

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
2025	SHZXL02.0C50	Diesel	Dedicated	Diesel	Constant-speed

Emission Control Systems	Special Features
[1]: Electronic Direct Injection (DDI), Turbocharger (TC) Electronic Control Module (ECM), Charge Air Cooler (CAC), Diesel Oxidation Catalyst (DOC), Exhaust Gas Recirculation (EGR)	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+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/kW-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 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 11th day of October 2024.



Robin U. Lang, Chief
Emissions Certification and Compliance Division

ATTACHMENT: ENGINE MODELS

Family: SHZXL02.0C50 EO Number: U-R-034-0358 Date Applicable: 9/30/2024

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	-	-	-
4H50TIC	1800-con-41,0		I4	1.95	41	1800	47	218	1800	47	1	N/A	
4H50TIC	1500-con-31,0		I4	1.95	31	1500	44	195	1500	44	1	N/A	
3H50TIC	1800-con-31,3		I3	1.46	28	1800	46	148.5	1800	46	1	N/A	
3H50TIC	1800-con-28,5		I3	1.46	28	1800	46	148.5	1800	46	1	N/A	
3H50TIC	1500-con-25,5		I3	1.46	28	1800	46	148.5	1800	46	1	N/A	
4H50TIC	1500-con-35,0		I4	1.95	35	1500	49.5	223	1500	49.5	1	N/A	
3H50TIC	1500-con-22,6		I3	1.46	22	1500	44	140.1	1500	44	1	N/A	
4H50TIC	1800-con-36,4-C81		I4	1.95	36.4	1800	42	193	1800	42	1	N/A	