

of the same evaporative/refueling control system within the evaporative/refueling emission family, as applicable.

(b)(1)(iii) and (b)(1)(iv) [Reserved]. For guidance see § 86.094–30.

(b)(2) [Reserved]. For guidance see § 86.098–30.

(b)(3)–(b)(4)(i) [Reserved]. For guidance see § 86.094–30.

(b)(4)(ii) introductory text [Reserved]. For guidance see § 86.098–30.

(b)(4)(ii)(A) [Reserved]. For guidance see § 86.094–30.

(b)(4)(ii)(B)–(b)(4)(iv) [Reserved]. For guidance see § 86.098–30.

(b)(5)–(e) [Reserved]. For guidance see § 86.094–30.

(f) For engine families required to have an OBD system, certification will not be granted if, for any test vehicle approved by the Administrator in consultation with the manufacturer, the malfunction indicator light does not illuminate under any of the following circumstances, unless the manufacturer can demonstrate that any identified OBD problems discovered during the Administrator's evaluation will be corrected on production vehicles.

(1)(i) *Otto-cycle*. A catalyst is replaced with a deteriorated or defective catalyst, or an electronic simulation of such, resulting in an increase of 1.5 times the NMHC+NO_x standard or FEL above the NMHC+NO_x emission level measured using a representative 4000 mile catalyst system.

(ii) *Diesel*. (A) If monitored for emissions performance—a catalyst is replaced with a deteriorated or defective catalyst, or an electronic simulation of such, resulting in exhaust emissions exceeding 1.5 times the applicable standard or FEL for NMHC+NO_x or PM.

(B) If monitored for performance—a particulate trap is replaced with a trap that has catastrophically failed, or an electronic simulation of such.

(2)(i) *Otto-cycle*. An engine misfire condition is induced resulting in exhaust emissions exceeding 1.5 times the applicable standards or FEL for NMHC+NO_x or CO.

(ii) *Diesel*. An engine misfire condition is induced and is not detected.

(3) If so equipped, any oxygen sensor is replaced with a deteriorated or defective oxygen sensor, or an electronic

simulation of such, resulting in exhaust emissions exceeding 1.5 times the applicable standard or FEL for NMHC+NO_x or CO.

(4) If so equipped, a vapor leak is introduced in the evaporative and/or refueling system (excluding the tubing and connections between the purge valve and the intake manifold) greater than or equal in magnitude to a leak caused by a 0.040 inch diameter orifice, or the evaporative purge air flow is blocked or otherwise eliminated from the complete evaporative emission control system.

(5) A malfunction condition is induced in any emission-related engine system or component, including but not necessarily limited to, the exhaust gas recirculation (EGR) system, if equipped, the secondary air system, if equipped, and the fuel control system, singularly resulting in exhaust emissions exceeding 1.5 times the applicable emission standard or FEL for NMHC+NO_x, CO or PM.

(6) A malfunction condition is induced in an electronic emission-related engine system or component not otherwise described above that either provides input to or receives commands from the on-board computer resulting in a measurable impact on emissions.

[59 FR 16287, Apr. 6, 1994, as amended at 62 FR 54727, Oct. 21, 1997; 65 FR 59948, Oct. 6, 2000]

§ 86.004–38 Maintenance instructions.

This section includes text that specifies requirements that differ from those specified in § 86.096–38. Where a paragraph in § 86.096–38 is identical and applicable to § 86.004–38, this may be indicated by specifying the corresponding paragraph and the statement “[Reserved]. For guidance see § 86.096–38.”.

(a) The manufacturer shall furnish or cause to be furnished to the purchaser of each new motor vehicle (or motor vehicle engine) subject to the standards prescribed in § 86.099–8, § 86.004–9, § 86.004–10, or § 86.004–11, as applicable, written instructions for the proper maintenance and use of the vehicle (or engine), by the purchaser consistent with the provisions of § 86.004–25, which

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establishes what scheduled maintenance the Administrator approves as being reasonable and necessary.

(1) The maintenance instructions required by this section shall be in clear, and to the extent practicable, nontechnical language.

(2) The maintenance instructions required by this section shall contain a general description of the documentation which the manufacturer will require from the ultimate purchaser or any subsequent purchaser as evidence of compliance with the instructions.

(b) Instructions provided to purchasers under paragraph (a) of this section shall specify the performance of all scheduled maintenance performed by the manufacturer on certification durability vehicles and, in cases where the manufacturer performs less maintenance on certification durability vehicles than the allowed limit, may specify the performance of any scheduled maintenance allowed under § 86.004-25.

(c) Scheduled emission-related maintenance in addition to that performed under § 86.004-25(b) may only be recommended to offset the effects of abnormal in-use operating conditions, except as provided in paragraph (d) of this section. The manufacturer shall be required to demonstrate, subject to the approval of the Administrator, that such maintenance is reasonable and technologically necessary to assure the proper functioning of the emission control system. Such additional recommended maintenance shall be clearly differentiated, in a form approved by the Administrator, from that approved under § 86.004-25(b).

