## MAN TRUCK & BUS AG

EXECUTIVE ORDER U-R-067-0008 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-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) 8,000		
2019	KMNBL24.2OR4	24.2	Diesel			
SPECIAL	FEATURES & EMISSION	CONTROL SYSTEMS	TYPICAL EQUIPMENT	APPLICATION		
Char	ectronic Direct Injection, ge Air Cooler, Electronic Selective Catalytic Redu Ammonia Oxidation (	Control Module, ction-Urea.	Tractor, Harvester, Agricultural Equipment			

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):

POWER CLASS	EMISSION		EXHAUST (g/kW-hr)					OPACITY (%)		
	STANDARD		NMHC	NOx	NMHC+NOx	СО	PM	ACCEL	LUG	PEAK
FI 05 - 500 IIII	Ties 4 Circl	STD	0.19	3.5	N/A	3.5	0.04	N/A	N/A	N/A
ELSE > 560 kW	Tier 4 Final	CERT	0.03	3.2		0.4	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 February 2019.

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

Attachment 1/1

## **Engine Model Summery Template**

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	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 diesel only)	6. Torque @ RPM (SAE Gross)	7. Fuel Rate mm³/stroke @ peak torque	8. Fuel Rate (lbs/hr) @ peak torque	9. Emission Control Device Per SAE J1930
	KMNBL24.2OR4	D2862	LE131	816 kW @	310	368	5000 Nm @	345	308	ECM, DI, TC
				1800 rpm			1350 rpm			CAC, SCR-U, AMOX
_(	KMNBL24.2OR4	D2862	LE132	750 kW @	280	333	4790 Nm @	320	275	ECM, DI, TC
				1800 rpm			1350 rpm			CAC, SCR-U, AMOX
_ (	KMNBL24.2OR4	D2862	LE133	650 kW @	240	285	4151 Nm @	280	240	ECM, DI, TC
				1800 rpm			1300 rpm			CAC, SCR-U, AMOX
_1	KMNBL24.2OR4	D2862	LE134	588 kW @	220	261	3754 Nm @	250	215	ECM, DI, TC
				1800 rpm			1300 rpm			CAC, SCR-U, AMOX
_	KMNBL24.2OR4	D2862	LE130	680 kW @	257	305	4342 Nm @	293	252	ECM, DI, TC
				1800 rpm			1300 rpm			CAC, SCR-U, AMOX
-1	KMNBL24.2OR4	D2862	LE140	625 kW @	237	282	3991 Nm @	269	231	ECM, DI, TC
				1800 rpm			1300			CAC, SCR-U, AMOX

\* added per Running Change