

Pursuant to the authority vested in 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 engine and emission control systems produced by the manufacturer are certified as described below for use in on-road motor vehicles with a manufacturer's 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	ENGINE SIZES (L)	FUEL TYPE ¹	STANDARDS & TEST PROCEDURE	INTENDED SERVICE CLASS ²	ECS & SPECIAL FEATURES ³	DIAGNOSTIC ⁶
2021	MNVXH07570SA	12.4	Diesel	Diesel	HHDD	DDI, TC, CAC, ECM, EGR, DOC, PTOX, SCR-U	OBD (P)
PRIMARY ENGINE'S IDLE EMISSIONS CONTROL ⁵		ADDITIONAL IDLE EMISSIONS CONTROL ⁵					
30g							
ENGINE (L)	ENGINE MODELS / CODES (rated power, in hp)						
12.4	See attachment for engine models and ratings						

* =not applicable; **GVWR**=gross vehicle weight rating; **13 CCR xyz**=Title 13, California Code of Regulations, Section xyz; **40 CFR 86.abc**=Title 40, Code of Federal Regulations, Section 86.abc; **L**=liter; **hp**=horsepower; **kw**=kilowatt; **hr**=hour;
¹ **CNG/LNG**=compressed/liquefied natural gas; **LPG**=liquefied petroleum gas; **E85**=85% ethanol fuel; **MF**=multi fuel a.k.a. **BF**=bi fuel; **DF**=dual fuel; **FF**=flexible fuel;
² **L/M/H HDD**=light/medium/heavy heavy-duty diesel; **UB**=urban bus; **HDO**=heavy duty Otto;
³ **ECS**=emission control system; **TWC/OX**=three-way/oxidizing catalyst; **NAC**=NOx adsorption catalyst; **SCR-U / SCR-N**=selective catalytic reduction – urea / – ammonia; **WU (prefix)**=warm-up catalyst; **DPF**=diesel particulate filter; **PTOX**=periodic trap oxidizer; **HO2S/O2S**=heated/oxygen sensor; **HAFS/AFS**=heated/air-fuel-ratio sensor (a.k.a., universal or linear oxygen sensor); **TBI**=throttle body fuel injection; **SFI/MFI**=sequential/multi port fuel injection; **DGI**=direct gasoline injection; **GCARB**=gaseous carburetor; **IDI/DDI**=indirect/direct diesel injection; **TC/SC**=turbo/super charger; **CAC**=charge air cooler; **EGR / EGR-C**=exhaust gas recirculation / cooled EGR; **PAIR/AIR**=pulsed/secondary air injection; **SPL**=smoke puff limiter; **ECM/PCM**=engine/powertrain control module; **EM**=engine modification; **2 (prefix)**=parallel; **(2) (suffix)**=in series;
⁵ **ECS**=engine shutdown system (per 13 CCR 1956.8(a)(6)(A)(1)); **30g**=30 g/hr NOx (per 13 CCR 1956.8(a)(6)(C)); **APS**=internal combustion auxiliary power system; **ALT**=alternative method (per 13 CCR 1956.8(a)(6)(D)); **Exempt**=exempted per 13 CCR 1956.8(a)(6)(B) or for CNG/LNG fuel systems; **N/A**=not applicable (e.g., Otto engines and vehicles);
⁶ **EMD**=engine manufacturer diagnostic system (13 CCR 1971); **OBD(F) / (P) / (\$)**=full / partial / partial with a fine / on-board diagnostic;

Following are: 1) the FTP exhaust emission standards, or family emission limit(s) as applicable, under 13 CCR 1956.8; 2) the SET and NTE limits under the applicable California exhaust emission standards and test procedures for heavy-duty diesel engines and vehicles (Test Procedures); and 3) the corresponding certification levels, for this engine family. "Diesel" CO, SET and NTE certification compliance may have been demonstrated by the manufacturer as provided under the applicable Test Procedures in lieu of testing. (For flexible- and dual-fueled engines, the CERT values in brackets [] are those when tested on conventional test fuel. For multi-fueled engines, the STD and CERT values for default operation permitted in 13 CCR 1956.8 are in parentheses.). ⁴

in g/bhp-hr	NMHC		NOx		NMHC+NOx		CO		PM		HCHO	
	FTP	SET	FTP	SET	FTP	SET	FTP	SET	FTP	SET	FTP	SET
STD	0.14	0.14	0.20	0.20	*	*	15.5	15.5	0.01	0.01	*	*
CERT	0.01	0.001	0.12	0.12	*	*	0.03	0.01	0.001	0.000	*	*
NTE	0.21		0.30		*		19.4		0.02		*	

