

whose sole or primary purpose is to reduce emissions or whose failure will significantly degrade emissions control and whose function is not integral to the design and performance of the engine.)

(ii) All critical emission-related scheduled maintenance must have a reasonable likelihood of being performed in-use. The manufacturer shall be required to show the reasonable likelihood of such maintenance being performed in-use, and such showing shall be made prior to the performance of the maintenance on the durability data vehicle. Critical emission-related scheduled maintenance items which satisfy one of the conditions defined in paragraphs (b)(6)(ii) (A)–(F) of this section will be accepted as having a reasonable likelihood of the maintenance item being performed in-use.

(A) Data are presented which establish for the Administrator a connection between emissions and vehicle performance such that as emissions increase due to lack of maintenance, vehicle performance will simultaneously deteriorate to a point unacceptable for typical driving.

(B) Survey data are submitted which adequately demonstrate to the Administrator that, at an 80 percent confidence level, 80 percent of such engines already have this critical maintenance item performed in-use at the recommended interval(s).

(C) A clearly displayed visible signal system approved by the Administrator is installed to alert the vehicle driver that maintenance is due. A signal bearing the message “maintenance needed” or “check engine”, or a similar message approved by the Administrator, shall be actuated at the appropriate mileage point or by component failure. This signal must be continuous while the engine is in operation and not be easily eliminated without performance of the required maintenance. Resetting the signal shall be a required step in the maintenance operation. The method for resetting the signal system shall be approved by the Administrator. For HDEs, the system must not be designed to deactivate upon the end of the useful life of the engine or thereafter.

(D) A manufacturer may desire to demonstrate through a survey that a

critical maintenance item is likely to be performed without a visible signal on a maintenance item for which there is no prior in-use experience without the signal. To that end, the manufacturer may in a given model year market up to 200 randomly selected vehicles per critical emission-related maintenance item without such visible signals, and monitor the performance of the critical maintenance item by the owners to show compliance with paragraph (b)(6)(ii)(B) of this section. This option is restricted to two consecutive model years and may not be repeated until any previous survey has been completed. If the critical maintenance involves more than one engine family, the sample will be sales weighted to ensure that it is representative of all the families in question.

(E) The manufacturer provides the maintenance free of charge, and clearly informs the customer that the maintenance is free in the instructions provided under § 86.087-38.

(F) Any other method which the Administrator approves as establishing a reasonable likelihood that the critical maintenance will be performed in-use.

(iii) Visible signal systems used under paragraph (b)(6)(ii)(C) of this section are considered an element of design of the emission control system. Therefore, disabling, resetting, or otherwise rendering such signals inoperative without also performing the indicated maintenance procedure is a prohibited act under section 203(a)(3) of the Clean Air Act (42 U.S.C. 7522(a)(3)).

(b)(7)–(h) [Reserved]. For guidance see § 86.094-25.

[62 FR 54725, Oct. 21, 1997]

§ 86.004-26 Mileage and service accumulation; emission measurements.

Section 86.004-26 includes text that specifies requirements that differ from § 86.094-26, § 86.095-26, § 86.096-26, § 86.098-26, § 86.000-26, or § 86.001-26. Where a paragraph in § 86.094-26, § 86.095-26, § 86.096-26, § 86.098-26, § 86.000-26 or § 86.001-26 is identical and applicable to § 86.004-26, this may be indicated by specifying the corresponding paragraph and the statement “[Reserved]. For guidance see § 86.094-26.” or [Reserved]. For guidance see § 86.095-26.” or “[Reserved]. For guidance see § 86.096-26.”

or “[Reserved]. For guidance see § 86.098–26.” or “[Reserved]. For guidance see § 86.000–26.” or “[Reserved]. For guidance see § 86.001–26.”.

(a)(1) [Reserved]. For guidance see § 86.094–26.

(a)(2)–(a)(3)(i)(A) [Reserved]. For guidance see § 86.000–26.

(a)(3)(i)(B) [Reserved]. For guidance see § 86.094–26.

(a)(3)(i)(C) [Reserved]. For guidance see § 86.098–26.