(d) Inspections of emission-related parts or systems with instructions to replace, repair, clean, or adjust the parts or systems if necessary, are not considered to be items of scheduled maintenance which insure the proper functioning of the emission control system. Such inspections, and any recommended maintenance beyond that approved by the Administrator as reasonable and necessary under paragraphs (a), (b), and (c) of this section, may be included in the written instructions furnished to vehicle owners under paragraph (a) of this section: Provided, That such instructions clearly state, in

a form approved by the Administrator, that the owner need not perform such inspections or recommended maintenance in order to maintain the emissions defect and emissions performance warranty or manufacturer recall liability.

(e) The manufacturer may choose to include in such instructions an explanation of any distinction between the useful life specified on the label, and the emissions defect and emissions performance warranty period. The explanation must clearly state that the useful life period specified on the label represents the average period of use up to retirement or rebuild for the engine family represented by the engine used in the vehicle. An explanation of how the actual useful lives of engines used in various applications are expected to differ from the average useful life may be included. The explanation(s) shall be in clear, non-technical language that is understandable to the ultimate purchaser.

(f) If approved by the Administrator, the instructions provided to purchasers under paragraph (a) of this section shall indicate what adjustments or modifications, if any, are necessary to allow the vehicle to meet applicable emission standards at elevations above 4,000 feet, or at elevations of 4,000 feet or less.

(g) [Reserved]. For guidance see § 86.096-38. For incorporation by reference see §§ 86.1 and 86.096-38.

(h) The manufacturer shall furnish or cause to be furnished to the purchaser of each new motor engine subject to the standards prescribed in § 86.004-10 or § 86.004-11, as applicable, the following:

(1) Instructions for all maintenance needed after the end of the useful life of the engine for critical emissions-related components as provided in § 86.004-25(b), including recommended practices for diagnosis, cleaning, adjustment, repair, and replacement of the component (or a statement that such component is maintenance free for the life of the engine) and instructions for accessing and responding to any emissions-related diagnostic codes that may be stored in on-board monitoring systems;

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(2) A copy of the engine rebuild provisions contained in § 86.004-40.

[62 FR 54728, Oct. 21, 1997, as amended at 68 FR 38455, June 27, 2003]

§ 86.004-40 Heavy-duty engine rebuilding practices.

The provisions of this section are applicable to heavy-duty engines subject to model year 2004 or later standards and are applicable to the process of engine rebuilding (or rebuilding a portion of an engine or engine system). The process of engine rebuilding generally includes disassembly, replacement of multiple parts due to wear, and reassembly, and also may include the removal of the engine from the vehicle and other acts associated with rebuilding an engine. Any deviation from the provisions contained in this section is a prohibited act under section 203(a)(3) of the Clean Air Act (42 U.S.C. 7522(a)(3)).

(a) When rebuilding an engine, portions of an engine, or an engine system, there must be a reasonable technical basis for knowing that the resultant engine is equivalent, from an emissions standpoint, to a certified configuration (i.e., tolerances, calibrations, specifications) and the model year(s) of the resulting engine configuration must be identified. A reasonable basis would exist if:

(1) Parts installed, whether the parts are new, used, or rebuilt, are such that a person familiar with the design and function of motor vehicle engines would reasonably believe that the parts perform the same function with respect to emissions control as the original parts; and

(2) Any parameter adjustment or design element change is made only:

(i) In accordance with the original engine manufacturer's instructions; or

(ii) Where data or other reasonable technical basis exists that such parameter adjustment or design element change, when performed on the engine or similar engines, is not expected to adversely affect in-use emissions.

(b) When an engine is being rebuilt and remains installed or is reinstalled in the same vehicle, it must be rebuilt to a configuration of the same or later model year as the original engine. When an engine is being replaced, the

replacement engine must be an engine of (or rebuilt to) a configuration of the same or later model year as the original engine.

(c) At time of rebuild, emissions-related codes or signals from on-board monitoring systems may not be erased or reset without diagnosing and responding appropriately to the diagnostic codes, regardless of whether the systems are installed to satisfy requirements in § 86.004-25 or for other reasons and regardless of form or interface. Diagnostic systems must be free of all such codes when the rebuilt engine is returned to service. Such signals may not be rendered inoperative during the rebuilding process.

(d) When conducting a rebuild without removing the engine from the vehicle, or during the installation of a rebuilt engine, all critical emissions-related components listed in § 86.004-25(b) not otherwise addressed by paragraphs (a) through (c) of this section must be checked and cleaned, adjusted, repaired, or replaced as necessary, following manufacturer recommended practices.

(e) Records shall be kept by parties conducting activities included in paragraphs (a) through (d) of this section. The records shall include at minimum the mileage and/or hours at time of rebuild, a listing of work performed on the engine and emissions-related control components including a listing of parts and components used, engine parameter adjustments, emissions-related codes or signals responded to and reset, and work performed under paragraph (d) of this section.

(1) Parties may keep records in whatever format or system they choose as long as the records are understandable to an EPA enforcement officer or can be otherwise provided to an EPA enforcement officer in an understandable format when requested.

(2) Parties are not required to keep records of information that is not reasonably available through normal business practices including information on activities not conducted by themselves or information that they cannot reasonably access.