

§ 1039.230

Otherwise, you must use the higher FEL for the family to calculate your average emission level under subpart H of this part.

(3) If you change the FEL during production, you must include the new FEL on the emission control information label for all engines produced after the change.

[69 FR 39213, June 29, 2004, as amended at 70 FR 40463, July 13, 2005]

§ 1039.230 How do I select engine families?

(a) Divide your product line into families of engines that are expected to have similar emission characteristics throughout the useful life. Your engine family is limited to a single model year.

(b) Group engines in the same engine family if they are the same in all the following aspects:

- (1) The combustion cycle and fuel.
 - (2) The cooling system (water-cooled vs. air-cooled).
 - (3) Method of air aspiration.
 - (4) Method of exhaust aftertreatment (for example, catalytic converter or particulate trap).
 - (5) Combustion chamber design.
 - (6) Bore and stroke.
 - (7) Number of cylinders (for engines with aftertreatment devices only).
 - (8) Cylinder arrangement (for engines with aftertreatment devices only).
 - (9) Method of control for engine operation other than governing (*i.e.*, mechanical or electronic).
 - (10) Power category.
 - (11) Numerical level of the emission standards that apply to the engine.
- (c) You may subdivide a group of engines that is identical under paragraph (b) of this section into different engine families if you show the expected emission characteristics are different during the useful life.
- (d) You may group engines that are not identical with respect to the things listed in paragraph (b) of this section in the same engine family if you show that their emission characteristics during the useful life will be similar.
- (e) If you combine engines from different power categories into a single engine family under paragraph (d) of this section, you must certify the engine family to the more stringent set

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of standards from the two power categories in that model year.

§ 1039.235 What emission testing must I perform for my application for a certificate of conformity?

This section describes the emission testing you must perform to show compliance with the emission standards in § 1039.101(a) and (b) or § 1039.102(a) and (b). See § 1039.205(p) regarding emission testing related to the NTE standards. See § 1039.240, § 1039.245, and 40 CFR part 1065, subpart E, regarding service accumulation before emission testing.

(a) Test your emission-data engines using the procedures and equipment specified in subpart F of this part.

(b) Select an emission-data engine from each engine family for testing. Select the engine configuration with the highest volume of fuel injected per cylinder per combustion cycle at the point of maximum torque—unless good engineering judgment indicates that a different engine configuration is more likely to exceed (or have emissions nearer to) an applicable emission standard or FEL. If two or more engines have the same fueling rate at maximum torque, select the one with the highest fueling rate at rated speed. In making this selection, consider all factors expected to affect emission-control performance and compliance with the standards, including emission levels of all exhaust constituents, especially NO_x and PM.

(c) We may measure emissions from any of your test engines or other engines from the engine family, as follows:

(1) We may decide to do the testing at your plant or any other facility. If we do this, you must deliver the test engine to a test facility we designate. The test engine you provide must include appropriate manifolds, aftertreatment devices, electronic control units, and other emission-related components not normally attached directly to the engine block. If we do the testing at your plant, you must schedule it as soon as possible and make available the instruments, personnel, and equipment we need.

(2) If we measure emissions on one of your test engines, the results of that