⁴ **g/bhp-hr**=grams per brake horsepower-hour; **FTP**=Federal Test Procedure; **SET**=Supplemental emissions testing; **NTE**=Not-to-Exceed; **STD**=standard or emission test cap; **FEL**=family emission limit; **CERT**=certification level; **NMHC/HC**=non-methane/hydrocarbon; **NOx**=oxides of nitrogen; **CO**=carbon monoxide; **PM**=particulate matter; **HCHO**=formaldehyde;

BE IT FURTHER RESOLVED: The manufacturer has demonstrated compliance with the Greenhouse Gas Emission Standards as specified in Title 13 CCR 1956.8 and the incorporated "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy Duty Diesel-Engines and Vehicles" (HDDE Test Procedures) adopted December 12, 2002, as last amended April 18, 2019.

PRIMARY INTENDED SERVICE CLASS: TRACTOR / VOCATIONAL				
In g/bhp-hr	CO ₂		CH ₄	N ₂ O
	FTP	SET		
STD	513	447	0.10	0.10
FCL	522	463	*	*
FEL	538	477	0.10	0.10
CERT	516	460	0.00	0.08

⁴ **g/bhp-hr**=grams per brake horsepower-hour; **FTP**=Federal Test Procedure; **SET**=Supplemental emissions testing; **STD**=standard or emission test cap; **FEL**=family emission limit; **FCL**=family certification level; **CERT**=certification level; **CO₂**=carbon dioxide; **CH₄**=methane; **N₂O**=nitrous oxide; **VOCATIONAL**=vocational engine; **TRACTOR**=tractor engine

BE IT FURTHER RESOLVED: Certification to the FEL(s) / FCL(s) listed above, as applicable, is subject to the following terms, limitations and conditions. The FEL(s) / FCL(s) is the emission level declared by the manufacturer and serves in lieu of an emission standard for certification purposes in any averaging, banking, or trading (ABT) programs. It will be used for determining compliance of any engine in this family and compliance with such ABT programs.

BE IT FURTHER RESOLVED: For the listed engine models the manufacturer has submitted the 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 manufacturer has elected to include engine models in this engine family which are identified for "emergency vehicle use only". These "emergency vehicle use only" engines are exempt from requirements imposed pursuant to California law and the regulations adopted pursuant thereto for motor vehicle pollution control devices per California Vehicle Code Section 27156.2. The manufacturer must clearly label these engines for "emergency vehicle use only" on the engines' emission control label.

BE IT FURTHER RESOLVED: Except in vehicle applications exempted per 13 CCR 1956.8(a)(6)(B), engines in this engine family certified under 13 CCR 1956.8(a)(6)(C) [30 g/hr NO_x] and section 35.B.4 of the incorporated "California Exhaust Emissions Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles" (HDDE Test Procedures) adopted December 12, 2002, as last amended April 18, 2019, shall be provided with an approved "Certified Clean Idle" label that shall be affixed to the vehicle into which the engine is installed.

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

The Bureau of Automotive Repair will be notified by copy of this Executive Order.

Executed on this 30th day of January 2021.



