

## LIEBHERR MACHINES BULLE SA

## **EXECUTIVE ORDER U-R-018-0207**

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	PLHAL24.2VQT	16.162, 24.243	Diesel	8000					
SPECIAL	. FEATURES & EMISSION (	CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLIC	TYPICAL EQUIPMENT APPLICATION					
Modul	rger, Charge Air Coolei le, Electronic Direct Inje st Reduction-Urea, Am Catalyst, DEF Quality	ection, Selective monia Oxidation	Crane, Dozer, Agricultural Ma	achinery					

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				EXHAUST (g/kw-ł	OPACITY (%)				
POWER CLASS	STANDARD CATEGORY		NMHC	NOx	NMHC+NOx	СО	PM	ACCEL	LUG	PEAK
ELSE > 560 kW	Tier 4 Final	STD	0.19	3.5	N/A	3.5	0.04	N/A	N/A	N/A
		CERT	0.01	2.4	-	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 <u>28th</u> day of September 2022.

Robin U. Lang, Chief

**Emissions Certification and Compliance Division** 

Attachment: Engine Models EO #: U-R-018-0207 Family: PLHAL24.2VQT Attachment Last Revised: 8/1/2022

					Displacement -		Peak Power -	Peak Power -	Peak Power -	Peak Power - Fuel		Peak Torque -	Peak Torque -		Peak Torque - Fue	el			
Model	Code	Trim	Config	Displacement	Units	Peak Power	Units	Speed (rpm)	Fueling	Units	Peak Torque	Units	Speed (rpm)	Peak Torque - Fuel	Units	OBD	GHG	Special	Notes
D9508 A7-	V08MQ7 201	N/A	V8	16.162	Liters	885	horsepower	2100	355	mm3/stroke	2786	lb-ft	1600	412	mm3/stroke	N/A	N/A	N/A	N/A
D9508 A7-	V08MQ7 103	N/A	V8	16.162	Liters	764	horsepower	2100	286	mm3/stroke	2581	lb-ft	1400	370	mm3/stroke	N/A	N/A	N/A	N/A
D9512 A7- 04		N/A	V12	24.243	Liters	1234	horsepower	2100	325	mm3/stroke	4261	lb-ft	1500	405	mm3/stroke	N/A	N/A	N/A	N/A
D9512 A7- 04		N/A	V12	24.243	Liters	1006	horsepower	2000	259	mm3/stroke	4775	lb-ft	1500	324	mm3/stroke	N/A	N/A	N/A	N/A
D9512 A7- 04		N/A	V12	24.243	Liters	758	horsepower	2000	197	mm3/stroke	3578	lb-ft	1500	242	mm3/stroke	N/A	N/A	N/A	N/A
D9512 A7- 04	V12MQ7 103	N/A	V12	24.243	Liters	1140	horsepower	2100	289	mm3/stroke	5299	lb-ft	1400	360	mm3/stroke	N/A	N/A	N/A	N/A
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