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## Chapter NR 485

### CONTROL OF EMISSIONS FROM MOTOR VEHICLES, INTERNAL COMBUSTION ENGINES AND MOBILE SOURCES; TAMPERING PROHIBITION

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NR 485.05	Visible emission limits for motor vehicles, internal combustion engines and mobile sources.		

**Note:** Corrections made under s. 13.93 (2m) (b) 7., Stats., Register, January, 1997, No. 493.

**NR 485.01 Applicability; purpose.** (1) **APPLICABILITY.** This chapter applies to all motor vehicles, internal combustion engines and mobile air contaminant sources and to their owners and operators.

(2) **PURPOSE.** This chapter is adopted under ss. 285.11, 285.13, 285.30 and 285.39, Stats., to establish emission limitations for motor vehicles, internal combustion engines and mobile air contaminant sources, to prohibit any person from tampering with the air pollution control equipment of a motor vehicle and to require tampering inspections.

**History:** Cr. Register, September, 1986, No. 369, eff. 10-1-86; am. (2), Register, July, 1989, No. 403, eff. 8-1-89; am. (1), Register, February, 1990, No. 410, eff. 3-1-90; am. (1), Register, May, 1992, No. 437, eff. 6-1-92.

**NR 485.02 Definitions.** The definitions contained in ch. NR 400 apply to the terms used in this chapter. In addition, the following definitions apply to the terms used in this chapter:

(1) "Adjusted loaded vehicle weight" or "ALVW" means the numerical average of a vehicle's curb weight and its gross vehicle weight rating.

(2) "Air pollution control equipment" has the meaning given in s. 285.30 (6) (a) 1., Stats.

(3) "Alternative evaporative system integrity test" means a test procedure approved by the administrator which has been designated as an alternative to the evaporative system integrity test by the department under s. NR 485.04 (8) (a) and which has been published in a list by the department under s. NR 485.04 (8) (c).

(4) "Alternative evaporative system purge test" means a test procedure approved by the administrator which has been designated as an alternative to the evaporative system purge test by the department under s. NR 485.04 (8) (b) and which has been published in a list by the department under s. NR 485.04 (8) (c).

(5) "Basic vehicle frontal area" means the area enclosed by the geometric projection of the basic vehicle along the longitudinal axis, which includes tires but excludes mirrors and air deflectors, onto a plane perpendicular to the longitudinal axis of the vehicle.

(6) "Curb weight" means the actual or the manufacturer's estimated weight of the vehicle in operational status with all standard equipment plus the weight of fuel at normal tank capacity and the weight of optional equipment.

(7) "DOT" means the Wisconsin department of transportation.

(8) "Evaporative system integrity test" or "evaporative system pressure integrity test" means the test specified in 40 CFR 51.357 (a) (10), as in effect on July 1, 1998, which checks for leaks in the fuel system by monitoring the pressure decay of a pressurized fuel system for up to 2 minutes.

(9) "Evaporative system purge test" means the test specified in 40 CFR 51.357 (a) (9), as in effect on July 1, 1998, which consists of measuring the total purge flow occurring in the vehicle's evaporative system during the transient emission test.

(10) "Gross vehicle weight rating" or "GVWR" means the weight specified by the vehicle manufacturer as the maximum allowable loaded weight of a single vehicle.

(11) "Heavy-duty vehicle" means any motor vehicle rated at more than 8,500 pounds GVWR or that has a vehicle curb weight of more than 6,000 pounds or that has a basic vehicle frontal area in excess of 45 square feet.

(12) "Homemade vehicle" has the meaning given in s. 341.268 (1) (b), Stats.

(13) "Light-duty truck" means any motor vehicle rated at 8,500 pounds GVWR or less and which has a vehicle curb weight of 6,000 pounds or less and which has a basic vehicle frontal area of 45 square feet or less, and which is one of the following:

(a) Designed primarily for purposes of transportation of property or is a derivation of such a vehicle.

(b) Designed primarily for transportation of persons and has a capacity of more than 12 persons.

(c) Available with special features enabling off-street or off-highway operation and use.

(14) "Light-duty vehicle" means a passenger car or passenger car derivative capable of seating 12 passengers or less.

(15) "Loaded vehicle weight" or "LVW" means a vehicle's curb weight, in pounds, plus 300 pounds.

(16) "Model year" means the nominal year of manufacture of the original vehicle within the annual production period of the vehicle as designated by the manufacturer, or if a reconstructed or homemade vehicle, the first year of titling. If the manufacturer does not designate a production period, the term "model year" means the calendar year of manufacture.

(17) "Reconstructed vehicle" has the meaning given in s. 341.268 (1) (d), Stats.

(18) "Steady-state test" means any of the 6 test procedures in Appendix B to Subpart S of 40 CFR part 51, incorporated by reference in s. NR 484.04 (7). The 6 test procedures in that appendix are: the idle test, the 2 speed idle test, the loaded test, the preconditioned idle test, the idle test with loaded preconditioning, and the preconditioned 2 speed idle test.

