EXECUTIVE ORDER U-R-002-0610 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-14-012;

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)		
2015	FCEXL50.0AAF	50	Diesel	8000		
	FEATURES & EMISSION		TYPICAL EQUIPMENT A			
Cooler, E	c Direct Injection, Turbo lectronic Control Module tion – Urea, Ammonia C	e. Selective Catalytic	Loader, Pump, and Compressor			

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		EXHAUST (g/kw-hr)				OPACITY (%)			
POWER	CATEGORY		NMHC	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
kW > 560	Tier 4 Final	STD	0.19	3.5	N/A	3.5	0.04	N/A	N/A	N/A
		CERT	0.06	2.7		0.1	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

18 # day

day of August 2014.

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

Engine Model Summary Template

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8/7/2014

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 diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torqu	9.Emission Control eDevice Per SAE J1930
FCEXL50.0AAF	4261:6740	QSK50	2500@1900	506	855	7081@1500	490	654	SCR, DDI, TC, ECM, CAC, AMOX
FCEXL50.0AAF	4261:60217	QSK50	2300@1900	464	784	6514@1500	449	598	SCR, DDI, TC, ECM, CAC, AMOX
FCEXL50.0AAF	4261:60049	QSK50	2250@1900	455	768	6300@1500	435	579	SCR, DDI, TC, ECM, CAC, AMOX
FCEXL50.0AAF	4261:60184	QSK50	2000@1900		684	5805@1500	400	533	SCR, DDI, TC, ECM, CAC, AMOX
FCEXL50.0AAF	4261:60216	QSK50	167 5@ 1800	352	564	5375@1500	371	495	SCR, DDI, TC, ECM, CAC, AMOX
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