## California Environmental Protection Agency

# **O** Air Resources Board

GENERAL MOTORS LLC. Executive Order: A-006-2099

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	FORMAT	ION						
MODE		TEST GROUP VEHICLE CLASS(ES)					FUEL CATEGORY			FUEL TYPE				
2018	018 JGMXT05.3382 LDT3,					T3, LDT4 FLEX-FUE			EL VI	EHICLE	85% ETHANOL, GASOLIN			
	USEFUI	LIFE	(miles)	VE	HICLE EMIS	SION C	ATEGOR	Y	IN	TERIM / IN	TERMEDIA"	TE IN-USE STD		
EXH	/ORVR		EVAP		FTP		SFTP			FTP		SFTP		
15	0000		150000	LEV3	ULEV125	LEV	3 СОМРО	SITE		PM		PM		
SPE	CIAL FI	EATU		AUST EMISS	ION CONTRO	OL		OBD S1	TATU	s	ENGINE	DISPLACEMENT (L)		
1		DI	FI, 2TWC,	2HO2S(2),	TWC		FUL	L		*				
*	*						PART	IAL	ALI	MODELS		5.3		
*				*			PARTIAI			*				
	-		EV	APORATIVE &	REFUELIN	G (EVA	P/ORVR)	FAMILY	INF	ORMATION				
EVA	P/ORV	/R FA	MILY	EVAPORATIV	E STD CATE	EGORY		AP EMIS			SPECIA	L FEATURES		
	JGMXR0:	16150	A	· LEV	3 OPTION2		-	LD	Т3			HCT		
c	JGMXR0	21250	В	LEV 3 OP	TION2 WITH	ON2 WITH FEL LDT4					HCT			
					EMISSION (	CREDIT	INFORM	ATION						
	F	LLOV	VANCE FO	R TEST GRO	UP		NMOG CR				EDIT FOR	OPTIONAL EXH STD FOR WORK		
BASE	ELINE P	ZEV	AT	PZEV	TZEV	NC	N-PZEV 2	ZERO-E	VAP	Do	OR	TRUCKS		
	*			*	*		ı	ī		1	N	N		
				NMO	G AND FLEE	TAVE	RAGE IN	ORMAT	TION					
NMOG RAF	CH4 RAF		FTP DG/NMHC RATIO ASOLINE)	HCHO/NMHO RATIO (GASOLINE)	PC+LDT		0 LVW) LDT (37		3751	( FLEET ST LVW-8500 IDPV (g/mi	MDV	NOX FLEET STE (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

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

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## **ATTACHMENT**

### EXHAUST AND EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS

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	G+NOx mi)		O mi)	NC (g/i		HC (mg		1	M mi)
		CERT	STD	CERT	STD	CERT	STD	CERT	STD	CERT	STD
FTP@50K	*	*	*	*	*	*	*	*	*	*	*
FTP@UL	E85-TIER3 (GASOLINE- TIER3 E10)	0.034 (0.031)	0.125 (0.125)	0.4 (0.5)	2.1 (2.1)	* (*)	* (*)	1 (*)	4 (4)	0.000	0.003
50°F @4K	*	*	*	*	*	*	*	*	*	A Salary St.	

	EUEL TVDE	NMOG+N	Ox (g/mi)	CO (g/mi)		
	FUEL TYPE	CERT	STD	CERT	STD	
HWFET @ 50K	. *	*	*		TO A STATE OF	
HWFET @ UL	E85-TIER3 (GASOLINE-TIER3 E10)	0.004 (0.004)	0.125 (0.125)			
20°F @ 50K	COLD CO E10 REGULAR GASOLINE (TIER3) (E70 (70% ETHANOL + 30% COLD CO REGULAR GASOLINE))			1.5 (2.0)	12.5 (12.5)	

## SFTP EXHAUST EMISSION STANDARDS AND CERTIFICATION LEVELS

1				US06		SC03	3	CON	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	*	*		*	*		A bed	
		CERT	*	*	1	*	*	0.020	0.2	*
@ UL	E85-TIER3	STD	*	*	10	*	*	0.097	4.2	*
		BIN						0.120		1.1
		CERT	*	*	1	*	*	0.027	0.4	*
@ UL	GASOLINE- TIER3 E10	STD	*	*	10	*	*	0.097	4.2	*
A		BIN			E HERMI			0.120		

### 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
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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OKVKTFO	EL ONLI 7 CA	MISTER	BLEED	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 CANISTER TEST (g/test) @ 4			
	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; ZEV: 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	5.3	A6	JGMXR016150A	1	P	*
CHEVROLET	C15 SILVERADO 2WD	LDT4	5.3	A6	JGMXR021250B	1	P	*
CHEVROLET	C1500 SUBURBAN 2WD	LDT4	5.3	A6	JGMXR021250B	1	P	*
CHEVROLET	C1500 TAHOE 2WD	LDT4	5.3	A6	JGMXR016150A	1	P	*
CHEVROLET	K15 SILVERADO 4WD	LDT4	5.3	A6	JGMXR016150A	1	P	*
CHEVROLET	K15 SILVERADO 4WD	LDT4	5.3	A6	JGMXR021250B	1	P	*
CHEVROLET	K1500 SUBURBAN 4WD	LDT4	5.3	A6	JGMXR021250B	1	P	*
CHEVROLET	K1500 TAHOE 4WD	LDT4	5.3	A6	JGMXR016150A	1	P	*
GMC	C15 SIERRA 2WD	LDT3	5.3	A6	JGMXR016150A	1	P	*
GMC	C15 SIERRA 2WD	LDT4	5.3	A6	JGMXR021250B	1	P	*
GMC	C1500 YUKON 2WD	LDT4	5.3	A6	JGMXR016150A	1	P	*
GMC	C1500 YUKON XL 2WD	LDT4	5.3	A6	JGMXR021250B	1	P	. *
GMC	K15 SIERRA 4WD	LDT4	5.3	A6	JGMXR016150A	1	P	*
GMC	K15 SIERRA 4WD	LDT4	5.3	A6	JGMXR021250B	1	P	*
GMC	K1500 YUKON 4WD	LDT4	5.3	A6	JGMXR016150A	1	P	*
GMC	K1500 YUKON XL	LDT4	5.3	A6	JGMXR021250B	1	P	*