State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-13-15
Relating to Certification of New Heavy-Duty Off-Road Equipment Engines

DEUTZ CORPORATION GmbH

Pursuant to the authority vested in the Air Resources Board by Sections 43000.5, 43013 and 43018 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 Deutz Corporation GmbH 1998 model-year engines, with rated power between 175 and 750 horsepower, and exhaust emission control systems are certified as described below for use in heavy-duty off-road equipment:

Typical Equipment Usage: Pump, Generator Set, Air Conditioner

Fuel Type: Diesel

Engine Family	Displacement Liters	(Cubic Inches)	Exhaust Emission Control Systems and Special Features
WDZXL07.1004	7.1/4.8	(436/290)	Turbocharger Smoke Puff Limiter

Engine models and codes are listed on attachments. Production engines shall be in all material respects the same as those for which certification is granted.

The total hydrocarbons (THC), carbon monoxide (CO), nitrogen oxides (NOx), and particulate matter (PM) certification exhaust emission standards, in grams per brake horsepower-hour (g/bhp-hr), and the opacity of smoke emission standards, in percent (%), during acceleration (Accel), lugging (Lug), and peak (Peak) modes, for this engine family are (Title 13, California Code of Regulations, Section 2423):

Exhaust Emissions (g/bhp-hr)				Smoke Opacity (%)		
THC	CO	NOx	PM	Accel	Lug	Peak
1.0	8.5	6.9	0.4	20	15	50

The THC, CO, NOx and PM exhaust emission certification values, in g/bhp-hr, and the opacity of smoke emission certification values, in percent (%), for this engine family are:

Exhaust Emissions (g/bhp-hr)				Smoke Opacity (%)		
THC	CO	NOx	PM	Accel	Lug	Peak
0.3	0.8	6.3	0.1	6	4	10

BE IT FURTHER RESOLVED: That the listed engine models comply with the "Exhaust Emission Standards and Test Procedures--Heavy-Duty Off-Road Diesel Cycle Engines" (Title 13, California Code of Regulations, Section 2423) for the aforementioned model year.

BE IT FURTHER RESOLVED: That the listed engine models also comply with the "Emission Control Labels--1996 and Later Heavy-Duty Off-Road Diesel Cycle Engines" (Title 13, California Code of Regulations, Section 2424) for the aforementioned model year.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with the Board's emission control system warranty provisions (Title 13, California Code of Regulations, Section 2425 et seq.).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

Executed at El Monte, California this 19th day of July 1999.

R. B. Summerfield, Chief
Mobile Source Operations Division

List of emission rela:

