California Environmental Protection Agency

OB Air Resources Board

GENERAL MOTORS LLC. Executive Order: A-006-2096

New Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles

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Pursuant to the authority vested in the 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: 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	FORMATI	ON				
MODE	- 1	EST C	GROUP	VEHI	CLE CLASS(ES)	F	UEL CA	TEGORY	FU	JEL TYPE	
2018	JO	MXT0	4.3187	1	DT3, LDT4		FL	EX-FUEI (FE	VEHICLE	85% ETHA	NOL, GASOLINE	
	USEFU	LIFE	(miles)	VE	HICLE EMIS	SION C	ATEGORY	(INTERIM / IN	TERMEDIA	TE IN-USE STD	
EXH	/ORVR		EVAP		FTP		SFTP		FTP		SFTP	
15	0000		150000	LEV	3 ULEV70	LEV	3 COMPOS	SITE	NMOG+NO	х	NMOG+NOX	
SPE	CIAL FI	EATU		IAUST EMISS	SION CONTR	OL		OBD STA	TUS	ENGINE	DISPLACEMENT (L)	
1		D	FI, 2TWC	2HO2S(2),	TWC		FUL	L	*			
*				*			PART	AL	ALL MODELS	ODELS 4.3		
*				*			PARTIAL FINE		*			
			EV	APORATIVE	& REFUELIN	G (EVA	P/ORVR) I	AMILY	NFORMATIO	N		
EVA	P / ORV	/R FA	MILY	EVAPORATI	VE STD CATE	EGORY		P EMISS	SION STD CLASS	SPECIA	L FEATURES	
J	GMXR0:	16150	A	LEV	3 OPTION2			LDT	3		HCT	
J	GMXR02	21250	В	LEV 3 OP	TION2 WITH	FEL		LDT	3		HCT	
					EMISSION	CREDIT	INFORMA	TION		·		
	A	LLOV	VANCE FO	R TEST GRO	UP		IMOO OD!	DIT FOR	NIMOO O	DEDIT FOR	OPTIONAL EXH	
BASE	ELINE P	ZEV	. AT	PZEV	TZEV			G CREDIT FOR NMOG CR ZEV ZERO-EVAP DO		OR	STD FOR WORK	
	*			*	*		N	N N		N	N	
				NMC	G AND FLEE	T AVE	RAGE INF	ORMATI	ON			
NMOG RAF	CH4 RAF		FTP OG/NMHC RATIO ASOLINE)	HCHO/NMH RATIO (GASOLINE	PC+LDT			LDT (3	NOX FLEET S 751 LVW-850 + MDPV (g/m	0 MDV	NOX FLEET STD (10,001-14,000 VWR) (g/mi)	
*	*		1.10	*		0.079			0.092		*	

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.

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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 NMOG+NOx and greenhouse gas Fleet Average (PC or LDT or MDPV) or "Vehicle Equivalent Credit" (MDV) compliance plan 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).

BE IT FURTHER RESOLVED:

For evaporative families JGMXR016150A and JGMXR021250B, the manufacturer has attested to compliance with the 0.02 inch effective leak diameter standard in 13 CCR Section 1976(b)(1)(G)6 ["Effective Leak Diameter Standard And Procedure"].

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

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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	HWFFT	50°F	20°F)
EXITAGO EMIGOION OTANDANDO AND CENTRI IOATION ELTELO		,	,	~~ ' '

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)				NOx (g/mi)		HCHO (mg/mi)		PM (g/mi)	
		CERT	STD	CERT	STD	CERT	STD	CERT	STD	CERT	STD
FTP@50K	*	*	*	*	*	*	*	*	*	*	*
FTP@UL	E85-TIER3 (GASOLINE- TIER3 E10)	0.041 (0.051)	0.070	0.7 (0.9)	1.7	* (*)	* (*)	1 (*)	4 (4)	* (*)	0.01 (0.01)
50°F @4K	*	. *	*	*	*	*	*	*	*	L. Specie	

