



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)
2019	KPKXL07.0VM1	7.01	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Engine Control Module, Diesel Oxidation Catalyst, Periodic Trap Oxidizer, Exhaust Gas Recirculation, Selective Catalytic Reduction-Urea, Ammonia Oxidation Catalyst			Crane, Loaders, Tractor, Dozer, Pump, Compressor, Generator 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 CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			NMHC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
130 ≤ kW ≤ 560	Tier 4 Final	OPTIONAL STD	0.19	0.40	N/A	3.5	0.02	N/A	N/A	N/A
		FEL	N/A	N/A	N/A	N/A	0.01	N/A	N/A	N/A
		CERT	0.01	0.28	--	0.1	0.001	--	--	--

**BE IT FURTHER RESOLVED:** That the family emission limit(s) (FEL) is an emission level declared by the manufacturer for use in any averaging, banking and trading program and in lieu of an emission standard for certification. It serves as the applicable emission standard for determining compliance of any engine within this engine family under 13 CCR Sections 2423 and 2427.

**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).

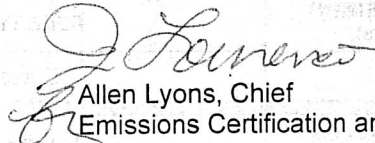
**BE IT FURTHER RESOLVED:** That the manufacturer has elected to include engine models in this engine family which are identified for "emergency equipment use only". These "emergency equipment use only" engines are exempt from requirements imposed pursuant to California law and the regulations adopted pursuant thereto for motor vehicle pollution control devices per California Vehicle Code Section 27156.2. The manufacturer must clearly label these engines for "emergency equipment use only" on the engines' emission control label.

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order hereby supersedes Executive Order U-R-022-0222 dated March 11, 2019

**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 12<sup>th</sup> day of August 2019.



**Allen Lyons, Chief**  
Emissions Certification and Compliance Division

Model Year	Model	Engine	Power (kW)	Speed (km/h)	Category	Phase	Test Cycle	Phase	Test Cycle
2019	4000	4000	100	100	4000	4000	4000	4000	4000
2019	4000	4000	100	100	4000	4000	4000	4000	4000

BE IT HEREBY ORDERED that the family of engines listed in the table above is certified for sale and use in California under Executive Order U-R-022-0222-1, provided that the manufacturer has submitted to the Air Resources Board all the information and data required by the regulations and that the manufacturer has agreed to comply with the conditions of the order. The manufacturer must also agree to provide the information and data required by the regulations and to comply with the conditions of the order. The manufacturer must also agree to provide the information and data required by the regulations and to comply with the conditions of the order.

ATTACHMENT 1 OF 2

EO # U-R-022-022-1

Date: 07/26/2019 (R/C)

Engine Model Summary Template

Engine Family	1. Engine Code	2. Engine Model	3. BHP@RPM (SAE Gross)	4. Fuel Rate: mm <sup>3</sup> /stroke @ peak HP (for diesel only)	5. Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6. Torque @ RPM (SEFA Gross)	7. Fuel Rate: mm <sup>3</sup> /stroke@peak torque	8. Fuel Rate: (lbs/hr)@peak torque	9. Emission Control Per SAE J1930
KPKXL07.0VM1	4884/2200	1206J- E70TTA/C7.1	275@2200	136.8	99.5	890@2200	181.6	84	DDI, TAA, ECM, DOC, PTOX, EGR, SCR, AMOX, EPR
KPKXL07.0VM1	4886/2200	1206J- E70TTA/C7.1	202@2200	99.7	72.5	655@2200	19.4	64.5	DDI, TAA, ECM, DOC, PTOX, EGR, SCR, AMOX, EPR
KPKXL07.0VM1	4888/2200	1206J- E70TTA/C7.1	202@2200	100.4	73	977@2200	137.2	63.5	DDI, TAA, ECM, DOC, PTOX, EGR, SCR, AMOX, EPR
KPKXL07.0VM1	4890/2200-V/S PARENT	1206J- E70TTA/C7.1	302@2200	153	111.3	729@2200	187.3	86.7	DDI, TAA, ECM, DOC, PTOX, EGR, SCR, AMOX, EPR
KPKXL07.0VM1	4892/2200	1206J- E70TTA/C7.1	225@2200	110.6	80.4	729@2200	157.7	73	DDI, TAA, ECM, DOC, PTOX, EGR, SCR, AMOX, EPR
KPKXL07.0VM1	4894/2200	1206J- E70TTA/C7.1	302@2200	153	111.3	977@2200	184.1	85.5	DDI, TAA, ECM, DOC, PTOX, EGR, SCR, AMOX, EPR
KPKXL07.0VM1	4896/2200	1206J- E70TTA/C7.1	249@2200	122.8	89.3	809@2200	177.4	82.1	DDI, TAA, ECM, DOC, PTOX, EGR, SCR, AMOX, EPR
KPKXL07.0VM1	4898/2200	1206J- E70TTA/C7.1	225@2200	110.6	80.4	729@2200	157.7	73	DDI, TAA, ECM, DOC, PTOX, EGR, SCR, AMOX, EPR
KPKXL07.0VM1	4900/2200	1206J- E70TTA/C7.1	249@2200	122	88.7	809@2200	175.7	81.3	DDI, TAA, ECM, DOC, PTOX, EGR, SCR, AMOX, EPR
KPKXL07.0VM1	4922/2200	1206J- E70TTA/C7.1	271@2200	153	111.3	872@2200	187.3	86.7	DDI, TAA, ECM, DOC, PTOX, EGR, SCR, AMOX, EPR
KPKXL07.0VM1	4924/2200	1206J- E70TTA/C7.1	248@2200	138.3	100.6	804@2200	157.7	85.9	DDI, TAA, ECM, DOC, PTOX, EGR, SCR, AMOX, EPR
KPKXL07.0VM1	4936/2200	1206J- E70TTA/C7.1	227@2200	114.5	83.3	734@2200	162.2	75.1	DDI, TAA, ECM, DOC, PTOX, EGR, SCR, AMOX, EPR
KPKXL07.0VM1	6224/2000	1206J- E70TTA/C7.1	225@2000	124.5	82.3	802@2000	173.3	80.2	DDI, TAA, ECM, DOC, PTOX, EGR, SCR, AMOX, EPR
KPKXL07.0VM1	4902/1800 - C/S Patent	1206J- E70TTA/C7.1	239@1800	194	115.4	1268@1800	194	115.4	DDI, TAA, ECM, DOC, PTOX, EGR, SCR, AMOX, EPR

ATTACHMENT 2 OF 2

**Engine Model Summary Template**

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Date: 07/26/2019 (R/C)

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 torque	9. Emission Control Per SAE J1930
KPKXL07.0VM1	* 6318/1800	1206J- E70TTAC7.1	184@1800	139	82.7	976@1800	139	82.7	DDI, TAA, ECM, DOC, PTOX, EGR, SCR, AMOX, EPR
KPKXL07.0VM1	* 6316/1500	1206J- E70TTAC7.1	200@1500	188	93.2	1273.2@1500	188	93.2	DDI, TAA, ECM, DOC, PTOX, EGR, SCR, AMOX, EPR

\* NEW ENGINE MODELS

TAA = TC + OAC