

§ 86.096-3

40 CFR Ch. I (7-1-04 Edition)

the aforementioned period is 5 years/100,000 miles, whichever occurs first. However, in no case may this period be less than the manufacturer's basic mechanical warranty period for the engine family.

[58 FR 16020, Mar. 24, 1993, as amended at 58 FR 58417, Nov. 1, 1993]

§ 86.096-3 Abbreviations.

(a) The abbreviations in § 86.094-3 continue to apply. The abbreviation in this section applies beginning with the 1996 model year.

(b) The abbreviation in this section applies to this subpart and to subpart O of this part, and has the following meaning:

CST—Certification Short Test

[58 FR 58417, Nov. 1, 1993]

§ 86.096-7 Maintenance of records; submittal of information; right of entry.

Section 86.096-7 includes text that specifies requirements that differ from those specified in §§ 86.091-7 and 86.094-7. Where a paragraph in § 86.091-7 or § 86.094-7 is identical and applicable to § 86.096-7, this may be indicated by specifying the corresponding paragraph and the statement “[Reserved]. For guidance see § 86.091-7.” or “[Reserved]. For guidance see § 86.094-7.”

(a) Introductory text through (a)(2) [Reserved]. For guidance see § 86.091-7.

(a)(3)–(h)(5) [Reserved]. For guidance see § 86.094-7.

(h)(6) *Voiding a certificate.* (i) EPA may void *ab initio* a certificate for a vehicle certified to Tier 0 certification standards or to the respective evaporative test procedure and accompanying evaporative standards as set forth or otherwise referenced in § 86.090-8, § 86.090-9, § 86.091-10 or § 86.094-11 for which the manufacturer fails to retain the records required in this section or to provide such information to the Administrator upon request.

(ii) EPA may void *ab initio* a certificate for a 1994 or 1995 model year light-duty vehicle or light-duty truck that is not certified in compliance with the cold temperature CO standard for which the manufacturer fails to retain the records required in this section or to provide such information to the Administrator upon request.

(iii) Any voiding *ab initio* of a certificate under § 86.091-7(c)(6) and paragraph (h)(6) of this section will be made only after the manufacturer concerned has been offered an opportunity for a hearing conducted in accordance with § 86.614 for light-duty vehicles or under § 86.1014 for light-duty trucks and heavy-duty engines.

(7) The manufacturer (or contractor for the manufacturer, if applicable) of any new model 1996 through 1998 light-duty vehicle, light-duty truck or heavy-duty vehicle that is certified shall establish, maintain and retain the following adequately organized and indexed records for each such vehicle:

- (i) EPA engine family;
- (ii) Vehicle identification number;
- (iii) Model year and production date;
- (iv) Shipment date;
- (v) Purchaser;
- (vi) Purchase contract; and
- (vii) EPA evaporative family.

[58 FR 16021, Mar. 24, 1993, as amended at 58 FR 34535, June 28, 1993]

§ 86.096-8 Emission standards for 1996 and later model year light-duty vehicles.

(a)(1) *Standards.* (i) Exhaust emissions from 1996 and later model year light-duty vehicles (optional for 1996 model year natural gas-fueled and liquefied petroleum gas-fueled light-duty vehicles) shall meet all standards in Tables A96-1 and A96-2 in the rows designated with the applicable fuel type. Light-duty vehicles shall not exceed the applicable standards in table A96-1 and shall not exceed the applicable standards in table A96-2.

TABLE A96-1—INTERMEDIATE USEFUL LIFE STANDARDS (G/MI) FOR LIGHT-DUTY VEHICLES

Fuel	THC	NMHC	THCE	NMHCE	CO	NO _x	PM
Gasoline	0.41	0.25	.....	.....	3.4	0.4	0.08
Diesel	0.41	0.25	.....	.....	3.4	1.0	0.08
Methanol .....	.....	.....	0.41	0.25	3.4	0.4	0.08
Natural Gas .....	.....	0.25	.....	.....	3.4	0.4	0.08

TABLE A96-1—INTERMEDIATE USEFUL LIFE STANDARDS (G/MI) FOR LIGHT-DUTY VEHICLES—
Continued

Fuel	THC	NMHC	THCE	NMHCE	CO	NO _x	PM
LPG	0.41	0.25	.....	.....	3.4	0.4	0.08

TABLE A96-2—FULL USEFUL LIFE STANDARDS (G/MI) FOR LIGHT-DUTY VEHICLES

Fuel	THC	NMHC	THCE	NMHCE	CO	NO _x	PM
Gasoline	0.31	.....	.....	4.2	0.6	0.10
Diesel	0.31	.....	.....	4.2	1.25	0.10
Methanol	0.31	4.2	0.6	0.10
Natural Gas	0.31	.....	.....	4.2	0.6	0.10
LPG	0.31	.....	.....	4.2	0.6	0.10

(ii)(A) Vehicles subject to the standards of paragraph (a)(1)(i) of this section shall be all actual U.S. sales of light-duty vehicles of the applicable model year by a manufacturer.

