

**§ 90.6**

**40 CFR Ch. I (7-1-00 Edition)**

- NO—Nitric oxide
- NO<sub>2</sub>—Nitrogen dioxide
- NO<sub>x</sub>—Oxides of nitrogen
- O<sub>2</sub>—Oxygen
- OEM—original equipment manufacturer
- PMD—paramagnetic detector
- SAE—Society of Automotive Engineers
- SEA—Selective Enforcement Auditing
- SI—spark-ignition
- U.S.C.—United States Code
- VOC—Volatile organic compounds
- ZROD—zirconiumdioxide sensor

**§ 90.6 Table and figure numbering; position.**

(a) Tables for each subpart appear in an appendix at the end of the subpart. Tables are numbered consecutively by order of appearance in the appendix. The table title will indicate the topic.

(b) Figures for each subpart appear in an appendix at the end of the subpart. Figures are numbered consecutively by order of appearance in the appendix. The figure title will indicate the topic.

**§ 90.7 Reference materials.**

(a) *Incorporation by reference.* The documents in paragraph (b) of this section have been incorporated by ref-

erence. The incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be inspected at U.S. EPA Air and Radiation Docket, room M-1500, 401 M Street, S.W., Washington D.C. 20460, or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(b) The following paragraphs and tables set forth the material that has been incorporated by reference in this part.

(1) *ASTM material.* The following table sets forth material from the American Society for Testing and Materials which has been incorporated by reference. The first column lists the number and name of the material. The second column lists the section(s) of this part, other than § 90.7, in which the matter is referenced. The second column is presented for information only and may not be all inclusive. Copies of these materials may be obtained from American Society for Testing and Materials, 1916 Race St., Philadelphia, PA 19103.

Document number and name	40 CFR part 90 reference
ASTM D86-93: Standard Test Method for Distillation of Petroleum Products .....	Appendix A to subpart D, Table 3.
ASTM D1319-89: Standard Test Method for Hydrocarbon Types in Liquid Petroleum Products by Fluorescent Indicator Adsorption.	Appendix A to subpart D, Table 3.
ASTM D2622-92: Standard Test Method for Sulfur in Petroleum Products by X-ray Spectrometry.	Appendix A to subpart D, Table 3.
ASTM D2699-92: Standard Test Method for Knock Characteristics of Motor Fuels by the Research Method.	Appendix A to subpart D, Table 3.
ASTM D2700-92: Standard Test Method for Knock Characteristics of Motor and Aviation Fuels by the Motor Method.	Appendix A to subpart D, Table 3.
ASTM D3231-89: Standard Test Method for Phosphorus in Gasoline .....	Appendix A to subpart D, Table 3.
ASTM D3606-92: Standard Test Method for Determination of Benzene and Toluene in Finished Motor and Aviation Gasoline by Gas Chromatography.	Appendix A to subpart D, Table 3.
ASTM D5191-93a: Standard Test Method for Vapor Pressure of Petroleum Products (Mini Method).	Appendix A to subpart D, Table 3.
ASTM E29-93a: Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications.	90.116; 90.509.

(2) *SAE material.* The following table sets forth material from the Society of Automotive Engineers which has been incorporated by reference. The first column lists the number and name of

the material. The second column lists the section(s) of this part, other than § 90.7, in which the matter is referenced. The second column is presented for information only and may

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not be all inclusive. Copies of these materials may be obtained from Society of Automotive Engineers Inter-

national, 400 Commonwealth Dr., Warrendale, PA 15096-0001.

Document number and name	40 CFR part 90 reference
SAE J1930 September 1991, Electrical/Electronic Systems Diagnostic Terms, Definitions, Abbreviations and Acronyms .....	90.114
SAE Paper 770141, Optimization of a Flame Ionization Detector for Determination of Hydrocarbon in Diluted Automotive Exhausts, Glenn D. Reschke, 1977 .....	90.316

**Subpart B—Emission Standards and Certification Provisions**

**§ 90.101 Applicability.**

The requirements of subpart B are applicable to all nonroad engines and vehicles subject to the provisions of subpart A of part 90.

**§ 90.102 Definitions.**

The definitions in subpart A of part 90 apply to this subpart. All terms not defined herein or in subpart A have the meaning given them in the Act. The following definitions also apply to this subpart.

*Attitudinal control* means the operator regulates either the horizontal or vertical position of the equipment, or both.

*Carry* means the operator completely bears the weight of the equipment, including the engine.

*Support* means that the operator holds the equipment in position so as to prevent it from falling, slipping or sinking. It is not necessary for the entire weight of the equipment to be borne by the operator.

**§ 90.103 Exhaust emission standards.**

(a) Exhaust emissions for new Phase 1 and Phase 2 nonroad spark ignition engines at or below 19 kilowatts (kW), shall not exceed the following levels. Throughout this part, NMHC+NO<sub>x</sub> standards are applicable only to natural gas fueled engines at the option of the manufacturer, in lieu of HC+NO<sub>x</sub> standards.

TABLE 1—PHASE 1 EXHAUST EMISSION STANDARDS  
[Grams per kilowatt-hour]

Engine displacement class	Hydrocarbons+oxides of nitrogen (HC+NO <sub>x</sub> )	Hydrocarbons	Carbon monoxide	Oxides of nitrogen (NO <sub>x</sub> )
I .....	16.1	.....	519	.....
II .....	13.4	.....	519	.....
III .....	.....	295	805	5.36
IV .....	.....	241	805	5.36
V .....	.....	161	603	5.36

TABLE 2.—PHASE 2 CLASS I-A, CLASS I-B, AND CLASS I ENGINE EXHAUST EMISSION STANDARDS  
[grams per kilowatt-hour]

Engine class	HC+NO <sub>x</sub>	NMHC+NO <sub>x</sub>	CO	Effective date
I .....	16.1	14.8	610	August 1, 2007; in addition, any Class I engine family initially produced on or after August 1, 2003 must meet the Phase 2 Class I standards before they may be introduced into commerce.
I-A .....	50	.....	610	2001 Model Year.
I-B .....	40	37	610	2001 Model Year.