| California Environmental Protection Agency AIR RESOURCES BOARD | TOYOTA MOTOR CORPORATION | EXECUTIVE ORDER A-014-0654 New Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles |
|---|---|---|

Pursuant to the authority vested in the Air Resources Board by Health and Safety Code (HSC), Div. 26, Part 5, Chap. 2; and pursuant to the authority vested in the undersigned by HSC Sections 39515-39516 and Executive Order G-02-003;

**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.

| MODEL YEAR | TEST GROUP | VEHICLE TYPE (PC=passenger car; LDT=light-duty truck; MDV=medium-duty vehicle; LVW=loaded vehicle weight; ALVW=adjusted LVW) | EXHAUST EMISSION STANDARD CATEGORY (LEV=low emission vehicle; TLEV= transitional LEV; ULEV=ultra LEV; SULEV=super ULEV) | EXHAUST & ORVR / EVAPORATIVE USEFUL LIFE (UL) (miles) | FUEL TYPE (CNG/LNG=compressed/ liquefied natural gas; LPG=liquefied petroleum gas) |
|---|---|---|---|---|---|
| 2010 | ATYXT03.5CC4 | LDT: <6000# GVW, 3751-5750# LVW | LEV II SULEV | 120K / 150K | Gasoline plus Battery-Assist |

| No. | EVAPORATIVE FAMILY (EVAF) | No. | SPECIAL FEATURES & EMISSION CONTROL SYSTEMS (ECS) | * = not applicable |
|---|---|---|---|---|
| 1 | ATYXR0160E52 | 1 | 2WU-TWC, TWC, 2AFS, 2HO2S, EGR, SFI, OBD (F) | |
| 2 | * | 2 | * | |
| 3 | * | 3 | * | |

OC/TWC=oxidizing/3-way cat. ADSTWC=adsorbing TWC WU= warm-up cat. O2S/HO2S=oxygen sensor/heated O2S AFS/HAFS=air-fuel ratio sensor/heated AFS EGR=exhaust gas recirculation AIR/PAIR=secondary air injection/pulsed AIR MFI/SFI= multiport fuel injection/sequential MFI TBI= throttle body injection TC/SC=turbo /super charger CAC=charge air cooler OBD (F) / (P)=full /partial on-board diagnostic prefix 2=parallel (2) suffix=series

| EVAF No. | ECS No. | ENGINE SIZE (L) | VEHICLE MAKES & MODELS | VEHICLES SUBJECT TO SFTP STANDARDS ARE UNDERLINED | ABBREVIATIONS: |
|---|---|---|---|---|---|
| 1 | 1 | 3.5 | Lexus RX 450h, Lexus RX 450h AWD | | |
| * | * | * | * | | |

The exhaust and evaporative emission standards (STD) and certification emission levels (CERT) for the listed vehicles are as follows (compliance with the 50 °F testing requirement (for TLEV, LEV, ULEV, SULEV) may have been met based on the manufacturer's submitted compliance plan in lieu of testing). Any debit in the manufacturer's "NMOG Fleet Average" (PC and LDT) or "Vehicle Equivalent Credit" (MDV) compliance plan shall be equalized as required.

| NMOG FLEET AVERAGE [g/mi] | | NMOG @ RAF = * CH4 RAF = * | | NMOG or NMHC STD [g/mi] | CH4=methane NMOG=non-CH4 organic gas NMHC=non-CH4 hydrocarbon CO=carbon monoxide NOx=oxides of nitrogen HCHO=formaldehyde PM=particulate matter RAF=reactivity adjustment factor 2/3 D [g/test]=2/3 day diurnal+hot-soak RL [g/mi]=running loss ORVR [g/gallon dispensed]=on-board refueling vapor recovery g=gram mg=milligram mi=mile K=1000 miles F=degrees Fahrenheit SFTP=supplemental federal test procedure | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CERT | STD | NMOG CERT [g/mi] | NMHC CERT [g/mi] | | CO [g/mi] | | NOx [g/mi] | | HCHO [mg/mi] | | PM [g/mi] | | Hwy NOx [g/mi] | |
| 0.045 | 0.043 | | | | CERT | STD | CERT | STD | CERT | STD | CERT | STD | CERT | STD |
| | @ 50K | * | * | * | * | * | * | * | * | * | * | * | * | * |
| | @ UL | 0.008 | * | 0.010 | 0.12 | 1.0 | 0.002 | 0.02 | * | 4 | * | 0.01 | 0.002 | 0.03 |
| | @ 50°F & 4K | * | * | * | * | * | * | * | * | * | * | * | * | * |

| CO [g/mi] @ 20°F & 50K | | SFTP 1 = @ 4K (SULEV, ULEV, LEV) or 50K (Tier 1, TLEV) SFTP 2 = @ UL (Tier 1, TLEV) | | NMHC+NOx [g/mi] (composite) | | CO [g/mi] (composite) | | NMHC+NOx [g/mi] [US06] | | CO [g/mi] [US06] | | NMHC+NOx [g/mi] [SC03] | | CO [g/mi] [SC03] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | CERT | STD | CERT | STD | CERT | STD | CERT | STD | CERT | STD | CERT | STD |
| CERT | 2.8 | | SFTP 1 | * | * | * | * | 0.007 | 0.25 | 0.07 | 10.5 | 0.004 | 0.27 | 0.01 | 3.5 |
| STD | 12.5 | | SFTP 2 | * | * | * | * | * | * | * | * | * | * | * | * |

| @ UL | EVAPORATIVE FAMILY 1 | | | | EVAPORATIVE FAMILY 2 | | | | EVAPORATIVE FAMILY 3 | | | | EVAPORATIVE FAMILY 4 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 3-D | 2-D | RL | ORVR | 3-D | 2-D | RL | ORVR | 3-D | 2-D | RL | ORVR | 3-D | 2-D | RL | ORVR |
| CERT | 0.22 | 0.12 | 0.01 | 0.03 | * | * | * | * | * | * | * | * | * | * | * | * |
| STD | 0.50 | 0.50 | 0.05 | 0.20 | * | * | * | * | * | * | * | * | * | * | * | * |

**BE IT FURTHER RESOLVED:** That 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 Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model PC, LDT and MDV).

**BE IT FURTHER RESOLVED:** That at the request of the manufacturer, the listed vehicle models are certified to the optional zero-fuel evaporative emission standards in 13 CCR Section 1976 (b)(1)(E) which allows an exhaust NMOG credit of 0.002 grams per mile to be applied against the measured NMOG emissions in certification and in-use testing pursuant to CCR Section 1961(a)(11).

**BE IT FURTHER RESOLVED:** The test group listed in this Executive Order is certified based on the manufacturer's reported emissions and attestation that it meets all applicable certification requirements currently in effect and enforceable for the 2010 model year, as described above. A January 16, 2007 Order currently enjoins the Executive Officer from enforcing any provision of California Health and Safety Code section 43018.5(b)(1) concerning certification to the requirements for 2009 and subsequent model passenger cars, light-duty trucks, and medium-duty vehicles adopted pursuant to AB 1493. (Document 606, Case No. 1:04-CV-06663-AWI-GSA, U.S. Dist. Ct. E. Dist. of CA (Fresno Div.).) If said injunction ceases to be in effect, the manufacturer will have 45 days from ARB notification to demonstrate compliance with AB 1493 requirements, including the determination of the greenhouse gas values for the test group listed in this Executive Order. Nothing in this Executive Order is intended to constitute enforcement of any requirement under AB 1493 for 2010 model year vehicles.

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 30th day of March 2009.

Annette Hebert, Chief
Mobile Source Operations Division