

LIEBHERR MACHINES BULLE SA

EXECUTIVE ORDER U-R-018-0213

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)			
2023	PLHAL07.0SQC	7.01	Diesel	8000			
SPECIAL	FEATURES & EMISSION (CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION				
Electi Injecti	Turbocharger, Charge A ronic Control Module, E on, Selective Catalyst F a Oxidation Catalyst, D	lectronic Direct Reduction-Urea,	Crane, Loader, Dozer, Excavator				

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	СО	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	0.01	0.34	-	0.3	0.02	1	1	

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 16th day of September 2022.

Robin U. Lang, Chief

Emissions Certification and Compliance Division

Attachment: Engine Models EO #: U-R-018-0213 Family: PLHAL07.0SQC Attachment Last Revised: 8/1/2022

Displacement -Peak Power -Peak Power -Peak Power -Peak Power - Fuel Peak Torque -Peak Torque - Fuel Peak Torque -Peak Torque - Fuel Units OBD Model Code Trim Config Displacement Units Peak Power Units Speed (rpm) Fueling Units Peak Torque Units Speed (rpm) GHG Special Notes D934 A7- R04LQ71 N/A 268 mm3/stroke lb-ft mm3/stroke N/A N/A N/A Liters horsepower 220 1350 N/A 04 01 D934 A7- R04LQ71 N/A L4 7.014 Liters 235 horsepower 1900 195 mm3/stroke 933 lb-ft 1350 260 mm3/stroke N/A N/A N/A N/A 04 02 D934 A7- R04LQ71 N/A L4 7.014 Liters 268 horsepower 1900 220 mm3/stroke 933 lb-ft 1350 260 mm3/stroke N/A N/A N/A N/A 04 03 D934 A7- R04LQ71 N/A L4 7.014 Liters 268 horsepower 1900 220 mm3/stroke lb-ft 1350 mm3/stroke N/A N/A N/A N/A 24 05