Environmental Protection Agency

§ 86.1 Reference materials.

(a) The documents in paragraph (b) of this section have been incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition

86.405–78 Measurement system.
86.406–78 Introduction, structure of subpart, further information.
86.407–78 Certificate of conformity required.
86.408–78 General standards; increase in emissions; unsafe conditions.
86.409–78 Defeat devices, prohibition.
86.410–90 Emission standards for 1990 and later model year motorcycles.
86.411–78 Maintenance instructions, vehicle purchaser.
86.412–78 Maintenance instructions, submission to Administrator.
86.413–78 Labeling.
86.414–78 Submission of vehicle identification number.
86.415–78 Production vehicles.
86.416–78 Application for certification.
86.417–78 Approval of application for certification.
86.418–78 Test fleet selection.
86.419–78 Engine displacement, motorcycle classes.
86.420–78 Engine families.
86.421–78 Test fleet.
86.422–78 Administrator’s fleet.
86.423–78 Test vehicles.
86.425–78 Test procedures.
86.426–78 Service accumulation.
86.427–78 Test vehicles.
86.428–80 Maintenance instructions; test vehicles.
86.429–78 Maintenance, unscheduled; test vehicles.
86.430–78 Vehicle failure.
86.431–78 Data submission.
86.432–78 Deterioration factor.
86.434–78 Testing by the Administrator.
86.435–78 Extrapolated emission values.
86.436–78 Additional service accumulation.
86.437–78 Certification.
86.438–78 Amendments to the application.
86.439–78 Alternative procedure for notification of additions and changes.
86.440–78 Maintenance of records.
86.441–78 Right of entry.
86.442–78 Denial, revocation, or suspension of certification.
86.443–78 Request for hearing.
86.444–78 Hearings on certification.
86.445–2006 What temporary provisions address hardship due to unusual circumstances?
86.446–2006 What are the provisions for extending compliance deadlines for small-volume manufacturers under hardship?
86.447–2006 What provisions apply to motorcycle engines below 50 cc that are certified under the Small SI program or the Recreational-vehicle program?
other than that specified in this section, a notice of change must be published in the Federal Register and the material must be available to the public. All approved material is available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030 or go to http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html. Also, the material is available for inspection at the Air Docket, EPA/DC, EPA West, Room B102, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Air Docket is 202–566–1742. Copies are also available from the sources listed below.

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

(1) ASTM material. Copies of these materials may be obtained from American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959, or by calling 610–832–9585, or at http://www.astm.org.


(2) SAE material. Copies of these materials may be obtained from Society of Automotive Engineers International, 400 Commonwealth Dr., Warrendale, PA 15096–0001, or by calling 724–776–4841, or at http://www.sae.org.


(iii) SAE J1850, July 1995, Class B Data Communication Network Interface, IBR approved for §§ 86.099–17, 86.1806–01.

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(vi) SAE J1892, October 1993, Recommended Practice for Bar-Coded Vehicle Emission Configuration Label, IBR approved for §§ 86.005–35, 86.1806–01.


(viii) SAE J1892, October 1993, Recommended Practice for Bar-Coded Vehicle Emission Configuration Label, IBR approved for §§ 86.005–35, 86.1806–01.


(x) SAE J1939, Revised October 2007, Recommended Practice for a Serial Control and Communications Vehicle Network, IBR approved for §§ 86.010–18.

(xi) SAE J1939–11, December 1994, Physical Layer—250K bits/s, Shielded Twisted Pair, IBR approved for §§ 86.005–17, 86.1806–05.

(xii) SAE J1939–11, Revised October 1999, Physical Layer—250K bits/s, Shielded Twisted Pair, IBR approved for §§ 86.005–17, 86.007–17, 86.1806–04, 86.1806–05.

(xiii) SAE J1939–13, July 1999, Off-Board Diagnostic Connector, IBR approved for §§ 86.005–17, 86.007–17, 86.1806–04, 86.1806–05.

(xiv) SAE J1939–13, Revised March 2004, Off-Board Diagnostic Connector, IBR approved for § 86.010–18.

(xv) SAE J1939–21, July 1994, Data Link Layer, IBR approved for §§ 86.005–17, 86.1806–05.

(xvi) SAE J1939–21, Revised April 2001, Data Link Layer, IBR approved for §§ 86.005–17, 86.007–17, 86.1806–04, 86.1806–05.

(xvii) SAE J1939–31, Revised December 1997, Network Layer, IBR approved for §§ 86.005–17, 86.007–17, 86.1806–04, 86.1806–05.


(xxi) SAE J1939–73, February 1996, Application Layer—Diagnostics, IBR approved for §§ 86.005–17, 86.1806–05.

(xxii) SAE J1939–73, Revised June 2001, Application Layer—Diagnostics, IBR approved for §§ 86.005–17, 86.007–17, 86.1806–04, 86.1806–05.


(xxiv) SAE J1939–81, July 1996, Recommended Practice for Serial Control and Communications Vehicle Network Part 81—Network Management, IBR approved for §§ 86.005–17, 86.007–17, 86.1806–04, 86.1806–05.

(xxv) SAE J1939–81, Revised May 2003, Network Management, IBR approved for § 86.010–38.

(xxvi) SAE J1962, January 1995, Diagnostic Connector, IBR approved for §§ 86.099–17, 86.1806–01.

(xxvii) SAE J1962, Revised April 2002, Diagnostic Connector Equivalent to ISO/DIS 15031–3; December 14, 2001, IBR approved for §§ 86.005–17, 86.007–17, 86.010–18, 86.1806–04, 86.1806–05.