(a)(3)(i)(D)–(a)(3)(ii)(B) [Reserved]. For guidance see § 86.094–26.

(a)(3)(ii)(C) [Reserved]. For guidance see § 86.098–26.

(a)(3)(ii)(D)–(a)(4)(i)(B)(4) [Reserved]. For guidance see § 86.094–26.

(a)(4)(i)(C) [Reserved]. For guidance see § 86.000–26.

(a)(4)(i)(D)–(a)(6)(ii) [Reserved]. For guidance see § 86.094–26.

(a)(6)(iii) [Reserved]. For guidance see § 86.000–26.

(a)(7)–(a)(9)(i) [Reserved]. For guidance see § 86.094–26.

(a)(9)(ii) [Reserved]. For guidance see § 86.000–26.

(a)(9)(iii)–(b)(2) introductory text [Reserved]. For guidance see § 86.094–26.

(b)(2)(i)–(b)(2)(ii) [Reserved]. For guidance see § 86.000–26.

(b)(2)(iii) [Reserved]. For guidance see § 86.094–26.

(b)(2)(iv) [Reserved]. For guidance see § 86.001–26.

(b)(3)–(b)(4)(i)(B) [Reserved]. For guidance see § 86.094–26.

(b)(4)(i)(C) [Reserved]. For guidance see § 86.001–26.

(b)(4)(i)(D)–(b)(4)(ii)(B) [Reserved]. For guidance see § 86.095–26.

(b)(4)(ii)(C) [Reserved]. For guidance see § 86.001–26.

(b)(4)(ii)(D) [Reserved]. For guidance see § 86.095–26.

(b)(4)(iii) [Reserved]

(b)(4)(iv) [Reserved]. For guidance see § 86.094–26.

(c)(1) Paragraph (c) of this section applies to heavy-duty engines.

(2) Two types of service accumulation are applicable to heavy-duty engines, as described in paragraphs (c)(2)(i) and (ii) of this section. For Otto-cycle heavy-duty engines exhaust emissions, the service accumulation method used by a manufacturer must be designed to effectively predict the deterioration of

emissions in actual use over the full useful life of the of the candidate in-use vehicles and must cover the breadth of the manufacturer’s product line that will be covered by the durability procedure. Manufacturers not selecting Options 1 or 2 described in § 86.005–10(f) may certify Otto-cycle engines using the provisions contained in § 86.094–26(c)(2) rather than those contained in this paragraph (c)(2) for 2004 model year engine families certified using carry-over durability data, except for those engines used for early credit banking as allowed in § 86.000–15(k).

(i) Service accumulation on engines, subsystems, or components selected by the manufacturer under § 86.094–24(c)(3)(i). The manufacturer determines the form and extent of this service accumulation, consistent with good engineering practice, and describes it in the application for certification.

(ii) Dynamometer service accumulation on emission data engines selected under § 86.094–24(b)(2) or (3). The manufacturer determines the engine operating schedule to be used for dynamometer service accumulation, consistent with good engineering practice. A single engine operating schedule shall be used for all engines in an engine family-control system combination. Operating schedules may be different for different combinations.

(3) Exhaust emission deterioration factors will be determined on the basis of the service accumulation described in § 86.000–26(b)(2)(i) and related testing, according to the manufacturer’s procedures.

(4) The manufacturer shall determine, for each engine family, the number of hours at which the engine system combination is stabilized for emission-data testing. The manufacturer shall maintain, and provide to the Administrator if requested, a record of the rationale used in making this determination. The manufacturer may elect to accumulate 125 hours on each test engine within an engine family without making a determination. Any engine used to represent emission-data engine selections under § 86.094–24(b)(2) shall be equipped with an engine system combination that has accumulated

at least the number of hours determined under this paragraph. Complete exhaust emission tests shall be conducted for each emission-data engine selection under § 86.094–24(b)(2). Evaporative emission controls must be connected, as described in 40 CFR part 1065, subpart F. The Administrator may determine under § 86.094–24(f) that no testing is required.

(d)(1)–(d)(2)(i) [Reserved]. For guidance see § 86.094–26.

