

California Environmental Protection Agency <b>Air Resources Board</b>	GENERAL MOTORS LLC	EXECUTIVE ORDER A-006-2039 New Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles Page 1 of 4
--	--------------------	--

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	HGMXV03.6166	PC		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
120,000	150,000	USEPA TIER3 BIN110 COUNTED AS ARB LEV2 ULEV		LEV2 SFTP STANDARD	*		*
SPECIAL FEATURES & EXHAUST EMISSION CONTROL SYSTEMS				OBD STATUS		ENGINE DISPLACEMENT (L)	
1	2TWC(2), 2HO2S(2), DFI			FULL	ALL MODELS		3.6
2	2TWC, TWC, 2HO2S(2), DFI			PARTIAL	*		
*	*			PARTIAL WITH FINES	*		
EVAPORATIVE & REFUELING (EVAP/ORVR) FAMILY INFORMATION							
EVAP / ORVR FAMILY		EVAPORATIVE STD CATEGORY		EVAP EMISSION STD VEHICLE CLASS		SPECIAL FEATURES	
HGMXR0133810		LEV2		PC		*	
*		*		*		*	
*		*		*		*	
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	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)	
*	*	1.04	*	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 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).

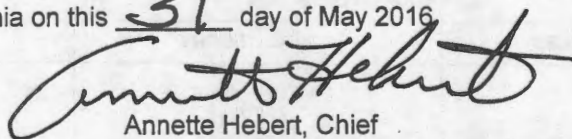
**BE IT FURTHER RESOLVED:**

The listed vehicle models are federally certified, and are certified under the provisions of 13 CCR Section 1961.2(a)(12) and the incorporated test procedures.

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 31 day of May 2016.



Annette Hebert, Chief  
Emissions Compliance, Automotive Regulations and Science Division

**ATTACHMENT****EXHAUST AND EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS**

(For bi-, dual- or flexible-fueled vehicles, the STD and CERT in parentheses are those applicable to testing on gasoline test fuel.)

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

	FUEL TYPE	<small>CH<sub>4</sub>=methane; NMOG=non-CH<sub>4</sub> organic gas; HC=hydrocarbon; NMHC=non-CH<sub>4</sub> HC; CO=carbon monoxide; NO<sub>x</sub>=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; ml=mile; K=1000 miles; F=degrees Fahrenheit; FTP=federal test procedure; SFTP=supplemental FTP</small>									
		NMOG+NO <sub>x</sub> (g/mi)		CO (g/mi)		HCHO (mg/mi)		PM (g/mi)		HWY NMOG+NO <sub>x</sub> (g/mi)	
		CERT	STD	CERT	STD	CERT	STD	CERT	STD	CERT	STD
FTP @ 50K	*	*	*	*	*	*	*	*	*	*	*
FTP @ UL	E85-EPA (GASOLINE - TIER 2 UNLEADED)	0.040 (0.029)	0.110 (0.110)	0.4 (0.4)	2.1 (2.1)	0 (0)	4 (4)	*	0.010 (0.010)	0.021 (0.022)	0.110 (0.110)
20°F @ 50K	GASOLINE-COLD CO LOW OCTANE	*	*	2.8	10.0	*	*	*	*	*	*
50°F @ 4K	*	*	*	*	*	*	*	*	*	*	*

**SFTP EXHAUST EMISSION STANDARDS AND CERTIFICATION LEVELS**

	FUEL TYPE	US06						SC03				COMPOSITE					
		NMHC+NO <sub>x</sub> (g/mi)		CO (g/mi)		PM (mg/mi)		NMHC+NO <sub>x</sub> (g/mi)		CO (g/mi)		NMOG+NO <sub>x</sub> (g/mi)		CO (g/mi)		BIN	
		CERT	STD	CERT	STD	CERT	STD	CERT	STD	CERT	STD	CERT	STD	CERT	STD		
@ 4K	GASOLINE-TIER2 UNLEADED	0.03	0.14	0.3	8.0	*	*	0.00	0.20	0.2	2.7	*	*	*	*	*	*
@ UL	GASOLINE-TIER2 UNLEADED	*	*	*	*	*	*	*	*	*	*	0.031	0.103	0.110	*	*	*

**WHOLE VEHICLE EVAPORATIVE/ORVR EMISSION STANDARDS AND CERTIFICATION LEVELS**

EVAPORATIVE FAMILY	FUEL TYPE	WHOLE VEHICLE EVAPORATIVE TESTING						RUNNING LOSS (g/mi) @ UL		ON-BOARD REFUELING VAPOR RECOVERY (g/gallon) @ UL	
		3-DAYS DIURNAL + HOT SOAK (g/test) @ UL			2-DAYS DIURNAL + HOT SOAK (g/test) @ UL						
		CERT	STD	FEL	CERT	STD	FEL	CERT	STD	CERT	STD
HGMXR0133810	E10-EPA	0.25	0.50	*	0.30	0.65	*	0.00	0.05	*	*
HGMXR0133810	GASOLINE-TIER2 UNLEADED	0.20	*	*	0.29	*	*	0.00	*	0.01	0.20
*	*	*	*	*	*	*	*	*	*	*	*
*	*	*	*	*	*	*	*	*	*	*	*

**FUEL ONLY & CANISTER BLEED EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS**

EVAPORATIVE FAMILY	FUEL TYPE	FUEL ONLY EVAPORATIVE TESTING				CANISTER BLEED (g/test)	
		3-DAYS DIURNAL + HOT SOAK (g/test) @ UL		2-DAYS DIURNAL + HOT SOAK (g/test) @ UL			
		CERT	STD	CERT	STD	CERT	STD
*	*	*	*	*	*	*	*
*	*	*	*	*	*	*	*
*	*	*	*	*	*	*	*

\*=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; MDV6=MDV 10001-14000#GVWR; MDPV=medium-duty passenger 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-CARB: 85% ethanol+15% CA Phase2 gasoline; E85-EPA: 85% ethanol+15% Tier2 unleaded gasoline; E10-CARB: 10% ethanol+90% CA Phase2 gasoline; E10-EPA: 10% ethanol+90% Tier2 unleaded gasoline; A=automatic transmission; M=manual transmission; SA=semi-automatic transmission; L=lock-up automatic transmission; CV=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	CAPRICE PPV	PC	3.6	A6	HGMXR0133810	1	F	*
CHEVROLET	IMPALA	PC	3.6	SA6	HGMXR0133810	2	F	*