

## GENERAL MOTORS LLC.

Executive Order: A-006-2134-1
New Passenger Cars, Light-Duty Trucks and
Medium-Duty Vehicles
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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 GR	OUP IN	FORMA	TION			
MODE		EST GROUP	GROUP VEHICLE CLASS(ES)				FUEL C	ATEGORY	FUEL TYPE	
2019	9 KGMXT02.0100 LD			LDT2	LDT2 DEDI			SINGLE FUEL	GASOLINE	
	USEFUL	LIFE (miles)	VEH	ICLE EMIS	SION C	ATEGO	RY	INTERIM / INT	ERMEDIATE IN-USE STD	
EXH	ORVR	EVAP		FTP		SFTP		FTP	SFTP	
15	0000	150000	LEV3	ULEV70	LEV	3 COMP	OSITE	NMOG+NOX	*	
SPE	CIAL FE		HAUST EMISSION	ON CONTR	OL		OBD S	TATUS	ENGINE DISPLACEMENT	
1		TWC, DFI,	HO2S(2), TC,	CAC		FL	JLL	*		
*	*					PAR	PARTIAL ALL MODELS		2.0	
*		•					L WITH	*		
		E'	VAPORATIVE &	REFUELIN	G (EVA	P/ORVR	) FAMIL	INFORMATION		
EVA	P / ORV	R FAMILY	EVAPORATIVE	STD CAT	EGORY	E		SSION STD E CLASS	SPECIAL FEATURES	
. K	GMICRO	9537C	LEV 3	OPTION2		LDT2			нст	
R	GMXR01	12637A	LEV 3	OPTION2		LDT2			*	
R	GMXR01	126825	L	EV 2		LDT2			* *	
				EMISSION	CREDIT	INFOR	MATION			
	EDIT FO	X FLEET AVE. OR EXTENDED RRANTY	NMOG CH	REDIT FOR ZERO-EVA		-PZEV NMOG CREE		REDIT FOR DOR	OPTIONAL EXH. STD FOR WORK TRUCKS	
		N		N				N	N .	
			NMOG	AND FLE	ET AVE	RAGE IN	NFORMA	TION		
NMOG RAF			PC+LDT	OG+NOX FLEET S +LDT (0-3750 LVV (g/mi)		LDT	+NOX FLEET ST (3751 LVW-8500 R) + MDPV (g/mi)	NMOG+NOX FLEET STE MDV (10,001-14,000 GVWR) (g/mi)		
*	*	1.10	*		0.072	0.083			* 1	

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.)



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#### 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).

day of August 2018.

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

This Executive Order hereby supersedes Executive Order A-006-2134 dated January 24, 2018.

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

Executed at El Monte, California on this

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division



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# **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- TIER3 E10	0.036	0.070	0.6	1.7	*	*	*	4	*	0.01	
50°F @4K	*	*	*	*	*	*	*	*	*			

100000000000000000000000000000000000000	FUEL TYPE	NMOG+N	Ox (g/mi)	CO (g/mi)		
1.0	FUEL TYPE	CERT	STD	CERT	STD	
HWFET @ 50K	*	*	*			
HWFET @ UL	GASOLINE-TIER3 E10	0.003	0.070			
20°F @ 50K	COLD CO E10 REGULAR GASOLINE (TIER3)			2.7	12.5	

# SFTP EXHAUST EMISSION STANDARDS AND CERTIFICATION LEVELS

			US06			SC03		COMPOSITE		
	FUEL TYPE		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	*	*		*	*			
		CERT	*	*	. *	*	*	0.030	1.0	*
@ UL	GASOLINE- TIER3 E10	STD	*	*	*	*	*	0.090	4.2	*
		BIN						0.080		

# WHOLE VEHICLE EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS

			WHOLE \						
EVAPORATIVE FAMILY	FUEL TYPE	3DHS (g/test) @ UL			2DI	HS (g/test) @	RL (g/mi) @ UL		
		CERT	STD	FEL	CERT	STD	FEL	CERT	STD
KGMXR009537C	GASOLINE- TIER3 E10	0.201	0.400	*	0.164	0.400	*	0.00	0.05
KGMXR012637A	GASOLINE- TIER3 E10	0.219	0.400	*	0.232	0.400	*	0.00	0.05
KGMXR0126825	GASOLINE- TIER3 E10	0.219	0.65	*	0.232	0.85	*	0.00	0.05



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

	ORVR (g/gallon) @ UL			FUEL ONLY EVAP & CANISTER BLEED								
EVAPORATIVE FAMILY				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		
KGMXR009537C	GASOLINE- TIER3 E10	0.02	0.20	GASOLINE- TIER3 E10	*	*	*	*	0.004	0.020		
KGMXR012637A	GASOLINE- TIER3 E10	0.03	0.20	GASOLINE- TIER3 E10	*	*	*	*	0.004	0.020		
KGMXR0126825	GASOLINE- TIER3 E10	0.03	0.20	*	*	*	*	*	*	*		

## **EFFECTIVE LEAK DIAMETER STANDARD AND CERTIFICATION LEVEL (INCHES)**

EVAPORATIVE FAMILY	LEAK FAMILY	CERT	STD
KGMKR009537C	KGMXR009537C-LK1	0.004	0.02
KGMXR012637A	KGMXR012637A-LK1	*	0.02

not applicable; #: pounds; UL: useful life; PC: passenger car; LDT: light-duty truck; LDT1: LDT<6000#GVWR,0-3750#LVW; LDT2: \_DT<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: mediumduty 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; ŽEV: 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%"oasoline) 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

# 2019 MODEL YEAR: VEHICLE MODELS INFORMATION

MAKE	MODEL	VEH CLASS	ENGINE (L)	TRANS TYPE	EVAPORATIVE FAMILY	EXH ECS	OBD
BUICK	ENVISION AWD	LDT2	2.0	A9	KGMXR012637A	1	P
BUICK	ENVISION AWD	LDT2	2.0	A9	KGMXR0126825	1	P
CHEVROLET	EQUINOX AWD	LDT2	2.0	A9	KGMXR009537C	1	P
CHEVROLET	EQUINOX FWD	LDT2	2.0	A9	KGMXR009537C	1	P
GMC	TERRAIN AWD	LDT2	2.0	A9	KGMXR009537C	1.	P
GMC	TERRAIN FWD	LDT2	2.0	A9	KGMXR009537C	1	P