3014 @ 1500	302	301	DFI, TC, CAC,
8MDDL31 8XRR	5549	12V-2000 G84	1120 @ 1800	330	374	NA	NA	NA	DFI, TC, CAC,
8MDDL31 8XRR	5544	12V-2000 G44	986 @ 1800	300	341	NA	NA	NA	DFI, TC, CAC,
8MDDL31 8XRR	5548	12V-2000 G84	1021 @ 1800	308	350	NA	NA	NA	DFI, TC, CAC,
8MDDL31 8XRR	5546	12V-2000 G44	896 @ 1800	280	314	NA	NA	NA	DFI, TC, CAC,
8MDDL31 6XRR	5552	12V-2000 G84	1021 @ 1800	308	350	NA	NA	NA	DFI, TC, CAC,
8MDDL31 8XRR	5553	12V-2000 G84	1120 @ 1800	330	374	NA	NA	NA	DFI, TC, CAC,
8MDDL31 8XRR	5567	12V-2000	1234 @ 1800	367	417	NA	NA	NA	DFI, TC, CAC,
8MDDL31 8XRR	5550	12V-2000 G44	896 @ 1800	280	313	NA	NA	NA	DFI, TC, CAC,
8MDDL31 8XRR	5551	12V-2000 G44	986 @ 1800	300	342	NA	NA	NA	DFI, TC, CAC,
8MDDL31 8XRR	5556	16V-2000 G44	1354 @ 1800	306	467	NA	NA	NA	DFI, TC, CAC,
8MDDL31 8XRR	5557	16V-2000 G84	1495 @ 1800	333	508	NA	NA	NA	DFI, TC, CAC,
8MDDL31 6XRR	5558	16V-2000 G44	1227 @ 1800	285	433	NA	NA	NA	DFI, TC, CAC,
8MDDL31 5XRR	5559	16V-2000 G84	1354 @ 1800	306	467	NA	NA	NA	DFI, TC, CAC,
8MDDL31 8XRR	5561	16V-2000 G84	1495 @ 1800	333	508	NA	NA	NA	DFI, TC, CAC,
8MDDL31 8XRR	7047	12V-2000 P12	805 @ 1800	241	290	3500@1800	262	263	DFI, TC, CAC,
8MDDL31 8XRR	7048	12V-2000	905 @ 1800	267	321	4010@1800	294	295	DFI, TC, CAC,
8MDDL31 8XRR	7049	12V-2000 P92	1057 @ 2100	280	393	4010@2100	299	300	DFI, TC, CAC,

# Engine Model Summary Template

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ATTACHMENT, P2 of 2

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: @ peak HP (lbs/hr) (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
8MDDL31.8XRR	7050	16V-2000 P12	1073 @ 1800	241	287	4770@1800	261	332	DFI, TC, CAC, ECM
8MDDL31.8XRR	7051	16V-2000	1207 @ 1800	271	434	5350@1800	294	392	DFI, TC, CAC,
8MDDL31.8XRR	7052	16V-2000 P92	1408 @ 2100	280	524	5350@1800	294	392	DFI, TC, CAC,
8MDDL31.8XRR	7077	12V P82 3A	805 @ 1800	250	283	NA	NA	NA	DFI, TC, CAC,
8MDDL31.8XRR	7078	12V P82 3B/3C	932 @ 1800	287	327	NA	NA	NA	DFI, TC, CAC,
8MDDL31.8XRR	7079	16V P82 3A	1073 @ 1800	247	377	NA	NA	NA	DFI, TC, CAC,
8MDDL31.8XRR	7080	16V P82 3B/3C	1247 @ 1800	299	457	NA	NA	NA	DFI, TC, CAC,