

 AIR RESOURCES BOARD	DEUTZ AG	EXECUTIVE ORDER U-R-013-0159 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)
2005	5DZXL03.1039	3.109	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection			Loader, Pump	

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
37 ≤ kW < 75	Tier 2	STD	N/A	N/A	7.5	5.0	.40	20	15	50
		CERT	-	-	7.0	1.2	.14	2	2	3

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 28TH day of October 2004.



Allen Lyons, Chief
Mobile Source Operations Division

U-R-013 2159

Engine Model Summary Template

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm ³ /stroke @ peak HP (for diesel only)	5.Fuel Rate: (lb/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SAE Gross)	7.Fuel Rate: mm ³ /stroke @ peak torque	8.Fuel Rate: (lb/hr) @ peak torque	9.Emission Control Device Per SAE J1930
5DZXL03.1039	CE38.9	BF3L2011	53.3@2300	55	21	133.4@1600	61	16.2	EM
5DZXL03.1039	CE39.6	BF3L2011	54.6@2500	54	22.4	126.8@1600	56.5	15	EM
5DZXL03.1039	CE41.7	BF3L2011	57.4@2500	56	23.3	133.4@1600	61	16.2	EM
5DZXL03.1039	CE39.9	BF3L2011	55.2@2600	52	22.5	126.8@1600	56.5	15	EM
5DZXL03.1039	CE42/1	BF3L2011	58@2600	54	23.3	133.4@1600	61	16.2	EM
5DZXL03.1039	CE43	BF3L2011	59.3@2600	55	23.8	133.4@1600	61	16.2	EM
5DZXL03.1039	CE42.6	BF3L2011	59.2@2800	52	24.2	126.8@1600	56.5	15	EM
5DZXL03.1039	CE44.9	BF3L2011	62.3@2800	54	25.1	133.4@1600	61	16.2	EM
5DZXL03.1039	CE47.5	BF4L2011	64.8@2300	50.5	25.8	168.9@1600	56	19.9	EM
5DZXL03.1039	CE50	BF4L2011	68.2@2300	53	27	177.7@1600	60	21.3	EM
5DZXL03.1039	CE50.8	BF4L2011	69.6@2500	51.5	28.6	168.9@1600	56	19.9	EM
5DZXL03.1039	CE53.5	BF4L2011	73.2@2500	54	29.9	177.7@1600	60	21.3	EM
5DZXL03.1039	CE52.1	BF4L2011	71.5@2600	52	30	168.9@1600	56	19.9	EM
5DZXL03.1039	CE54.9	BF4L2011	75.3@2600	54	31.1	177.7@1600	60	21.3	EM
5DZXL03.1039	CE55.7	BF4L2011	76.5@2650	56	32.9	177.7@1600	60	21.3	EM
5DZXL03.1039	CE55.1	BF4L2011	76@2800	54	33.5	168.9@1600	56	19.9	EM
5DZXL03.1039	CE58.1	BF4L2011	80@2800	56.5	35.1	177.7@1600	60	21.3	EM
5DZXL03.1039	CE40	BF3M2011	53.6@2300	55	21	132.7@1600	61	16.2	EM
5DZXL03.1039	CE42	BF3M2011	56.3@2300	58	22.2	140.1@1600	65	17.3	EM
5DZXL03.1039	CE42.8	BF3M2011	57.3@2500	56	23.3	132.7@1600	61	16.2	EM
5DZXL03.1039	CE45	BF3M2011	60.3@2500	57	23.7	140.1@1600	65	17.3	EM
5DZXL03.1039	CE44.1	BF3M2011	59.1@2600	55	23.8	132.7@1600	61	16.2	EM
5DZXL03.1039	CE46/1	BF3M2011	61.6@2600	57	24.6	140.1@1600	65	17.3	EM
5DZXL03.1039	CE46	BF3M2011	61.6@2800	54	25.1	132.7@1600	61	16.2	EM
5DZXL03.1039	CE48.5	BF3M2011	65@2800	58	27	140.1@1600	65	17.3	EM
5DZXL03.1039	CE54	BF4M2011	72.4@2200	57.5	28.1	199.1@1600	69	24.5	EM
5DZXL03.1039	CE46/2	BF4M2011	61.6@2300	48	24.5	168.8@1600	64	22.7	EM
5DZXL03.1039	CE53	BF4M2011	71@2300	55	28.1	188.8@1600	64	22.7	EM

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Engine Model Summary Template

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm ³ /stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SAE Gross)	7.Fuel Rate: mm ³ /stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
5DZXL03.1039	CE56	BF4M2011	75@2300	58	29,6	199,1@1600	69	24,5	EM PDI
5DZXL03.1039	CE57/1	BF4M2011	76,4@2350	58	30,2	199,1@1600	69	24,5	EM
5DZXL03.1039	CE57	BF4M2011	76,4@2500	57	31,6	188,8@1600	64	22,7	EM
5DZXL03.1039	CE60	BF4M2011	80,4@2500	59	32,7	199,1@1600	69	24,5	EM
5DZXL03.1039	CE58,5	BF4M2011	78,4@2600	56	32,3	188,8@1600	64	22,7	EM
5DZXL03.1039	CE61	BF4M2011	81,8@2600	59	34	199,1@1600	69	24,5	EM
5DZXL03.1039	CE62	BF4M2011	83,1@2800	59	36,7	188,8@1600	64	22,7	EM
5DZXL03.1039	CE65	BF4M2011	87,1@2800	61	37,9	199,1@1600	69	24,5	EM
5DZXL03.1039	CE63	BF4M2011	84,4@2700	60	35,9	199,1@1600	69	24,5	EM
5DZXL03.1039	CE56,5	BF4L2011	77,6@2700	55	32,9	188,8@1600	64	22,7	EM
5DZXL03.1039	CE49	BF4M2011	65,7@2300	51,5	26,3	188,8@1600	64	22,7	EM
5DZXL03.1039	DE45,5	BF4L2011	61,5@1800	60	23,9	FIXED	0	0	EM
5DZXL03.1039	CE50/1	D3DCDE2	68,2@2300	53	27	177,7@1600	60	21,3	EM
5DZXL03.1039	CE54,9/1	D3DCEE2	75,3@2600	54	31,1	177,7@1600	60	21,3	EM
5DZXL03.1039	DE47,3	BF4M2011	63,4@1800	61	24,3	FIXED	0	0	EM
5DZXL03.1039	CE53,6	BF4M2011	71,8@2350	55	28,7	177,7@1600	60	21,3	EM
5DZXL03.1039	CE61/1	BF4M2011	81,8@2500	60	33,3	199,1@1600	69	24,5	EM
5DZXL03.1039	CE51,5	BF4L2011	71,2@2800	51	31,7	160,7@1600	54	19,1	EM
5DZXL03.1039	CE58	BF4L2011	79,9@2800	56,5	35,1	191,7@1600	65	23,1	EM