EXECUTIVE ORDER U-R-022-0204 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)		
2016	GPKXL04.4MU1	4.4	Diesel	8000		
	FEATURES & EMISSION		TYPICAL EQUIPMENT APPLICATION			
Coole	c Direct Injection, Turbo er, Engine Control Modu circulation, Diesel Oxida Selective Catalytic Redu Ammonia Oxidation (	le, Exhaust Gas ition Catalyst, ction-Urea,	Crane, Loader, Tractor, Compressor, Gene	Dozer, Pump, erator Set		

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	EMISSION			E	XHAUST (g/kw-l	OPACITY (%)				
CLASS	STANDARD CATEGORY		NMHC	NOx	NMHC+NOx	СО	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	0.01	0.28		0.03	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

day of October 2015.

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

Attachment 1 of 2

## **Engine Model Summary Template**

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Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate mm/stroke @ pe (for diesel on	ak HP (I	5.Fuel Rate: bs/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 ueDevice Per SAE J1930	
GPKXL04.4MU1	Cert Test 1	4068/2200	174@2200	133	**	64	553@1400	162	50	DDI TAA ECM DOC EGR - <del>SCR-</del> AMOX EPR	SCR-U, TC, CAK
GPKXL04.4MU1	1	4068/2200	174@2200	133		64	553@1400	162	50	DDI TAA ECM DOC EGR <del>SCR-</del> AMOX EPR	
GPKXL04.4MU1	2	4070/2200	157@2200	125		60	504@1400	148	45	DDI TAA ECM DOC EGR SCR-AMOX EPR	
GPKXL04.4MU1	3	4186/2200	150@2200	119		57	479@1400	139	43	DDI TAA ECM DOC EGR SCR AMOX EPR	
GPKXL04.4MU1	4	3992/2200	141@2200	116	**	56	465@1400	136	42	DDI TAA ECM DOC EGR <del>SCR</del> AMOX EPR	V

Attachment 2 of 2

## **Engine Model Summary Template**

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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		9.Emission Control Device Per SAE J1930	
GPKXL04.4MU1	Cert Test 5	4526/1800	173@1800	154	61	505@1800	154	61	DDI TAA ECM DOC EGR -SCR AMOX EPR	SCR. U TC, CAC
GPKXL04.4MU1	5	4526/1800	173@1800	154	61	505@1800	154	61	DDI TAA ECM DOC EGR <del>SCR A</del> MOX EPR	*

\*\* New Models Aldel