(B) A manufacturer can not use one set of engine families to meet its intermediate useful life standards and another to meet its full useful life standards. The same families which are used to meet the intermediate useful life standards will be required without deviation to meet the corresponding full useful life standards.

(iii) CST emissions from gasoline-fueled Otto-cycle light-duty vehicles measured and calculated in accordance with subpart O of this part may not exceed the standards listed in paragraphs (a)(1)(iii) (A) and (B) of this section.

(A) Hydrocarbons: 100 ppm as hexane.

(B) Carbon monoxide: 0.5%.

(2) The standards set forth in paragraph (a)(1)(i) of this section refer to the exhaust emitted over a driving schedule as set forth in subpart B of this part and measured and calculated in accordance with those procedures. The test weight basis for light-duty vehicles, for the purposes of determining equivalent test weight as prescribed in §86.129-94, shall be loaded vehicle weight.

(3) The standards set forth in paragraph (a)(1)(iii) of this section refer to the exhaust emitted during the CST as set forth in subpart O of this part and measured and calculated in accordance with those provisions.

(b) Evaporative emissions from light-duty vehicles shall not exceed the following standards. The standards apply equally to certification and in-use ve-

hicles. The spitback standard also applies to newly assembled vehicles. For certification vehicles only, manufacturers may conduct testing to quantify a level of nonfuel background emissions for an individual test vehicle. Such a demonstration must include a description of the source(s) of emissions and an estimated decay rate. The demonstrated level of nonfuel background emissions may be subtracted from emission test results from certification vehicles if approved in advance by the Administrator.

(1) *Hydrocarbons (for gasoline-fueled, natural gas-fueled and liquefied petroleum gas-fueled vehicles)*. (i)(A) For the full three-diurnal test sequence described in §86.130-96, diurnal plus hot soak measurements: 2.0 grams per test.

(B) For the supplemental two-diurnal test sequence described in §86.130-96, diurnal plus hot soak emissions (gasoline-fueled vehicles only): 2.5 grams per test.

(ii) *Running loss test (gasoline-fueled vehicles only)*: 0.05 grams per mile.

(iii) *Fuel dispensing spitback test (gasoline-fueled vehicles only)*: 1.0 grams per test.

(2) *Total Hydrocarbon Equivalent (for methanol-fueled vehicles)*. (i)(A) For the full three-diurnal test sequence described in §86.130-96, diurnal plus hot soak measurements: 2.0 grams carbon per test.

(B) For the supplemental two-diurnal test sequence described in §86.130-96, diurnal plus hot soak measurements: 2.5 grams carbon per test.

(ii) *Running loss test*: 0.05 grams carbon per mile.

(iii) *Fuel dispensing spitback test:* 1.0 gram carbon per test.

(3) The standards set forth in paragraphs (b) (1) and (2) of this section refer to a composite sample of evaporative emissions collected under the conditions and measured in accordance with the procedures set forth in subpart B of this part.

(4) All fuel vapor generated in a gasoline- or methanol-fueled light-duty vehicle during in-use operations shall be routed exclusively to the evaporative control system (e.g., either canister or engine purge). The only exception to this requirement shall be for emergencies.

(5)(i) A minimum of the percentage shown in table A96-15 of a manufacturer's sales of the applicable model year's gasoline- and methanol-fueled light-duty vehicles shall be tested with the procedures in subpart B indicated for 1996 model year, and shall not exceed the standards described in paragraph (b) of this section. The remaining vehicles shall be tested with the procedures in subpart B of this part for 1995 model year light-duty vehicles and be subject to the standards described in § 86.090-8(b).

TABLE A96-15—IMPLEMENTATION SCHEDULE FOR LIGHT-DUTY VEHICLES FOR EVAPORATIVE EMISSION TESTING

Model year	Sales percentage
1996	20
1997	40
1998	90
1999 and following	100

(ii) Optionally, a minimum of the percentage shown in table A96-15 of a manufacturer's combined sales of the applicable model year's gasoline- and methanol-fueled light-duty vehicles, light-duty trucks, and heavy-duty vehicles shall not exceed the applicable standards.

