

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	RKHXL02.5TCR	Diesel	Dedicated	Diesel	Variable and Constant Speed

Emission Control Systems	Special Features
[1]: Electronic Direct Injection (DDI), Electronic Control Module (ECM), Diesel Oxidation Catalyst (DOC), Exhaust Gas Recirculation (EGR), Turbocharger (TC), Charge Air Cooler (CAC)	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 hydrocarbon plus oxides of nitrogen (NMHC+NO_x), 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+NO _x	CO	PM	ACL	LUG	PEAK
Tier 4 Final 37 ≤ kW < 56	STD	4.7	5.0	0.03	*	*	*
	FEL	*	*	*	*	*	*
	NTE	5.9	6.2	0.04	*	*	*

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 19 ≤ kW < 56 power categories into a single engine family. The listed engine models comply with the more stringent set of standards of the 37 ≤ kW < 56 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 15th day of August 2023.



Robin U. Lang, Chief
 Emissions Certification and Compliance Division

ATTACHMENT: ENGINE MODELS

Family: RKHXL02.5TCR EO Number: U-R-060-0103 Date Applicable: 08/04/2023

Model	Code	Trim	Config	Displacement	Peak Power			Peak Torque			ECS Num	GHG	Notes
					Power	Speed	Fueling	Torque	Speed	Fueling			
-	-	-	-	L	kW	rpm	mm3/stroke	N-m	rpm	mm3/stroke	-	-	-
KDI 1903TCR/18	N/A	N/A	I3	1.861	30	1800	51	192	1350	60	1	N/A	N/A
KDI 1903TCR/22	N/A	N/A	I3	1.861	36	2200	52	225	1500	68.5	1	N/A	N/A
KDI 1903TCR/22B	N/A	N/A	I3	1.861	41	2200	59	220	1500	68	1	N/A	N/A
KDI 1903TCR/26	N/A	N/A	I3	1.861	36	2600	47	225	1500	68.5	1	N/A	N/A
KDI 1903TCR/26A	N/A	N/A	I3	1.861	30	2600	40	180	1500	57	1	N/A	N/A
KDI 1903TCR/26B	N/A	N/A	I3	1.861	42	2600	54	225	1500	68.5	1	N/A	N/A
KDI 1903TCR/G18C	N/A	N/A	I3	1.861	37	1800	63	196	1800	63	1	N/A	N/A
KDI 2504TCR/22	N/A	N/A	I4	2.482	48	2200	51	300	1500	66.5	1	N/A	N/A
KDI 2504TCR/22A	N/A	N/A	I4	2.482	55	2200	54.4	300	1500	66.5	1	N/A	N/A
KDI 2504TCR/23	N/A	N/A	I4	2.482	55	2300	56.5	300	1500	66.5	1	N/A	N/A
KDI 2504TCR/26	N/A	N/A	I4	2.482	46	2600	44	280	1500	62.5	1	N/A	N/A
KDI 2504TCR/26A	N/A	N/A	I4	2.482	55	2600	52.5	300	1500	66.5	1	N/A	N/A
KDI 2504TCR/G18A	N/A	N/A	I4	2.482	47	1800	58	250	1800	58	1	N/A	N/A
KDI 2504TCR/22B	N/A	N/A	I4	2.482	50	2200	52	300	1500	66	1	N/A	N/A
KDI 2504TCR/22C	N/A	N/A	I4	2.482	45	2200	48	285	1500	63	1	N/A	N/A
KDI 2504TCR/22D	N/A	N/A	I4	2.482	40	2200	43	255	1500	56	1	N/A	N/A