

LIEBHERR MACHINES BULLE SA

EXECUTIVE ORDER U-R-018-0210

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	PLHAL12.0SQC	12.0	Diesel	8000				
SPECIAL	. FEATURES & EMISSION (CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION					
Electi Injecti	Turbocharger, Charge Aronic Control Module, Eon, Selective Catalyst For a Oxidation Catalyst, D	lectronic Direct Reduction-Urea,	Crane, Loader, Dozer, Har	vester				

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	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	0.02	0.35	-	0.5	0.02	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

Folin U. Lang

Attachment: Engine Models EO #: U-R-018-0210 Family: PLHAL12.0SQC Attachment Last Revised: 8/1/2022

Model	Code	Trim	Config	Displacement	Displacement - Units	Peak Power	Peak Power - Units	Peak Power - Speed (rpm)	Peak Power - Fueling	Peak Power - Fuel Units	Peak Torque	Peak Torque - Units	Peak Torque - Speed (rpm)	Peak Torque - Fuel	Peak Torque - Fue	el OBD	GHG	Special	Notes
	R06KQ71		Coning	Displacement	Units	Peak Power	Units	Speed (rpm)	rueling	Units	Peak Torque	Units	Speed (rpm)	Peak Torque - Fuer		UBD	T		Notes
04	04	N/A	L6	11.946	Liters	536	horsepower	1900	290	mm3/stroke	1860	lb-ft	1350	345	mm3/stroke	N/A	N/A	N/A	N/A
D946 A7- 04	R06KQ71 03	N/A	L6	11.946	Liters	469	horsepower	1900	255	mm3/stroke	1831	lb-ft	1350	340	mm3/stroke	N/A	N/A	N/A	N/A
D946 A7- 04	R06KQ71 02	N/A	L6	11.946	Liters	442	horsepower	1900	240	mm3/stroke	1727	lb-ft	1350	320	mm3/stroke	N/A	N/A	N/A	N/A
D946 A7- 24	R06KQ71 05	N/A	L6	11.946	Liters	442	horsepower	1900	239	mm3/stroke	1727	lb-ft	1350	323	mm3/stroke	N/A	N/A	N/A	N/A
D956 A7- 04 TCD 12.0 L6	R06NQ7 105	N/A	L6	11.946	Liters	536	horsepower	2100	279	mm3/stroke	1861	lb-ft	1400	353	mm3/stroke	N/A	N/A	N/A	N/A
D956 A7- 04 TCD 12.0 L6	R06NQ7 107	N/A	L6	11.946	Liters	510	horsepower	2100	267	mm3/stroke	1861	lb-ft	1400	353	mm3/stroke	N/A	N/A	N/A	N/A
D956 A7- 04 TCD 12.0 L6	R06NQ7 103	N/A	L6	11.946	Liters	456	horsepower	2100	240	mm3/stroke	1710	lb-ft	1400	325	mm3/stroke	N/A	N/A	N/A	N/A
D956 A7- 04 TCD 12.0 L6	R06NQ7 106	N/A	L6	11.946	Liters	402	horsepower	2100	216	mm3/stroke	1509	lb-ft	1400	286	mm3/stroke	N/A	N/A	N/A	N/A
D956 A7- 04	R06NQ7 104	N/A	L6	11.946	Liters	459	horsepower	2100	247	mm3/stroke	1674	lb-ft	1400	332	mm3/stroke	N/A	N/A	N/A	N/A
D956 A7- 04	R06NQ7 108	N/A	L6	11.946	Liters	355	horsepower	2100	193	mm3/stroke	1556	lb-ft	1400	289	mm3/stroke	N/A	N/A	N/A	N/A
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