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engines which have been operated for between half and three-quarters of the engine's advertised (or projected) useful life. All testing may be completed within three years from the date the certificate is first issued for an engine family undergoing in-use testing.

(1) Test engines may be procured from sources not associated with the engine manufacturer or vehicle manufacturer, except that with prior approval of the Administrator, an engine manufacturer with annual sales of less than 50,000 engines may obtain in-use engines associated with itself or its vehicle manufacturer.

(2) A test engine should have a maintenance history representative of actual in-use conditions.

(i) A manufacturer may question the end user regarding the accumulated usage, maintenance, operating conditions, and storage of the test engines.

(ii) Documents used in the procurement process may be maintained as required in § 90.121.

(3) *Maintenance and testing of test engines.* (i) The manufacturer may perform minimal set-to-spec maintenance on a test engine. Maintenance may include only that which is listed in the owner's instructions for engines with the amount of service and age of the acquired test engine.

(ii) Documentation of all maintenance and adjustments may be maintained and retained as required by § 90.121.

(4) One valid emission test may be conducted for each in-use engine.

(5) If a selected in-use engine fails to comply with any applicable certification emission standard, the manufacturer may determine the reason for noncompliance. The manufacturer may report all determinations for noncompliance in its annual in-use test result report as described below.

(e) *In-use test program reporting.* The manufacturer may submit to the Administrator by January 30 of each calendar year all emission testing results generated from in-use testing. The following information may be reported for each test engine:

- (1) Engine family;
- (2) Model;
- (3) Engine serial number;
- (4) Date of manufacture;

- (5) Estimated hours of use;
 - (6) Results of all emission testing;
 - (7) Summary of all maintenance and/or adjustments performed;
 - (8) Summary of all modifications and/or repairs; and
 - (9) Determinations of compliance and/or noncompliance.
- (f) The Administrator may approve and/or suggest modifications to a manufacturer's in-use testing program.

[60 FR 34598, July 3, 1995, as amended at 64 FR 15239, Mar. 30, 1999]

§ 90.114 Requirement of certification—engine information label.

(a) The engine manufacturer must affix at the time of manufacture a permanent and legible label identifying each nonroad engine. The label must meet the following requirements:

(1) Be attached in such a manner that it cannot be removed without destroying or defacing the label;

(2) Be durable and readable for the entire engine life;

(3) Be secured to an engine part necessary for normal engine operation and not normally requiring replacement during engine life;

(4) Be written in English; and

(5) Be located so as to be readily visible to the average person after the engine is installed in the vehicle.

(b) If the nonroad vehicle obscures the label on the engine, the nonroad vehicle manufacturer must attach a supplemental label so that this label is readily visible to the average person. The supplemental label must:

(1) Be attached in such a manner that it cannot be removed without destroying or defacing the label;

(2) Be secured to a vehicle part necessary for normal operation and not normally requiring replacement during the vehicle life; and

(3) Be identical in content to the label which was obscured.

(c) The label must contain the following information:

(1) The heading "Important Engine Information;"

(2) The full corporate name and trademark of the engine manufacturer;

(3) The statement, "This (specify vehicle or engine, as applicable) is certified to operate on (specify operating fuel(s));"

(4) Identification of the Exhaust Emission Control System (Abbreviations may be used and must conform to the nomenclature and abbreviations provided in the Society of Automotive Engineers procedure J1930, "Electrical/Electronic Systems Diagnostic Terms, Definitions, Abbreviations and Acronyms," September 1991. This procedure has been incorporated by reference. See § 90.7.);

(5) All engine lubricant requirements;

(6) Date of engine manufacture [day (optional), month and year];

(7) The statement "THIS ENGINE CONFORMS TO U.S. EPA REGS FOR [MODEL YEAR].";

(8) EPA standardized engine family designation;

(9) Engine displacement [in cubic centimeters];

(10) Other information concerning proper maintenance and use or indicating compliance or noncompliance with other standards may be indicated on the label;

(11) For Phase 2 engines, the useful life category as determined by the manufacturer pursuant to § 90.105. Such useful life category shall be shown by one of the following statements to be appended to the statement required under paragraph (c)(7) of this section:

(i) "EMISSIONS COMPLIANCE PERIOD: [useful life] HOURS"; or

(ii) "EMISSIONS COMPLIANCE PERIOD: CATEGORY [fill in C, B or A as indicated and appropriate from the tables in § 90.105], REFER TO OWNER'S MANUAL FOR FURTHER INFORMATION";

(d) If there is insufficient space on the engine (or on the vehicle where a supplemental label is required under paragraph (b) of this section) to accommodate a label including all the information required in paragraph (c) of this section, the manufacturer may delete or alter the label as indicated in this paragraph. The information deleted from the label must appear in the owner's manual.

(1) Exclude the information required in paragraphs (c)(3), (4), and (5) of this section. The fuel or lubricant may be specified elsewhere on the engine.

