California Environmental Protection Agency Air Resources Board

DEUTZ AG

EXECUTIVE ORDER U-R-013-0462 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 systems 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)		
2013	DDZXL07.8004	7.755	Diesel	8000		
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION			
Coole	Rail Direct Injection, Turb r, Electronic Control Mod tion, Periodic Trap Oxidiz Catalyst	ule. Exhaust Gas	Loader, Dozer, and Other Industrial Equipment			

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for non-methane hydrocarbon (NMHC), 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	EMISSION STANDARD			EX	(HAUST (g/kw-h		OPACITY (%)			
POWER CLASS	CATEGORY		NMHC	NOx	NMHC+NOx	СО	PM	ACCEL	LUG	PEAK
130 ≤ kW ≤ 560	Interim Tier 4 / ALT NO _x	STD	0.19	2.0	N/A	3.5	0.02	N/A	N/A	N/A
		CERT	0.05	1.6		0.2	0.003			

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 _

_ day of March 2013.

Annette Hebert, Chief

Mobile Source Operations Division

Deutz AG

Nonroad CI

Engine Model Summary Template

5.Fuel Rate:

Attachment

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Date: 3/1/2013

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	(lbs/hr) @ peak HP (for diesels onlv)		7.Fuel Rate: mm/stroke@pe ak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
DDZXL07.8004	C4FI152	D8H	203.8@1900	112.0	70.9	746.4@1350	162.0	72.8 DE	DI, TC, CAC, ECM, EGR, PTOX
DDZXL07.8004	C4FI170	D8H	227.9@1900	124	78.5	840@1350	176	79.1 DE	DI, TC, CAC, ECM, EGR, PTOX
DDZXL07.8004	C4FI175	D8H	234.6@1900	124	78.5	913.1@1350	190	85.4 DE	DI, TC, CAC, ECM, EGR, PTOX
DDZXL07.8004	C4FI200	D8H	268.2@2100	135	94.4	938.9@1500	188.5	94.2 DE	DI, TC, CAC, ECM, EGR, PTOX
DDZXL07.8004	C4FI169	D8H	226.6@2100	120	83.9	793.6@1500	162	80.9 DE	DI, TC, CAC, ECM, EGR, PTOX
DDZXL07.8004	C4FI191	D8H	256.1@2100	133	93	896.8@1500	182	90.9 DE	OI, TC, CAC, ECM, EGR, PTOX
DDZXL07.8004	C4FI161	D8H	215.9@2100	116	81.1	925.6@1450	188	90.8 DE	DI, TC, CAC, ECM, EGR, PTOX
DDZXL07.8004	C4FI178	D8H	238.6@2100	127	88.8	973.5@1450	192.5	93.0 DE	DI, TC, CAC, ECM, EGR, PTOX

PTOX = DPF + DOC