Pursuant to the authority vested in the California Air Resources Board by Health and Safety Code Division 26, Part 5, Chapters 1 and 2; and pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-19-095;

IT IS ORDERED AND RESOLVED: The engines and emission control systems produced by the manufacturer as described below are certified 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	Combustion Cycle	Fuel Operation	Fuel Type(s)	Engine Operation
2024	RCEXL04.5AAJ	Diesel	Dedicated	Diesel	Constant Speed

Emission Control Systems	Special Features
[1]: Electronic Direct Injection (DDI), Charged Air Cooler (CAC), Exhaust Gas Recirculation (EGR), Electronic Control Module (ECM), Turbocharger (TC), Diesel Oxidation Catalyst (DOC), Selective Catalytic Reduction – Urea (SCR-U), Ammonia Oxidation Catalyst (AMOX)	None

The certified engine models are attached.

The listed engine models comply with the following: 1) emission standard limits (STD) and Not-To-Exceed (NTE) limits, as applicable, for criteria pollutants non-methane hydrocarbons (NMHC), nitrogen oxides (NOx), carbon monoxide (CO), and particulate matter (PM), and for smoke opacity as demonstrated during the Acceleration (ACL) and Lugging (LUG) modes, and the peak value (PEAK) in either mode of the Smoke Opacity cycle, as set forth in 13 CCR 2423 and the applicable California test procedures for off-road compression-ignition engines, and 2) family emission limits (FEL) declared by the manufacturer as allowed by the applicable California test procedures, stated in units of gram per kilowatt-hour (g/kWh-hr) and percent opacity (%opacity), respectively, except as noted, or designated as not applicable (*).

Applicable Standard		Criteria				Smoke Opacity		
		NMHC	NOx	CO	PM	ACL	LUG	PEAK
Tier 4 Final 130 ≤ kW ≤ 560	STD	0.19	0.40	3.5	0.02	*	*	*
	FEL	*	*	*	*	*	*	*
	NTE	0.28	0.60	4.4	0.03	*	*	*

BE IT FURTHER RESOLVED: Any declared FEL is the emission limit to which all engines must comply in lieu of the standard limit for certification purposes, subject to the restrictions of averaging, banking, or trading (ABT) programs allowed by the applicable California test procedures.

BE IT FURTHER RESOLVED: That the manufacturer has elected to combine engines from the 75 ≤ kW ≤ 560 power categories into a single engine family. The listed engine models comply with the more stringent set of standards of the 130 ≤ kW ≤ 560 power category in accordance with Section 1039.230(e) of the applicable California test procedures.

BE IT FURTHER RESOLVED: For the listed engine models, the manufacturer has submitted materials to demonstrate certification compliance with 13 CCR 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control warranty).

BE IT FURTHER RESOLVED: The listed engine models may only be installed in or on equipment such that engine operation is consistent with off-road compression-ignition engines as defined in 13 CCR 2421(a)(39).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

Executed on this 6th day of July 2023.

Robin U. Lang

Robin U. Lang, Chief
Emissions Certification and Compliance Division

Attachment: Engine Models **EO #:** U-R-002-0866 **Family:** RCEXL04.5AAJ **Date Applicable:** 6/20/2023

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 - Fuel Units	OBD Status	OBD Fines ($)	GHG	ECS #	Notes
QSB5	OB1		I4	4.5	Liters	180	horsepower	1500	159	mm3/stroke	864	lb-ft	1500	95.7	lb/hr	N/A	N/A	N/A	1	
QSB5-G12	OB1		I4	4.5	Liters	180	horsepower	1500	159	mm3/stroke	864	lb-ft	1500	95.7	lb/hr	N/A	N/A	N/A	1	
QSB5	OB1		I4	4.5	Liters	206	horsepower	1800	154	mm3/stroke	827	lb-ft	1800	111.5	lb/hr	N/A	N/A	N/A	1	
QSB5-G12	OB1		I4	4.5	Liters	206	horsepower	1800	154	mm3/stroke	827	lb-ft	1800	111.5	lb/hr	N/A	N/A	N/A	1	
QSB5	OB2		I4	4.5	Liters	147	horsepower	1500	126	mm3/stroke	717	lb-ft	1500	76.7	lb/hr	N/A	N/A	N/A	1	
QSB5-G11	OB2		I4	4.5	Liters	147	horsepower	1500	126	mm3/stroke	717	lb-ft	1500	76.7	lb/hr	N/A	N/A	N/A	1	
QSB5	OB2		I4	4.5	Liters	169	horsepower	1800	120	mm3/stroke	688	lb-ft	1800	88.2	lb/hr	N/A	N/A	N/A	1	
QSB5-G11	OB2		I4	4.5	Liters	169	horsepower	1800	120	mm3/stroke	688	lb-ft	1800	88.2	lb/hr	N/A	N/A	N/A	1	
QSB5	OB3		I4	4.5	Liters	106	horsepower	1500	88	mm3/stroke	518	lb-ft	1500	53.8	lb/hr	N/A	N/A	N/A	1	
QSB5-G10	OB3		I4	4.5	Liters	106	horsepower	1500	88	mm3/stroke	518	lb-ft	1500	53.8	lb/hr	N/A	N/A	N/A	1	
QSB5	OB3		I4	4.5	Liters	124	horsepower	1800	86	mm3/stroke	506	lb-ft	1800	63.2	lb/hr	N/A	N/A	N/A	1	
QSB5-G10	OB3		I4	4.5	Liters	124	horsepower	1800	86	mm3/stroke	506	lb-ft	1800	63.2	lb/hr	N/A	N/A	N/A	1	