(xxviii) SAE J1962, Revised April 2002, OBD II Scan Tool—Equivalent to ISO/DIS 15031–4; December 14, 2001, IBR approved for §§ 86.005–17, 86.007–17, 86.010–18, 86.1806–04, 86.1806–05.

(xxix) SAE J1978, Revised September 1997, E/E Diagnostic Test Modes, IBR approved for §§ 86.005–17, 86.007–17, 86.1806–04, 86.1806–05.

(lix) SAE J1997, July 1996, E/E Diagnostic Test Modes, IBR approved for §§ 86.005–17, 86.007–17, 86.1806–04, 86.1806–05.

(lx) SAE J1997, Revised September 1997, E/E Diagnostic Test Modes, IBR approved for §§ 86.005–17, 86.007–17, 86.1806–04, 86.1806–05.


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(34) SAE J2012, Revised April 2002, Diagnostic Trouble Code Definitions Equivalent to ISO/DIS 15031-6: April 30, 2002, IBR approved for §§ 86.005-17, 86.007-17, 86.010-18, 86.1806-04, 86.1806-05.

(35) SAE J2384-3, May 2001, High Speed CAN (HSC) for Vehicle Applications at 500 KBPS, IBR approved for §§ 86.096-38, 86.004-38, 86.007-38, 86.010-38, 86.1808-01, 86.1808-07.

(36) SAE J2534, February 2002, Recommended Practice for Pass-Thru Vehicle Programming, IBR approved for §§ 86.096-38, 86.004-38, 86.007-38, 86.010-38, 86.1808-01, 86.1808-07.

(37) SAE J2534-1, Revised December 2004, (R) Recommended Practice for Pass-Thru Vehicle Programming, IBR approved for § 86.010-38.

(38) SAE J2064, Revised December 2005, R134a Refrigerant Automotive Air-Conditioned Hose, IBR approved for § 86.166-12.

(39) ANSI material. Copies of these materials may be obtained from the American National Standards Institute, 25 W 43rd Street, 4th Floor, New York, NY 10036, or by calling 212-642-4900, or at http://wwwansi.org.

(i) ANSI/AGA NGV1–1994, Standard for Compressed Natural Gas Vehicle (NGV) Fueling Connection Devices, IBR approved for §§ 86.001-9, 86.004-9, 86.096-9, 86.099-9, 86.099-10, 86.1810-01.

(ii) [Reserved]

(40) California regulatory requirements. Copies of these materials may be obtained from U.S. EPA, see paragraph (a) of this section, or from the California Air Resource Board by calling 916-322-2984, or at http://www.arb.ca.gov.

(i) California Regulatory Requirements Applicable to the “LEV II” Program, including:


(B) California Non-Methane Organic Gas Test Procedures, August 5, 1999, IBR approved for §§ 86.1806-01, 86.1811-04.


(iii) California Regulatory Requirements known as On-board Diagnostics II (OBD-II), Approved on April 21, 2003, Title 13, California Code Regulations, Section 1968.2, Malfunction and Diagnostic System Requirements for 2004 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines (OBD-II), IBR approved for § 86.1806-05.

(iv) California Regulatory Requirements known as On-board Diagnostics II (OBD-II), Approved on November 9, 2007, Title 13, California Code Regulations, Section 1968.2, Malfunction and Diagnostic System Requirements for 2004 and Subsequent Model-Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles and Engines (OBD-II), IBR approved for §§ 86.007-17, 86.1806-05.

(5) ISO material. Copies of these materials may be obtained from the International Organization for Standardization, Case Postale 56, CH-1211 Geneva 20, Switzerland, or by calling 41-22-749-01-11, or at http://www.iso.org.

(i) ISO 9141–2, February 1, 1994, Road vehicles—Diagnostic systems—Part 2: CARB requirements for interchange of digital information, IBR approved for §§ 86.099-17, 86.005-17, 86.007-17, 86.1806-01, 86.1806-04, 86.1806-05.

(ii) ISO 14230–4:2000(E), June 1, 2000, Road vehicles—Diagnostic systems—KWP 2000 requirements for Emission-related systems, IBR approved for §§ 86.099-17, 86.005-17, 86.007-17, 86.1806-01, 86.1806-04, 86.1806-05.

(iii) ISO 15765–4.3:2001, December 14, 2001, Road Vehicles—Diagnostics on Controller Area Networks (CAN)—Part

§ 86.000–2 Definitions.

The definitions of §86.098–2 continue to apply to 1998 and later model year vehicles. The definitions listed in this section apply beginning with the 2000 model year.

AC1 means a test procedure as described in §86.162–00 which simulates testing with air conditioning operating in an environmental test cell by adding the air conditioning compressor load to the normal dynamometer forces.

AC2 means a test procedure as described in §86.162–00 which simulates testing with air conditioning operating in an environmental test cell by adding a heat load to the passenger compartment.

Alternative fuels means any fuel other than gasoline and diesel fuels, such as methanol, ethanol, and gaseous fuels.

866 Cycle means the test cycle that consists of the last 866 seconds (seconds 505 to 1372) of the EPA Urban Dynamometer Driving Schedule, described in §86.115–00 and listed in appendix I, paragraph (a), of this part.

Environmental test cell means a test cell capable of wind-speed, solar thermal load, ambient temperature, and humidity control or simulation which meets the requirements of §86.161–00 for running emission tests with the air conditioning operating.

Federal Test Procedure, or FTP means the test procedure as described in §86.130–00 (a) through (d) and (f) which is designed to measure urban driving tail pipe exhaust emissions and evaporative emissions over the Urban Dynamometer Driving Schedule as described in appendix I to this part.