



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-45-9;

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)
2002	2CPXL06.6MRA	6.6	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Turbocharger, Smoke Puff Limiter			Loader, Dozer 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
75≤KW <130	Tier 1	STD	N/A	9.2	N/A	N/A	N/A	20	15	50
		CERT	--	8.4	--	--	--	7	1	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 10th day of December 2001.

R. B. Summerfield, Chief
Mobile Source Operations Division



U-R-001-0178

Manufacturer: CATERPILLAR INC.
 Engine category: Nonroad Over 50 Hp
 EPA Engine Family: 2CPXL06.6MRA
 Mfr Family Name: N/A
 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
Note: Peak HP and Peak torque fuel rates are nominal values. Due to product- ion engine avgs. these fuel rates may change.								
1 - Cert Engine								
2	3116	165 @ 2400	80	64.8	502 @ 1450	103	50.3	EM, DI, TC, SPL
3	3116	170 @ 2600	81	70.5	482 @ 1650	99	54.9	EM, DI, TC, SPL
4	3116	160 @ 2500	77	64.7	443 @ 1650	91	50.3	EM, DI, TC, SPL
5	3116	155 @ 2400	78	62.6	454 @ 1450	95	46.2	EM, DI, TC, SPL
6	3116	150 @ 2400	75	60.8	437 @ 1450	91	44.3	EM, DI, TC, SPL
7	3116	140 @ 2400	71	57.0	417 @ 1400	86	40.7	EM, DI, TC, SPL
8	3116	150 @ 2300	77	59.7	440 @ 1450	91	44.6	EM, DI, TC, SPL
9	3116	130 @ 2300	67	52.0	392 @ 1400	81	38.1	EM, DI, TC, SPL
10	3116	160 @ 2200	83	61.4	479 @ 1450	99	48.3	EM, DI, TC, SPL
11	3116	145 @ 2200	75	55.7	425 @ 1450	90	44.0	EM, DI, TC, SPL
12	3116	140 @ 2200	73	54.0	429 @ 1450	87	42.5	EM, DI, TC, SPL
13	3116	130 @ 2200	68	50.0	408 @ 1400	83	39.0	EM, DI, TC, SPL
14	3116	135 @ 2100	73	51.5	428 @ 1450	87	42.5	EM, DI, TC, SPL
15	3116	130 @ 2000	73	48.8	426 @ 1450	87	42.2	EM, DI, TC, SPL
16	3116	120 @ 2000	66	44.4	400 @ 1400	82	38.8	EM, DI, TC, SPL
17	3116	115 @ 1800	74	44.6	391 @ 1450	79	38.8	EM, DI, TC, SPL
18	3116	153 @ 2200	78	57.7	474 @ 1400	97	45.9	EM, DI, TC, SPL
19	3116	149 @ 2200	76	56.1	505 @ 1400	98	46.3	EM, DI, TC, SPL
20	3116	146 @ 2000	79	53.0	479 @ 1400	96	45.1	EM, DI, TC, SPL
21	3116	145 @ 2000	73	54.0	425 @ 1450	89	43.3	EM, DI, TC, SPL
22	3116	145 @ 2200	73	54.0	425 @ 1450	89	43.3	EM, DI, TC, SPL
23	3116	140 @ 2000	77	51.7	425 @ 1400	86	40.6	EM, DI, TC, SPL
24	3116	137 @ 2000	79	53.2	431 @ 1400	86	40.5	EM, DI, TC, SPL
25	3116	136 @ 2000	74	49.5	445 @ 1400	89	41.8	EM, DI, TC, SPL
26	3116	148 @ 1800	86	52.2	500 @ 1400	101	47.6	EM, DI, TC, SPL
27	3116	134 @ 1800	79	47.9	460 @ 1400	92	43.4	EM, DI, TC, SPL
28	3116	130 @ 2200	66	48.9	386 @ 1400	78	36.6	EM, DI, TC, SPL
29	3116	121 @ 2000	65	45.8	388 @ 1400	80	37.8	EM, DI, TC, SPL
30	3116	136 @ 1800	79	48.1	466 @ 1400	94	44.0	EM, DI, TC, SPL
31	3116	148 @ 1800	86	52.2	500 @ 1400	101	47.6	EM, DI, TC, SPL
		133 @ 2200	68	50.3	400 @ 1400	82	38.8	EM, DI, TC, SPL