

## Environmental Protection Agency

## § 86.000-9

light light-duty trucks shall not exceed the applicable SFTP standards in table A00-4 of § 86.000-9.

(iii) Sales percentages for the purposes of determining compliance with this paragraph (e)(1) shall be based on total actual U.S. sales of light-duty vehicles of the applicable model year by a manufacturer to a dealer, distributor, fleet operator, broker, or any other entity which comprises the point of first sale. If the option of paragraph (e)(1)(ii) of this section is taken, such sales percentages shall be based on the total actual combined U.S. sales of light-duty vehicles and light light-duty trucks of the applicable model year by a manufacturer to a dealer, distributor, fleet operator, broker, or any other entity which comprises the point of first sale.

(iv) The manufacturer may petition the Administrator to allow actual volume produced for U.S. sale to be used in lieu of actual U.S. sales for purposes of determining compliance with the implementation schedule sales percentages of table A00-1. Such petition shall be submitted within 30 days of the end of the model year to the Vehicle Programs and Compliance Division. For the petition to be granted, the manufacturer must establish to the satisfaction of the Administrator that actual production volume is functionally equivalent to actual sales volume.

(2) These SFTP standards do not apply to vehicles certified on alternative fuels, but the standards do apply to the gasoline and diesel fuel operation of flexible fuel vehicles and dual fuel vehicles.

(3) These SFTP standards do not apply to vehicles tested at high altitude.

(4) The air to fuel ratio shall not be richer at any time than the leanest air to fuel mixture required to obtain maximum torque (lean best torque), plus a tolerance of six (6) percent. The Administrator may approve a manufacturer's request for additional enrichment if it can be shown that additional enrichment is needed to protect the engine or emissions control hardware.

(5) The requirement to use a single roll dynamometer (or a dynamometer which produces equivalent results), discussed in §§ 86.108-00, 86.118-00, and 86.129-00, applies to all SFTP and FTP

test elements as set forth in subpart B of this part for families which are designated as SFTP compliant under the implementation schedule in table A00-1.

(6) Small volume manufacturers, as defined in § 86.094-14(b)(1) and (2), are exempt from the requirements of this paragraph (e) until model year 2002, when 100 percent compliance with the standards of this paragraph (e) is required. This exemption does not apply to small volume engine families as defined in § 86.094-14(b)(5).

(7) The manufacturer must state at the time of Application for Certification, based on projected U.S. sales or projected production for U.S. sale, which families will be used to attain the required implementation schedule sales percentages for certification purposes.

(8) A manufacturer cannot 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.

(9) Compliance with composite standards shall be demonstrated using the calculations set forth in § 86.164-00.

(f) [Reserved]

(g)-(k) [Reserved]. For guidance see § 86.096-8.

[61 FR 54878, Oct. 22, 1996]

### **§ 86.000-9 Emission standards for 2000 and later model year light-duty trucks.**

Section 86.000-9 includes text that specifies requirements that differ from § 86.097-9 or § 86.099-9. Where a paragraph in § 86.097-9 or § 86.099-9 is identical and applicable to § 86.000-9, this may be indicated by specifying the corresponding paragraph and the statement "[Reserved]. For guidance see § 86.097-9." or "[Reserved]. For guidance see § 86.099-9."

(a)(1) introductory text through (a)(1)(iii) [Reserved]. For guidance see § 86.097-9.

(a)(1)(iv)-(b)(4) [Reserved]. For guidance see § 86.099-9.

(b)(5) [Reserved]

§ 86.000-9

40 CFR Ch. I (7-1-10 Edition)

(c) [Reserved]. For guidance see § 86.097-9.

(d) [Reserved]

(e) *SFTP Standards.* (1) Light light-duty trucks. (i) Exhaust emissions from 2000 and later model year light light-duty trucks shall meet the additional SFTP standards of table A00-4 (defined by useful life, fuel type, truck type, loaded vehicle weight (LVW), and test type) according to the implementation schedule in table A00-3. The standards set forth in table A00-4 refer to exhaust emissions emitted over the Supplemental Federal Test Procedure (SFTP) as set forth in subpart B of this part and collected and calculated in ac-

cordance with those procedures. Compliance with these standards are an additional requirement to the required compliance with Tier 1 standards as defined in §§ 86.097-9(a)(1) introductory text through (a)(1)(iii) and 86.099-9(a)(1)(iv)-(a)(3):

