



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 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)
2004	4CPXL10.3ESK	10.3	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Turbocharger, Charge Air Cooler and Engine Control Module			Tractor, 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 2	STD	N/A	N/A	6.6	5.0	0.30	20	15	50
130≤KW<225	Tier 2	STD	N/A	N/A	6.6	3.5	0.20	20	15	50
225≤KW<450	Tier 2	STD	N/A	N/A	6.4	3.5	0.20	20	15	50
		CERT	--	--	5.9	1.8	0.15	7	1	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 15TH day of December 2003.

Allen Lyons, Chief
Mobile Source Operations Division

Engine Model Summary Form

U-R-001-0242

Manufacturer: CATERPILLAR INC.
 Engine category: Nonroad Over 50 Hp
 EPA Engine Family: 4CPXL10.3ESK
 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 production engine avgs. these fuel rates may change.								
1 - Cert Engine	3176/C-10	439 @ 2100	327 mm	150.1	1365 @ 1500	272	137.4	EM, DI, TC, ECM, CAE
2	3176/C-10	310 @ 2100	151	106.5	1000 @ 1500	194	98.0	EM, DI, TC, ECM,
3	3176/C-10	335 @ 2100	159	112.1	1075 @ 1500	209	105.3	EM, DI, TC, ECM,
4	3176/C-10	365 @ 2100	173	122.5	1164 @ 1500	225	113.5	EM, DI, TC, ECM,
5	3176/C-10	390 @ 2100	185	130.7	1250 @ 1500	245	123.6	EM, DI, TC, ECM,
6	3176/C-10	425 @ 2100	203	143.4	1325 @ 1500	262	132.4	EM, DI, TC, ECM,
7	3176/C-10	400 @ 2100	195	137.6	1281 @ 1500	249	125.4	EM, DI, TC, ECM,
8	3176/C-10	400 @ 2100	195	137.6	1281 @ 1500	249	125.4	EM, DI, TC, ECM,
9	3176/C-10	365 @ 2100	174	122.6	1230 @ 1400	236	111.2	EM, DI, TC, ECM,
10	3176/C-10	325 @ 2100	166	117.1	1200 @ 1400	239	112.6	EM, DI, TC, ECM,
11	3176/C-10	365 @ 2100	185	131.0	1165 @ 1400	231	108.9	EM, DI, TC, ECM,
12	3176/C-10	322 @ 2000	168	113.0	1042 @ 1400	203	95.8	EM, DI, TC, ECM,
13	3176/C-10	342 @ 2000	182	122.3	1165 @ 1500	225	113.5	EM, DI, TC, ECM,
14	3176/C-10	365 @ 2100	168	118.5	1164 @ 1400	230	108.5	EM, DI, TC, ECM,
15	3176/C-10	335 @ 2100	159	112.0	1075 @ 1500	209	105.0	EM, DI, TC, ECM,
16	3176/C-10	325 @ 2100	166	117.0	1200 @ 1400	239	113.0	EM, DI, TC, ECM,
17	3176/C-10	310 @ 2100	155	110.0	1008 @ 1600	200	108.0	EM, DI, TC, ECM,
18	3176/C-10	335 @ 2100	167	118.0	1089 @ 1600	216	116.0	EM, DI, TC, ECM,
19	3176/C-10	260 @ 2000	140	94.0	845 @ 1400	166	78.0	EM, DI, TC, ECM,
20	3176/C-10	240 @ 2100	130	92.0	932 @ 1500	184	93.0	EM, DI, TC, ECM,
21	3176/C-10	240 @ 2100	130	92.0	932 @ 1500	184	93.0	EM, DI, TC, ECM,
22	3176/C-10	283 @ 2100	142	101.0	972 @ 1400	185	87.0	EM, DI, TC, ECM,
23	3176/C-10	240 @ 2100	127	90.0	779 @ 1400	150	71.0	EM, DI, TC, ECM,
24	3176/C-10	280 @ 2200	138	102.0	993 @ 1400	185	87.0	EM, DI, TC, ECM,
25	3176/C-10	205 @ 2000	122	82.0	834 @ 1000	164	55.0	EM, DI, TC, ECM,
26	3176/C-10	185 @ 2000	113	76.0	755 @ 1000	148	50.0	EM, DI, TC, ECM,
27	3176/C-10	165 @ 2000	102	69.0	676 @ 1400	132	44.0	EM, DI, TC, ECM,
28	3176/C-10	205 @ 2000	133	89.0	939 @ 1000	187	63.0	EM, DI, TC, ECM,
29	3176/C-10	205 @ 2000	122	82.0	834 @ 1000	164	55.0	EM, DI, TC, ECM,
30	3176/C-10	185 @ 2000	113	76.0	755 @ 1000	148	50.0	EM, DI, TC, ECM,
31	3176/C-10	220 @ 2000	130	88.0	892 @ 1000	177	60.0	EM, DI, TC, ECM,

