

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 December 15, 1998 Settlement Agreement between the Air Resources Board and the manufacturer, and any modifications thereof to the Settlement Agreement;

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 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)
2008	8CPXL11.1ESK	11.1	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Turbocharger, Charge Air Cooler and Engine Control Module			Loader and Industrial Equipment	

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon 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
130 ≤ KW < 450	Tier 3	STD	N/A	N/A	4.0	3.5	0.20	20	15	50
		CERT	--	--	3.6	3.3	0.20	15	3	24

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 20 day of December 2007.


 Annette Hebert, Chief
 Mobile Source Operations Division

Engine Model Summary Template

ATTACHMENT 1 OF 2

U-R-001-0323

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 torque	9.Emission Control Device Per SAE J1930
8CPXL11.1ESK	C11	1 Cert.Engine	450@1800	256	154.9	1509@1400	297	139.7	EM, DI, TC, CAC, ECM
8CPXL11.1ESK	C11	1B	450@1800	256	154.9	1509@1400	297	139.7	EM, DI, TC,
8CPXL11.1ESK	C11	2	450@1800	265	160.5	1507@1350	295	134	EM, DI, TC,
8CPXL11.1ESK	C11	3	450@2100	231	163.4	1516@1400	276	139.6	EM, DI, TC,
8CPXL11.1ESK	C11	4	364@2100	188	133	1294@1400	251	118.1	EM, DI, TC,
8CPXL11.1ESK	C11	5	325@1800	190	115.2	1125@1300	226	99	EM, DI, TC,
8CPXL11.1ESK	C11	6	350@1800	204	123	1181@1400	238	112	EM, DI, TC,
8CPXL11.1ESK	C11	7	286@1800	165	100	972@1400	204	96	EM, DI, TC,
8CPXL11.1ESK	C11	8	385@2100	207	146.4	1297@1400	262	123	EM, DI, TC,
8CPXL11.1ESK	C11	9	308@1800	180	108.7	1070@1300	214	93.7	EM, DI, TC,
8CPXL11.1ESK	C11	10	294@1800	176	106.7	1013@1300	207	90.5	EM, DI, TC,
8CPXL11.1ESK	C11	11	308@1800	180	108.7	1055@1300	214	93.7	EM, DI, TC,
8CPXL11.1ESK	C11	12	294@1800	176	106.7	1003@1300	207	90.5	EM, DI, TC,
8CPXL11.1ESK	C11	13	278@1800	165	99.7	951@1300	197	86.1	EM, DI, TC,
8CPXL11.1ESK	C11	14	264@1800	159	96.6	929@1000	193	65.1	EM, DI, TC,
8CPXL11.1ESK	C11	15	270@1800	160	96.7	949@1000	196	66	EM, DI, TC,
8CPXL11.1ESK	C11	16	275@1800	164	99.3	968@1000	202	68	EM, DI, TC,
8CPXL11.1ESK	C11	17	281@1800	167	101.3	988@1000	206	69.3	EM, DI, TC,
8CPXL11.1ESK	C11	18	286@1800	169	102.1	1008@1080	210	70.6	EM, DI, TC,
8CPXL11.1ESK	C11	19	291@1800	171	103.4	1027@1080	210	70.6	EM, DI, TC,
8CPXL11.1ESK	C11	20	297@1800	174	105.4	1047@1080	213	71.7	EM, DI, TC,
8CPXL11.1ESK	C11	21	302@1800	177	107.4	1067@1080	220	74.1	EM, DI, TC,
8CPXL11.1ESK	C11	22	325@2100	181	127.9	1095@1400	219	102.9	EM, DI, TC,
8CPXL11.1ESK	C11	23	350@2100	191	135.1	1179@1400	232	109.3	EM, DI, TC,
8CPXL11.1ESK	C11	24	450@1800	237	143.5	1406@1400	278	126.3	EM, DI, TC,
8CPXL11.1ESK	C11	25	420@2100	208	146.8	1415@1400	283	133.5	EM, DI, TC,
8CPXL11.1ESK	C11	26	324@1800	205	121	1008@1600	213	112	EM, DI, TC,
8CPXL11.1ESK	C11	27	353@1800	208	125.8	1089@1600	227	120	EM, DI, TC,

Engine Model Summary Template

U-R-001-0323

ATTACHMENT 2 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 torque	9.Emission Control Device Per SAE J1930
BCPXL11.1ESK	28	C11	286@1800	168	102	972@1400	203	96	EM, DI, TC, CAQ, ECM