TABLE A00-3—IMPLEMENTATION SCHEDULE FOR LIGHT LIGHT-DUTY TRUCKS FOR (NMHC+NO<sub>x</sub>) AND CO

Model year	Percentage
2000 .....	40
2001 .....	80
2002 .....	100

TABLE A00-4—USEFUL LIFE STANDARDS (G/MI) FOR LIGHT LIGHT-DUTY TRUCKS FOR (NMHC+NO<sub>x</sub>) AND CO

Useful life	Fuel type	Truck type	LVW (lbs)	NMHC+NO <sub>x</sub> Composite	CO		
					A/C test	US06 test	Composite option
Intermediate .....	Gasoline .....	LDT1 .....	0-3750	0.65	3.0	9.0	3.4
		LDT2 .....	3751-5750	1.02	3.9	11.6	4.4
	Diesel .....	LDT1 .....	0-3750	1.48	NA	9.0	3.4
		LDT2 .....	3751-5750	NA	NA	NA	NA
Full .....	Gasoline .....	LDT1 .....	0-3750	0.91	3.7	11.1	4.2
		LDT2 .....	3751-5750	1.37	4.9	14.6	5.5
	Diesel .....	LDT1 .....	0-3750	2.07	NA	11.1	4.2
		LDT2 .....	3751-5750	NA	NA	NA	NA

(A) A minimum of the percentage shown in table A00-3 of a manufacturer's sales of the applicable model year's light light-duty trucks shall not exceed the applicable SFTP standards in table A00-4 when tested under the procedures in subpart B of this part indicated for 2000 and later model year light light-duty trucks.

(B) Optionally, a minimum of the percentage shown in table A00-3 of a manufacturer's combined sales of the applicable model year's light-duty vehicles and light light-duty trucks shall not exceed the applicable SFTP standards. Under this option, the light-duty vehicles shall not exceed the applicable SFTP standards in table A00-2 of § 86.000-8, and the light light-duty trucks shall not exceed the applicable SFTP standards in table A00-4.

(C) Sales percentages for the purposes of determining compliance with paragraph (e)(1)(i)(A) of this section shall be based on total actual U.S. sales of light light-duty trucks of the applicable model year by a manufac-

turer to a dealer, distributor, fleet operator, broker, or any other entity which comprises the point of first sale. If the option of § 86.097-9(a)(1)(i)(B) is taken, such sales percentages shall be based on the total actual combined U.S. sales of light-duty vehicles and light light-duty trucks of the applicable model year by a manufacturer to a dealer, distributor, fleet operator, broker, or any other entity which comprises the point of first sale.

(D) The manufacturer may petition the Administrator to allow actual volume produced for U.S. sale to be used in lieu of actual U.S. sales for purposes of determining compliance with the implementation schedule sales percentages of table A00-3. Such petition shall be submitted within 30 days of the end of the model year to the Vehicle Programs and Compliance Division. For the petition to be granted, the manufacturer must establish to the satisfaction of the Administrator that actual production volume is functionally equivalent to actual sales volume.

**Environmental Protection Agency**

**§ 86.000-9**

(ii) These SFTP standards do not apply to light light-duty trucks certified on alternative fuels, but the standards do apply to the gasoline and diesel fuel operation of flexible fuel vehicles and dual fuel vehicles.

(iii) These SFTP standards do not apply to light light-duty trucks tested at high altitude.

(iv) The air to fuel ratio shall not be richer at any time than the leanest air to fuel mixture required to obtain maximum torque (lean best torque), plus a tolerance of six (6) percent. The Administrator may approve a manufacturer's request for additional enrichment if it can be shown that additional enrichment is needed to protect the engine or emissions control hardware.

(v) The requirement to use a single roll dynamometer (or a dynamometer which produces equivalent results), discussed in §§86.108-00, 86.118-00, and 86.129-00, applies to all SFTP and FTP test elements as set forth in subpart B of this part for engine families which are designated as SFTP compliant under the implementation schedule in table A00-3.

(vi) Small volume manufacturers, as defined in §86.094-14(b) (1) and (2), are exempt from the requirements of this paragraph (e) until model year 2002, when 100 percent compliance with the standards of this paragraph (e) is required. This exemption does not apply to small volume engine families as defined in §86.094-14(b)(5).

(vii) The manufacturer must state at the time of Application for Certification, based on projected U.S. sales or projected production for U.S. sale, which engine families will be used to attain the required implementation

schedule sales percentages for certification purposes.

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

(ix) Compliance with composite standards shall be demonstrated using the calculations set forth in §86.164-00.

