

 <b>AIR RESOURCES BOARD</b>	<b>DEUTZ AG</b>	<b>EXECUTIVE ORDER U-R-013-0102</b> New Off-Road Compression-Ignition Engines

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 engines 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)
2003	3DZXL02.9017	2.2, 2.9	Diesel	5000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Smoke Puff Limiter			Generator Set, Compressor, Loader, 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):

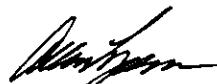
RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
19 ≤ kW < 37	Tier 1	STD	N/A	N/A	9.5	5.5	0.80	20	15	50
		CERT	-	-	8.7	2.7	0.36	3	4	5

**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 9<sup>TH</sup> day of December 2002.



Allen Lyons, Chief  
Mobile Source Operations Division

Attachment 1 of 1

Manufacturer: DEUTZ AG  
 Engine Category: Nonroad CI  
 EPA Family Name: 3DZXL02.9017  
 Mfr. Family Name: F3M1011F  
 Process Code: New Submission

ENGINE MODEL SUMMARY FORM

U-R-013-0102

1. Engine code	2. Engine Model	3. BHP@	RPM	4. Fuel Rate @ Rated Power (mm <sup>3</sup> /stroke)	5. Fuel Rate (lbs./hr) Rated Power	6. Peak Torque @ RPM(NM)	7. Peak Torque (mm <sup>3</sup> /stroke)	8. Fuel Rate (lbs./hr) @ Peak Torque	9. Emission Control Device (SAE J1930)
C28	F3M1011F	38	2300	40.0	13.1	124	40.5	11.0	EM DPF, SPL
C29.5	F3M1011F	40	2300	42.0	13.8	130	43.5	11.5	EM
C29.7	F3M1011F	40	2500	40.0	13.9	124	40.5	11.0	EM
C29.9	F3M1011F	40	2400	41.0	14.0	130	40.5	11.5	EM
C30.3	F3M1011F	41	2400	41.5	14.2	130	40.5	11.5	EM
C30.6	F3M1011F	41	2600	41.0	14.4	124	40.5	11.0	EM
C31.2	F3M1011F	42	2500	42.0	14.6	130	43.5	11.5	EM
C32.4	F3M1011F	43	2600	42.0	15.2	140	48.0	12.4	EM
C32.5	F3M1011F	44	2800	41.0	15.2	124	40.5	11.0	EM
C32.6	F3M1011F	44	2650	42.0	15.3	130	43.5	11.5	EM
C33.2	F3M1011F	44	2700	41.0	15.6	130	43.5	11.5	EM
C33.7	F3M1011F	45	3000	41.0	15.8	124	40.5	11.0	EM
C34	F3M1011F	46	2800	41.0	15.9	130	43.5	11.5	EM
C34.8	F3M1011F	47	2900	43.0	16.3	130	43.5	11.5	EM
C35.4	F3M1011F	47	2900	44.0	16.6	130	43.5	11.5	EM
C35.6	F3M1011F	48	3000	43.0	16.7	130	43.5	11.5	EM
D19	F3M1011F	25	1800	36.0	8.9	N/A	N/A	N/A	EM
D20.9	F3M1011F	28	1800	38.0	9.8	N/A	N/A	N/A	EM
D21.5	F3M1011F	29	1800	39.0	10.1	N/A	N/A	N/A	EM
D22	F3M1011F	29	1800	39.0	10.3	N/A	N/A	N/A	EM
D22.6	F3M1011F	30	1800	40.0	10.6	N/A	N/A	N/A	EM
D23.1	F3M1011F	31	1800	40.0	10.8	N/A	N/A	N/A	EM
D24.3	F3M1011F	33	1800	42.0	11.4	N/A	N/A	N/A	EM
D32.5	F4L1011FL	44	1800	41.0	15.2	N/A	N/A	N/A	EM
C36.5	F4M1011F	49	2800	39.5	17.1	140	34	12.4	EM
D28.5	F4M1011F	38	1800	39.0	13.4	N/A	N/A	N/A	EM
D29.9	F4M1011F	40	1800	39.0	14.0	N/A	N/A	N/A	EM
D31.3	F4M1011F	42	1800	39.5	14.7	N/A	N/A	N/A	EM
D31.4	F4M1011F	42	1800	39.5	14.7	N/A	N/A	N/A	EM
D32.9	F4M1011F	44	1800	41.0	15.4	N/A	N/A	N/A	EM
D33.5	F4M1011F	45	2000	39.0	15.7	N/A	N/A	N/A	EM