

Pursuant to the authority vested in the California Air Resources Board by Health and Safety Code Division 26, Part 5, Chapter 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 on-road motor vehicles with a manufacturer’s Gross Vehicle Weight Rating (GVWR) over 14,000 pounds. 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)	Intended Vehicle Service Class	Intended GHG Vehicle Type
2024	RCEXH0721XCA	Diesel	Dedicated	Diesel	Heavy Heavy-Duty – Urban Bus	Vocational and Tractor

Emission Control Systems (ECS)	Special Features
[1]: Electronic Direct Injection (DDI), Turbocharger (TC), Charged Air Cooler (CAC), Engine Control Module (ECM), Cooled Exhaust Gas Recirculation (EGR-C), Diesel Oxidation Catalyst (DOC), Selective Catalytic Reduction-Urea (SCR-U), Ammonia Slip Catalyst (AMOX), Periodic Trap Oxidizer (PTOX)	None

The certified engine models are attached.

The listed engine models comply with the following: 1) emission standard limits (STD) as demonstrated on the Federal Test Procedure (FTP) and Supplemental Emission Test (SET) test cycles, and on the Low-Load Cycle (LLC) test cycle, as applicable, and 2) Not-To-Exceed limits (NTE) as demonstrated using the Not-To-Exceed test cycle, as applicable, for exhaust criteria pollutants non-methane hydrocarbons (NMHC), nitrogen oxides (NOx), carbon monoxide (CO), and particulate matter (PM), and exhaust greenhouse gas (GHG) pollutants carbon dioxide (CO2) for vocational (VOCV) and tractor (TRAC) vehicles, methane (CH4), and nitrous oxide (N2O) as set forth in 13 CCR 1956.8 and the applicable California test procedures for heavy-duty diesel cycle engines, and 3) family emission limits (FEL) and family certification levels (FCL) declared by the manufacturer as allowed by the applicable California test procedures, stated in units of gram per brake horsepower-hour (g/bhp-hr), except as noted, or designated as not applicable (*).

Applicable Standard		Criteria				GHG			
		NMHC	NOx	CO	PM	CO2 VOCV	CO2 TRAC	CH4	N2O
Heavy-Duty Diesel Cycle Optional Standard – below 525 bhp Clean Idle 30g Heavy Heavy-Duty Vocational and Tractor	STD: FTP / SET	0.14	0.050	15.5	0.005	506	436	0.10	0.10
	STD: LLC	*	*	*	*	*	*	*	*
	FEL: FTP / SET	*	0.20	*	0.01	526	480	0.10	0.10
	FEL: LLC	*	*	*	*	*	*	*	*
	NTE	0.21	0.30	19.4	0.02	*	*	*	*

BE IT FURTHER RESOLVED: Any declared FEL or FCL 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 1965 (emission control labels), 13 CCR 1971.1 (on-board diagnostic full or partial compliance), and 13 CCR 2035 et seq. (emission control warranty).

BE IT FURTHER RESOLVED: That the listed engine family is certified to the optional standard for engines below 525 brake horsepower as specified in 13 CCR 1956.8(a)(2)(C)3 and section 11.B.5.3.5 of the applicable California test procedures.

BE IT FURTHER RESOLVED: For engines in this engine family certified under 13 CCR 1956.8(a)(6)(C) 30 g/hr NOx and section 35.B.4 of the applicable California test procedures, except those in vehicle applications exempted per 13 CCR 1956.8(a)(6)(B), the engine manufacturer shall provide an approved "Certified Clean Idle" label to be affixed to the vehicle into which the engine is installed.

BE IT FURTHER RESOLVED: The listed engine models are certified in accordance with 13 CCR Section 1971.1(k) (deficiency and fines provisions for certification of heavy-duty on-board diagnostic (HD OBD) systems with identified deficiencies) and Health and Safety Code Section 43154.

Engines certified under this Executive Order must conform to all applicable California emission regulations.

Executed on this 18th day of December 2023.