(2) Heavy light-duty trucks. (i) Exhaust emissions from 2002 and later model year heavy light-duty trucks shall meet the SFTP standards of table A00-6 (defined by useful life, fuel type, truck type, adjusted loaded vehicle weight (ALVW), and test type) according to the implementation schedule in table A00-5. The standards set forth in table A00-6 refer to exhaust emissions emitted over the Supplemental Federal Test Procedure (SFTP) as set forth in subpart B of this part and collected and calculated in accordance with those procedures. Compliance with these standards are an additional requirement to the required compliance with Tier 1 standards as defined in §§86.097-9(a)(1) introductory text through (a)(1)(iii) and 86.099-9(a)(1)(iv)-(a)(3):

**TABLE A00-5—IMPLEMENTATION SCHEDULE FOR HEAVY LIGHT-DUTY TRUCKS FOR (NMHC+NO<sub>x</sub>) AND CO**

Model year	Percentage
2002 .....	40
2003 .....	80
2004 .....	100

**TABLE A00-6—USEFUL LIFE STANDARDS (G/MI) FOR HEAVY LIGHT-DUTY TRUCKS FOR (NMHC+NO<sub>x</sub>) AND CO**

Useful life	Fuel type	Truck type	ALVW (lbs)	NMHC+NO <sub>x</sub> composite	CO		
					A/C test	US06 test	Composite option
Intermediate .....	Gasoline .....	LDT3 .....	3751-5750	1.02	3.9	11.6	4.4
		LDT4 .....	>5750	1.49	4.4	13.2	5.0
	Diesel .....	LDT3 .....	3751-5750	NA	NA	NA	NA
		LDT4 .....	>5750	NA	NA	NA	NA
Full .....	Gasoline .....	LDT3 .....	3751-5750	1.44	5.6	16.9	6.4
		LDT4 .....	>5750	2.09	6.4	19.3	7.3
	Diesel .....	LDT3 .....	3751-5750	NA	NA	NA	NA
		LDT4 .....	>5750	NA	NA	NA	NA

(A) A minimum of the percentage shown in table A00-5 of a manufacturer's sales of the applicable model year's heavy light-duty trucks shall not exceed the applicable SFTP standards in table A00-6 when tested under the procedures in subpart B of this part indicated for 2002 and later model year heavy light-duty trucks.

(B) Sales percentages for the purposes of determining compliance with paragraph (e)(1)(ii)(A) of this section shall be based on total actual U.S. sales of heavy light-duty trucks of the applicable model year by a manufacturer to a dealer, distributor, fleet operator, broker, or any other entity which comprises the point of first sale.

(C) The manufacturer may petition the Administrator to allow actual volume produced for U.S. sale to be used in lieu of actual U.S. sales for purposes of determining compliance with the implementation schedule sales percentages of table A00-5. Such petition shall be submitted within 30 days of the end of the model year to the Vehicle Programs and Compliance Division. For the petition to be granted, the manufacturer must establish to the satisfaction of the Administrator that actual production volume is functionally equivalent to actual sales volume.

(ii) These SFTP standards do not apply to heavy light-duty trucks certified on alternative fuels, but the standards do apply to the gasoline fuel operation of flexible fuel vehicles and dual fuel vehicles.

(iii) These SFTP standards do not apply to heavy light-duty trucks tested at high altitude.

(iv) The air to fuel ratio shall not be richer at any time than the leanest air to fuel mixture required to obtain maximum torque (lean best torque), plus a tolerance of six (6) percent. The Administrator may approve a manufacturer's request for additional enrichment if it can be shown that additional enrichment is needed to protect the engine of emissions control hardware.

(v) The requirement to use a single roll dynamometer (or a dynamometer which produces equivalent results), discussed in §§ 86.108-00, 86.118-00, and 86.129-00, applies to all SFTP and FTP test elements for families which are designated as SFTP compliant under

the implementation schedule in table A00-5.

(vi) Small volume manufacturers, as defined in § 86.094-14(b) (1) and (2), are exempt from the requirements of paragraph (e) of this section until model year 2004, when 100 percent compliance with the standards of this paragraph (e) is required. This exemption does not apply to small volume engine families as defined in § 86.094-14(b)(5).

(vii) The manufacturer must state at the time of Application for Certification, based on projected U.S. sales or projected production for U.S. sale, which families will be used to attain the required implementation schedule sales percentages for certification purposes.

(viii) A manufacturer cannot 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 standard.

(ix) The NO<sub>x</sub> averaging program is not applicable for determining compliance with the standards of table A00-6.

(x) Compliance with composite standards shall be demonstrated using the calculations set forth in § 86.164-00.

(f) [Reserved]

(g)-(k) [Reserved]. For guidance see § 86.097-9.

[61 FR 54879, Oct. 22, 1996]

**§ 86.000-16 Prohibition of defeat devices.**

Section 86.000-16 includes text that specifies requirements that differ from § 86.094-16. Where a paragraph in § 86.094-16 is identical and applicable to § 86.000-16, this may be indicated by specifying the corresponding paragraph and the statement "[Reserved]. For guidance see § 86.094-16."

(a) No new light-duty vehicle, light-duty truck, heavy-duty vehicle, or heavy-duty engine shall be equipped with a defeat device.

(b) The Administrator may test or require testing on any vehicle or engine at a designated location, using driving cycles and conditions which may reasonably be expected to be encountered in normal operation and use, for the