

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	RCEXL50.0AAF	Diesel	Dedicated	Diesel	Variable and Constant 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)	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 ELSE > 560 kW	STD	0.19	3.5	3.5	0.04	*	*	*
	FEL	*	*	*	*	*	*	*
	NTE	0.28	4.4	4.4	0.06	*	*	*

**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 6th day of July 2023.



Robin U. Lang, Chief  
Emissions Certification and Compliance Division

Attachment: Engine Models

EO #: U-R-002-0860

Family: RCEXL50.0AAF

Date Applicable: 6/9/2023

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
QSK50	OK1		16	50	Liters	2500	horsepower	1900	506	mm3/stroke	7081	lb-ft	1500	490	mm3/stroke	N/A	N/A	N/A	[1]	
QSK50	OK2		16	50	Liters	2300	horsepower	1900	464	mm3/stroke	6514	lb-ft	1500	449	mm3/stroke	N/A	N/A	N/A	[1]	
QSK50	OK3		16	50	Liters	2250	horsepower	1900	455	mm3/stroke	6300	lb-ft	1500	435	mm3/stroke	N/A	N/A	N/A	[1]	
QSK50	OK4		16	50	Liters	2000	horsepower	1900	405	mm3/stroke	5805	lb-ft	1500	400	mm3/stroke	N/A	N/A	N/A	[1]	
QSK50	OK5		16	50	Liters	1675	horsepower	1800	352	mm3/stroke	5590	lb-ft	1500	371	mm3/stroke	N/A	N/A	N/A	[1]	
QSK50	OK6		16	50	Liters	1500	horsepower	1800	322	mm3/stroke	4842	lb-ft	1400	340	mm3/stroke	N/A	N/A	N/A	[1]	
QSK50	OK7		16	50	Liters	1600	horsepower	1800	343	mm3/stroke	5044	lb-ft	1500	353	mm3/stroke	N/A	N/A	N/A	[1]	
QSK50	OK8		16	50	Liters	1575	horsepower	1900	328	mm3/stroke	7389	lb-ft	1300	381	mm3/stroke	N/A	N/A	N/A	[1]	
QSK50	OK9		16	50	Liters	1600	horsepower	1800	346	mm3/stroke	6839	lb-ft	1500	355	mm3/stroke	N/A	N/A	N/A	[1]	
QSK50	OK10		16	50	Liters	1500	horsepower	1800	324	mm3/stroke	6570	lb-ft	1400	340	mm3/stroke	N/A	N/A	N/A	[1]	
QSK50	OK11		16	50	Liters	1900	horsepower	1800	401	mm3/stroke	7900	lb-ft	1700	414	mm3/stroke	N/A	N/A	N/A	[1]	
QSK50	OK12		16	50	Liters	1500	horsepower	1800	324	mm3/stroke	4846	lb-ft	1400	340	mm3/stroke	N/A	N/A	N/A	[1]	
QSK50	OK13		16	50	Liters	1600	horsepower	1800	346	mm3/stroke	5044	lb-ft	1500	355	mm3/stroke	N/A	N/A	N/A	[1]	
QSK38	OK14		12	38	Liters	1350	horsepower	1800	404	mm3/stroke	4320	lb-ft	1500	401	mm3/stroke	N/A	N/A	N/A	[1]	
QSK38	OK15		12	38	Liters	1260	horsepower	1800	376	mm3/stroke	4054	lb-ft	1400	371	mm3/stroke	N/A	N/A	N/A	[1]	
QSK38	OK16		12	38	Liters	1086	horsepower	1800	329	mm3/stroke	3590	lb-ft	1350	328	mm3/stroke	N/A	N/A	N/A	[1]	
SSDA16V1 59E-3	OK17		16	50	Liters	2000	horsepower	1900	405	mm3/stroke	5805	lb-ft	1500	400	mm3/stroke	N/A	N/A	N/A	[1]	
SSDA16V1 59E-3	OK18		16	50	Liters	1675	horsepower	1800	352	mm3/stroke	5590	lb-ft	1500	371	mm3/stroke	N/A	N/A	N/A	[1]	
SDA16V1 59E-3	OK19		16	50	Liters	1575	horsepower	1900	328	mm3/stroke	7389	lb-ft	1300	381	mm3/stroke	N/A	N/A	N/A	[1]	
SDA16V1 59E-3	OK20		16	50	Liters	1600	horsepower	1800	343	mm3/stroke	5044	lb-ft	1500	353	mm3/stroke	N/A	N/A	N/A	[1]	
SDA16V1 59E-3	OK21		16	50	Liters	1500	horsepower	1800	324	mm3/stroke	4846	lb-ft	1400	340	mm3/stroke	N/A	N/A	N/A	[1]	
SDA16V1 59E-3	OK22		16	50	Liters	1600	horsepower	1800	346	mm3/stroke	5044	lb-ft	1500	355	mm3/stroke	N/A	N/A	N/A	[1]	
SDA12V1 59E-3	OK23		12	38	Liters	1260	horsepower	1800	376	mm3/stroke	4054	lb-ft	1400	371	mm3/stroke	N/A	N/A	N/A	[1]	