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	Engine type	Engine code	Nominal Power ± 5%	Nominal speed ± 50 rpm	Mean effective pressure	Injection rate at nom. speed, ±4mm³	Peak torque ± 5%	Mean effective pressure at peak torque	Speed at peak torque ± 100 rpm	Low idle (+ 400rpm, dep. on engine applic.)	High idle (+300 rpm, dep. on engine applic.)
			kW	rpm	bar	mm³/stroke	Nm	bar	rpm	rpm	rpm
1	BF6M1013E	C141/1	141	2500	9.47	86	632	11.12	1500	700	2600
2	BF6M1013E	C145/1	145	2400	10.15	91	667	11.73	1500	700	2500
3	BF6M1013E	C145	145	2300	10.59	94	702	12.35	1400	700	2400
4	BF6M1013E	C137	137	2300	10.00	89	667	11.73	1400	700	2400
5	BF6M1013E	C130	130	2300	9.49	84	632	11.12	1400	700	2400
6	BF6M1013E	C123	123	2300	8.98	80	598	10.52	1400	700	2400
7	BF6M1013E	C139	139	2200	10.61	93	702	12.35	1400	700	2300
8	BF6M1013E	C132	132	2200	10.08	89	667	11.73	1400	700	2300
9	BF6M1013E	C132	125	2200	9.54	84	632	11.12	1400	700	2300
10	BF6M1013E	C132	119	2200	9.08	80	598	10.52	1400	700	2300
11	BF6M1013E	C134	134	2100	10.72	93	702	12.35	1400	700	2180
12	BF6M1013E	C128	128	2100	10.24	89	667	11.73	1400	700	2180
13	BF6M1013E	C121	121	2100	9.68	84	632	11.12	1400	700	2180
14	BF6M1013E	C115	115	2100	9.20	80	598	10.52	1400	700	2180
15	BF6M1013E	C122	122	2000	10.24	89	667	11.73	1400	700	2080
16	BF6M1013E	C116	116	2000	9.74	85	632	11.12	1400	700	2080
17	BF6M1013E	C110	110	2000	9.24	80	598	10.52	1400	700	2080
18	BF6M1013E	D145	145	2400	10.15	91	n.a.	n.a.	n.a.	n.a.	n.a.
19	BF6M1013E	D141	141	2400	9.87	89	n.a.	n.a.	n.a.	n.a.	n.a.
20	BF6M1013E	D128	128	2400	8.96	81	n.a.	n.a.	n.a.	n.a.	n.a.
1	BF6M1013E	D135	135	2000	11.34	97	n.a.	n.a.	n.a.	n.a.	n.a.
2	BF6M1013E	D123	123	2000	10.33	89	n.a.	n.a.	n.a.	n.a.	n.a.
23	BF6M1013E	D130	130	1846	11.83	101	n.a.	n.a.	n.a.	n.a.	n.a.
24	BF6M1013E	D118	118	1846	10.73	91	n.a.	n.a.	n.a.	n.a.	n.a.
25	BF6M1013E	D134	134	1800	12.50	106	n.a.	n.a.	n.a.	n.a.	n.a.
26	BF6M1013E	D128	128	1800	11.94	102	n.a.	n.a.	n.a.	n.a.	n.a.
27	BF6M1013E	D122	122	1800	11.38	97	n.a.	n.a.	n.a.	n.a.	n.a.
28	BF6M1013E	D120	120	1800	11.20	95	n.a.	n.a.	n.a.	n.a.	n.a.
29	BF6M1013E	D114	114	1800	10.64	90	n.a.	n.a.	n.a.	n.a.	n.a.
30	BF6M1013E	D109	109	1800	10.17	86	n.a.	n.a.	n.a.	n.a.	n.a.
31	BF4M1013E	C95	95	2300	10.40	93	468	12.35	1400	700	2400
32	BF4M1013E	C90	90	2300	9.86	88	442	11.66	1400	700	2400
33	BF4M1013E	C86	86	2300	9.42	84	422	11.13	1400	700	2400
34	BF4M1013E	C81	81	2300	8.87	79	398	10.50	1400	700	2400
35	BF4M1013E	C93	93	2200	10.53	93	468	12.35	1400	700	2300
36	BF4M1013E	C88	88	2200	10.08	89	442	11.66	1400	700	2300
37	BF4M1013E	C83	83	2200	9.50	84	422	11.13	1400	700	2300
38	BF4M1013E	C79	79	2200	9.05	80	398	10.50	1400	700	2300
39	BF4M1013E	C89	89	2100	10.68	93	468	12.35	1400	700	2180
40	BF4M1013E	C85	85	2100	10.20	89	442	11.66	1400	700	2180
41	BF4M1013E	C81	81	2100	9.72	85	422	11.13	1400	700	2180
42	BF4M1013E	C76	76	2100	9.12	79	398	10.50	1400	700	2180
43	BF4M1013E	C82	82	2000	10.33	90	442	11.66	1400	700	2080
44	BF4M1013E	C78	78	2000	9.82	85	422	11.13	1400	700	2080
45	BF4M1013E	C74	74	2000	9.32	81	398	10.50	1400	700	2080
46	BF4M1013E	D95	95	2400	9.97	90	n.a.	n.a.	n.a.	n.a.	n.a.
47	BF4M1013E	D86	86	2400	9.03	81	n.a.	n.a.	n.a.	n.a.	n.a.
48	BF4M1013E	D90	90	2000	11.34	97	n.a.	n.a.	n.a.	n.a.	n.a.
49	BF4M1013E	D82	82	2000	10.33	89	n.a.	n.a.	n.a.	n.a.	n.a.
50	BF4M1013E	D86	86	1846	11.73	100	n.a.	n.a.	n.a.	n.a.	n.a.
51	BF4M1013E	D78	78	1846	10.64	90	n.a.	n.a.	n.a.	n.a.	n.a.
52	BF4M1013E	D89	89	1800	12.45	106	n.a.	n.a.	n.a.	n.a.	n.a.
53	BF4M1013E	D85	85	1800	11.89	101	n.a.	n.a.	n.a.	n.a.	n.a.
54	BF4M1013E	D81	81	1800	11.34	96	n.a.	n.a.	n.a.	n.a.	n.a.
5	BF4M1013E	D79	79	1800	11.06	94	n.a.	n.a.	n.a.	n.a.	n.a.
56	BF4M1013E	D76	76	1800	10.64	90	n.a.	n.a.	n.a.	n.a.	n.a.
57	BF4M1013E	D72	72	1800	10.08	86	n.a.	n.a.	n.a.	n.a.	n.a.
58	BF6M1013	C141/2	141	2500	9.47	89	697	12.26	1400	700	2400
59	BF6M1013	C141	141	2300	10.29	94	697	12.26	1400	700	2400
60	BF6M1013	C133	133	2300	9.71	89	662	11.64	1400	700	2400

