| CALIFORNIA AIR RESOURCES BOARD | GENERAL MOTORS LLC. | Executive Order: A-006-2242<br>New Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles<br>Page 1 of 4 |
|---|---|---|

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-19-095;

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 GROUP INFORMATION**

| MODEL YEAR | TEST GROUP | VEHICLE CLASS(ES) | FUEL CATEGORY | FUEL TYPE |
|---|---|---|---|---|
| 2021 | MGMXT03.6162 | LDT2 | DEDICATED SINGLE FUEL VEHICLE | GASOLINE |

| USEFUL LIFE (miles) | | VEHICLE EMISSION CATEGORY | | INTERIM / INTERMEDIATE IN-USE STD | |
|---|---|---|---|---|---|
| EXH/ORVR | EVAP | FTP | SFTP | FTP | SFTP |
| 150000 | 150000 | LEV3 ULEV50 | LEV 3 COMPOSITE | * | PM |

| SPECIAL FEATURES & EXHAUST EMISSION CONTROL SYSTEMS | | OBD STATUS | | ENGINE DISPLACEMENT (L) |
|---|---|---|---|---|
| 1 | DFI, 2TWC, 2HO2S(2), TWC | FULL | * | 3.6 |
| * | * | 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 |
|---|---|---|---|
| MGMXR013835A | LEV 3 OPTION2 WITH FEL | LDT2 | HCT |

**EMISSION CREDIT INFORMATION**

| NMOG+NOX FLEET AVE. CREDIT FOR EXTENDED WARRANTY | NMOG CREDIT FOR NON-PZEV ZERO-EVAP | NMOG CREDIT FOR DOR | OPTIONAL EXH. STD FOR WORK TRUCKS |
|---|---|---|---|
| N | 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) | NMOG+NOX FLEET STD MDV (10,001-14,000 GVWR) (g/mi) |
|---|---|---|---|---|---|---|
| * | * | 1.10 | * | 0.058 | 0.065 | * |

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.)

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).

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 7th day of February 2020.

Kim Pryor

for Allen Lyons, Chief
Emissions Certification and Compliance Division

# 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 | 0.018 | 0.050 | 0.2 | 1.7 | * | * | * | 4 | 0.001 | 0.003 |
| 50°F @4K | GASOLINE-TIER3 E10 | 0.069 | 0.100 | 0.6 | 1.7 | * | * | * | 16 | | |

| | FUEL TYPE | NMOG+NOx (g/mi) | | CO (g/mi) | |
|---|---|---|---|---|---|
| | | CERT | STD | CERT | STD |
| HWFET @ 50K | * | * | * | | |
| HWFET @ UL | GASOLINE-TIER3 E10 | 0.000 | 0.050 | | |
| 20°F @ 50K | COLD CO E10 REGULAR GASOLINE (TIER3) | | | 1.3 | 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 | GASOLINE-TIER3 E10 | CERT | * | * | 0 | * | * | 0.021 | 0.3 | * |
| | | STD | * | * | 6 | * | * | 0.077 | 4.2 | * |
| | | BIN | | | | | | 0.070 | | |

### 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 |
| MGMXR013835A | GASOLINE-TIER3 E10 | 0.257 | 0.400 | 0.400 | 0.340 | 0.400 | 0.400 | 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 |
| MGMXR013835A | GASOLINE-TIER3 E10 | 0.02 | 0.20 | GASOLINE-TIER3 E10 | * | * | * | * | 0.006 | 0.020 |

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

| EVAPORATIVE FAMILY | LEAK FAMILY | CERT | STD |
|---|---|---|---|
| MGMXR013835A | MGMXR013835A-LK1 | * | 0.02 |

*: 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; 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; HP/LP EGR: High/Low Pressure EGR; 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; a hyphen (-) between after treatment ECS indicates multiple functionalities of the after treatment device (ex. DPF-SCRC: SCR coated DPF); 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; AER: all-electric range; EAER: equivalent AER; PHEV: plug-in hybrid electric vehicle; NMOG + NOx Fleet Ave. Credit for Extended Warranty: N = no credits, Y = credits, S = credits for some/select models

## 2021 MODEL YEAR: VEHICLE MODELS INFORMATION

| MAKE | MODEL | VEH CLASS | ENGINE (L) | TRANS TYPE | EVAPORATIVE FAMILY | EXH ECS | OBD |
|---|---|---|---|---|---|---|---|
| CHEVROLET | COLORADO 2WD | LDT2 | 3.6 | A8 | MGMXR013835A | 1 | P |
| CHEVROLET | COLORADO 4WD | LDT2 | 3.6 | A8 | MGMXR013835A | 1 | P |
| CHEVROLET | COLORADO ZR2 4WD | LDT2 | 3.6 | A8 | MGMXR013835A | 1 | P |
| GMC | CANYON 2WD | LDT2 | 3.6 | A8 | MGMXR013835A | 1 | P |
| GMC | CANYON 4WD | LDT2 | 3.6 | A8 | MGMXR013835A | 1 | P |