CALIFORNIA AIR RESOURCES BOARD	VOLVO CAR CORPORATION	Executive Order: A-018-0219 New Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles Page 1 of 5

Pursuant to the authority vested in California Air Resources Board by Health and Safety Code (HSC), Division 26, Part 5, Chapter 2; and pursuant to the authority vested in the undersigned by HSC Sections 39515 and 39516 and Executive Order G-14-012;

IT IS ORDERED AND RESOLVED:That the following exhaust and evaporative emission control systems produced by the manufacturer are certified as described below. Production vehicles shall be in all material respects the same as those for which certification is granted.

TEST GROUP INFORMATION

MODEL YEAR	TEST GROUP	VEHICLE CLASS(ES)	FUEL CATEGORY	FUEL TYPE
2020	LVVXJ02.0U70	LDT2, LDT3, PC	DEDICATED SINGLE FUEL VEHICLE	GASOLINE

USEFUL LIFE (miles)		VEHICLE EMISSION CATEGORY		INTERIM / INTERMEDIATE IN-USE STD	
EXH/ORVR	EVAP	FTP	SFTP	FTP	SFTP
150000	150000	LEV3 ULEV70	LEV 3 COMPOSITE	*	PM

SPECIAL FEATURES & EXHAUST EMISSION CONTROL SYSTEMS		OBD STATUS		ENGINE DISPLACEMENT (L)
1	TWC, WR-HO2S, HO2S, DFI, TC, CAC	FULL	ALL MODELS	2.0
*	*	PARTIAL	*	
*	*	PARTIAL WITH FINES	*	

EVAPORATIVE & REFUELING (EVAP/ORVR) FAMILY INFORMATION

EVAP / ORVR FAMILY	EVAPORATIVE STD CATEGORY	EVAP EMISSION STD VEHICLE CLASS	SPECIAL FEATURES
LVVXR0142E51	LEV 3 OPTION2	PC	*
LVVXR0142E61	LEV 3 OPTION2	PC	*
LVVXR0142E52	LEV 3 OPTION2	LDT2	*
LVVXR0142E62	LEV 3 OPTION2	LDT2	*
LVVXR0142EV4	LEV 3 OPTION2	LDT3	*

EMISSION CREDIT INFORMATION

NMOG+NOX FLEET AVE. CREDIT FOR EXTENDED WARRANTY	NMOG CREDIT FOR NON-PZEV ZERO-EVAP	NMOG CREDIT FOR DOR	OPTIONAL EXH. STD FOR WORK TRUCKS
N	N	N	N

NMOG AND FLEET AVERAGE INFORMATION

NMOG RAF	CH4 RAF	FTP NMOG/NMHC RATIO	HCHO/NMHC RATIO	NMOG+NOX FLEET STD PC+LDT (0-3750 LVW) (g/mi)	NMOG+NOX FLEET STD LDT (3751 LVW-8500 GVWR) + MDPV (g/mi)	NMOG+NOX FLEET STD MDV (10,001-14,000 GVWR) (g/mi)
*	*	1.10	*	0.065	0.074	*

See the Attachment for Vehicle Models, Evaporative Family, Engine Displacement, Emission Control Systems, Phase-In Standards, OBD Compliance, Emission Standards and Certification Levels, and Abbreviations. (As applicable, heavy-duty vehicles (HDV) over 14,000 pounds in GVWR listed in this Executive Order are certified to the requirements in 13 CCR Section 1961.2 applicable to MDV pursuant to 13 CCR Section 1956.8(c)(3) or 13 CCR Section 1956.8(h)(5), as applicable.)

BE IT FURTHER RESOLVED:
The exhaust and evaporative emission standards and the certification emission levels for the listed vehicles are as listed on the Attachment. Compliance with the 50° Fahrenheit testing requirement may have been met based on the manufacturer's submitted compliance plan in lieu of testing. Any debit in the manufacturer's fleet average compliance requirement for NMOG+NOx or Vehicle Equivalent Credit (13 CCR Sections 1961.2(b)(1), 1961.2(b)(3), or 1961.2(c)(3), and the incorporated test procedures, as applicable), or Greenhouse Gas Emissions (13 CCR Section 1961.3, or 17 CCR Section 95663, and the incorporated test procedures, as applicable), for PC, LDT, MDPV or MDV shall be equalized as required.

BE IT FURTHER RESOLVED:
For the listed vehicle models, the manufacturer has attested to compliance with Title 13, California Code of Regulations, (13 CCR) Sections 1965 [emission control labels], 1968.2 [on-board diagnostic, full or partial compliance], 2035 et seq. [emission control warranty], 2235 [fuel tank fill pipes and openings] (gasoline and alcohol fueled vehicles only), and "High-Altitude Requirements" and "Inspection and Maintenance Emission Standards" (California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for PC, LDT and MDV).

Vehicles certified under this Executive Order shall 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 10th day of June 2019.

