(xxvi) \( \text{NMHC}_{\text{conc}} = 3.553 \text{ ppm} - 0.89 \text{ ppm} = 2.67 \text{ ppm}. \)

(xxxvii) \( \text{NMHC}_{\text{mass}} = (6048.1/16.33)(2.67/1000000) = 0.263 \text{ grams per test phase}. \)

(xxviii) \( \text{NMHC}_{\text{equiv}} = 0.263 + (13.8756/32.042)(2.44) + (13.8756/30.0262/0.1405) = 1.39 \text{ grams per test phase}. \)

(2) For the stabilized portion of the cold start test assume that similar calculations resulted in the following:

(i) \( \text{THCE} = 0.143 \text{ grams per test phase}. \)

(ii) \( \text{NO}_{\text{x}}_{\text{mass}} = 0.979 \text{ grams per test phase}. \)

(iii) \( \text{CO}_{\text{max}} = 3.365 \text{ grams per test phase}. \)

(iv) \( \text{CO}_{2_{\text{mass}}} = 1467 \text{ grams per test phase}. \)

(v) \( D_{h} = 3.854 \text{ miles}. \)

(vi) \( \text{NMHC}_{\text{equiv}} = 0.113 \text{ grams per test phase}. \)

(3) For the “transient” portion of the hot start test assume that similar calculations resulted in the following:

(i) \( \text{THCE} = 0.488 \text{ grams as carbon equivalent per test phase}. \)

(ii) \( \text{NO}_{\text{x}}_{\text{mass}} = 1.505 \text{ grams per test phase}. \)

(iii) \( \text{CO}_{\text{max}} = 3.696 \text{ grams per test phase}. \)

(iv) \( \text{CO}_{2_{\text{mass}}} = 1179 \text{ grams per test phase}. \)

(v) \( D_{h} = 3.577 \text{ miles}. \)

(vi) \( \text{NMHC}_{\text{equiv}} = 0.426 \text{ grams per test phase}. \)

(4) Weighted emission results:

(i) \( \text{THCE}_{\text{equiv}} = (0.43) \times (1.473 + 0.143)/(3.583 + 3.854) + (0.57) \times (0.488 + 0.143)/(3.577 + 3.854) = 0.142 \text{ grams as carbon equivalent per mile}. \)

(ii) \( \text{NO}_{\text{x}}_{\text{equiv}} = (0.43) \times (1.505 + 0.979)/(3.583 + 3.854) + (0.57) \times (1.505 + 0.979)/(3.577 + 3.854) = 0.344 \text{ grams per mile}. \)

(iii) \( \text{CO}_{\text{equiv}} = (0.43) \times (18.983 + 0.365)/(3.583 + 3.854) + (0.57) \times (3.696 + 0.365)/(3.577 + 3.854) = 1.43 \text{ grams per mile}. \)

(iv) \( \text{CO}_{2_{\text{equiv}}} = (0.43) \times (1353 + 1467)/ (3.583 + 3.854) + (0.57) \times (1179 + 1467)/(3.577 + 3.854) = 366 \text{ grams per mile}. \)

(v) \( \text{NMHC}_{\text{equiv}} = (0.43) \times (1.386 + 0.113)/(3.583 + 3.854) + (0.57) \times (0.426 + 0.113)/(3.577 + 3.854) = 0.128 \text{ grams per mile}. \)

EPA is very low. Pb will be assumed = 0, and background particulate samples will not be taken with each exhaust sample. It is recommended that background particulate checks be made periodically to verify the low level.

(ii) Any manufacturer may make the same assumption without prior EPA approval.

(iii) If Pb is assumed = 0, then no background correction is made. The equation for particulate mass emissions then reduces to:

\[ M_{\text{pj}} = \frac{V_{\text{mix}}}{V_{\text{pj}}} \times P_{\text{ej}} \]

where:

(i) \( V_{\text{pj}} \) = corrected (according to procedure specified in §85.120) dilute exhaust sample volume, cubic feet.

(ii) \( P_{\text{ej}} \) = pressure elevation above ambient measured at the inlet to the dilute exhaust sample gas meter or flow instrument, in Hg. (For most gas meters with unrestricted discharge \( P_{\text{ej}} \) is negligible and can be assumed = 0.)

(iv) \( T_{\text{ej}} \) = average temperature of the background sample at the inlet to the gas meter or flow instrument, °R.

(v) DF = dilution factor. (DF is not required if Pb is assumed = 0.)


§ 86.146–96 Fuel dispensing spitback procedure.

(a) The vehicle is fueled at a rate of 10 gal/min to test for fuel spitback emissions. All liquid fuel spitback emissions that occur during the test are collected in a bag made of a material impermeable to hydrocarbons or methanol. The bag shall be designed and used so that liquid fuel does not spit back onto the vehicle body, adjacent floor, etc., and it must not impede the free flow of displaced gasoline vapor from the orifice of the filler pipe. The bag must be designed to permit passage of the dispensing nozzle through the bag. If the bag has been used for previous testing, sufficient time shall be allowed for the bag to dry out. The dispensing nozzle shall be a commercial model, not equipped with vapor recovery hardware.

(b) Ambient temperature levels encountered by the test vehicle shall be not less than 68 °F nor more than 86 °F. The temperatures monitored during testing must be representative of those experienced by the test vehicle. The vehicle shall be approximately level during all phases of the test sequence to prevent abnormal fuel distribution.

(c) Measure and record the mass of the bag to be used for collecting spitback emissions to the nearest 0.01 gram.

(d) Drain the fuel tank(s) and fill with test fuel, as specified in §86.113, to 10 percent of the reported nominal fuel tank capacity. The fuel cap(s) shall be installed immediately after refueling.

(e) The vehicle shall be soaked at 80±6 °F (27±3 °C) for a minimum of six hours, then placed, either by being driven or pushed, on a dynamometer and operated through one Urban Dynamometer Driving Schedule (specified in §86.115 and appendix I of this part). The test