State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-13-24
Relating to Certification of New Heavy-Duty Off-Road Equipment Engines

DEUTZ AG

Pursuant to the authority vested in the Air Resources Board at Sections 43000.5, 43013, and 43018 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned at Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-9;

IT IS ORDERED AND RESOLVED: That the following diesel engines and exhaust emission control systems produced by the manufacturer are certified as described below for use in heavy-duty off-road equipment:

Model Year: 2000

Typical Equipment Usage: Pump, Generator Set

Engine Power Ratings Range: 175 – 750 horsepower, inclusive

Fuel Type: Diesel

	Displacement		Exhaust Emission Control
Engine Family	Liters	Cubic Inches	Systems and Special Features
YDZXL15.9002	11.9	727	Turbocharger
(BF6/8M 1015C)	15.9	968	Charge Air Cooler
			Smoke Puff Limiter

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

	Exhaust Emissions (g/hp-h)				Smoke Opacity (%)		
	THC	CO	NOx	PM	Accel	Lug	Peak
Standard	1.0	8.5	6.9	0.4	20	15	50
Certification	0.2	0.4	4.7	0.1	9	8	21

BE IT FURTHER RESOLVED: That the listed engine models comply with "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 "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, Sections 2425 *et seq.*).

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

Executed at El Monte, California this 7th day of February 2000.

R. B. Summerfield, Chief
Mobile Source Operations Division

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YDZXL15 9002

List of emission related components

Displacement	Engine code	Nominal power ±5%	Nominal power ±5%	Nominal speed ±50rpm	Mean effective pressure at nominal power	Injection rate at nominal power ±6mm³	Peak torque ±5%	Speed at nom. torque ± 100rpm	Mean effective pressure at peak torque	Injection rate at peak torque ±6mm³
cm³		HP	kW	rpm	bar	mm³/stroke	Nm	rpm	bar	mm³/stroke
15874	C440	536	400	2100	14 40	215	2390	1200	18 93	253
15874	C440/1	536	400	1900	15 91	215	2440	1200	19 32	253
15874	C420	563	420	2100	15 12	231	2674	1200	21 17	286
15874	C400	536	400	2100	14 40	220	2643	1200	20 93	283
15874	C400/3	536	400	2100	14 40	225	2370	1200	18 77	248
15874	C385	516	385	2100	13 86	208	2544	1200	20 14	272
15874	C381	511	381	2100	13 72	206	2517	1200	19 93	268
15874	C370/1	496	370	2100	13 32	197	1905	1200	15 08	197
15874	C370/2	496	370	2100	13 32	210	1905	1200	15 08	200
15874	C364	488	364	2100	13 10	193	2405	1200	19 04	256
15874	C348	466	348	2100	12 53	183	2300	1200	18 21	243
15874	C400/1	536	400	2000	15 12	233	2679	1200	21 21	287
15874	C381/1	511	381	2000	14 40	219	2552	1200	20 21	273
15874	C370	496	370	2000	13 99	211	2478	1200	19 62	265
15874	C364/1	488	364	2000	13 76	206	2438	1200	19 31	259
15874	C348/1	466	348	2000	13 15	194	2331	1200	18 46	247
15874	C400/2	536	400	1900	15 91	220	2719	1200	21 53	279
15874	C400/4	536	400	1900	15 91	230	2613	1200	20 69	275
15874	C381/2	511	381	1900	15 16	208	2590	1200	20 51	264
15874	C364/2	488	364	1900	14 48	197	2475	1200	19 60	251
15874	C348/2	466	348	1900	13 85	186	2366	1200	18 74	240
15874	C348/3	466	348	1900	13 85	186	2200	1200	17 42	223
15874	C380	509	380	1800	15 96	212	2545	1200	20 15	258
15874	C362	485	362	1800	15 20	201	2425	1200	19 20	247
15874	C345	462	345	1800	14 49	191	2311	1200	18 30	234
15874	C330	442	330	1800	13 86	180	2211	1200	17 51	222
15874	D420	563	420	2100	15 12	231	n a	n a	n a	n a
15874	D454	608	454	1800	19 07	252	n a	n a	n a	n a
15874	D413	553	413	1800	17 34	230	n a	n a	n a	n a
15874	D362	485	362	1800	15 20	201	n a	n a	n a	n a
11906	C330/1	402	300	2100	14 40	215	1828	1200	19 30	253
11906	C300/5	402	300	1900	15 91	216	1690	1200	17 84	235
11906	C240	322	240	2300	10 52	160	1395	1200	14 73	193
11906	C300	402	300	2100	14 40	207	1981	1200	20 91	274
11906	C300/3	402	300	2100	14 40	222	1776	1200	18 75	249
11906	C286	383	286	2100	13 73	200	1889	1200	19 94	261
11906	C273	366	273	2100	13 10	194	1803	1200	19 04	248
11906	C273/3	366	273	2100	13 10	203	1617	1200	17 07	227
11906	C261	350	261	2100	12 53	188	1724	1200	18 20	238
11906	C300/1	402	300	2000	15 12	211	2009	1200	21 21	277

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List of emission related components

Displacement	Engine code	Nominal power ±5%	Nominal power ±5%	Nominal speed ±50rpm	Mean effective pressure at nominal power	Injection rate at nominal power ±6mm³	Peak torque ±5%	Speed at nom. torque ± 100rpm	Mean effective pressure at peak torque	Injection rate at peak torque ±6mm³
cm³		HP	kW	rpm	bar	mm³/ stroke	Nm	rpm	bar	mm³/ stroke
11906	C286/1	383	286	2000	14 41	203	1915	1200	20 22	265
11906	C261/2	350	261	2000	13 15	190	1669	1300	17.62	226
11906	C280	375	280	2050	13 77	200	1875	1200	19 80	260
11906	C273/1	366	273	2000	13 76	196	1828	1200	19 30	254
11906	C261/1	350	261	2050	12 83	189	1745	1200	18 42	240
11906	C242	324	242	2050	11 90	178	1621	1200	17 11	220
11906	C300/2	402	300	1900	15 91	216	2039	1200	21 53	280
11906	C300/4	402	300	1900	15 91	231	1963	1200	20 72	277
11906	C286/2	383	286	1900	15 17	206	1944	1200	20 52	268
11906	C286/3	383	286	1900	15 17	221	1868	1200	19 72	268
11906	C273/2	366	273	1900	14 48	197	1855	1200	19 58	256
11906	C273/4	366	273	1900	14 48	209	1783	1200	18 82	250
11906	C261/2	350	261	1900	13 85	188	1774	1200	18 73	244
11906	C285	382	285	1800	15 96	214	1908	1200	20 14	264
11906	C271	363	271	1800	15 17	205	1815	1200	19 16	250
11906	C259	347	259	1800	14 50	197	1734	1200	18 31	239
11906	C248	332	248	1800	13 89	189	1661	1200	17 54	228
11906	D341	457	341	1800	19 09	252	n a	n a	n a	n a
11906	D310	415	310	1800	17 36	235	n a.	n a	n a	n a
11906	D271	363	271	1800	15 17	205	n a.	n a.	n a	n a