

 AIR RESOURCES BOARD	DEUTZ AG	EXECUTIVE ORDER U-R-013-0152 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	5DZXL06.1028	4.0, 6.0	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Direct Diesel Injection, Smoke Puff Limiter, Turbocharger, Charge Air Cooler			Loader, Compressor, 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
75 ≤ kW < 130	Tier 2	STD	N/A	N/A	6.6	5.0	0.30	20	15	50
130 ≤ kW < 225	Tier 2	STD	N/A	N/A	6.6	3.5	0.20	20	15	50
		CERT	-	-	6.4	0.7	0.12	1	0	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-013-0152

Engine Model Summary Template

SPL DDI TG, CAC

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: (bs/hr) @ peak HP (for diesels only)	6. Torque @ RPM (SEA Gross)	7. Fuel Rate: mm ³ /stroke @ peak torque	8. Fuel Rate: (bs/hr) @ peak torque	9. Emission Control Device Per SAE J1830
5DZXL06.1028	CE100	BF4M2012C	134.1@2400	94	50.1	363.6@1500	106	35.3	SPL
5DZXL06.1028	CE103	BF4M2012C	138.1@2500	95	52.7	363.6@1500	106	35.3	SPL
5DZXL06.1028	CE75	BF4M2012C	100.5@2000	80	35.5	311.2@1500	91	30.3	SPL
5DZXL06.1028	CE78	BF4M2012C	104.5@2100	80	37.3	311.2@1500	91	30.3	SPL
5DZXL06.1028	CE80	BF4M2012C	107.2@2000	85	37.7	328.2@1500	96	31.9	SPL
5DZXL06.1028	CE81	BF4M2012C	108.6@2200	80	39.1	311.2@1500	91	30.3	SPL
5DZXL06.1028	CE83	BF4M2012C	111.3@2300	80	40.8	311.2@1500	91	30.3	SPL
5DZXL06.1028	CE83/1	BF4M2012C	111.3@2100	85	39.6	328.2@1500	96	31.9	SPL
5DZXL06.1028	CE84	BF4M2012C	112.6@2000	90	39.9	345.9@1500	101	33.6	SPL
5DZXL06.1028	CE85	BF4M2012C	113.9@2400	79	42.1	345.9@1500	91	30.3	SPL
5DZXL06.1028	CE85/1	BF4M2012C	113.9@2200	85	41.5	345.9@1500	96	31.9	SPL
5DZXL06.1028	CE87	BF4M2012C	116.6@2100	89	41.5	345.9@1500	101	33.6	SPL
5DZXL06.1028	CE88	BF4M2012C	118@2500	80	44.4	311.2@1500	91	30.3	SPL
5DZXL06.1028	CE88/1	BF4M2012C	118@2300	84	42.9	328.2@1500	96	31.9	SPL
5DZXL06.1028	CE89	BF4M2012C	119.3@2000	95	42.2	363.6@1500	106	35.3	SPL
5DZXL06.1028	CE90	BF4M2012C	120.6@2400	84	44.7	345.9@1500	96	31.9	SPL
5DZXL06.1028	CE90/1	BF4M2012C	120.6@2200	89	43.5	345.9@1500	101	33.6	SPL
5DZXL06.1028	CE92	BF4M2012C	123.3@2100	94	43.8	363.6@1500	106	35.3	SPL
5DZXL06.1028	CE93	BF4M2012C	124.7@2500	85	47.2	328.2@1500	96	31.9	SPL
5DZXL06.1028	CE93/1	BF4M2012C	124.7@2300	89	45.4	345.9@1500	101	33.6	SPL
5DZXL06.1028	CE95	BF4M2012C	127.3@2400	89	47.4	345.9@1500	101	33.6	SPL
5DZXL06.1028	CE95/1	BF4M2012C	127.3@2200	94	45.9	363.6@1500	106	35.3	SPL
5DZXL06.1028	CE96	BF4M2012C	131.4@2500	90	49.9	345.9@1500	101	33.6	SPL
5DZXL06.1028	CE98/1	BF4M2012C	131.4@2300	94	48	363.6@1500	106	35.3	SPL
5DZXL06.1028	CE114	BF6M2012C	152.8@2000	82	54.6	466.8@1500	89	44.4	SPL
5DZXL06.1028	CE118	BF6M2012C	158.2@2100	79	55.2	466.8@1500	89	44.4	SPL
5DZXL06.1028	CE120	BF6M2012C	160.9@2000	84	55.9	494.9@1500	95	47.4	SPL
5DZXL06.1028	CE121	BF6M2012C	162.2@2200	79	57.9	466.8@1500	89	44.4	SPL