Allen Lyons, Chief
Emissions Compliance, Automotive Regulations and Science Division

ATTACHMENT

EXHAUST AND EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS

EXHAUST EMISSION STANDARDS AND CERTIFICATION LEVELS (FTP, HWFET, 50°F, 20°F)

CH4: methane; NMOG: non-CH4 organic gas; HC: hydrocarbon; NMHC: non-CH4 HC; CO: carbon monoxide; NOx: oxides of nitrogen; HCHO: formaldehyde; PM: particulate matter; RAF: reactivity adjustment factor; 2DHS/3DHS [g HC/test]: 2/3 days diurnal+hot-soak; RL [g HC/mi]: running loss; ORVR [g HC/gallon dispensed]: on-board refueling vapor recovery; g: gram; mg: milligram; mi: mile; K: 1000 miles; F: degrees Fahrenheit; FTP: federal test procedure; SFTP: supplemental FTP

	FUEL TYPE	NMOG+NOx (g/mi)		CO (g/mi)		NOx (g/mi)		HCHO (mg/mi)		PM (g/mi)	
		CERT	STD	CERT	STD	CERT	STD	CERT	STD	CERT	STD
FTP@50K	*	*	*	*	*	*	*	*	*	*	*
FTP@UL	GASOLINE-LEV3 E10 PREM	0.0232	0.070	0.70	1.7	0.012	*	*	4	0.002	0.003
50°F @4K	GASOLINE-LEV3 E10 PREM	0.0240	0.140	0.53	1.7	*	*	*	16		

	FUEL TYPE	NMOG+NOx (g/mi)		CO (g/mi)	
		CERT	STD	CERT	STD
HWFET @ 50K	*	*	*		
HWFET @ UL	GASOLINE-LEV3 E10 PREM	0.0060	0.070		
20°F @ 50K	GASOLINE-COLD CO LOW OCTANE			0.91	10.0

SFTP EXHAUST EMISSION STANDARDS AND CERTIFICATION LEVELS

	FUEL TYPE		US06			SC03		COMPOSITE		
			NMOG+NOx (g/mi)	CO (g/mi)	PM (mg/mi)	NMOG+NOx (g/mi)	CO (g/mi)	NMOG+NOx (g/mi)	CO (g/mi)	PM (mg/mi)
@ 4K	*	CERT	*	*		*	*			
		STD	*	*		*	*			
@ UL	GASOLINE-LEV3 E10 PREM	CERT	*	*	1.7	*	*	0.016	0.73	*
		STD	*	*	6	*	*	0.083	4.2	*
		BIN						0.090		

WHOLE VEHICLE EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS

EVAPORATIVE FAMILY	FUEL TYPE	WHOLE VEHICLE EVAPORATIVE TESTING						RL (g/mi) @ UL	
		3DHS (g/test) @ UL			2DHS (g/test) @ UL				
		CERT	STD	FEL	CERT	STD	FEL	CERT	STD
LVVXR0142E51	GASOLINE-LEV3 E10 PREM	0.2057	0.300	*	0.2111	0.300	*	0.000	0.05
LVVXR0142E52	GASOLINE-LEV3 E10 PREM	0.2057	0.400	*	0.2111	0.400	*	0.000	0.05
LVVXR0142E61	GASOLINE-LEV3 E10 PREM	0.1799	0.300	*	0.1710	0.300	*	0.001	0.05
LVVXR0142E62	GASOLINE-LEV3 E10 PREM	0.1799	0.400	*	0.1710	0.400	*	0.001	0.05
LVVXR0142EV4	GASOLINE-LEV3 E10 PREM	0.2076	0.500	*	0.1808	0.500	*	0.005	0.05

ORVR / FUEL ONLY / CANISTER BLEED EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS

EVAPORATIVE FAMILY	ORVR (g/gallon) @ UL			FUEL ONLY EVAP & CANISTER BLEED						
				FUEL TYPE	3DHS RIG TEST (g/test) @ UL		2DHS RIG TEST (g/test) @ UL		BLEED CANISTER TEST (g/test) @ 4K	
	FUEL TYPE	CERT	STD		CERT	STD	CERT	STD	CERT	STD
LVVXR0142E51	GASOLINE-TIER3 E10 PREM	0.008	0.20	GASOLINE-LEV3 E10 PREM	*	*	*	*	0.0132	0.020
LVVXR0142E52	GASOLINE-TIER3 E10 PREM	0.008	0.20	GASOLINE-LEV3 E10 PREM	*	*	*	*	0.0132	0.020
LVVXR0142E61	GASOLINE-TIER3 E10 PREM	0.109	0.20	GASOLINE-LEV3 E10 PREM	*	*	*	*	0.0077	0.020
LVVXR0142E62	GASOLINE-TIER3 E10 PREM	0.109	0.20	GASOLINE-LEV3 E10 PREM	*	*	*	*	0.0077	0.020
LVVXR0142EV4	GASOLINE-TIER3 E10 PREM	0.012	0.20	GASOLINE-LEV3 E10 PREM	*	*	*	*	0.0116	0.020

