

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	RCEXL08.9AAK	Diesel	Dedicated	Diesel	Variable Speed

Emission Control Systems	Special Features
[1]: Electronic Direct Injection (EDI), Electronic Control Module (ECM), Turbocharger (TC), Charged Air Cooler (CAC), Selective Catalytic Reduction – Urea (SCR-U), Ammonia Oxidation Catalyst (AMOX), Exhaust Gas Recirculation (EGR), Diesel Oxidation Catalyst (DOC)	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: 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 15th day of June 2023.



Robin U. Lang, Chief
 Emissions Certification and Compliance Division

Attachment: Engine Models

EO #: U-R-002-0856

Family: RCEXL08.9AAK

Date Applicable: 6/1/2023

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
QSL8.9	OL1		16	8.9	Liters	380	horsepower	2100	191	mm3/stroke	1200	lb-ft	1500	231	mm3/stroke	N/A	N/A	N/A	1	
QSL8.9	OL2		16	8.9	Liters	380	horsepower	2100	196	mm3/stroke	1200	lb-ft	1500	230	mm3/stroke	N/A	N/A	N/A	1	
QSL8.9	OL3		16	8.9	Liters	350	horsepower	2100	179	mm3/stroke	1200	lb-ft	1500	230	mm3/stroke	N/A	N/A	N/A	1	
QSL8.9	OL4		16	8.9	Liters	340	horsepower	1800	192	mm3/stroke	1100	lb-ft	1400	206	mm3/stroke	N/A	N/A	N/A	1	
QSL8.9	OL5		16	8.9	Liters	333	horsepower	2100	167	mm3/stroke	1050	lb-ft	1500	199	mm3/stroke	N/A	N/A	N/A	1	
QSL8.9	OL6		16	8.9	Liters	310	horsepower	2100	156	mm3/stroke	1050	lb-ft	1500	199	mm3/stroke	N/A	N/A	N/A	1	
QSL8.9	OL7		16	8.9	Liters	320	horsepower	2200	155	mm3/stroke	1050	lb-ft	1500	199	mm3/stroke	N/A	N/A	N/A	1	
QSL8.9	OL8		16	8.9	Liters	300	horsepower	2200	146	mm3/stroke	1050	lb-ft	1500	199	mm3/stroke	N/A	N/A	N/A	1	
QSL8.9	OL9		16	8.9	Liters	300	horsepower	2000	156	mm3/stroke	1050	lb-ft	1400	201	mm3/stroke	N/A	N/A	N/A	1	
QSL8.9	OL10		16	8.9	Liters	320	horsepower	1800	185	mm3/stroke	1050	lb-ft	1400	201	mm3/stroke	N/A	N/A	N/A	1	
QSL8.9	OL11		16	8.9	Liters	275	horsepower	2200	136	mm3/stroke	895	lb-ft	1500	167	mm3/stroke	N/A	N/A	N/A	1	
QSL8.9	OL12		16	8.9	Liters	260	horsepower	2200	130	mm3/stroke	835	lb-ft	1500	156	mm3/stroke	N/A	N/A	N/A	1	
QSL8.9	OL13		16	8.9	Liters	250	horsepower	2200	125	mm3/stroke	800	lb-ft	1500	149	mm3/stroke	N/A	N/A	N/A	1	
QSL8.9	OL14		16	8.9	Liters	230	horsepower	2200	120	mm3/stroke	675	lb-ft	1500	127	mm3/stroke	N/A	N/A	N/A	1	
QSL8.9	OL15		16	8.9	Liters	300	horsepower	2000	157	mm3/stroke	1160	lb-ft	1400	222	mm3/stroke	N/A	N/A	N/A	1	
QSL8.9	OL16		16	8.9	Liters	285	horsepower	2000	150	mm3/stroke	1070	lb-ft	1400	205	mm3/stroke	N/A	N/A	N/A	1	
QSL8.9	OL17		16	8.9	Liters	265	horsepower	2000	141	mm3/stroke	825	lb-ft	1400	154	mm3/stroke	N/A	N/A	N/A	1	
QSL8.9	OL18		16	8.9	Liters	300	horsepower	2000	191	mm3/stroke	787	lb-ft	1400	105	mm3/stroke	N/A	N/A	N/A	1	
QSL8.9	OL19		16	8.9	Liters	272	horsepower	2100	144	mm3/stroke	1069	lb-ft	1400	200	mm3/stroke	N/A	N/A	N/A	1	