JWEET @ FOK	FUEL TYPE	NMOG+N	Ox (g/mi)	CO (g/mi)		
	FUEL TYPE	CERT	STD	CERT	STD	
HWFET @ 50K	*	*	*			
HWFET @ UL	E85-TIER3 (GASOLINE-TIER3 E10)	0.015 (0.018)	0.070 (0.070)			
20°F @ 50K	COLD CO E10 REGULAR GASOLINE (TIER3) (E70 (70% ETHANOL + 30% COLD CO REGULAR GASOLINE))	late long	M-15 (C)	1.4 (2.0)	12.5 (12.5)	

SFTP EXHAUST EMISSION STANDARDS AND CERTIFICATION LEVELS

3 7-4				US06		SC03		COM	POSITE	
)	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	*	*	*	*	*	0.033	0.6	*
@ UL	E85-TIER3	STD	*	*	*	*	*	0.097	4.2	*
		BIN			A His			0.080	- in-gar	1
		CERT	*	*	*	*	*	0.043	0.9	*
@ UL	GASOLINE- TIER3 E10	STD	*	*	*	* .	*	0.097	4.2	*
		BIN		As as				0.080	2 %	

WHOLE VEHICLE EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS

EVAPORATIVE FAMILY			WHOLE	VEHICLE	EVAPORA	TIVE TESTII	NG		
	FUEL TYPE	3DHS (g/test) @ UL			2DHS (g/test) @ UL			RL (g/m	ni) @ UL
		CERT	STD	FEL	CERT	STD	FEL	CERT	STD
JGMXR016150A	GASOLINE- TIER3 E10	0.383	0.500	*	0.376	0.500	*	0.00	0.05
JGMXR021250B	GASOLINE- TIER3 E10	0.470	0.500	0.525	0.354	0.500	0.525	0.00	0.05

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				FUEL ONLY EVAP & CANISTER BLEED									
EVAPORATIVE FAMILY	ORVR (g/gallon) @ UL			FUEL TYPE	3DHS RIG TEST (g/test) @ UL		2DHS RIG TEST (g/test) @ UL		BLEED CANISTE TEST (g/test) @				
	FUEL TYPE	CERT	STD		CERT	STD	CERT	STD	CERT	STD			
JGMXR016150A	E10-EPA	0.01	0.20	GASOLINE- TIER3 E10	*	*	*	*	0.007	0.020			
JGMXR021250B	E10-EPA	0.03	0.20	GASOLINE- TIER3 E10	*	*	*	*	0.010	0.020			

*: 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: 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; PZEV: partial ZEV; AT PZEV: advanced technology PZEV; 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: semiautomatic transmission; CV: continuously variable transmission; SCV: selectable continuously variable transmission; AM: automated manual transmission; AMS: automated manual-selectable transmission; OT: other transmission

2018 MODEL YEAR: VEHICLE MODELS INFORMATION

MAKE	MODEL	VEH CLASS	ENGINE (L)	TRANS TYPE	EVAPORATIVE FAMILY	EXH ECS	OBD	PZEV TYPE
CHEVROLET	C15 SILVERADO 2WD	LDT3	4.3	A6	JGMXR016150A	1	P	* .
CHEVROLET	C15 SILVERADO 2WD	LDT3	4.3	A6	JGMXR021250B	1	P	*
CHEVROLET	K15 SILVERADO 4WD	LDT4	4.3	A6	JGMXR016150A	1	P	*
CHEVROLET	K15 SILVERADO 4WD	LDT4	4.3	A6	JGMXR021250B	1	P	*
GMC	C15 SIERRA 2WD	LDT3	4.3	A6	JGMXR016150A	1	P	*
GMC	C15 SIERRA 2WD	LDT3	4.3	A6	JGMXR021250B	1	P	*
GMC	K15 SIERRA 4WD	LDT4	4.3	A6	JGMXR016150A	1	P	*
GMC	K15 SIERRA 4WD	LDT4	4.3	A6	JGMXR021250B	1	P	*