(d)(2)(ii) [Reserved]. For guidance see § 86.000–26.

(d)(3) [Reserved]. For guidance see § 86.094–26.

(d)(4)–(5) [Reserved].

(d)(6) [Reserved]. For guidance see § 86.094–26.

[65 FR 59947, Oct. 6, 2000, as amended at 70 FR 40432, July 13, 2005]

§ 86.004–28 Compliance with emission standards.

Section 86.004–28 includes text that specifies requirements that differ from § 86.094–28, § 86.098–28, § 86.000–28 or § 86.001–28. Where a paragraph in § 86.094–28, § 86.098–28, § 86.000–28 or § 86.001–28 is identical and applicable to § 86.004–28, this may be indicated by specifying the corresponding paragraph and the statement “[Reserved]. For guidance see § 86.094–28.” or “[Reserved]. For guidance see § 86.098–28.” or “[Reserved]. For guidance see § 86.000–28.” or “[Reserved]. For guidance see § 86.001–28.”

(a)(1)–(a)(2) [Reserved]. For guidance see § 86.000–28.

(a)(3) [Reserved]. For guidance see § 86.094–28.

(a)(4) introductory text [Reserved]. For guidance see § 86.098–28.

(a)(4)(i) [Reserved]. For guidance see § 86.000–28.

(a)(4)(i)(A)–(a)(4)(i)(B)(2)(i) [Reserved]. For guidance see § 86.094–28.

(a)(4)(i)(B)(2)(ii) [Reserved]. For guidance see § 86.000–28.

(a)(4)(i)(B)(2)(iii)–(a)(4)(i)(B)(2)(iv) [Reserved]. For guidance see § 86.094–28.

(a)(4)(i)(C)–(a)(4)(i)(D)(2) [Reserved]. For guidance see § 86.098–28.

(a)(4)(ii)(A)(1)–(a)(4)(ii)(A)(2) [Reserved]. For guidance see § 86.000–28.

(a)(4)(ii)(B)–(a)(4)(ii)(C) [Reserved]. For guidance see § 86.098–28.

(a)(4)(iii) [Reserved]. For guidance see § 86.000–28.

(a)(4)(iv) [Reserved]. For guidance see § 86.094–28.

(a)(4)(v) [Reserved]. For guidance see § 86.098–28.

(a)(5)–(a)(6) [Reserved]. For guidance see § 86.094–28.

(a)(7) introductory text [Reserved]. For guidance see § 86.098–28.

(a)(7)(i) [Reserved]. For guidance see § 86.000–28.

(a)(7)(ii) [Reserved]. For guidance see § 86.094–28.

(b)(1) This paragraph (b) applies to light-duty trucks.

(2) Each exhaust, evaporative and refueling emission standard (and family emission limits, as appropriate) of § 86.004–9 applies to the emissions of vehicles for the appropriate useful life as defined in §§ 86.098–2 and 86.004–9.

(b)(3)–(b)(4)(i) [Reserved]. For guidance see § 86.094–28.

(b)(4)(ii)–(b)(6) [Reserved]. For guidance see § 86.000–28.

(b)(7)(i)–(b)(9) [Reserved]. For guidance see § 86.001–28.

(c)(1) Paragraph (c) of this section applies to heavy-duty engines.

(2) The applicable exhaust emission standards (or family emission limits, as appropriate) for Otto-cycle engines and for diesel-cycle engines apply to the emissions of engines for their useful life.

(3) Since emission control efficiency generally decreases with the accumulation of service on the engine, deterioration factors will be used in combination with emission data engine test results as the basis for determining compliance with the standards.

(4)(i) Paragraph (c)(4) of this section describes the procedure for determining compliance of an engine with emission standards (or family emission limits, as appropriate), based on deterioration factors supplied by the manufacturer. Deterioration factors shall be established using applicable emissions test procedures. NO_x plus NMHC deterioration factors shall be established based on the sum of the pollutants. When establishing deterioration factors for NO_x plus NMHC, a negative deterioration (emissions decrease from the official exhaust emissions test result) for one pollutant may not offset