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61	BF6M1013	C126	126	2300	9.20	84	627	11.03	1400	700	2400
63	BF6M1013	C119	119	2300	8.69	80	593	10.43	1400	700	2400
	BF6M1013	C136	136	2200	10.38	93	697	12.26	1400	700	2300
	BF6M1013	C129	129	2200	9.85	89	662	11.64	1400	700	2300
65	BF6M1013	C122	122	2200	9.31	84	627	11.03	1400	700	2300
66	BF6M1013	C116	116	2200	8.85	80	593	10.43	1400	700	2300
67	BF6M1013	C131	131	2100	10.48	93	697	12.26	1400	700	2180
68	BF6M1013	C125	125	2100	10.00	89	662	11.64	1400	700	2180
69	BF6M1013	C118	118	2100	9.44	84	627	11.03	1400	700	2180
70	BF6M1013	C112	112	2100	8.96	80	593	10.43	1400	700	2180
71	BF6M1013	C120	120	2000	10.08	89	662	11.64	1400	700	2080
72	BF6M1013	C114	114	2000	9.57	85	627	11.03	1400	700	2080
73	BF6M1013	C108	108	2000	9.07	80	593	10.43	1400	700	2080
74	BF6M1013	D137	137	2400	9.59	89	n.a.	n.a.	n.a.	n.a.	n.a.
75	BF6M1013	D124	124	2400	8.68	81	n.a.	n.a.	n.a.	n.a.	n.a.
76	BF6M1013	D133	133	2000	11.17	97	n.a.	n.a.	n.a.	n.a.	n.a.
77	BF6M1013	D121	121	2000	10.16	89	n.a.	n.a.	n.a.	n.a.	n.a.
78	BF6M1013	D128	128	1846	11.64	101	n.a.	n.a.	n.a.	n.a.	n.a.
79	BF6M1013	D117	117	1846	10.64	91	n.a.	n.a.	n.a.	n.a.	n.a.
80	BF6M1013	D118	118	1800	11.01	95	n.a.	n.a.	n.a.	n.a.	n.a.
81	BF6M1013	D112	112	1800	10.45	90	n.a.	n.a.	n.a.	n.a.	n.a.
82	BF6M1013	D107	107	1800	9.98	86	n.a.	n.a.	n.a.	n.a.	n.a.
83	BF4M1013	C93	93	2300	10.19	93	464	12.24	1400	700	2400
84	BF4M1013	C88	88	2300	9.64	88	438	11.56	1400	700	2400
85	BF4M1013	C84	84	2300	9.20	84	418	11.03	1400	700	2400
86	BF4M1013	C79	79	2300	8.65	79	394	10.40	1400	700	2400
87	BF4M1013	C90	90	2200	10.30	93	464	12.24	1400	700	2300
88	BF4M1013	C86	86	2200	9.85	89	438	11.56	1400	700	2300
89	BF4M1013	C81	81	2200	9.27	84	418	11.03	1400	700	2300
90	BF4M1013	C77	77	2200	8.82	80	394	10.40	1400	700	2300
91	BF4M1013	C87	87	2100	10.44	93	464	12.24	1400	700	2180
92	BF4M1013	C83	83	2100	9.96	89	438	11.56	1400	700	2180
93	BF4M1013	C79	79	2100	9.48	85	418	11.03	1400	700	2180
94	BF4M1013	C74	74	2100	8.88	79	394	10.40	1400	700	2180
95	BF4M1013	C80	80	2000	10.08	90	438	11.56	1400	700	2080
96	BF4M1013	C76	76	2000	9.57	85	418	11.03	1400	700	2080
	BF4M1013	C72	72	2000	9.07	81	394	10.40	1400	700	2080
	BF4M1013	D93	93	2400	9.65	90	n.a.	n.a.	n.a.	n.a.	n.a.
99	BF4M1013	D84	84	2400	8.82	81	n.a.	n.a.	n.a.	n.a.	n.a.
100	BF4M1013	D89	89	2000	11.21	97	n.a.	n.a.	n.a.	n.a.	n.a.
101	BF4M1013	D80	80	2000	10.08	89	n.a.	n.a.	n.a.	n.a.	n.a.
102	BF4M1013	D85	85	1846	11.60	100	n.a.	n.a.	n.a.	n.a.	n.a.
103	BF4M1013	D77	77	1846	10.51	90	n.a.	n.a.	n.a.	n.a.	n.a.
104	BF4M1013	D78	78	1800	10.92	90	n.a.	n.a.	n.a.	n.a.	n.a.
105	BF4M1013	D75	75	1800	10.50	86	n.a.	n.a.	n.a.	n.a.	n.a.