(2) Exclude the information required by paragraph (c)(6) of this section, if

the date the engine was manufactured is stamped on the engine.

(e) The Administrator may, upon request, waive or modify the label content requirements of paragraphs (c) and (d) of this section, provided that the intent of such requirements is met.

(f) Manufacturers electing to use the labeling language of paragraph (c)(11)(ii) of this section must provide in the documents intended to be conveyed to the ultimate purchaser, the statement:

(1) For nonhandheld engines: The Emissions Compliance Period referred to on the Emissions Compliance label indicates the number of operating hours for which the engine has been shown to meet Federal emission requirements. For engines less than 66 cc, Category C = 50 hours, B = 125 hours, and A = 300 hours. For engines equal to or greater than 66 cc but less than 225 cc displacement, Category C = 125 hours, B = 250 hours, and A = 500 hours. For engines of 225 cc or more, Category C = 250 hours, B = 500 hours, and A = 1000 hours.

(2) For handheld engines: The Emissions Compliance Period referred to on the Emissions Compliance label indicates the number of operating hours for which the engine has been shown to meet Federal emission requirements. Category C = 50 hours, B = 125 hours, and A = 300 hours.

(3) The manufacturer must provide, in the same document as the statement in paragraph (f)(1) or (f)(2) of this section, a statement of the engine's displacement or an explanation of how to readily determine the engine's displacement. The Administrator may approve alternate language to the statement in paragraph (f)(1) or (f)(2) of this section, provided that the alternate language provides the ultimate purchaser with a clear description of the number of hours represented by each of the three letter categories for the subject engine's displacement.

(g) Manufacturers may add appropriate features to prevent counterfeit labels. For example, manufacturers

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may include the engine's unique identification number on the label.

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§ 90.115 Requirement of certification—supplying production engines upon request.

Upon the Administrator's request, the manufacturer must supply a reasonable number of production engines for testing and evaluation. These engines must be representative of typical production and supplied for testing at such time and place and for such reasonable periods as the Administrator may require.

§ 90.116 Certification procedure—determining engine displacement, engine class, and engine families.

(a) Engine displacement must be calculated using nominal engine values and rounded to the nearest whole cubic centimeter in accordance with ASTM E29-93a. This procedure has been incorporated by reference. See § 90.7.

(b) Engines will be divided into classes by the following:

(1) Class I-A—nonhandheld equipment engines less than 66 cc in displacement;

(2) Class I-B—nonhandheld equipment engines greater than or equal to 66 cc but less than 100 cc in displacement;

(3) Class I—nonhandheld equipment engines greater than or equal to 100 cc but less than 225 cc in displacement;

(4) Class II—nonhandheld equipment engines greater than or equal to 225 cc in displacement;

(5) Class III—handheld equipment engines less than 20 cc in displacement,

(6) Class IV—handheld equipment engines equal or greater than 20 cc but less than 50 cc in displacement, and

(7) Class V—handheld equipment engines equal to or greater than 50 cc in displacement.

(c) The manufacturer's product line will be divided into groupings of engine families as specified by paragraph (d) of this section.

(d) To be classed in the same engine family, engines must be identical in all of the following applicable respects:

(1) The combustion cycle;

(2) The cooling mechanism;

(3) The cylinder configuration (inline, vee, opposed, bore spacings, and so forth);

(4) The number of cylinders;

(5) The engine class. Engines of different displacements that are within 15 percent of the largest displacement may be included within the same engine family as long as all the engines are in the same class;

(6) The location of valves, where applicable, with respect to the cylinder (e.g. side valves or overhead valves);

(7) The number of catalytic converters, location, volume and composition;

(8) The thermal reactor characteristics;

(9) The fuel required (e.g. gasoline, natural gas, LPG); and

(10) The useful life category.

(e) At the manufacturer's option, engines identical in all the respects listed in paragraph (d) of this section may be further divided into different engine families if the Administrator determines that they may be expected to have different emission characteristics. This determination is based upon the consideration of features such as:

(1) [Reserved]

(2) The combustion chamber configuration;

(3) The intake and exhaust timing method of actuation (poppet valve, reed valve, rotary valve, and so forth);

(4) The intake and exhaust valve or port sizes, as applicable;

(5) The fuel system;

(6) The exhaust system; and

(7) The method of air aspiration.

(f) Where engines are of a type which cannot be divided into engine families based upon the criteria listed in paragraph (d) of this section, the Administrator will establish families for those engines based upon the features most related to their emission characteristics.

[60 FR 34598, July 3, 1995, as amended at 64 FR 15239, Mar. 30, 1999; 65 FR 24308, Apr. 25, 2000; 73 FR 59180, Oct. 8, 2008]

§ 90.117 Certification procedure—test engine selection.

(a) For Phase 1 engines, the manufacturer must select, from each engine