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Engine Model Summary Template

SPL DDI, TS, CAC

Engine Family	1 Engine Code	2 Engine Model	3.BHP@RPM (SAE Gross)	4. Fuel Rate: min/stroke @ peak HP (for diesels only)	5. Fuel Rate: (bsh/hr) @ peak HP (for diesels only)	6. Torque @ RPM (SEA Gross)	7. Fuel Rate: min/stroke @ peak torque	8. Fuel Rate: (bsh/hr) @ peak torque	9. Emission Control Device Per SAE J1830
5DZXL06.1028	CE124	BF6M2012C	166.2@2100	83	58	494.9@1500	95	47.4	SPL
5DZXL06.1028	CE125	BF6M2012C	167.6@2300	79	60.5	466.8@1500	89	44.4	SPL
5DZXL06.1028	CE127	BF6M2012C	170.3@2000	89	59.3	519.9@1500	100	49.9	SPL
5DZXL06.1028	CE128	BF6M2012C	171.6@2400	79	63.1	466.8@1500	89	44.4	SPL
5DZXL06.1028	CE128/1	BF6M2012C	171.6@2200	83	60.8	494.9@1500	95	47.4	SPL
5DZXL06.1028	CE131	BF6M2012C	175.6@2100	88	61.5	519.9@1500	100	49.9	SPL
5DZXL06.1028	CE132	BF6M2012C	177@2500	79	65.8	466.8@1500	89	44.4	SPL
5DZXL06.1028	CE132/1	BF6M2012C	177@2300	83	63.6	494.9@1500	95	47.4	SPL
5DZXL06.1028	CE134	BF6M2012C	179.6@2000	94	62.6	548@1500	106	52.9	SPL
5DZXL06.1028	CE136	BF6M2012C	182.3@2400	83	66.3	494.9@1500	95	47.4	SPL
5DZXL06.1028	CE136/1	BF6M2012C	182.3@2200	88	64.5	519.9@1500	100	49.9	SPL
5DZXL06.1028	CE138	BF6M2012C	185@2100	93	65	548@1500	106	52.9	SPL
5DZXL06.1028	CE140	BF6M2012C	187.7@2500	83	69.1	494.9@1500	95	47.4	SPL
5DZXL06.1028	CE140/1	BF6M2012C	187.7@2300	88	67.4	519.9@1500	100	49.9	SPL
5DZXL06.1028	CE143	BF6M2012C	191.7@2200	93	68.1	548@1500	106	52.9	SPL
5DZXL06.1028	CE144	BF6M2012C	193.1@2400	88	70.3	519.9@1500	100	49.9	SPL
5DZXL06.1028	CE147	BF6M2012C	197.1@2500	88	73.3	519.9@1500	100	49.9	SPL
5DZXL06.1028	CE147/1	BF6M2012C	197.1@2300	93	71.2	548@1500	106	52.9	SPL
5DZXL06.1028	CE151	BF6M2012C	202.4@2400	93	74.3	548@1500	106	52.9	SPL
5DZXL06.1028	CE155	BF6M2012C	207.8@2500	93	77.4	548@1500	106	52.9	SPL
5DZXL06.1028	CE103	TAD420VE	138.1@2500	95	52.7	363.6@1500	106	35.3	SPL
5DZXL06.1028	CE83/1	TAD420VE	111.3@2100	85	39.6	328.2@1500	96	31.9	SPL
5DZXL06.1028	CE88/1	TAD420VE	118@2300	84	42.9	328.2@1500	96	31.9	SPL
5DZXL06.1028	CE92	TAD420VE	123.3@2100	94	43.8	363.6@1500	106	35.3	SPL
5DZXL06.1028	CE93	TAD420VE	124.7@2500	85	47.2	328.2@1500	96	31.9	SPL
5DZXL06.1028	CE98/1	TAD420VE	131.4@2300	94	48	363.6@1500	106	35.3	SPL
5DZXL06.1028	CE121	TAD620VE	162.2@2100	81	56.6	465.4@1500	92	45.9	SPL
5DZXL06.1028	CE131	TAD620VE	175.6@2300	83	63.6	465.4@1500	92	45.9	SPL

