

Environmental Protection Agency

§ 86.1506–90

(b) A section reference without a model year suffix refers to the section applicable for the appropriate model year.

(c) All provisions in this subpart apply to gasoline-fueled and methanol-fueled Otto-cycle heavy-duty engines, and to gasoline-fueled and methanol-fueled Otto-cycle light-duty trucks.

[54 FR 14611, Apr. 11, 1989]

§ 86.1504–94 Section numbering; construction.

(a) The model year of initial applicability is indicated by the section number. The two digits following the hyphen designate the first model year for which a section is effective. A section remains effective until superseded.

Example: Section 86.1511–84 applies to the 1984 and subsequent model years until superseded. If § 86.1511–85 is promulgated, it would take effect beginning with the 1985 model year. Section 86.1511–83 would apply to model years 1983 and 1984.

(b) A section reference without a model year suffix refers to the section applicable for the appropriate model year.

(c) All provisions in this subpart apply to gasoline-fueled and methanol-fueled Otto-cycle heavy-duty engines, methanol-fueled Diesel-cycle heavy-duty engines, new Otto-cycle light-duty trucks, and liquefied petroleum gas-fueled, natural gas-fueled, and methanol-fueled diesel-cycle light-duty trucks.

[59 FR 48536, Sept. 21, 1994, as amended at 60 FR 34376, June 30, 1995]

§ 86.1505–84 Introduction; structure of subpart.

(a) This subpart describes the equipment and the procedures required to perform idle exhaust emission tests on gasoline-fueled heavy-duty engines and gasoline-fueled light-duty trucks. Subpart A sets forth the testing requirements, reporting requirements, and test intervals necessary to comply with EPA certification procedures.

(b) Four topics are addressed in this subpart. §§ 86.1505–84 through 86.1515–84 set forth specifications and equipment requirements; §§ 86.1516–84 through 86.1526–84 discuss calibration methods and frequency; test procedures and data requirements are listed in

§§ 86.1527–84 through 86.1542–84; and calculation formulae are found in § 86.1544–84.

§ 86.1505–90 Introduction; structure of subpart.

(a) This subpart describes the equipment and the procedures required to perform idle exhaust emission tests on gasoline-fueled and methanol-fueled Otto-cycle heavy-duty engines, and gasoline-fueled and methanol-fueled Otto-cycle light-duty trucks. Subpart A sets forth the testing requirements, reporting requirements and test intervals necessary to comply with EPA certification procedures.

(b) Four topics are addressed in this subpart. Sections 86.1505 through 86.1515 set forth specifications and equipment requirement; §§ 86.1516 through 86.1526 discuss calibration methods and frequency; test procedures and data requirements are listed in §§ 86.1527 through 86.1542 and calculation formula are found in § 86.1544.

[54 FR 14611, Apr. 11, 1989]

§ 86.1505–94 Introduction; structure of subpart.

(a) This subpart describes the equipment and the procedures required to perform idle exhaust emission tests on heavy-duty engines and light-duty trucks. Subpart A of this part sets forth the testing requirements, reporting requirements and test intervals necessary to comply with EPA certification procedures.

(b) Four topics are addressed in this subpart. Sections 86.1505 through 86.1515 set forth specifications and equipment requirements; §§ 86.1516 through 86.1526 discuss calibration methods and frequency; test procedures and data requirements are listed in §§ 86.1527 through 86.1542 and calculation formulas are found in § 86.1544.

[59 FR 48536, Sept. 21, 1994, as amended at 60 FR 34376, June 30, 1995]

§ 86.1506–90 Equipment required and specifications; overview.

(a) This subpart contains procedures for performing idle exhaust emission tests on gasoline-fueled and methanol-fueled Otto-cycle heavy-duty engines, and gasoline-fueled and methanol-

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fueled Otto-cycle light-duty trucks. Equipment required and specifications are as follows:

(1) *Exhaust emission tests.* All engines and vehicles subject to this subpart are tested for exhaust emissions. Necessary equipment and specifications appear in §§ 86.1509 through 86.1511.

(2) *Fuel and analytical tests.* Fuel requirements for idle exhaust emission testing are specified in § 86.1513. Analytical gases are specified in § 86.1514.

(b) [Reserved]

[54 FR 14612, Apr. 11, 1989]

§ 86.1506–94 Equipment required and specifications; overview.

(a) This subpart contains procedures for performing idle exhaust emission tests on Otto-cycle heavy-duty engines and Otto-cycle light-duty trucks. Equipment required and specifications are as follows:

(1) *Exhaust emission tests.* All engines and vehicles subject to this subpart are tested for exhaust emissions. Necessary equipment and specifications appear in §§ 86.1509 through 86.1511.

(2) *Fuel and analytical tests.* Fuel requirements for idle exhaust emission testing are specified in § 86.1513. Analytical gases are specified in § 86.1514.

(b) [Reserved]

[59 FR 48536, Sept. 21, 1994]

§ 86.1509–84 Exhaust gas sampling system.

(a) The exhaust gas sampling system shall transport the exhaust sample from the engine or vehicle to the analysis system in such a manner as to maintain the integrity of the sample constituents that are to be analyzed.

(b) The sample system shall supply a dry sample (i.e., water removed) to the analysis system.

(c) A CVS sampling system with bag analysis as specified in § 86.1309 or § 86.109 or with continuous analysis as specified in § 86.1310 is permitted as applicable. The inclusion of an additional raw carbon dioxide (CO₂) analyzer as specified in §§ 86.309–79 and 86.316–79 is required if the CVS system is used, in order to accurately determine the CVS dilution factor. The heated sample line specified in § 86.309–79 and § 86.310–79 for

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raw emission requirements is not required for the raw CO₂ measurement.

(d) A raw exhaust sampling system as specified in § 86.309–79 and § 86.310–79 is permitted.

[48 FR 52252, Nov. 16, 1983, as amended at 60 FR 34376, June 30, 1995]

§ 86.1511–84 Exhaust gas analysis system.

(a) Analyzers used for this subpart shall meet the following specifications:

(1) The analyzer used shall conform to the emission measurement accuracy provisions of § 86.1338.

(2) The resolution of the readout device(s) for the range specified in paragraph (a)(1) of this section shall be equal to or less than 0.05 percent for the CO analyzer.

(3) For the range specified in paragraph (a)(1) of this section, the precision shall be less than ±3 percent of full-scale deflection. The precision is defined as two times the standard deviation of five repetitive responses to a given calibration gas.

(4) For the range specified in paragraph (a)(1) of this section, the mean response to a zero calibration gas shall not exceed ±3 percent of full-scale deflection during a 1-hour period.

(5) For the range specified in paragraph (a)(1) of this section the drift of the mean calibration response shall be less than ±3 percent of full scale during a 1-hour period. The calibration response is defined as the analyzer response to a calibration gas after the analyzer has been spanned by the electrical spanning network at the beginning of the 1-hour period.

(6) The analyzer must respond to an instantaneous step change at the entrance to the sampling system with a response equal to 90 percent of that step change within 15 seconds or less on the range specified in paragraph (a)(1) of this section. The step change shall be at least 60 percent of full-scale deflection.

(7) The interference gases listed shall individually or collectively produce an analyzer reading less than ±2 percent of full scale on the range specified in paragraph (a)(1) of this section.