Allen Lyons, Chief
Emissions Certification and Compliance Division

Attachment: Engine Models

EO #: A-004-0520

Family: MNVXH07505A

Attachment Last Revised: 1/20/2021

Model	Code	Trim	Config	Displacement	Displacement - Units	Peak Power	Peak Power - Units	Peak Power - Speed (rpm)	Peak Power - Fueling	Peak Power - Fuel Units	Peak Torque	Peak Torque - Units	Peak Torque - Speed (rpm)	Peak Torque - Fuel	Peak Torque - Fuel Units	OBD	GHG	Special	Notes
370HP	G7001	NA	I6	757	Cubic Inches	370HP	horsepower	1700	203	mm3/stroke	1350 @ 1000	lb-ft	1000	234	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
370HP	G7002	NA	I6	757	Cubic Inches	370HP	horsepower	1700	203	mm3/stroke	1350 @ 1000	lb-ft	1000	234	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
370HP	G7003	NA	I6	757	Cubic Inches	370HP	horsepower	1700	203	mm3/stroke	1350 @ 1000	lb-ft	1000	234	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
410HP	G7004	NA	I6	757	Cubic Inches	410HP	horsepower	1700	225	mm3/stroke	1450 @ 1000	lb-ft	1000	252	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
410HP	G7005	NA	I6	757	Cubic Inches	410HP	horsepower	1700	225	mm3/stroke	1450 @ 1000	lb-ft	1000	252	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
410HP	G7006	NA	I6	757	Cubic Inches	410HP	horsepower	1700	225	mm3/stroke	1450 @ 1000	lb-ft	1000	252	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
410HP-MT	G7007	NA	I6	757	Cubic Inches	410HP	horsepower	1700	225	mm3/stroke	1450-1650 @ 1000	lb-ft	1000	288	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
410HP-MT	G7008	NA	I6	757	Cubic Inches	410HP	horsepower	1700	225	mm3/stroke	1450-1650 @ 1000	lb-ft	1000	288	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
430HP	G7009	NA	I6	757	Cubic Inches	430HP	horsepower	1700	237	mm3/stroke	1550 @ 1000	lb-ft	1000	269	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
430HP	G7010	NA	I6	757	Cubic Inches	430HP	horsepower	1700	237	mm3/stroke	1550 @ 1000	lb-ft	1000	269	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
430HP	G7011	NA	I6	757	Cubic Inches	430HP	horsepower	1700	237	mm3/stroke	1550 @ 1000	lb-ft	1000	269	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
450HP	G7012	NA	I6	757	Cubic Inches	450HP	horsepower	1700	250	mm3/stroke	1700 @ 1000	lb-ft	1000	298	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
450HP	G7013	NA	I6	757	Cubic Inches	450HP	horsepower	1700	250	mm3/stroke	1700 @ 1000	lb-ft	1000	298	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
450HP	G7014	NA	I6	757	Cubic Inches	450HP	horsepower	1700	250	mm3/stroke	1700 @ 1000	lb-ft	1000	298	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
450HP-MT	G7015	NA	I6	757	Cubic Inches	450HP	horsepower	1700	250	mm3/stroke	1550-1700 @ 1000	lb-ft	1000	298	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
450HP-MT	G7016	NA	I6	757	Cubic Inches	450HP	horsepower	1700	250	mm3/stroke	1550-1700 @ 1000	lb-ft	1000	298	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
400HP-MT	G7017	NA	I6	757	Cubic Inches	400HP	horsepower	1700	220	mm3/stroke	1550-1750 @ 975	lb-ft	1000	315	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
450HP-MT	G7019	NA	I6	757	Cubic Inches	450HP	horsepower	1700	250	mm3/stroke	1550-1700 @ 1000	lb-ft	1000	298	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
365HP	G7020	NA	I6	757	Cubic Inches	365HP	horsepower	1700	200	mm3/stroke	1250 @ 1000	lb-ft	1000	216	mm3/stroke	Full	Vocational	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
365HP	G7021	NA	I6	757	Cubic Inches	365HP	horsepower	1700	200	mm3/stroke	1250 @ 1000	lb-ft	1000	216	mm3/stroke	Full	Vocational	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
365HP	G7022	NA	I6	757	Cubic Inches	365HP	horsepower	1700	200	mm3/stroke	1250 @ 1000	lb-ft	1000	216	mm3/stroke	Full	Vocational	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
365HP	G7023	NA	I6	757	Cubic Inches	365HP	horsepower	1700	200	mm3/stroke	1250 @ 1000	lb-ft	1000	216	mm3/stroke	Full	Vocational	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	Emergency Vehicle Rating
365HP	G7024	NA	I6	757	Cubic Inches	365HP	horsepower	1700	200	mm3/stroke	1250 @ 1000	lb-ft	1000	216	mm3/stroke	Full	Vocational	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	Emergency Vehicle Rating
370HP	G7025	NA	I6	757	Cubic Inches	370HP	horsepower	1700	203	mm3/stroke	1350 @ 1000	lb-ft	1000	234	mm3/stroke	Full	Vocational	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none