EFFECTIVE LEAK DIAMETER STANDARD AND CERTIFICATION LEVEL (INCHES)

EVAPORATIVE FAMILY	LEAK FAMILY	CERT	STD
LVVXR0142EV4	LVVXR0142EV4-001	0.02	0.02
LVVXR0142E51	LVVXR0142E51-001	0.02	0.02
LVVXR0142E52	LVVXR0142E52-001	0.02	0.02
LVVXR0142E61	LVVXR0142E61-001	*	0.02
LVVXR0142E62	LVVXR0142E62-001	*	0.02

*: not applicable; #: pounds; UL: useful life; PC: passenger car; LDT: light-duty truck; LDT1: LDT<6000#GVWR,0-3750#LVW; LDT2: LDT<6000#GVWR,3751-5750#LVW; LDT3: LDT 6001-8500#GVWR,3751-5750#ALVW; LDT4: LDT 6001-8500#GVWR,5751-8500#ALVW; MDV: medium-duty vehicle; MDV4: MDV 8501-10000#GVWR; MDV5: MDV 10001-14000#GVWR; MDPV: medium-duty passenger vehicle; HDV: heavy-duty vehicle; ECS: emission control system; CERT: certification; STD: standard; FEL: family emission limit; GVWR: gross vehicle weight rating; LVW: loaded vehicle weight; ALVW: adjusted LVW; LEV: low emission vehicle; ULEV: ultra LEV; SULEV: super ULEV; ZEV: zero-emission vehicle; TZEV: transitional ZEV; TWC/OC: 3-way/oxidizing catalyst; ADSTWC: adsorbing TWC; HAC: HC adsorbing catalyst; WU: warm-up catalyst; NAC: NOx adsorption catalyst; SCR-U or SCRC/SCR-N or SCRC-NH3: selective catalytic reduction-urea/ammonia; NH3OC: ammonia oxidation catalyst; CTOX/PTOX: continuous/periodic trap oxidizer; DPF: diesel particulate filter (active); GPF: PM filter for spark-ignited engine; HO2S/O2S: heated/oxygen sensor; WR-HO2S or AFS: wide range/linear/heated air-fuel ratio sensor; NOXS: NOx sensor; PMS: PM sensor; RDQS: reductant quality sensor; NH3S: ammonia sensor; EGR: exhaust gas recirculation; EGRC: EGR cooler; AIR/AIRE: secondary air injection (belt driven)/(electric driven); PAIR: pulsed AIR; SFI/MFI: sequential/multiport fuel injection; DFI/IFI: direct/indirect fuel injection; TC/SC: turbo/super charger; CAC: charge air cooler; FFH: fuel fired heater; F/P/$: full/partial/partial with fines on-board diagnostic; DOR: direct ozone reducing; HCT: hydrocarbon trap; BCAN: bleed carbon canister; prefix 2: parallel; (2) suffix: series; CNG/LNG: compressed/liquefied natural gas; LPG: liquefied petroleum gas; E85: "85%" ethanol ("15%"gasoline) fuel; E10: "10%" ethanol ("90%"gasoline) fuel; A: automatic (with lockup); M: manual transmission; SA: semi-automatic transmission; CV: continuously variable transmission; SCV: selectable continuously variable transmission; AM: automated manual transmission; AMS: automated manual-selectable transmission; OT: other transmission; AER: all-electric range; EAER: equivalent AER; PHEV: plug-in hybrid electric vehicle; NMOG + NOx Fleet Ave. Credit for Extended Warranty: N = no credits, Y = credits, S = credits for some/select models

2020 MODEL YEAR: VEHICLE MODELS INFORMATION

MAKE	MODEL	VEH CLASS	ENGINE (L)	TRANS TYPE	EVAPORATIVE FAMILY	EXH ECS	OBD
VOLVO	S60 T5	PC	2.0	SA8	LVVXR0142E51	1	F
VOLVO	V60 T5	PC	2.0	SA8	LVVXR0142E51	1	F
VOLVO	V60CC T5 AWD	LDT2	2.0	SA8	LVVXR0142E52	1	F
VOLVO	V90 T5	PC	2.0	SA8	LVVXR0142E51	1	F
VOLVO	XC40 T4	PC	2.0	SA8	LVVXR0142E61	1	F
VOLVO	XC40 T4 AWD	LDT2	2.0	SA8	LVVXR0142E62	1	F
VOLVO	XC40 T5 AWD	LDT2	2.0	SA8	LVVXR0142E62	1	F
VOLVO	XC60 T5	PC	2.0	SA8	LVVXR0142E51	1	F
VOLVO	XC60 T5 AWD	LDT2	2.0	SA8	LVVXR0142E52	1	F
VOLVO	XC90 T5	LDT3	2.0	SA8	LVVXR0142EV4	1	F
VOLVO	XC90 T5 AWD	LDT3	2.0	SA8	LVVXR0142EV4	1	F