


<b>California Environmental Protection Agency</b>  <b>Air Resources Board</b>	<b>GENERAL MOTORS LLC.</b>	<b>Executive Order: A-006-2049</b> <b>New Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles</b> Page 1 of 4
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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 GROUP INFORMATION											
MODEL YEAR		TEST GROUP		VEHICLE CLASS(ES)		FUEL CATEGORY		FUEL TYPE			
2017		HGMXT04.3187		LDT3, LDT4		FLEX-FUEL VEHICLE (FFV)		85% ETHANOL, 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		NMOG+NOX		NMOG+NOX	
SPECIAL FEATURES & EXHAUST EMISSION CONTROL SYSTEMS					OBD STATUS			ENGINE DISPLACEMENT (L)			
1	2TWC, TWC, 2HO2S(2), DFI				FULL		*		4.3		
*	*				PARTIAL		ALL MODELS				
*	*				PARTIAL WITH FINES		*				
EVAPORATIVE & REFUELING (EVAP/ORVR) FAMILY INFORMATION											
EVAP / ORVR FAMILY		EVAPORATIVE STD CATEGORY			EVAP EMISSION STD VEHICLE CLASS			SPECIAL FEATURES			
HGMXR021250B		LEV 3 OPTION2 WITH FEL			LDT3			HCT			
HGMXR016150A		LEV 3 OPTION2			LDT3			HCT			
EMISSION CREDIT INFORMATION											
ALLOWANCE FOR TEST GROUP				NMOG CREDIT FOR NON-PZEV ZERO-EVAP		NMOG CREDIT FOR DOR		OPTIONAL EXH. STD FOR WORK TRUCKS			
BASELINE PZEV		AT PZEV		TZEV		N		N		N	
NMOG AND FLEET AVERAGE INFORMATION											
NMOG RAF	CH4 RAF	FTP NMOG/NMHC RATIO (GASOLINE)	HCHO/NMHC RATIO (GASOLINE)	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 (10001-14000 GVWR) (g/mi)			
*	*	1.10	*	0.086		0.101		*			

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.

**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:**



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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 14<sup>th</sup> day of June 2016.

  
Annette Hebert, 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)

	FUEL TYPE	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									
		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	85% ETHANOL + 15% EPA TIER 3 REG (EPA TIER 3 REG)	0.041 (0.050)	0.070 (0.070)	0.7 (0.9)	1.7 (1.7)	*	*	1 (*)	4 (4)	*	0.01 (0.01)
50°F @4K	85% ETHANOL + 15% EPA TIER 3 REG (EPA TIER 3 REG)	0.098 (0.066)	0.250 (0.140)	0.7 (0.8)	1.7 (1.7)	*	*	1 (*)	16 (16)		

	FUEL TYPE	NMOG+NOx (g/mi)		CO (g/mi)	
		CERT	STD	CERT	STD
HWFET @ 50K	*	*	*		
HWFET @ UL	85% ETHANOL + 15% EPA TIER 3 REG (EPA TIER 3 REG)	0.015 (0.018)	0.070 (0.070)		
20°F @ 50K	E70 (70% ETHANOL + 30% COLD CO REGULAR GASOLINE) (EPA TIER 3 COLD REG)			2.0 (1.4)	12.5 (12.5)

#### 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	EPA TIER 3 REG	CERT	*	*	*	*	*	0.043	0.9	*
		STD	*	*	*	*	*	0.103	4.2	*
		BIN						0.080		

#### 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
HGMXR016150A	EPA TIER 3 REG	0.383	0.500	*	0.376	0.500	*	0.00	0.05
HGMXR021250B	EPA TIER 3 REG	0.470	0.500	0.525	0.354	0.500	0.525	0.00	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
HGMXR021250B	E10-EPA	0.03	0.20	EPA TIER 3 REG	*	*	*	*	0.010	0.020
HGMXR016150A	E10-EPA	0.01	0.20	EPA TIER 3 REG	*	*	*	*	0.007	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: 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; 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; 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

**2017 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	HGMXR016150A	1	P	*
CHEVROLET	C15 SILVERADO 2WD	LDT3	4.3	A6	HGMXR021250B	1	P	*
CHEVROLET	K15 SILVERADO 4WD	LDT4	4.3	A6	HGMXR016150A	1	P	*
CHEVROLET	K15 SILVERADO 4WD	LDT4	4.3	A6	HGMXR021250B	1	P	*
GMC	C15 SIERRA 2WD	LDT3	4.3	A6	HGMXR016150A	1	P	*
GMC	C15 SIERRA 2WD	LDT3	4.3	A6	HGMXR021250B	1	P	*
GMC	K15 SIERRA 4WD	LDT4	4.3	A6	HGMXR016150A	1	P	*
GMC	K15 SIERRA 4WD	LDT4	4.3	A6	HGMXR021250B	1	P	*