

$$(3) \quad M_{RL} = \left(M_{HC} + \frac{14.2284}{32.042} \times 10^{-6} M_{CH_3OH} \right)_{RL}$$

where M_{RL} =mass emissions from the running loss test (see § 86.1234), g.

(d)(1) For the full three-diurnal test sequence, there are two final results to report:

(i) The sum of the adjusted total mass emissions for the diurnal and hot soak tests ($M_{DI}+M_{HS}$); and

(ii) The adjusted total mass emissions for the running loss test, on a grams per mile basis= M_{RL}/D_{RL} , where D_{RL} =miles driven for the running loss test (see § 86.1234-96(c)(6)).

(2) For the supplemental two-diurnal test sequence, there is one final result to report: the sum of the adjusted total mass emissions for the diurnal and hot soak tests ($M_{DI}+M_{HS}$), described in §§ 86.1233-96(p) and 86.1238-96(k), respectively.

[58 FR 16062, Mar. 24, 1993, as amended at 59 FR 48525, Sept. 21, 1994; 60 FR 34364, June 30, 1995; 60 FR 43906, Aug. 23, 1995]

§ 86.1246-96 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 dur-

ing 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 § 86.1213, 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 dynamometer driving schedule (specified in § 86.1215 and appendix I of this part). The test vehicle may not be used to set the dynamometer horsepower.

(f) Following the preconditioning drive, the vehicle shall be moved or driven at minimum throttle to the refueling area.

(g) All areas in proximity to the vehicle fuel fill orifice and the dispenser nozzle itself shall be completely dry of liquid fuel.

(h) The fuel filler neck shall be snugly fitted with the vented bag to capture any fuel emissions. The fuel nozzle shall be inserted through the bag into the filler neck of the test vehicle to its maximum penetration. The plane of the nozzle's handle shall be perpendicular to the floor of the laboratory.

(i) The fueling procedure consists of dispensing fuel through a nozzle, interrupted by a series of automatic shut-offs. A minimum of 3 seconds shall elapse between any automatic shutoff and subsequent resumption of dispensing. Dispensing may not be manually terminated, unless the test vehicle has already clearly failed the test. The vehicle shall be fueled according to the following procedure:

(1) The fueling operation shall be started within 4 minutes after the vehicle is turned off and within 8 minutes after completion of the preconditioning

drive. The average temperature of the dispensed fuel shall be 65±5 °F (18±3 °C).

(2) The fuel shall be dispensed at a rate of 9.8±0.3 gallons/minute (37.1±1.1 l/min) until the automatic shutoff is activated.

(3) If the automatic shutoff is activated before the nozzle has dispensed an amount of fuel equal to 70 percent of the tank's nominal capacity, the dispensing may be resumed at a reduced rate. Repeat as necessary until the nozzle has dispensed an amount of fuel equal to at least 70 percent of the tank's nominal capacity.

(4) Once the automatic shutoff is activated after the nozzle has dispensed an amount of fuel equal to 70 percent of the tank's nominal capacity, the fuel shall be dispensed at a rate of 5±1 gallons/minute (19±4 ℓ/min) for all subsequent dispensing. Dispensing shall be restarted two additional times.

(5) If the nozzle has dispensed an amount of fuel less than 85 percent of the tank's nominal capacity after the two additional dispensing restarts, dispensing shall be resumed, and shall continue through as many automatic shutoffs as necessary to achieve this level. This completes the fueling procedure.

(j) Withdraw the nozzle from the vehicle and the bag, holding the tip of the nozzle upward to avoid any dripping into the bag.

(k) Within 1 minute after completion of the fueling event, the bag shall be folded to minimize the vapor volume inside the bag. The bag shall be folded as quickly as possible to prevent evaporation of collected emissions.

(l) Within 5 minutes after completion of the fueling event, the mass of the bag and its contents shall be measured and recorded (consistent with paragraph (c) of this section). The bag shall be weighed as quickly as possible to prevent evaporation of collected emissions.

[58 FR 16063, Mar. 24, 1993, as amended at 60 FR 43906, Aug. 23, 1995; 65 FR 59958, Oct. 6, 2000]

Subpart N—Emission Regulations for New Otto-Cycle and Diesel Heavy-Duty Engines; Gaseous and Particulate Exhaust Test Procedures

AUTHORITY: Secs. 202, 206, 207, 208, 301(a), Clean Air Act as amended 42 U.S.C. 7521, 7524, 7541, 7542, and 7601.

SOURCE: 48 FR 52210, Nov. 16, 1983, unless otherwise noted.

§ 86.1301 Scope; applicability.

This subpart specifies gaseous emission test procedures for Otto-cycle and diesel heavy-duty engines, and particulate emission test procedures for diesel heavy-duty engines, as follows:

(a) For model years 1990 through 2003, manufacturers must use the test procedures specified in § 86.1305–90.

(b) For model years 2004 through 2009, manufacturers may use the test procedures specified in § 86.1305–2004 or § 86.1305–2010. For any EPA testing before the 2010 model year, EPA will use the manufacturer's selected procedures for mapping engines, generating duty cycles, and applying cycle-validation criteria. For any other parameters, EPA may conduct testing using either of the specified procedures.

(c) For model years 2010 and later, manufacturers must use the test procedures specified in § 86.1305–2010.

(d) As allowed under subpart A of this part, manufacturers may use carryover data from previous model years to demonstrate compliance with emission standards, without regard to the provisions of this section.

[70 FR 40438, July 13, 2005]

§ 86.1302–84 Definitions.

The definitions in § 86.084–2 apply to this subpart.

§ 86.1303–84 Abbreviations.

The abbreviations in § 86.084–3 apply to this subpart.

§ 86.1304 Section numbering; construction.

(a) *Section numbering.* The model year of initial applicability is indicated by the section number. The digits following the hyphen designate the first