

## LIEBHERR MACHINES BULLE SA

## **EXECUTIVE ORDER U-R-018-0194**

New Off-Road Compression-Ignition Engines Page 1 of 1

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)				
2022	NLHAL08.0SQC	7.964	Diesel	8000				
SPECIAL	FEATURES & EMISSION C	ONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION					
Electi Injecti	Turbocharger, Charge A ronic Control Module, E on, Selective Catalyst F ia Oxidation Catalyst, D	lectronic Direct Reduction-Urea,	Crane, Loader, Dozer, Exc	avator				

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			I	EXHAUST (g/kw-l	OPACITY (%)				
POWER CLASS	STANDARD CATEGORY		NMHC	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
130 ≤ kW ≤ 560	Tier 4 Final	STD	0.19	0.40	N/A	3.5	0.02	N/A	N/A	N/A
		CERT	0.02	0.39		0.5	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 on this 18th day of January 2022.

Allen Lyons, Chief

**Emissions Certification and Compliance Division** 

**Attachment: Engine Models** 

EO #: U-R-018-0194

Family: NLHAL08.0SQC Attachment Last Revised: 12/14/2021

					Displacement -		Peak Power -	Peak Power -	Peak Power -	Peak Power -		Peak Torque -	Peak Torque -	Peak Torque -	Peak Torque -				
	Code			Displacement	Units	Peak Power	Units	Speed (rpm)	Fueling	Fuel Units	Peak Torque	Units	Speed (rpm)	Fuel	Fuel Units	OBD	GHG	Special	Notes
D944 A7- 04	R04KQ7 101	N/A	14	7.96	Liters	308	horsepower	1900	109	lb/hr	1068	lb-ft	1350	89	lb/hr	N/A	N/A	N/A	N/A
D944 A7- 04				7.96	Liters	268	horsepower	1900	94	lb/hr	1044	lb-ft	1350	89	lb/hr	N/A	N/A	N/A	N/A
D944 A7- 24	R04KQ7	N/A	14	7.96	Liters	295	horsepower	1900	103	lb/hr	1044	lb-ft	1350	89	lb/hr	N/A	N/A	N/A	N/A
D944 A7- 24	R04KQ7	N/A	14	7.96	Liters	268	horsepower	1900	94	lb/hr	1044	lb-ft	1350	89	lb/hr	N/A	N/A	N/A	N/A
24	103	,								12,					12,	1.7	1.7	1.7	