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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: (lb/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm ³ /stroke@peak torque	8.Fuel Rate: (lb/hr)@peak torque	9.Emission Control Device Per SAE J1930
5DZXL06.1028	CE135/1	TAD620VE	181@2100	90	62.9	516.2@1500	103	51.4	SPL
5DZXL06.1028	CE140	TAD620VE	187.7@2500	83	69.1	494.9@1500	95	47.4	SPL
5DZXL06.1028	CE145	TAD620VE	194.4@2300	92	70.5	516.2@1500	103	51.4	SPL
5DZXL06.1028	CE155	TAD620VE	207.8@2500	93	77.4	548@1500	106	52.9	SPL
5DZXL06.1028	CE85	TAD620VE	113.9@2300	55	42.1	368.7@1500	73	36.4	SPL
5DZXL06.1028	CE103	BF6M2012C	138.1@2300	66	50.5	405.6@1500	78	38.9	SPL
5DZXL06.1028	CE791	BF6M2012C	117@2300	61	46.7	322.3@1400	65	30.3	SPL
5DZXL06.1028	CE87T	BF6M2012C	128.8@2300	65	49.8	361.4@1500	74	36.9	SPL
5DZXL06.1028	CE94T	BF6M2012C	139@2300	72	55.1	390.9@1300	80	34.6	SPL
5DZXL06.1028	CE102T	BF6M2012C	153.5@2300	77	59	420.4@1400	86	40.1	SPL
5DZXL06.1028	CE74T	BF4M2012C	109.6@2300	65	33.2	304.6@1550	93	32	SPL
5DZXL06.1028	CE61T	BF4M2012C	87.1@2300	61	31.1	313.4@1500	69	22.9	SPL
5DZXL06.1028	CE69T	BF4M2012C	99.2@2300	75	38.3	317.8@1500	100	33.3	SPL
5DZXL06.1028	CE78T	BF4M2012C	111.3@2300	80	40.8	353.2@1500	106	35.3	SPL
5DZXL06.1028	CE103/1	BF6M2012C	138.1@2100	73	51	405.6@1500	78	38.9	SPL
5DZXL06.1028	CE110	BF6M2012C	147.5@2300	76	58.2	420.4@1500	84	41.9	SPL
5DZXL06.1028	CE100	BF6M2012C	134.1@2300	65	49.8	390.9@1500	78	38.9	SPL
5DZXL06.1028	CE90	BF6M2012C	120.6@2300	61	46.7	339.2@1500	77	38.4	SPL
5DZXL06.1028	CE80	BF6M2012C	107.2@2300	55	42.1	317.1@1500	67	33.4	SPL
5DZXL06.1028	CE110/1	BF6M2012C	147.5@2200	77	56.4	420.4@1500	84	41.9	SPL
5DZXL06.1028	CE100/1	BF6M2012C	134.1@2200	69	50.5	390.9@1500	78	38.9	SPL
5DZXL06.1028	CE90/1	BF6M2012C	120.6@2200	63	46.1	339.2@1500	77	38.4	SPL
5DZXL06.1028	CE80/1	BF6M2012C	107.2@2200	56	41	317.1@1500	67	33.4	SPL
5DZXL06.1028	CE110/2	BF6M2012C	147.5@2100	78	54.5	420.4@1500	84	41.9	SPL
5DZXL06.1028	CE100/2	BF6M2012C	134.1@2100	72	50.3	390.9@1500	77	38.4	SPL
5DZXL06.1028	CE90/2	BF6M2012C	120.6@2100	65	45.4	339.2@1500	67	33.4	SPL
5DZXL06.1028	CE80/2	BF6M2012C	107.2@2100	57	39.8	317.1@1500	63	31.4	SPL
5DZXL06.1028	CE110/3	BF6M2012C	147.5@2000	81	53.9	420.4@1500	84	41.9	SPL

