

## **VOLVO CAR CORPORATION**

EXECUTIVE ORDER A-018-0174 New Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles Page 1 of 2

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.

| MOD<br>YEA |              | TEST GROUP       |                               |    | VEHICLE TYPE<br>(PC=passenger car; LDT=iight-du<br>MDV=medium-duty vehicle; LVW<br>vehicle weight; GVW=gross \ | EXHAUST EMISSION STANDARD CATEGORY (LEV=low emission vehicle; TLEV= transitional LEV; LLEV=ultra LEV; SULEV=super ULEV) |         |                    | EXHAUST & ORVR / EVAPORATIVE USEFUL LIFE (UL) (miles)  FUEL TYPE (CNG/LNG=compress liquefied natural ga LPG=liquefied petrole gas) |  |  |  |  |  |
|------------|--------------|------------------|-------------------------------|----|--|---|---------|--------------------|--|--|--|--|--|--|
| 201        | 1            | BVVXJ03.0U2T     |                               |    | PC and LDT ≤ 6,000 pounds<br>(PC; LDT 3,751-5,750 pounds   | LEV II ULEV   |         |                    | 120K / 150K  | Gasoline   |  |  |  |  |
| No.        |              | APORA<br>VILY (E |                               | No | SPECIAL FEAT<br>EMISSION CONTROL   |   | S (ECS) | * = not applicable | Bv   | OC/TWC=oxidizIng/3-way cat. ADSTWC=adsorbing TW WU= warm-up cat. O2S/HO2S=oxygen sensor/heated C   |  |  |  |  |
| 1          | BVVXR0130EB6 |                  |                               | 1  | TWC, SFI, HO2S, HAFS, TC, CAC, OBD(P)  |   |         |                    |  | AFS/HAFS=air-fuel ratio sensor/heated AFS EGR=exhaust gas recirculation AIR/PAIR=secondary air injection/putsed AIR MFI/SFI= multiport fuel injection/sequential MFI TBI= throttle body injection TC/SC=turbo /super charger |  |  |  |  |
| 2          | BV\          | BVVXR0130ET3     |                               |    | •  |   |         |                    |  |  |  |  |  |  |
| 3          |              | *                |                               | 3  | •  |   |         |                    |  | CAC=charge air cooler OBD (F) / (P)=full /partial on-board<br>diagnostic prefix 2=parallel (2) suffix=series   |  |  |  |  |
| 4          |              | *                |                               |    |  |   |         |                    |  |  |  |  |  |  |
| EVA<br>No. |              | ECS<br>No.       | SIZE (L) MAKES & MODELS STAND |    | DARDS AR   | ECT TO SFTP<br>E <u>underlined</u>  |         | BBREVIATIONS:      |  |  |  |  |  |  |
| 1          |              | 1                | 3.0                           |    | VC   | T6 AWD; XC60 T6 AWD   |         |                    |  |  |  |  |  |  |
| 1          |              | 1                | 3.0                           |    |  |   | V       | D                  |  |  |  |  |  |  |
| 2          |              | 1 3.0            |                               |    | VOLVO: (PC) S60 T6 AWD   |   |         |                    |  |  |  |  |  |  |
| *          | _            | * *              |                               |    |  | *   |         |                    |  |  |  |  |  |  |

The exhaust and evaporative emission standards (STD), as requested by the manufacturer, 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. (For bi-, dual- or flexible-fueled vehicles, the STD and CERT in parentheses are those applicable to testing on gasoline test fuel.)

