

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	RJDXL04.5315	Diesel	Dedicated	Diesel	Variable and 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 75 ≤ kW < 130	STD	0.19	0.40	5.0	0.02	*	*	*
	FEL	*	*	*	*	*	*	*
	NTE	0.28	0.60	6.2	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 56 ≤ kW < 130 power categories into a single engine family. The listed engine models comply with the more stringent set of standards of the 75 ≤ kW < 130 power categories 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 21st day of August 2023.

  
Robin U. Lang, Chief  
Emissions Certification and Compliance Division

## ATTACHMENT: ENGINE MODELS

Family: RJDXL04.5315 EO Number: U-R-004-0673 Date Applicable: 07/31/2023

Model	Code	Trim	Config	Displacement	Peak Power			Peak Torque			ECS Num	GHG	Notes
					Power	Speed	Fueling	Torque	Speed	Fueling			
-	-	-	-	Liters	kilowatt	rpm	mm3/stroke	N-m	rpm	mm3/stroke	-	-	-
4045	4045HFC04A		I-4	4.5	104	2200	100.9	540	1600	113.7	1	N/A	
4045	4045HFC04B		I-4	4.5	104	2200	104.3	540	1600	114.2	1	N/A	
4045	4045HFC04C		I-4	4.5	93	2400	88.6	493	1600	103.1	1	N/A	
4045	4045HFC04D		I-4	4.5	93	2200	90.8	536	1600	112.7	1	N/A	
4045	4045HFC04E		I-4	4.5	86	2400	82.2	461	1600	96.8	1	N/A	
4045	4045HFC04F		I-4	4.5	86	2200	84.6	506	1600	105.8	1	N/A	
4045	4045HFC04G		I-4	4.5	80	2200	80	391	1600	84.2	1	N/A	
4045	4045HFC04H		I-4	4.5	74	2400	70.4	391	1600	84.2	1	N/A	
4045	4045HFC04I		I-4	4.5	80	2000	84.4	427	1600	89.3	1	N/A	
4045	4045HFC04J		I-4	4.5	74	2200	73.5	427	1600	89.3	1	N/A	
4045	4045HFC04K		I-4	4.5	68	2200	69.8	333	1600	72.2	1	N/A	
4045	4045HFC04L		I-4	4.5	63	2400	63.9	333	1600	72.2	1	N/A	
4045	4045HFC04M		I-4	4.5	68	2000	72.8	363	1600	68.4	1	N/A	
4045	4045HFC04N		I-4	4.5	63	2200	64.2	363	1600	68.4	1	N/A	
4045	4045HFC04O		I-4	4.5	110	2200	107.4	540	1600	113.8	1	N/A	
4045	4045HFG04A		I-4	4.5	99	1800	115.1	525	1800	115.1	1	N/A	
4045	4045HFG04B		I-4	4.5	80	1800	92.6	424	1800	92.6	1	N/A	
4045	4045HFG04C		I-4	4.5	67	1800	77.1	355	1800	77.1	1	N/A	
4045	4045HFG04D		I-4	4.5	80	1500	106.7	508	1500	106.7	1	N/A	
4045	4045HFG04E		I-4	4.5	67	1500	90.8	427	1500	90.8	1	N/A	
4045	4045HLV73		I-4	4.5	99	2200	98.2	540	1600	113.2	1	N/A	
4045	4045HLV76		I-4	4.5	94	2200	92.5	519	1600	107.9	1	N/A	
4045	4045HLV78		I-4	4.5	94	2200	93.4	519	1600	107.9	1	N/A	
4045	4045HLV78A		I-4	4.5	99	2200	96.8	540	1600	113.7	1	N/A	
4045	4045HMC05A		I-4	4.5	104	2200	102	540	1600	113	1	N/A	
4045	4045HMC05B		I-4	4.5	90	2000	93.6	480	1600	101	1	N/A	
4045	4045HP075		I-4	4.5	94	2200	93.4	519	1600	107.9	1	N/A	
4045	4045HPRNT11		I-4	4.5	109	2200	99.6	577	1600	123.1	1	N/A	
4045	4045HPRNT14		I-4	4.5	109	2200	107.5	577	1600	123.1	1	N/A	
4045	4045HT096		I-4	4.5	94	2200	93.4	519	1600	107.9	1	N/A	