Engine Model Summary Form

Manufacturer: CATERPILLAR INC.
Engine category: Nonroad Over 50 Hp
EPA Engine Family: 4CPXL10.3ESK
Mr. 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 production engine avgs. these fuel rates may change.								
1 - Cert Engine	3176/C-10	439 @ 2100	213	150.1	1365 @ 1500	272	137.4	EM, DI, TC, ECM,
2	3176/C-10	310 @ 2100	151	106.5	1000 @ 1500	194	98.0	EM, DI, TC, ECM,
3	3176/C-10	335 @ 2100	159	112.1	1075 @ 1500	209	105.3	EM, DI, TC, ECM,
4	3176/C-10	365 @ 2100	173	122.5	1164 @ 1500	225	113.5	EM, DI, TC, ECM,
5	3176/C-10	390 @ 2100	185	130.7	1250 @ 1500	245	123.6	EM, DI, TC, ECM,
6	3176/C-10	425 @ 2100	203	143.4	1325 @ 1500	262	132.4	EM, DI, TC, ECM,
7	3176/C-10	400 @ 2100	195	137.6	1281 @ 1500	249	125.4	EM, DI, TC, ECM,
8	3176/C-10	400 @ 2100	195	137.6	1281 @ 1500	249	125.4	EM, DI, TC, ECM,
9	3176/C-10	365 @ 2100	174	122.6	1230 @ 1400	236	111.2	EM, DI, TC, ECM,
10	3176/C-10	325 @ 2100	166	117.1	1200 @ 1400	239	112.6	EM, DI, TC, ECM,
11	3176/C-10	365 @ 2100	185	131.0	1165 @ 1400	231	108.9	EM, DI, TC, ECM,
12	3176/C-10	322 @ 2000	168	113.0	1042 @ 1400	203	95.8	EM, DI, TC, ECM,
13	3176/C-10	342 @ 2000	182	122.3	1165 @ 1500	225	113.5	EM, DI, TC, ECM,
14	3176/C-10	365 @ 2100	168	118.5	1164 @ 1400	230	108.5	EM, DI, TC, ECM,
15	3176/C-10	335 @ 2100	159	112.0	1075 @ 1500	209	105.0	EM, DI, TC, ECM,
16	3176/C-10	325 @ 2100	166	117.0	1200 @ 1400	239	113.0	EM, DI, TC, ECM,
17	3176/C-10	310 @ 2100	155	110.0	1008 @ 1600	200	108.0	EM, DI, TC, ECM,
18	3176/C-10	335 @ 2100	167	118.0	1089 @ 1600	216	116.0	EM, DI, TC, ECM,
19	3176/C-10	260 @ 2000	140	94.0	845 @ 1400	166	78.0	EM, DI, TC, ECM,
20	3176/C-10	240 @ 2100	130	92.0	932 @ 1500	184	93.0	EM, DI, TC, ECM,
21	3176/C-10	240 @ 2100	130	92.0	932 @ 1500	184	93.0	EM, DI, TC, ECM,
22	3176/C-10	283 @ 2100	142	101.0	972 @ 1400	185	87.0	EM, DI, TC, ECM,
23	3176/C-10	240 @ 2100	127	90.0	779 @ 1400	150	71.0	EM, DI, TC, ECM,
24	3176/C-10	280 @ 2200	138	102.0	993 @ 1400	185	87.0	EM, DI, TC, ECM,
25	3176/C-10	205 @ 2000	122	82.0	834 @ 1000	164	55.0	EM, DI, TC, ECM,
26	3176/C-10	185 @ 2000	113	76.0	755 @ 1000	148	50.0	EM, DI, TC, ECM,
27	3176/C-10	165 @ 2000	102	69.0	676 @ 1400	132	44.0	EM, DI, TC, ECM,
28	3176/C-10	205 @ 2000	133	89.0	939 @ 1000	187	63.0	EM, DI, TC, ECM,
29	3176/C-10	205 @ 2000	122	82.0	834 @ 1000	164	55.0	EM, DI, TC, ECM,
30	3176/C-10	185 @ 2000	113	76.0	755 @ 1000	148	50.0	EM, DI, TC, ECM,
31	3176/C-10	220 @ 2000	120	88.0	892 @ 1000	177	60.0	EM, DI, TC, ECM,

32	3176/C-10	200 @ 2000	120	80.0	814 @ 1000	160	54.0	EM, DI, TC, ECM,
33	3176/C-10	180 @ 2000	111	74.0	735 @ 1000	144	49.0	EM, DI, TC, ECM,
34	3176/C-10	240 @ 2000	140	94.0	971 @ 1000	195	66.0	EM, DI, TC, ECM,
35	3176/C-10	220 @ 2000	130	88.0	892 @ 1000	177	60.0	EM, DI, TC, ECM,
36	3176/C-10	200 @ 2000	120	80.0	814 @ 1000	160	54.0	EM, DI, TC, ECM,
37	3176/C-10	240 @ 2000	140	94.0	971 @ 1000	195	66.0	EM, DI, TC, ECM,
38	3176/C-10	220 @ 2000	130	88.0	892 @ 1000	177	60.0	EM, DI, TC, ECM,
39	3176/C-10	165 @ 2000	102	69.0	676 @ 1000	132	44.0	EM, DI, TC, ECM,
40	3176/C-10	180 @ 2000	111	74.0	735 @ 1000	144	49.0	EM, DI, TC, ECM,
41	3176/C-10	250 @ 2100	125	88.1	813 @ 1600	162	86.9	EM, DI, TC, ECM,
42	3176/C-10	270 @ 2100	136	91.9	878 @ 1600	174	95.1	EM, DI, TC, ECM,
43	3176/C-10	335 @ 2100	162	114.3	1250 @ 1350	239	108.6	EM, DI, TC, ECM,
44	3176/C-10	365 @ 2100	174	122.6	1230 @ 1400	236	111.2	EM, DI, TC, ECM,