| NMOG FLEET<br>AVERAGE [g/mi] |                      |            | NMOG @ RAF= *<br>CH4 RAF = * |                           | NMOG or                  | nitrogen  | HCHO≕fo                                | rmaidahyde | PM=part    | iculate ma                                | atter R      | AF≂reactivi<br>Jispensed]= | oon CO=ca<br>ity adjustme<br>on-board re | nt factor :<br>fueling vap | 2/3 D [g/test<br>for recovery | j=2/3 day<br>rg=gram |
|------------------------------|----------------------|------------|------------------------------|---------------------------|--------------------------|-----------|--|------------|------------|---|--------------|----------------------------|--|----------------------------|-------------------------------|----------------------|
| STE                          |                      | STD        | NMOG NMHC                    |                           | NMHC                     | mg=millig | ram mi=                                | mile K=1   | 000 miles  | F=deg                                     | rees Fal     | hrenheit                   | SFTP=suppl                               | emental fe                 | deral test pr                 | rocedure             |
| PC                           |                      | LDT2       |                              | CERT CERT<br>g/mi] [g/mi] | STD<br>[g/ml]            | CO [g/mi] |  | NO         | NOx [g/mi] |   | HCHO [mg/mi] |                            | PM [g/mi]                                |                            | Hwy NOx [g/ml]                |                      |
| 0.03                         | 5                    | 0.043      | [g/mt]                       |                           |                          | CERT      | STD                                    | CERT       | STE        | CE  | RT           | STD                        | CERT                                     | STD                        | CERT                          | STD                  |
| (T. 14)                      |                      | @ 50K      | 0.015                        | *                         | 0.040                    | 0.6       | 1.7                                    | 0.02       | 0.05       | 5   '                                     | •            | 8                          | *  | *                          | 0.01                          | 0.07                 |
|                              |                      | @ UL       | 0.023                        | *                         | 0.055                    | 0.7       | 2.1                                    | 0.02       | 0.07       | , ,                                       | *            | 11                         | *  | 0.01                       | 0.01                          | 0.09                 |
|                              | (D)                  | 50°F & 4K  | 0.033                        | *                         | 0.080                    | 0.7       | 1.7                                    | 0.01       | 0.05       | 5 7                                       | •            | 16                         | •  | •                          | *                             | *                    |
|                              | CO [g/ml] SFTP 1 = @ |            |                              |                           |                          |           | Ox [g/mi] CO [g/mi] osite) (composite) |            |            | NMHC+NOx CO [g/mi<br>[g/mi] [US06] [US06] |              |                            | MMHC+NOx<br>[g/mi] [SC03]                |                            | CO [g/mi]<br>[SC03]           |                      |
| @ 20<br>50                   |                      | SFTP 2 = 6 | DI JUL (Tier                 | 1, TLEV)                  | CERT                     | STD       | CERT                                   | STD        | CERT       | STD                                       | CEF          | T STE                      | CERT                                     | STD                        | CERT                          | STD                  |
| CERT                         | 1.2                  |            | SF                           | TP @ 4K                   | *                        | +         | *                                      | •          | 0.09       | 0.14                                      | 1.7          | 8.0                        | 0.01                                     | 0.20                       | 0.8                           | 2.7                  |
| STD                          | 10.0                 |            | SF                           | TP @ UL                   | *                        | *         | +                                      | *          | *          | *   | *            | *                          | *  | *                          | *                             | *                    |
| @ UL                         | E                    | VAPORAT    | IVE FAM                      | ILY 1                     | EVAPORATIVE FAMILY 2 EVA |           |  |            |            | VAPORATIVE FAMILY 3                       |              |                            | EVAPORATIVE FAMILY 4                     |                            |                               |                      |
|                              | 3-D                  | 2-D        | RL                           | ORVR                      | 3-D                      | 2-D       | RL                                     | ORVR       | 3-D        | 2-D                                       | RL           | ORVE                       | ₹ 3-D                                    | 2-D                        | RL                            | ORVR                 |
| CERT                         | 0.40                 | 0.39       | 0.01                         | 0.03                      | 0.34                     | 0.38      | 0.01                                   | 0.02       | *          | *   |              | *                          | *  | *                          | *                             | *                    |
| STD                          | 0.50                 | 0.65       | 0.05                         | 0.20                      | 0.50                     | 0.65      | 0.05                                   | 0.20       | *          | *   | *            | *                          |  | *                          |                               | <u> </u>             |

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: The test group listed in this Executive Order is certified conditionally on the manufacturer providing test data to determine the greenhouse gas (GHG) emissions for the listed test group, expressed in grams per mile of carbon dioxide-equivalent (g/mi CO2-e), as required in section E.2.5.2 of the California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, as amended August 4, 2005 (the Test Procedures). Manufacturer shall provide the required data within 45 days after the date of the Executive Order unless (a) an extension is granted by the Executive Officer, or (b) the manufacturer demonstrates to the satisfaction of the Executive Officer that it is exempt from determining GHG emissions for the listed test group under section E.2.5.3 (Intermediate Volume Manufacturers) or E.2.5.4 (Small Volume Manufacturers) of the Test Procedures. Failure to comply with the certification requirement to determine the GHG emissions for the listed test group may be cause for the Executive Officer to revoke the Executive Order. Vehicles in the revoked Executive Order shall be deemed uncertified and subject to penalties authorized under California law. Notwithstanding the requirement therein, the manufacturer is not required to determine GHG emissions for any medium-duty vehicles in the listed test group that are not medium-duty passenger vehicles.

## **VOLVO CAR CORPORATION**

EXECUTIVE ORDER A-018-0174 New Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles Page 2 of 2

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

\_ day of June 2010.

Annette Hebert, Chief

Mobile Source Operations Division