Robin U. Lang, Chief
Emissions Certification and Compliance Division

ATTACHMENT: ENGINE MODELS

Family: RCEXH0721XCA EO Number: A-021-0788 Date Applicable: 12/15/2023

Model	Code	Trim	Config	Displacement	Peak Power			Peak Torque			ECS Num	GHG	Notes
					Power	Speed	Fueling	Torque	Speed	Fueling			
-	-	-	-	L	hp	rpm	mm3/stroke	lb-ft	rpm	mm3/stroke	-	-	-
X12 350	XH1		I6	12	350	1800	186	1350	1000	235	1	Tractor	
X12 370	XH2		I6	12	370	1800	197	1350	1000	235	1	Tractor	
X12 380	XH3		I6	12	380	1800	203	1450	1000	253	1	Tractor	
X12 400ST	XH4		I6	12	400	1800	214	1700	1000	303	1	Tractor	
X12 400EX	XH5		I6	12	400	1800	214	1700	1000	303	1	Tractor	
X12 410	XH6		I6	12	410	1800	220	1450	1000	253	1	Tractor	
X12 410	XH7		I6	12	410	1900	211	1450	1000	253	1	Tractor	
X12 410	XH8		I6	12	410	1800	220	1650	1000	293	1	Tractor	
X12 410ST	XH9		I6	12	410	1800	220	1650	1000	293	1	Tractor	
X12 380EX	XH10		I6	12	380	1800	203	1450	1000	253	1	Tractor	
X12 430	XH11		I6	12	430	1800	232	1550	1000	273	1	Tractor	
X12 430	XH12		I6	12	430	1800	232	1650	1000	293	1	Tractor	
X12 455	XH13		I6	12	455	1800	248	1700	1000	303	1	Tractor	
X12 455ST	XH14		I6	12	455	1800	248	1700	1000	303	1	Tractor	
X12 455EX	XH15		I6	12	455	1800	248	1700	1000	303	1	Tractor	
X12 350	XH16		I6	12	350	1900	178	1350	1000	235	1	Vocational	
X12 350	XH17		I6	12	350	1900	178	1450	1000	253	1	Vocational	
X12 370	XH18		I6	12	370	1850	190	1250	900	218	1	Vocational	
X12 370	XH19		I6	12	370	1900	189	1350	1000	235	1	Vocational	
X12 380	XH20		I6	12	380	1900	194	1450	1000	253	1	Vocational	
X12 410	XH21		I6	12	410	1900	211	1450	1000	253	1	Vocational	
X12 430	XH22		I6	12	430	1900	222	1550	1000	273	1	Vocational	
X12 430	XH23		I6	12	430	1900	222	1650	1000	293	1	Vocational	
X12 455	XH24		I6	12	455	1900	238	1550	1000	273	1	Vocational	
X12 455	XH25		I6	12	455	1900	238	1700	1000	303	1	Vocational	
X12 475	XH26		I6	12	475	1900	251	1700	1000	303	1	Vocational	
X12 500	XH27		I6	12	500	1800	288	1700	1000	303	1	Both	
X12 350	XH28		I6	12	350	1900	178	1350	1000	235	1	Vocational	
X12 350	XH29		I6	12	350	1900	178	1450	1000	253	1	Vocational	
X12 370	XH30		I6	12	370	1850	190	1250	900	218	1	Vocational	
X12 380	XH31		I6	12	380	1900	194	1450	1000	253	1	Vocational	
X12 410	XH32		I6	12	410	1900	211	1450	1000	253	1	Vocational	
X12 455	XH33		I6	12	455	1900	238	1550	1000	273	1	Vocational	
X12 455	XH34		I6	12	455	1900	238	1700	1000	303	1	Vocational	
X12 455	XH35		I6	12	455	1900	238	1550	1000	273	1	Vocational	
X12 500	XH36		I6	12	500	1800	288	1700	1000	303	1	Vocational	
X12 410	XH37		I6	12	410	1900	211	1450	1000	253	1	Vocational	Urban Bus Rating
X12 525	XH38		I6	12	525	1900	290	1695	1000	302	1	Vocational	