(iii) Small volume manufacturers, as defined in § 86.092-14(b)(1) and (2), are exempt from the implementation schedule of table A96-15 of this section for model years 1996, 1997, and 1998. For small volume manufacturers, the standards of § 86.090-8(b), and the associated test procedures, continue to

apply until model year 1999, when 100 percent compliance with the standards of this section is required. This exemption does not apply to small volume engine families as defined in § 86.092-14(b)(5).

(iv) For the 1996 model year, manufacturers may satisfy the testing requirements for federal certification to the evaporative standards of paragraph (b) of this section, except the fuel dispensing spitback test, by presenting test results from the certification procedures defined by the California Regulatory Requirements Applicable to the Evaporative Emissions Program (January 4, 1995). These requirements have been incorporated by reference (see § 86.1).

(c) No crankcase emissions shall be discharged into the ambient atmosphere from any 1996 and later model year Otto-cycle, or methanol-or gaseous-fueled diesel light-duty vehicle. This requirement is optional for 1996 model year gaseous-fueled light-duty vehicles.

(d)-(f) [Reserved]

(g) Any 1994 and later model year light-duty vehicle that a manufacturer wishes to certify for sale shall meet the emission standards under both low- and high-altitude conditions as specified in § 86.082-2, except as provided in paragraphs (h) and (i) of this section. Vehicles shall meet emission standards under both low- and high-altitude conditions without manual adjustments or modifications. Any emission control device used to meet emission standards under high-altitude conditions shall initially actuate (automatically) no higher than 4,000 feet above sea level.

(h) The manufacturer may exempt 1994 and later model year vehicles from compliance at high altitude with the emission standards set forth in paragraphs (a) and (b) of this section if the vehicles are not intended for sale at high altitude and if the requirements of paragraphs (h) (1) and (2) of this section are met.

(1) A vehicle configuration shall only be considered eligible for exemption under paragraph (h) of this section if the requirements of either paragraph (h)(1) (i), (ii), (iii), or (iv) of this section are met.

(i) Its design parameters (displacement-to-weight ratio (D/W) and engine speed-to-vehicle-speed ratio (N/V)) fall within the exempted range for that manufacturer for that year. The exempted range is determined according to the following procedure:

(A) The manufacturer shall graphically display the D/W and N/V data of all vehicle configurations it will offer for the model year in question. The axis of the abscissa shall be D/W (where (D) is the engine displacement expressed in cubic centimeters and (W) is the equivalent vehicle test weight expressed in pounds), and the axis of the ordinate shall be N/V (where (N) is the crankshaft speed expressed in revolutions per minute and (V) is the vehicle speed expressed in miles per hour). At the manufacturer's option, either the 1:1 transmission gear ratio or the lowest numerical gear ratio available in the transmission will be used to determine N/V. The gear selection must be the same for all N/V data points on the manufacturer's graph. For each transmission/axle ratio combination, only the lowest N/V value shall be used in the graphical display.

(B) The product line is then defined by the equation, $N/V=C(D/W)^{-0.9}$, where the constant, C, is determined by the requirement that all the vehicle data points either fall on the line or lie to the upper right of the line as displayed on the graphs.

(C) The exemption line is then defined by the equation, $N/V=C(0.84 D/W)^{-0.9}$, where the constant, C is the same as that found in paragraph (h)(1)(i)(B) of this section.

(D) The exempted range includes all values of N/V and D/W which simultaneously fall to the lower left of the exemption line as drawn on the graph.

(ii) Its design parameters fall within the alternate exempted range for that manufacturer that year. The alternate exempted range is determined by substituting rated horsepower (hp) for displacement (D) in the exemption procedure described in paragraph (h)(1)(i) of this section and by using the product line $N/V=C(\text{hp}/W)^{-0.9}$.

(A) Rated horsepower shall be determined by using the Society of Automotive Engineers Test Procedure J 1349, June 1990, Engine Power Test

Code—Spark Ignition and Compression Ignition—Net Power Rating. This 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 obtained from SAE International, 400 Commonwealth Drive, Warrendale, PA, 15096-0001. Copies may be inspected at U.S. EPA, OAR, 401 M St., SW., Washington, DC 20460, or 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. Any of the horsepower determinants within that test procedure may be used, as long as it is used consistently throughout the manufacturer's product line in any model year.

(B) No exemptions will be allowed under paragraph (h)(1)(ii) of this section to any manufacturer that has exempted vehicle configurations as set forth in paragraph (h)(1)(i) of this section.

