

**§ 86.004-25**

**40 CFR Ch. I (7-1-07 Edition)**

ability to read, interpret, and store information in commonly understood engineering units, for example, engine speed in revolutions per minute or per second, injection timing parameters such as start of injection in degree's before top-dead center, fueling rates in cubic centimeters per stroke, vehicle speed in miles per hour or kilometers per hour. This paragraph (n) does not restrict EPA authority to take any action authorized by section 208 of the Clean Air Act.

[62 FR 54724, Oct. 21, 1997, as amended at 65 FR 59947, Oct. 6, 2000]

**§ 86.004-25 Maintenance.**

Section 86.004-25 includes text that specifies requirements that differ from § 86.094-25 or § 86.098-25. Where a paragraph in § 86.094-25 or § 86.098-25 is identical and applicable to § 86.004-25, this may be indicated by specifying the corresponding paragraph and the statement “[Reserved]. For guidance see § 86.094-25.” or “[Reserved]. For guidance see § 86.098-25.”.

(a)(1) Applicability. This section applies to light-duty vehicles, light-duty trucks, and HDEs.

(2) Maintenance performed on vehicles, engines, subsystems, or components used to determine exhaust, evaporative or refueling emission deterioration factors, as appropriate, is classified as either emission-related or non-emission-related and each of these can be classified as either scheduled or unscheduled. Further, some emission-related maintenance is also classified as critical emission-related maintenance.

(b) Introductory text through (b)(3)(ii) [Reserved]. For guidance see § 86.094-25.

(b)(3)(iii) For otto-cycle heavy-duty engines, the adjustment, cleaning, repair, or replacement of the items listed in paragraphs (b)(3)(iii) (A)–(E) of this section shall occur at 50,000 miles (or 1,500 hours) of use and at 50,000-mile (or 1,500-hour) intervals thereafter.

- (A) Positive crankcase ventilation valve.
- (B) Emission-related hoses and tubes.
- (C) Ignition wires.
- (D) Idle mixture.
- (E) Exhaust gas recirculation system related filters and coolers.

(iv) For otto-cycle light-duty vehicles, light-duty trucks and otto-cycle heavy-duty engines, the adjustment, cleaning, repair, or replacement of the oxygen sensor shall occur at 80,000 miles (or 2,400 hours) of use and at 80,000-mile (or 2,400-hour) intervals thereafter.

(v) For otto-cycle heavy-duty engines, the adjustment, cleaning, repair, or replacement of the items listed in paragraphs (b)(3)(v) (A)–(H) of this section shall occur at 100,000 miles (or 3,000 hours) of use and at 100,000-mile (or 3,000-hour) intervals thereafter.

- (A) Catalytic converter.
- (B) Air injection system components.
- (C) Fuel injectors.
- (D) Electronic engine control unit and its associated sensors (except oxygen sensor) and actuators.
- (E) Evaporative emission canister.
- (F) Turbochargers.
- (G) Carburetors.
- (H) Exhaust gas recirculation system (including all related control valves and tubing) except as otherwise provided in paragraph (b)(3)(iii)(E) of this section.

(b)(3)(vi)(A)–(b)(3)(vi)(D) [Reserved]. For guidance see § 86.094-25.

(b)(3)(vi)(E)–(b)(3)(vi)(J) [Reserved]. For guidance see § 86.098-25.

(4) For diesel-cycle light-duty vehicles, light-duty trucks, and HDEs, emission-related maintenance in addition to or at shorter intervals than that listed in paragraphs (b)(4) (i)–(iv) of this section will not be accepted as technologically necessary, except as provided in paragraph (b)(7) of this section.

(i) For diesel-cycle heavy-duty engines, the adjustment, cleaning, repair, or replacement of the items listed in paragraphs (b)(4)(i) (A)–(C) of this section shall occur at 50,000 miles (or 1,500 hours) of use and at 50,000-mile (or 1,500-hour) intervals thereafter.

- (A) Exhaust gas recirculation system related filters and coolers.
- (B) Positive crankcase ventilation valve.
- (C) Fuel injector tips (cleaning only).

(ii) For diesel-cycle light-duty vehicles and light-duty trucks, the adjustment, cleaning, repair, or replacement of the positive crankcase ventilation

valve shall occur at 50,000 miles of use and at 50,000-mile intervals thereafter.

(iii) The adjustment, cleaning, repair, or replacement of items listed in paragraphs (b)(4)(iii) (A)–(G) of this section shall occur at 100,000 miles (or 3,000 hours) of use and at 100,000-mile (or 3,000-hour) intervals thereafter for light heavy-duty diesel engines, or, at 150,000 miles (or 4,500 hours) intervals thereafter for medium and heavy heavy-duty diesel engines.

(A) Fuel injectors.

(B) Turbocharger.

(C) Electronic engine control unit and its associated sensors and actuators.

(D) Particulate trap or trap-oxidizer system (including related components).

(E) Exhaust gas recirculation system (including all related control valves and tubing) except as otherwise provided in paragraph (b)(4)(i)(A) of this section.

(F) Catalytic converter.

(G) Any other add-on emissions-related component (i.e., a component 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.)

(iv) For diesel-cycle light-duty vehicles and light-duty trucks, the adjustment, cleaning, repair, or replacement shall occur at 100,000 miles of use and at 100,000-mile intervals thereafter of the items listed in paragraphs (b)(4)(iv) (A)–(G) of this section.

(A) Fuel injectors.

(B) Turbocharger.

(C) Electronic engine control unit and its associated sensors and actuators.

(D) Particulate trap or trap-oxidizer system (including related components).

(E) Exhaust gas recirculation system including all related filters and control valves.

(F) Catalytic converter.

(G) Superchargers.

(5) [Reserved]

(6)(i) The components listed in paragraphs (b)(6)(i) (A)–(H) of this section are currently defined as critical emission-related components.

(A) Catalytic converter.

(B) Air injection system components.

(C) Electronic engine control unit and its associated sensors (including oxygen sensor if installed) and actuators.

(D) Exhaust gas recirculation system (including all related filters, coolers, control valves, and tubing).

(E) Positive crankcase ventilation valve.

(F) Evaporative and refueling emission control system components (excluding canister air filter).

(G) Particulate trap or trap-oxidizer system.

(H) Any other add-on emissions-related component (i.e., a component 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.