

Environmental Protection Agency

§ 89.118

(4) Method of exhaust aftertreatment (for example, catalytic converter or particulate trap);

(5) Combustion chamber design;

(6) Bore;

(7) Stroke;

(8) Number of cylinders, (engines with aftertreatment devices only); and

(9) Cylinder arrangement (engines with aftertreatment devices only).

(c) Upon a showing by the manufacturer that the useful life period emission characteristics are expected to be similar, engines differing in one or more of the characteristics in paragraph (b) of this section may be grouped in the same engine family.

(d) Upon a showing by the manufacturer that the expected useful life period emission characteristics will be different, engines identical in all the characteristics of paragraph (b) of this section may be divided into separate engine families.

(e)(1) This paragraph (e) applies only to the placement of Tier 1 engines with power ratings under 37 kW into engine families. The provisions of paragraphs (a) through (d) of this section also apply to these engines. The power categories referred to in this paragraph (e) are those for which separate standards or implementation dates are described in § 89.112.

(2) A manufacturer may place engines with power ratings in one power category into an engine family comprised of engines with power ratings in another power category, and consider all engines in the engine family as being in the latter power category for the purpose of determining compliance with the standards and other requirements of this part, subject to approval in advance by the Administrator and the following restrictions:

(i) The engines that have power ratings outside the engine family's power category must constitute less than half of the engine family's sales in each model year for which the engine family grouping is made; and

(ii) The engines that have power ratings outside the engine family's power category must have power ratings that are within ten percent of either of the two power levels that define the engine family's power category.

(3) The restrictions described in paragraphs (e)(2)(i) and (e)(2)(ii) of this section do not apply if the emissions standards and other requirements of this part are at least as stringent for the engine family's power category as those of the other power categories containing engines in the engine family.

[59 FR 31335, June 17, 1994. Redesignated and amended at 63 FR 56995, 57003, Oct. 23, 1998]

§ 89.117 Test fleet selection.

(a) The manufacturer must select for testing, from each engine family, the engine with the most fuel injected per stroke of an injector, primarily at the speed of maximum torque and secondarily at rated speed.

(b) Each engine in the test fleet must be constructed to be representative of production engines.

(c) After review of the manufacturer's test fleet, the Administrator may select from the available fleet one additional test engine from each engine family.

(d) For establishing deterioration factors, the manufacturer shall select the engines, subsystems, or components to be used to determine exhaust emission deterioration factors for each engine-family control system combination. Engines, subsystems, or components shall be selected so that their emission deterioration characteristics are expected to represent those of in-use engines, based on good engineering judgment.

[59 FR 31335, June 17, 1994. Redesignated and amended at 63 FR 56995, 57003, Oct. 23, 1998]

§ 89.118 Deterioration factors and service accumulation.

This section applies to service accumulation used to determine deterioration factors and service accumulation used to condition test engines. Paragraphs (a) and (b) of this section apply only for service accumulation used to condition test engines. Paragraph (e) of this section applies only for service accumulation used to determine deterioration factors. Paragraphs (c) and (d) of this section apply for all service accumulation required by this part.