450HP	G7052	NA	I6	757	Cubic Inches	450HP	horsepower	1700	250	mm3/stroke	1700 @ 1000	lb-ft	1000	298	mm3/stroke	Full	Vocational	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
450HP	G7053	NA	I6	757	Cubic Inches	450HP	horsepower	1700	250	mm3/stroke	1700 @ 1000	lb-ft	1000	298	mm3/stroke	Full	Vocational	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	Emergency Vehicle Rating
450HP	G7054	NA	I6	757	Cubic Inches	450HP	horsepower	1700	250	mm3/stroke	1700 @ 1000	lb-ft	1000	298	mm3/stroke	Full	Vocational	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	Emergency Vehicle Rating
475HP	G7055	NA	I6	757	Cubic Inches	475HP	horsepower	1700	267	mm3/stroke	1700 @ 1000	lb-ft	1000	298	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
475HP	G7056	NA	I6	757	Cubic Inches	475HP	horsepower	1700	267	mm3/stroke	1700 @ 1000	lb-ft	1000	298	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
475HP	G7057	NA	I6	757	Cubic Inches	475HP	horsepower	1700	267	mm3/stroke	1700 @ 1000	lb-ft	1000	298	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
370HP	G7058	NA	I6	757	Cubic Inches	370HP	horsepower	1700	203	mm3/stroke	1350 @ 1000	lb-ft	1000	234	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
400HP-MT	G7059	NA	I6	757	Cubic Inches	400HP	horsepower	1700	220	mm3/stroke	1550-1750 @ 975	lb-ft	1000	315	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
410HP	G7060	NA	I6	757	Cubic Inches	410HP	horsepower	1700	225	mm3/stroke	1450 @ 1000	lb-ft	1000	252	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
410HP-MT	G7061	NA	I6	757	Cubic Inches	410HP	horsepower	1700	225	mm3/stroke	1450-1650 @ 1000	lb-ft	1000	288	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
430HP	G7062	NA	I6	757	Cubic Inches	430HP	horsepower	1700	237	mm3/stroke	1550 @ 1000	lb-ft	1000	269	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
450HP	G7063	NA	I6	757	Cubic Inches	450HP	horsepower	1700	250	mm3/stroke	1700 @ 1000	lb-ft	1000	298	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
450HP-MT	G7064	NA	I6	757	Cubic Inches	450HP	horsepower	1700	250	mm3/stroke	1550-1700 @ 1000	lb-ft	1000	298	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
450HP-MT	G7065	NA	I6	757	Cubic Inches	450HP	horsepower	1700	250	mm3/stroke	1550-1700 @ 1000	lb-ft	1000	298	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
475HP	G7066	NA	I6	757	Cubic Inches	475HP	horsepower	1700	267	mm3/stroke	1700 @ 1000	lb-ft	1000	298	mm3/stroke	Full	Tractor	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
500HP	G7067	NA	I6	757	Cubic Inches	500HP	horsepower	1700	299	mm3/stroke	1750 @ 1000	lb-ft	1000	303	mm3/stroke	Full	Vocational	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
500HP	G7068	NA	I6	757	Cubic Inches	500HP	horsepower	1700	299	mm3/stroke	1750 @ 1000	lb-ft	1000	303	mm3/stroke	Full	Vocational	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
500HP	G7069	NA	I6	757	Cubic Inches	500HP	horsepower	1700	299	mm3/stroke	1750 @ 1000	lb-ft	1000	303	mm3/stroke	Full	Vocational	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none
500HP	G7070	NA	I6	757	Cubic Inches	500HP	horsepower	1700	299	mm3/stroke	1750 @ 1000	lb-ft	1000	303	mm3/stroke	Full	Vocational	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	Emergency Vehicle Rating
500HP	G7071	NA	I6	757	Cubic Inches	500HP	horsepower	1700	299	mm3/stroke	1750 @ 1000	lb-ft	1000	303	mm3/stroke	Full	Vocational	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	Emergency Vehicle Rating
475HP	G7072	NA	I6	757	Cubic Inches	475HP	horsepower	1700	267	mm3/stroke	1700 @ 1000	lb-ft	1000	298	mm3/stroke	Full	Vocational	DDI, TC, CAC, ECM, EGR, OC, PTOX, SCR-U, AMOX	none