(iii) Its acceleration time (the time it takes a vehicle to accelerate from 0 miles per hour to a speed not less than 40 miles per hour and not greater than 50 miles per hour) under high-altitude conditions is greater than the largest acceleration time under low-altitude conditions for that manufacturer for that year. The procedure to be followed in making this determination is:

(A) The manufacturer shall list the vehicle configuration and acceleration time under low-altitude conditions of that vehicle configuration which has the highest acceleration time under low-altitude conditions of all the vehicle configurations it will offer for the model year in question. The manufacturer shall also submit a description of the methodology used to make this determination.

(B) The manufacturer shall then list the vehicle configurations and acceleration times under high-altitude conditions of all those vehicle configurations which have higher acceleration times under high-altitude conditions than the highest acceleration time at low altitude identified in paragraph (h)(1)(iii)(A) of this section.

(iv) In lieu of performing the test procedure of paragraphs (h)(1)(iii) (A) and (B) of this section, its acceleration time can be estimated based on the manufacturer's engineering evaluation, in accordance with good engineering practice, to meet the exemption criteria of paragraph (h)(1)(iii) of this section.

(2) A vehicle shall only be considered eligible for exemption under this paragraph if at least one configuration of its model type (and transmission configuration in the case of vehicles equipped with manual transmissions, excluding differences due to the presence of overdrive) is certified to meet emission standards under high-altitude conditions as specified in paragraphs (a) through (c) and paragraph (g) of this section. The Certificate of Conformity (the Certificate) covering any exempted configuration(s) will also apply to the corresponding non-exempt configuration(s) required under this paragraph (h)(2). As a condition to the exemption, any suspension, revocation, voiding, or withdrawal of the Certificate as it applies to a non-exempt configuration for any reason will result in a suspension of the Certificate as it applies to the corresponding exempted configuration(s) of that model type, unless there is at least one other corresponding non-exempt configuration of the same model type still covered by the Certificate. The suspension of the Certificate as it applies to the exempted configuration(s) will be terminated when any one of the following occurs:

(i) Another corresponding non-exempt configuration(s) receive(s) coverage under the Certificate; or

(ii) Suspension of the Certificate as it applies to the corresponding non-exempt configuration(s) is terminated; or

(iii) The Agency's action(s), with respect to suspension, revocation, voiding, or withdrawal of the Certificate as it applies to the corresponding non-exempt configuration(s), is reversed.

(3) The sale of a vehicle for principal use at a designated high-altitude location that has been exempted as set forth in paragraph (h) of this section will be considered a violation of section 203(a)(1) of the Clean Air Act.

(i)(1) The manufacturers may exempt 1996 and later model year vehicles from

compliance at low altitude with the emission standards set forth in paragraph (a) of this section and § 86.090-8(b) if the vehicles:

(i) Are not intended for sale at low altitude; and

(ii) Are equipped with a unique, high-altitude axle ratio (rear-wheel drive vehicles) or a unique, high-altitude drivetrain (front-wheel drive vehicles) with a higher N/V ratio than other configurations of that model type which are certified in compliance with the emission standards of paragraph (a) of this section and § 86.090-8(b) under low-altitude conditions.

(2) The sale of a vehicle for principal use at low altitude that has been exempted as set forth in paragraph (i)(1) of this section will be considered a violation of section 203(a)(1) of the Clean Air Act.

(j) Any exempted light-duty vehicle that a manufacturer wishes to certify for sale under the provisions of § 86.090-8 (h) or paragraph (i) of this section is subject to the provisions of subpart Q of this part.

(k) *Cold Temperature Carbon Monoxide (CO) Standards—Light-Duty Vehicles.* Exhaust emissions from 1996 and later model year gasoline-fueled light-duty vehicles shall not exceed the cold temperature CO standard of 10.0 grams per mile for an intermediate useful life of 50,000 miles, as measured and calculated under the provisions set forth in subpart C of this part. This standard applies under both low and high altitude conditions.

[56 FR 25756, June 5, 1991, as amended at 57 FR 31915, July 17, 1992; 58 FR 16021, Mar. 24, 1993; 58 FR 34536, June 28, 1993; 58 FR 58417, Nov. 1, 1993; 59 FR 48499, Sept. 21, 1994; 60 FR 43887, Aug. 23, 1995; 62 FR 47120, Sept. 5, 1997]

§ 86.096-9 Emission standards for 1996 and later model year light-duty trucks.

Section 86.096-9 includes text that specifies requirements that differ from § 86.094-9. Where a paragraph in § 86.094-9 is identical and applicable to § 86.096-9, this may be indicated by specifying the corresponding paragraph and the statement “[Reserved]. For guidance see § 86.094-9.”