

VOLVO POWERTRAIN CORPORATION

EXECUTIVE ORDER A-242-0048-1 New On-Road Heavy-Duty Engines Page 1 of 2 Pages

Pursuant to the authority vested in the 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-02-003;

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 FAM	ILY	ENGINE SIZES (L)	FUEL TYPE 1	STANDARDS & TEST	INTENDED SERVICE	ECS & SPECIAL FEATURES 3	DIAGNOSTIC				
ADDITIONAL IDLE EMISSIONS CONTROL 30g N/A. ENGINE (L) ENGINE MODELS / CODES (rated power, in hp) 10.8 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; =liter: hp=horsepower; kw=kilowatt; hr=hour; 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; L/MH HDD=light/medium/heavy heavy-duty diesel; UB=urban bus; HDO=heavy duty Otto; ECS=emission control system; TWC/OC=three-way/oxidizing catalyst; NAC=NOx adsorption catalyst; SCR-U / SCR-N=selective catalytic reduction – urea / – ammonia; WU (prefix) = CS=dispersed particulate filter; PTOX=periodic trap oxidizer; HO2S/O2S=heated/oxygen sensor; HAPS/AFS=heated/air-fuel-ratio sensor (a.k.a., universal or linear oxygen sensor; HBI=throttle body fuel injection; SFI/MFI=sequential/multi port fuel injection; DG arcet gasoline injection; GCARB=gaseous carburetor; IDI/DDI=ind/rect/direct diesel injection; TC/SC=turs	2008	8VPTH10.8	8VPTH10.8H04 10.8		Diesel		CLASS	DDI, TC, CAC, ECM, EGR, PTOX	EMD				
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ESS=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 met per 13 CCR 1956.8(a)(6)(D); Exampt=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); EMIGENCIA PROFESSION PROFESSION (A) CONTROLLED (A) CO	CNG/LN L/M/H H CCS=en Lp catalyst; TBI=throttle super charg control mod-	IG=compressed/liqui IDD=light/medium/he nission control systei DPF=diesel particul body fuel injection; er; CAC=charge air ule; EM=engine mo- gine shutdown syste	efied nature avy heavy m; TWC/O ate filter; I SFI/MFI=s cooler; E(dification; : m (per 13)	al gas; LPG≈liquefied duly diesel; UB=urba C=three-way/oxidizing **TOX=periodic trap ox equential/multi port fu GR / EGR-C=exhaust 2 (preftx)=parailel; (2 CCR 1956 8(a)/6)/AV/	I petroleum gas; E85=85% an bus; HDO=heavy duty O g catalyst; NAC=NOx adsor vidizer; HO2S/O2S=heated el injection; DGI=direct gas gas recirculation / cooled E0 ((suffix)=in senes;	ethanol fuel; MF=multi tto; rption catalyst; SCR-U /oxygen sensor; HAFS oline injection; GCARE GR; PAIR/AIR=pulsed.	fuel a.k.a. BF / SCR-N=select/AFS=heated/a 3=gaseous card secondary air i	=bi fuel; DF=dual fuel; FF=flexible fuel; clive catalytic reduction – urea / ammonia; WI air-fuel-ratio sensor (a.k.a., universal or linear ox buretor; IDI/DDI=indirect/direct diesel injection; injection; SPL=smoke puff limiter; ECM/PCM=e	J (prefix) =warm- ygen sensor); TC/SC=turbo/ engine/powertrain				

Following are: 1) the FTP exhaust emission standards, or family emission limit(s) as applicable, under 13 CCR 1956.8; 2) the EURO 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, EURO 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

in	NMHC		NOx		NMHC+NOx		co		PM		нсно	
g/bhp-hr	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO
STD	0.14	0.14	*	*	*	*	15.5	15.5	0.01	0.01	* ***	toko
FEL	*	*	1.16	1.16	1.3	1.3	*	*	*	0.01		
CERT	0.05	0.04	0.96	1.00	1.0	1.04	*	*	0.001	0.000	*	*
NTE	0.	21	1.	74		2.0	19	3.4		0.000		*

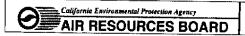
g/bhp-hr=grams per brake horsepower-hour; FTP=Federal Test Procedure; EURO=Euro III European Steady-State Cycle, including RMCSET=ram mode cycle supplemental emissions lesting; NTE=Not-to-Exceed; STD=standard or emission test cap; FEL=family emission limit; CERT=certification level; NMHC/HC=non-methane/hydrocarbon; NOx=oxides of nitrogen; CO=carbon monoxide; PM=particulate matter; HCHO=formaldehyde; (Rev.: 2007-02-26)

BE IT FURTHER RESOLVED: Certification to the FEL(s) listed above, as applicable, is subject to the following terms, limitations and conditions. The FEL(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: 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 NOx] 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" adopted Dec. 12, 2002, as last amended Sep. 1, 2006, shall be provided with an approved "Certified Clean Idle" label that shall be affixed to the vehicle into which the engine is installed.

BE IT FURTHER RESOLVED: The listed engine models have been certified to the split engine family standards under 13 CCR 1956.8(b) [diesel engines] or 13 CCR 1956.8(d) [Otto engines] and the incorporated 40 CFR 86.007-15(m)(9).

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) and 13 CCR 2035 et seq. (emission control warranty).



VOLVO POWERTRAIN CORPORATION

EXECUTIVE ORDER A-242-0048-1 New On-Road Heavy-Duty Engines Page 2 of 2 Pages

This Executive Order hereby supersedes Executive Order A-242-0048 dated February 15, 2008.

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 at El Monte, California on this ______

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Annette Hebert, Chief

Mobile Source Operations Division

Engine Model Summary Form

Manufacturer:

Volvo Powertrain North America, a division of

Engine category:

On-highway HDDE

EPA Engine Family: 8VPTH10.8H04

Mfr Family Name: 8VPTH10.8H04

Process Code:

New Submission

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
N/A	MP7-395C	338 @ 2000	197.3	130.3	1591 @ 1100	317.8	317.8	EM,EC,TC,CAC, DI,EGR,DPF
N/A	MP7 - 365C	319 @ 2000	182.4	120.5	1489 @ 1100	297.9	108.2	DI,EGIT,DI I
N/A	MP7 - 345C	301 @ 2000	173.3	114.4	1387 @ 1100	275.4	100.0	· #
N/A	MP7 - 405M	408 @ 2000	233,0	153.9	1510 @ 1100	302.5	109.9	u .
N/A	MP7 - 365M	369 @ 2000	211.3	139.6	1367 @ 1100	266,3	96.7	п
N/A	MP7 - 325M	330 @ 2000	189.0	124.8	1224 @ 1100	244.3	88.7	n
N/A	MP7 - 405E	301 @ 2000	173.3	114.4	1489 @ 1100	297.9	108.2	"
N/A	MP7 - 355E	281 @ 2000	161.4	106.6	1387 @ 1100	275.4	100,0	и
N/A	MP7 - 325E	270 @ 2000	154.6	102.1	1285@1100	254.8	92.5	п
N/A	D11F - 405	381 @ 2000	217.7	143.8	1500 @ 1200	294.5	116.7	n .
N/A	D11F - 385	343 @ 2000	196.4	129.7	1500 @ 1200	294.5	116.7	и
N/A	D11F - 365	324 @ 2000	185.2	122.3	1390 @ 1100	276.0	100.3	u
N/A	D11F - 355	324 @ 2000	185.2	122.3	1250 @ 1050	247.9	85.9	11
N/A	D11F - 325	308 @ 2000	176.0	116.2	1250 @ 1050	247.9	85.9	n