SPL

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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/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lb/hr) @ peak HP (for diesel only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lb/hr)@peak torque	9.Emission Control Device Per SAE J1930
5DZXL06.1028	CE100/3	BF6M2012C	134.1@2000	75	49.9	390.9@1500	77	38.4	SPL DI, TC, CR
5DZXL06.1028	CE90/3	BF6M2012C	120.6@2000	67	44.6	339.2@1500	67	33.4	SPL
5DZXL06.1028	CE80/3	BF6M2012C	107.2@2000	59	39.3	317.1@1500	63	31.4	SPL
5DZXL06.1028	CE100/4	BF6M2012C	134.1@1900	78	49.3	420.4@1500	84	41.9	SPL
5DZXL06.1028	CE90/4	BF6M2012C	120.6@1900	70	44.3	390.9@1500	77	38.4	SPL
5DZXL06.1028	CE80/4	BF6M2012C	107.2@1900	60	37.9	339.2@1500	67	33.4	SPL
5DZXL06.1028	CE90/5	BF6M2012C	120.6@1800	73	43.7	390.9@1500	77	38.4	SPL
5DZXL06.1028	CE80/5	BF6M2012C	107.2@1800	65	38.9	339.2@1500	67	33.4	SPL
5DZXL06.1028	CE95	D4DRBE2	127.3@2200	94	45.9	363.6@1500	106	35.3	SPL
5DZXL06.1028	CE121	D6DRAE2	162.2@2200	81.5	59.7	465.4@1500	94	46.9	SPL
5DZXL06.1028	CE82	D4DDCE2	109.9@2100	85	39.6	328.2@1500	96	31.9	SPL
5DZXL06.1028	CE90	D4DDDE2	120.6@2200	89	43.5	345.9@1500	101	33.6	SPL
5DZXL06.1028	CE66T	BF4M2012C	97.8@2300	74	37.8	283.2@1400	89	27.6	SPL
5DZXL06.1028	CE93/2	BF4M2012C	124.7@2300	89	45.4	345.9@1500	101	33.6	SPL
5DZXL06.1028	CE76T	BF6M2012C	111.9@2300	58	44.4	330.4@1550	68	35.1	SPL
5DZXL06.1028	DE88	BF4M2012C	118@1800	103	41.1	FIXED	0	0	no
5DZXL06.1028	DE83	BF4M2012C	111.3@1800	97	38.7	FIXED	0	0	no
5DZXL06.1028	DE88/1	BF4M2012C	118@1846	101	41.4	FIXED	0	0	no
5DZXL06.1028	DE90	BF4M2012C	120.6@2000	96	42.6	FIXED	0	0	no
5DZXL06.1028	DE102	BF4M2012C	136.7@2400	96	51.1	FIXED	0	0	no
5DZXL06.1028	CE110T	BF6M2012C	163.3@2350	80	62.6	449.9@1500	91	45.4	SPL
5DZXL06.1028	CE129.5	BF6M2012C	173.6@2500	77	64.1	466.8@1500	89	44.4	SPL
5DZXL06.1028	CE129.3	BF6M2012C	173.6@2300	82	62.8	484.9@1500	95	47.4	SPL
5DZXL06.1028	CE110T1	BF6M2012C	@	0	0	0@0	0	0	no
5DZXL06.1028	CE121/1	D6DRAE2	162.2@2200	81.5	59.7	465.4@1500	94.0	46.9	SPL