

VOLVO GROUP TRUCKS TECHNOLOGY, POWERTRAIN ENGINEERING, A DIVISION OF MACK TRUCKS, INC.

EXECUTIVE ORDER A-242-0199
New On-Road Heavy-Duty Motor Vehicles

Pursuant to the authority vested in California Air Resources Board by Health and Safety Code Divisions 25.5 and 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 following on-road motor vehicles with a manufacturer's GVWR over 26,000 pounds are certified as described below. Production vehicles shall be in all material respects the same as those for which certification is granted.

VEHICLE FAMILY INFORMATION:

Model Year: 2023

Vehicle Family Name: PVPT2TRAC900

Vehicle Type: Tractor

Vehicle Service Class: Heavy HDV

Vehicle Subcategory: High-Roof Sleeper Cab

Gross Vehicle Weight Rating (GVWR) of Vehicles (pounds): GVWR > 33,000

CO₂ FAMILY EMISSION LIMITS:

CO₂ Standard (g/ton-mile): 75.7

Highest Projected Family Emission Limit (g/ton-mile): 115.3 Lowest Projected Family Emission Limit (g/ton-mile): 55.7

EMISSION CONTROL SYSTEMS:

Low rolling resistance tires all (LRRA), Low rolling resistance tires (drive) (LRRD), Low rolling resistance tires (steer) (LRRS), Aerodynamic side skirt and/or fuel tank fairing (ATS), Weight reduction (WR), Gap reducing tractor fairing (TGR), Tire pressure monitoring system (TPMS), Vehicle speed limiter (VSL), Aerodynamic roof fairing (ARF), Engine shutoff - 5 min or less idling (IRT5)

BE IT FURTHER RESOLVED: The manufacturer has demonstrated certification compliance with the Greenhouse Gas Emission Standards as specified in Title 17 CCR 95663 and the incorporated "California Greenhouse Gas Exhaust Emission Standards and Test Procedures for 2014 and Subsequent Model Heavy-Duty Vehicles" (HDV Test Procedures) adopted October 21, 2014 as last amended September 9, 2021.

BE IT FURTHER RESOLVED: For the listed air conditioning platform(s) in the attachment, the manufacturer has demonstrated certification compliance with the AC Leakage Standard specified in 17 CCR 95663(a)(2)(B)3 and Section 1037.115 of the incorporated "California Greenhouse Gas Exhaust Emission Standards and Test Procedures for 2014 and Subsequent Model Heavy-Duty Vehicles (HDV Test Procedures) adopted October 21, 2014, as last amended September 9, 2021.

BE IT FURTHER RESOLVED: For the listed vehicle models, the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR 1965 (emission control labels), 13 CCR 1978 (complete vehicles) (vehicle refueling emissions standards), and 13 CCR 2035 et seq. (emission control warranty).

BE IT FURTHER RESOLVED: The engine families that are approved for installation within the vehicle family are listed in the attachment.

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

Executed on this 9th day of November 2022.

Robin U. Lang, Chief

Emissions Certification and Compliance Division

Attachment 1 of 1:

Vehicle Family: PVPT2TRAC900 Date: 11/02/2022 EO: A-242-0199

Vehicle Make and Models:

 Vehicle Make
 Models

 Volvo
 VNL, VNR

Mack Pinnacle PI (CHU), Anthem AN (CXU)

Engine Families in Vehicle Family:

PVPTH10.8CA1 PCEXH0912XCB PVPTH12.8CA1 PCEXH0729XDA

PVPTH12.8CA2

A/C Platform Summary:

A/C Platform ID	Refrigerant Type	<u>Refrigerant</u>	STD (HFC (g/year))	Leakage Rate (HFC
		Capacity (g)		<u>(g/year))</u>
VNL: L3 13L	R134a	1710	25.6	11.4
VNL: L4H2 X15 CUMMINS	R134a	1810	27.2	11.4
ANTHEM CXU: 70" SLEEPER13L	R134a	1820	27.3	12.1
VNL: L5H4 X15 CUMMINS	R134a	1810	27.2	11.4
ANTHEM CXU: 70" SLEEPER11L	R134a	1820	27.3	12.1