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certificate was issued, and the certificate may be determined to be void *ab initio*.

(2) The manufacturer shall bear the burden of establishing to the satisfaction of the Administrator that the conditions upon which the certificate was granted were satisfied or waived.

(d) The Administrator may, upon request by a manufacturer, waive any requirement of this part otherwise necessary for the issuance of a certificate. The Administrator may set such conditions in a certificate as he or she deems appropriate to assure that the waived requirements are either satisfied or are demonstrated, for the subject engines, to be inappropriate, irrelevant or met by the application of a different requirement under this chapter. The Administrator may indicate on such conditional certificates that failure to meet these conditions may result in suspension or revocation or the voiding *ab initio* of the certificate.

[60 FR 34598, July 3, 1995, as amended at 64 FR 15238, Mar. 30, 1999]

**§ 90.109 Requirement of certification—closed crankcase.**

(a) An engine's crankcase must be closed.

(b) For purposes of this section, "crankcase" means the housing for the crankshaft and other related internal parts.

(c) Notwithstanding paragraph (a) of this section, the Administrator will allow open crankcases for engines used exclusively to power snowthrowers based upon a manufacturer's demonstration that all applicable emission standards will be met by the engine for the combination of emissions from the crankcase, and exhaust emissions measured using the procedures in subpart E of this part. This demonstration may be made based upon best engineering judgment. Upon request of the Administrator, the manufacturer must provide an explanation of any procedure or methodology used to determine that the total CO emissions from the crankcase and the exhaust are below the applicable standard for CO.

[60 FR 34598, July 3, 1995, as amended at 61 FR 58301, Nov. 13, 1996]

**40 CFR Ch. I (7-1-03 Edition)**

**§ 90.110 Requirement of certification—prohibited controls.**

(a) An engine may not be equipped with an emission control device, system, or element of design for the purpose of complying with emission standards if such device, system, or element of design will cause or contribute to an unreasonable risk to public health, welfare, or safety in its operation or function.

(b) You may not design your engines with emission-control devices, systems, or elements of design that cause or contribute to an unreasonable risk to public health, welfare, or safety while operating. For example, this would apply if the engine emits a noxious or toxic substance it would otherwise not emit that contributes to such an unreasonable risk.

[60 FR 34598, July 3, 1995, as amended at 67 FR 68340, Nov. 8, 2002]

**§ 90.111 Requirement of certification—prohibition of defeat devices.**

(a) An engine may not be equipped with a defeat device.

(b) For purposes of this section, "defeat device" means any device, system, or element of design which senses operation outside normal emission test conditions and reduces emission control effectiveness.

(1) Defeat device includes any auxiliary emission control device (AECD) that reduces the effectiveness of the emission control system under conditions which may reasonably be expected to be encountered in normal operation and use unless such conditions are included in the test procedure.

(2) Defeat device does not include such items which either operate only during engine starting or are necessary to protect the engine (or vehicle in which it is installed) against damage or accident during its operation.

**§ 90.112 Requirement of certification—adjustable parameters.**

(a) Engines equipped with adjustable parameters must comply with all requirements of this subpart for any specification within the physically available range.

(b) An operating parameter is not considered adjustable if it is permanently sealed by the manufacturer or

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otherwise not normally accessible using ordinary tools.

(c) The Administrator may require that adjustable parameters be set to any specification within the adjustable range during certification or a selective enforcement audit to determine compliance with the requirements of this subpart.

### § 90.113 In-use testing program for Phase 1 engines.

(a) This section applies only to Phase 1 engines. In-use testing provisions for Phase 2 engines are found in subpart M of this part. At the time of certification the engine manufacturer may propose which engine families should be included in an in-use test program. EPA will approve a manufacturer's test program if the selected engine families represent an adequate consideration of the elements listed in paragraphs (b) and (c) of this section.

(b) *Number of engines to be tested.* The number of engines to be tested by a manufacturer is determined by the following method:

(1) For an engine manufacturer with total projected annual production of more than 75,000 engines destined for the United States market for that model year, the minimum number of engines to be tested may be the lowest of the numbers determined in paragraph (b)(1)(i), (ii) or (iii) of this section:

(i) Divide the manufacturer's total projected annual production of small SI engines destined for the United States market for that model year by 50,000, and round to the nearest whole number;

(ii) Test five engines each from 25 percent of all engine families certified in that model year; and

(iii) Test three engines each from 50 percent of all engine families certified in that model year.

(2) An engine manufacturer with total projected annual production of 75,000 engines or less destined for the United States market for that model year may test a minimum of two engines.

(c) *Criteria for selecting test engines.* An engine manufacturer may select test engines from engine families uti-

lizing the following criteria and in the order specified:

(1) Engine families using emission control technology which most likely will be used on Phase 2 engines;

(2) Engine families using aftertreatment;

(3) Engine families certified to different emission standards;

(4) Different engine designs (such as sidevalve head versus overhead valve engines);

(5) Engine families using emission control technology specifically installed to achieve compliance with emission standards of this part;

(6) The engine family with the highest projected annual sales; and

(7) Engine families which meet the above criteria, but have not been included in prior model year in-use testing programs as required by these provisions.

(d) *Collection of in-use engines.* An engine manufacturer may procure in-use 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