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State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-13-12
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: Compressor, Generator Set, Air Conditioner

Fuel Type: Diesel

Engine Family	Displacement Liters (Cubic Inches)	Exhaust Emission Control Systems and Special Features
WDZXL15.9001	11.9/15.87 (726/968)	Turbocharger Charge Air Cooler 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
0.2	0.5	4.7	0.1	9	8	21

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

	Engine type	Engine code	Nominal power ±5%	Nominal speed ±50rpm		Mean effective pressure at nominal power	Injection rate at nominal power ±5mm³	Peak torque ±5%		Mean effective pressure at peak torque	Speed at nom. torque ± 100rpm		Low idle (+300 rpm. dep. on engine applic.)		High idle (+300 rpm. dep. on engine applic.)	
			kW	rpm		bar	mm³/stroke	Nm	rpm	bar	rpm		rpm		rpm	
1	BF8M1015C	C420	420	2100	00	15.12	370	2674	1300	21.17	1300	550	2180			
2	BF8M1015C	C400	400	2100	00	14.4	350	2547	1300	20.17	1300	550	2180			
3	BF8M1015C	C381	381	2100	00	13.72	330	2426	1300	19.21	1300	550	2180			
4	BF6M1015C	C364	364	2100	00	13.1	315	2317	1300	18.35	1300	550	2180			
5	BF8M1015C	C348	348	2100	00	12.53	300	2216	1300	17.54	1300	550	2180			
6	BF8M1015C	C420/1	420	2000	00	15.88	370	2700	1300	21.38	1300	550	2080			
7	BF8M1015C	C400/1	400	2000	00	15.12	350	2674	1300	21.17	1300	550	2080			
8	BF8M1015C	C381/1	381	2000	00	14.4	330	2547	1300	20.17	1300	550	2080			
9	BF8M1015C	C370	370	2000	00	13.99	321	2473	1300	19.59	1300	550	2080			
10	BF8M1015C	C364/1	364	2000	00	13.76	315	2433	1300	19.27	1300	550	2080			
11	BF8M1015C	C348/1	348	2000	00	13.15	300	2326	1300	18.42	1300	550	2080			
12	BF8M1015C	C420/2	420	1900	00	16.71	370	2700	1300	21.38	1300	550	1970			
13	BF8M1015C	C400/2	400	1900	00	15.91	350	2700	1300	21.38	1300	550	1970			
14	BF8M1015C	C381/2	381	1900	00	15.16	336	2585	1300	20.47	1300	550	1970			
15	BF8M1015C	C364/2	364	1900	00	14.48	320	2470	1300	19.56	1300	550	1970			
16	BF8M1015C	C348/2	348	1900	00	13.85	303	2361	1300	18.70	1300	550	1970			
17	BF8M1015C	C400/3	400	1800	00	16.8	360	2700	1300	21.38	1300	550	1970			
18	BF8M1015C	C380	380	1800	00	15.96	340	2700	1300	21.38	1300	550	1870			
19	BF8M1015C	C362	362	1800	00	15.2	325	2593	1300	20.53	1300	550	1870			
20	BF8M1015C	C345	345	1800	00	14.49	310	2471	1300	19.57	1300	550	1870			
21	BF8M1015C	C330	330	1800	00	13.86	297	2364	1300	18.72	1300	550	1870			
22	BF8M1015C	D420	420	2100	00	15.12	370	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
23	BF8M1015C	D454	454	1800	00	19.07	410	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
24	BF8M1015C	D413	413	1800	00	17.34	374	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
25	BF8M1015C	D362	362	1800	00	15.2	325	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
26	BF6M1015C	C300	300	2100	00	14.4	335	1910	1300	20.17	1300	550	2180			
27	BF6M1015C	C286	286	2100	00	13.73	322	1821	1300	19.22	1300	550	2180			
28	BF6M1015C	C273	273	2100	00	13.1	309	1738	1300	18.35	1300	550	2180			
29	BF6M1015C	C261	261	2100	00	12.53	298	1662	1300	17.54	1300	550	2180			
30	BF6M1015C	C300/1	300	2000	00	15.12	340	2006	1300	21.17	1300	550	2080			
31	BF6M1015C	C286/1	286	2000	00	14.41	328	1912	1300	20.19	1300	550	2080			
32	BF6M1015C	C273/1	273	2000	00	13.76	314	1825	1300	19.27	1300	550	2080			
33	BF6M1015C	C261/1	261	2000	00	13.15	302	1745	1300	18.42	1300	550	2080			
34	BF6M1015C	C300/2	300	1900	00	15.91	350	2025	1300	21.38	1300	550	1970			
35	BF6M1015C	C286/2	286	1900	00	15.17	335	1941	1300	20.49	1300	550	1970			
36	BF6M1015C	C273/2	273	1900	00	14.48	324	1852	1300	19.56	1300	550	1970			
37	BF6M1015C	C261/2	261	1900	00	13.85	312	1771	1300	18.70	1300	550	1970			
38	BF6M1015C	C285	285	1800	00	15.96	340	2025	1300	21.38	1300	550	1870			
39	BF6M1015C	C271	271	1800	00	15.17	325	1941	1300	20.49	1300	550	1870			
40	BF6M1015C	C259	259	1800	00	14.5	315	1855	1300	19.59	1300	550	1870			
41	BF6M1015C	C248	248	1800	00	13.89	303	1776	1300	18.75	1300	550	1870			
42	BF6M1015C	D300	300	2100	00	14.4	335	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
43	BF6M1015C	D341	341	1800	00	19.09	400	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
44	BF6M1015C	D310	310	1800	00	17.36	365	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
45	BF6M1015C	D271	271	1800	00	15.17	325	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			