California Environmental Protection Agency AIR RESOURCES BOARD	DEUTZ AG	EXECUTIVE ORDER U-R-013-0045 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-45-9;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engine 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)
2001	1DZXL03.8016	2.83, 3.77	Diesel	5000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection	Pump, Compressor, Generator Set, Other Industrial Equipment

ENGINE MODELS (rated power in kilowatts, kw)	See Attachment (1 page)

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	--	--	9.2	3.5	0.57	11	9	16

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 18th day of June 2001.

FOR

R. B. Summerfield, Chief
Mobile Source Operations Division

Model Attachment

List of emissic elated components U-R-13-45

1 L03.8016

Engine type	Displacement	Engine code	Nominal Power ± 5%	Nominal Power ± 5%	Nominal speed ± 50 rpm	Mean effective presuure	Injection rate at nom. speed, ±4mm³	Peak torque ± 5%	Speed at peak torque ± 100 rpm	Mean effective pressure at peak torque	Injection rate at peak torque ±4mm³	Torque at 1000 rpm	Mean effective pressure at 1000 rpm	Injection rate at 1000 rpm	Low idle (+ 400rpm, dep. on engine applic.)	High idle (+300 rpm, dep. on engine applic.)	Fuel injection pump	Fuel injection nozzle	Camshaft	Injection timing (-1°)	Speed governor
	cm³		HP	kW	rpm	bar	mm³/ stroke	Nm	rpm	bar	mm³/ stroke	Nm	bar	mm³/ stroke	rpm	rpm	description	description	draw. number	°btdc	description
F3L912	2827	C36/2	48	36.0	2500	6.11	54	164	1500	7.29	57				650	2400	PES3A95D410/3RS2939	DLLA147P875	02100079UA	12	RSV325-1250A5C858L/860L/861L
F3L912	2827	C36	48	36.0	2300	6.64	56	172	1500	7.65	57				650	2400	PES3A95D410/3RS2939	DLLA147P875	02100079UA	10.5	RSV325-1250A5C858L/860L/861L
F3L912	2827	C35	47	35.0	2300	6.46	54	164	1500	7.29	57				650	2400	PES3A95D410/3RS2939	DLLA147P875	02100079UA	10.5	RSV325-1250A5C858L/860L/861L
F3L912	2827	C36/1	48	36.0	2150	7.11	57.5	180	1500	8.00	57				650	2400	PES3A95D410/3RS2939	DLLA147P875	02100079UA	10.5	RSV325-1250A5C858L/860L/861L
F3L912	2827	C35/1	47	35.0	2150	6.91	55.5	172	1500	7.65	57				650	2400	PES3A95D410/3RS2939	DLLA147P875	02100079UA	10.5	RSV325-1250A5C858L/860L/861L
F3L912	2827	C32	43	32.0	2150	6.32	50.5	164	1500	7.29	57				650	2400	PES3A95D410/3RS2939	DLLA147P875	02100079UA	10.5	RSV325-1250A5C858L/860L/861L
F3L912	2827	C34	46	34.0	2000	7.22	56.5	180	1500	8.00	57				650	2400	PES3A95D410/3RS2939	DLLA147P875	02100079UA	10.5	RSV325-1250A5C858L/860L/861L
F3L912	2827	C32/1	43	32.0	2000	6.79	52.5	172	1500	7.65	57				650	2400	PES3A95D410/3RS2939	DLLA147P875	02100079UA	10	RSV325-1250A5C858L/860L/861L
F3L912	2827	C30	40	30.0	2000	6.37	49.5	164	1500	7.29	57				650	2400	PES3A95D410/3RS2939	DLLA147P875	02100079UA	10	RSV325-1250A5C858L/860L/861L
F3L912	2827	D33	44	33.0	1800	7.78	60	n.a.	n.a.	n.a.	n.a.				n.a.	n.a.	PES3A95D410/3RS2953	DLLA147P854	02100079UA	9	RSV550-900A1C953L
F3L912	2827	D32	43	32.0	1800	7.55	56	n.a.	n.a.	n.a.	n.a.				n.a.	n.a.	PES3A95D410/3RS2953	DLLA147P854	02100079UA	9	RSV550-900A1C953L
F3L912	2827	D31	42	31.0	1800	7.31	52.5	n.a.	n.a.	n.a.	n.a.				n.a.	n.a.	PES3A95D410/3RS2953	DLLA147P854	02100079UA	9	RSV550-900A1C953L
F3L912	2827	D30,5	41	30.5	1800	7.19	51	n.a.	n.a.	n.a.	n.a.				n.a.	n.a.	PES3A95D410/3RS2953	DLLA147P854	02100079UA	9	RSV550-900A1C953L
F3L912	2827	D29	39	29.0	1800	6.84	49	n.a.	n.a.	n.a.	n.a.				n.a.	n.a.	PES3A95D410/3RS2953	DLLA147P854	02100079UA	9	RSV550-900A1C953L
F3L912	2827	D28	38	28.0	1800	6.60	47	n.a.	n.a.	n.a.	n.a.				n.a.	n.a.	PES3A95D410/3RS2953	DLLA147P854	02100079UA	9	RSV550-900A1C953L
F3L912	2827	D27	36	27.0	1500	7.64	56	n.a.	n.a.	n.a.	n.a.				n.a.	n.a.	PES3A95D410/3RS2953	DLLA147P854	02100079UA	9	RSV550-900A1C953L
F3L912	2827	D25	34	25.0	1500	7.07	52	n.a.	n.a.	n.a.	n.a.				n.a.	n.a.	PES3A95D410/3RS2953	DLLA147P854	02100079UA	9	RSV550-900A1C953L
F4L912	3770	D36/1	48	36.0	1800	6.37	44.5	n.a.	n.a.	n.a.	n.a.				n.a.	n.a.	PES4A95D410/3RS2932	DLLA147P854	02100079UA	10	RSV550-900A1C953L
F4L912	3770	D29,5	40	29.5	1800	5.22	37	n.a.	n.a.	n.a.	n.a.				n.a.	n.a.	PES4A95D410/3RS2933	DLLA147P854	02100079UA	10	RSV550-900A1C953L