

TABLE B-5.—FEDERAL TEST FUEL SPECIFICATIONS—Continued

Item	Procedure ¹	Value
Viscosity at 38 °C, centistokes	ASTM D 445-01	2.0-3.2

¹ All ASTM standards are incorporated by reference in § 94.5.

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(b) *Other fuel types.* For Category 1 and Category 2 engines that are designed to be capable of using a type of fuel (or mixed fuel) instead of or in addition to distillate diesel fuel (e.g., natural gas, methanol, or nondistillate diesel), and that are expected to use that type of fuel (or mixed fuel) in service:

(1) A commercially available fuel of that type shall be used for exhaust emission testing. The manufacturer shall propose for the Administrator's approval a set of test fuel specifications that take into account the engine design and the properties of commercially available fuels. The Administrator may require testing on each fuel if it is designed to operate on more than one fuel. These test fuel specifications shall be reported in the application for certification.

(2) [Reserved]

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(d) *Correction for sulfur.* (1) Particulate emission measurements from Category 1 or Category 2 engines without exhaust aftertreatment obtained using a diesel fuel containing more than 0.40 weight percent sulfur may be adjusted to a sulfur content of 0.40 weight percent.

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(e) *Test fuel for Category 3 engines.* For testing Tier 1 engines, use test fuels meeting the specifications listed in the Annex VI Technical Code (incorporated by reference in § 94.5).

14. A new § 94.109 is added to read as follows:

§ 94.109 Test procedures for Category 3 marine engines.

(a) Gaseous emissions shall be measured using the test cycles and procedures specified by Section 5 of the Annex VI Technical Code (incorporated by reference in § 94.5), except as otherwise specified in this paragraph (a).

(1) The inlet air and exhaust restrictions shall be set at the average in-use levels.

(2) Measurements are valid only for sampling periods in which the temperature of the charge air entering the engine is within 3°C of the temperature that would occur in-use under ambient conditions (temperature, pressure, and humidity) identical to the

test conditions. You may measure emissions within larger discrepancies, but you may not use those measurements to demonstrate compliance.

(3) Engine coolant and engine oil temperatures shall be equivalent to the temperatures that would occur in-use under ambient conditions identical to the test conditions.

(4) Exhaust flow rates shall be calculated using measured fuel flow rates.

(5) Standards used for calibration shall be traceable to NIST standards. (Other national standards may be used if they have been shown to be equivalent to NIST standards.)

(6) Certification tests may be performed at any representative pressure and humidity levels. Certification tests may be performed at any ambient air temperature from 13°C to 30°C and any charge air cooling water temperature from 17°C to 27°C. These limits apply instead of the limits specified in section 5.2.1 of the Annex VI Technical Code. Correct emissions for test conditions using the corrections specified in section 5.12.3 of the Annex VI Technical Code.

(7) Test cycles shall be denormalized based on the maximum test speed described in § 94.107.

(b) Analyzers meeting the specifications of either 40 CFR part 86, subpart N, or ISO 8178-1 (incorporated by reference in § 94.5) shall be used to measure THC and CO.

(c) The Administrator may specify changes to the provisions of paragraph (a) of this section that are necessary to comply with the general provisions of § 94.102.

Subpart C—[Amended]

15. Section 94.203 is amended by revising paragraph (d)(14) to read as follows:

§ 94.203 Application for certification.

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(d) * * *

(14) (i) For Category 1 and Category 2 engines, a statement that the all the engines included in the engine family comply with the Not To Exceed standards specified in § 94.8(e) when operated under all conditions which may reasonably be expected to be

encountered in normal operation and use; the manufacturer also must provide a detailed description of all testing, engineering analyses, and other information which provides the basis for this statement.

(ii) [Reserved]

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16. Section 94.204 is amended by adding paragraph (f) to read as follows:

§ 94.204 Designation of engine families.

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(f) Category 3 engines shall be grouped into engine families based on the criteria specified in Section 4.3 of the Annex VI Technical Code (incorporated by reference in § 94.5), except as allowed in paragraphs (d) and (e) of this section.

17. Section 94.205 is amended by revising paragraph (b) and adding paragraphs (e) and (f) to read as follows:

§ 94.205 Prohibited controls, adjustable parameters.

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(b)(1) Category 1 marine engines equipped with adjustable parameters must comply with all requirements of this subpart for any adjustment in the physically adjustable range.

(2) Category 2 and Category 3 marine engines equipped with adjustable parameters must comply with all requirements of this subpart for any adjustment in the approved adjustable range.

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(e) Tier 1 Category 3 marine engines shall be adjusted according to the manufacturer's specifications for testing.

(f) For Category 3 marine engines, manufacturers must specify in the maintenance instructions how to adjust the engines to achieve emission performance equivalent to the performance demonstrated under the certification test conditions. This must address all necessary adjustments, including those required to address differences in fuel quality or ambient temperatures. For example, equivalent emissions performance can be measured relative to optimal engine performance that could be achieved in the absence of emission standards (i.e., the calibration that result in the lowest fuel consumption and/or maximum firing pressure). In this example, adjustments