



DEUTZ AG

EXECUTIVE ORDER U-R-013-0593
New Off-Road
Compression-Ignition Engines

Pursuant to the authority vested in California 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-19-095;

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)
2020	LDZXL04.1056	4.038	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Common Rail Direct Injection, Turbocharger, Charge Air Cooler, Electronic Control Module, Exhaust Gas Recirculation, Diesel Oxidation Catalyst, Continuous Trap Oxidizer, Selective Catalytic Reduction-Urea			Crane, Loader, Tractor, Dozer, Pump, Compressor, Material Handler, Small Cranes	

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 POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kW-hr)					OPACITY (%)		
			NMHC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
75 ≤ kW < 130	Tier 4 Final	STD	0.19	0.40	N/A	5.0	0.02	N/A	N/A	N/A
		CERT	0.03	0.35	--	0.2	0.02	--	--	--

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 25th day of November 2019.

Allen Lyons, Chief
Emissions Certification and Compliance Division

EO# U-R-013-0593

Date: 11/6/2019

Attachment page 1 of 2

Deutz AG
Nonroad CI

Engine Model Summary Template

Engine Family	Engine Code	Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for Diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesel only)	6.Torque @ RPM (SAE Gross)	7.Fuel Rate: mm/stroke @ peak torque	8.Fuel Rate: (lbs/hr) @ peak torque	9.Emission Control Device Per SAE J1930
LDZXL04.1056	CFV115A	TCD4.114	154.2@2300	116.3	59.4	609@1600	137.0	48.7	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFV115B	TCD4.114	154.2@2200	119.0	58.1	609@1600	137.0	48.7	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFV115C	TCD4.114	154.2@2100	123.0	57.3	609@1600	137.0	48.7	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFV115D	TCD4.114	154.2@2000	125.0	55.5	609@1600	137.0	48.7	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFV105A	TCD4.114	140.8@2300	107.0	54.6	550@1600	121.7	43.2	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFV105B	TCD4.114	140.8@2200	109.0	53.2	550@1600	121.7	43.2	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFV105D	TCD4.114	140.8@2100	113.0	52.7	550@1600	121.7	43.2	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFV105C	TCD4.114	140.8@2000	115.0	51.1	550@1600	121.7	43.2	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFV195A	TCD4.114	127.3@2200	98.5	48.1	530@1600	118.5	42.1	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFV195B	TCD4.114	127.3@2100	101.0	47.1	530@1600	118.5	42.1	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFV195C	TCD4.114	127.3@2000	104.0	46.2	530@1600	118.5	42.1	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFV190	TCD4.114	120.6@2300	91.0	46.5	500@1600	111.2	39.5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFV190A	TCD4.114	120.6@2200	93.0	45.4	500@1600	111.2	39.5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFV185L	TCD4.114	113.9@2200	90.0	43.9	500@1600	111.2	39.5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFV180S	TCD4.114	107.2@2400	82.0	43.7	440@1600	100.0	35.5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFV180A	TCD4.114	107.2@2300	83.0	42.4	440@1600	100.0	35.5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFV180B	TCD4.114	107.2@2200	84.5	41.3	440@1600	100.0	35.5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFV180C	TCD4.114	107.2@2100	86.0	40.1	440@1600	100.0	35.5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFV180D	TCD4.114	107.2@2000	88.0	39.1	440@1600	100.0	35.5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFVT91U	TCD4.114	122.0@2100	99.5	46.4	564@1500	126.0	41.9	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFVT98U	TCD4.114	131.4@2100	107.5	50.1	604@1500	136.0	45.3	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFVT110U	TCD4.114	146.8@2100	119.9	55.9	663@1500	151.7	50.5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFVT120U	TCD4.114	160.9@2100	131.6	61.4	699@1500	163.0	54.3	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFVT121U	TCD4.114	160.9@2100	131.6	61.4	699@1500	162.0	53.9	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFVT109U	TCD4.114	147.2@2100	120.0	55.9	639@1500	143.8	47.9	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFVT111U	TCD4.114	146.8@2100	120.0	55.9	663@1500	151.7	50.5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFVT96U	TCD4.114	129.8@2100	104.5	48.7	564@1500	126.0	41.9	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFVT89U	TCD4.114	120.0@2100	98.9	46.1	522@1500	104.0	34.6	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFVT119U	TCD4.114	160.9@2100	131.6	61.4	699@1500	162.0	53.9	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFVT108U	TCD4.114	146.8@2100	119.9	55.9	663@1500	151.7	50.5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFVT98UB	TCD4.114	131.4@2100	107.5	50.1	604@1500	136.0	45.3	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CFVT91UB	TCD4.114	122.0@2100	99.5	46.4	564@1500	126.0	41.9	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U

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Nonroad CIEngine Model Summary Template

Date: 11/6/2019

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: (lbs/hr) @ peak HP (for diesel only)	6.Torque @ RPM (SAE Gross)	7.Fuel Rate: mm/stroke @ peak torque	8.Fuel Rate: (lbs/hr) @ peak torque	9.Emission Control Device Per SAE J1930
LDZXL04.1056	CSVI115A	TCD4.1L4	154.2@2300	116,3	59,4	609@1600	137,0	48,7	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CSVI115B	TCD4.1L4	154.2@2200	119,0	58,1	609@1600	137,0	48,7	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CSVI115C	TCD4.1L4	154.2@2100	123,0	57,3	609@1600	137,0	48,7	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CSVI115D	TCD4.1L4	154.2@2000	125,0	55,5	609@1600	137,0	48,7	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CSVI105A	TCD4.1L4	140.8@2300	107,0	54,6	550@1600	121,7	43,2	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CSVI105B	TCD4.1L4	140.8@2200	109,0	53,2	550@1600	121,7	43,2	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CSVI105D	TCD4.1L4	140.8@2100	113,0	52,7	550@1600	121,7	43,2	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CSVI105C	TCD4.1L4	140.8@2000	115,0	51,1	550@1600	121,7	43,2	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CSVI95A	TCD4.1L4	127.3@2200	98,5	48,1	530@1600	118,5	42,1	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CSVI95B	TCD4.1L4	127.3@2100	101,0	47,1	530@1600	118,5	42,1	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CSVI95C	TCD4.1L4	127.3@2000	104,0	46,2	530@1600	118,5	42,1	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CSVI90	TCD4.1L4	120.6@2300	91,0	46,5	500@1600	111,2	39,5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CSVI90A	TCD4.1L4	120.6@2200	93,0	45,4	500@1600	111,2	39,5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CSVI85L	TCD4.1L4	113.9@2200	90,0	43,9	500@1600	111,2	39,5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CSVI80S	TCD4.1L4	107.2@2400	82,0	43,7	440@1600	100,0	35,5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CSVI80A	TCD4.1L4	107.2@2300	83,0	42,4	440@1600	100,0	35,5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CSVI80B	TCD4.1L4	107.2@2200	84,5	41,3	440@1600	100,0	35,5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CSVI80C	TCD4.1L4	107.2@2100	86,0	40,1	440@1600	100,0	35,5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
LDZXL04.1056	CSVI80D	TCD4.1L4	107.2@2000	88,0	39,1	440@1600	100,0	35,5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U