(19) "Tamper" has the meaning given in s. 285.30 (6) (a) 3., Stats.

(20) "Tampering inspection" means an inspection for tampering of air pollution control equipment.

(21) "Tier 1 emission standards" means the standards for light-duty vehicles of model year 1994 and newer and light-duty trucks of model year 1994 and newer in section 202 (g) and (h) of the federal clean air act, 42 USC 7521 (g) and (h).

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**(22)** “Transient driving cycle” means the 240 second driving cycle specified in Appendix E to Subpart S of 40 CFR part 51, incorporated by reference in s. NR 484.04 (8).

**(23)** “Transient emission test” means the emission test specified in 40 CFR 51.357 (a) (11), as in effect on July 1, 1998, which consists of 240 seconds of mass emission measurement while the vehicle is driven on a dynamometer.

**History:** Cr. Register, September, 1986, No. 369, eff. 10-1-86; r. and recr. Register, July, 1989, No. 403, eff. 8-1-89; am. (intro.), Register, June, 1993, No. 450, eff. 7-1-93; r. and recr. Register, December, 1995, No. 480, eff. 1-1-96; am. (8), (9) and (23), Register, November, 1999, No. 527, eff. 12-1-99; correction in (18) and (22) made under s. 13.93 (2m) (b) 7., Stats., Register, January, 2001, No. 541.

**NR 485.03 General limitations.** No person may cause, allow or permit emissions of particulate matter, sulfur oxides, hydrocarbons, carbon monoxide, nitrogen oxides, or odors from a motor vehicle, internal combustion engine, or mobile source which substantially contribute to the exceeding of an air standard or create air pollution.

**History:** Renum. from NR 154.17 (1), Register, September, 1986, No. 369, eff. 10-1-86; am. Register, July, 1989, No. 403, eff. 8-1-89; am. Register, May, 1992, No. 437, eff. 6-1-92.

**NR 485.04 Motor vehicle emission limitations; exemptions. (1) APPLICABILITY.** Except as provided in subs. (9) and (10), the emission limitations in this section apply to motor vehicles subject to inspection under s. 110.20 (6) (a), Stats., when inspected under ch. Trans 131.

**(2) TRANSIENT EMISSION TEST.** Except as provided in sub. (7) (a), any motor vehicle undergoing the transient emission test may not emit from the exhaust system:

(a) Carbon monoxide in rates that exceed both:

1. The applicable composite emission rate in Table 1 when measured over the entire transient driving cycle.
2. The applicable phase 2 emission rate in Table 1 when measured from second 94 to the end of the transient driving cycle.

(b) Hydrocarbons in rates that exceed both:

1. The applicable composite emission rate in Table 1 when measured over the entire transient driving cycle.
2. The applicable phase 2 emission rate in Table 1 when measured from second 94 to the end of the transient driving cycle.

(c) Oxides of nitrogen in a rate that exceeds the applicable composite emission rate in Table 1 when measured over the entire transient driving cycle, except as provided in sub. (9).

**(3) EVAPORATIVE SYSTEM INTEGRITY (PRESSURE) TEST.** Any motor vehicle undergoing the evaporative system integrity test or any alternative evaporative system integrity test shall be pressurized to an initial pressure of  $14.5 \pm 1.0$  inches of water and, after this initial pressure is achieved, shall demonstrate the ability to maintain for 2 minutes a system pressure which would not drop 6 or more inches of water below the initial pressure achieved.

**(4) EVAPORATIVE SYSTEM PURGE TEST.** Except as provided in sub. (7) (b), any motor vehicle undergoing the evaporative system purge test or any alternative evaporative system purge test may not exhibit a total purge system flow of less than one liter when measured over the entire transient driving cycle. This determination may be made by measuring the level of a tracer gas in the vehicle’s exhaust.

**(5) GAS CAP INTEGRITY TEST.** Any motor vehicle gas cap undergoing a test for pressure leaks on a gas cap tester rig may not exhibit a pressure decay of 6 inches of water or more during a 10 second measurement period after the gas cap is pressurized to  $28 \pm 1.0$  inches of water.

**(6) STEADY-STATE TESTS.** Any motor vehicle undergoing a steady-state test may not emit carbon monoxide (CO) or hydro-

carbons (HC) from the exhaust system in concentrations greater than those in Table 2.

**(7) FAST-PASS.** (a) *Transient emission test.* Compliance with the emission limitations in sub. (2) for the transient emission test may be demonstrated prior to the completion of the test if all of the following conditions are met during the same second of the transient driving cycle:

1. Hydrocarbons. For hydrocarbons, one of the following:

a. At least 30 seconds of the transient driving cycle has elapsed and the cumulative emission level of hydrocarbons, measured from the start of the cycle in grams, is less than the applicable composite fast-pass emission limitation in sub. (1) of Table 3.

b. At least 94 seconds of the transient driving cycle has elapsed and the cumulative emission level of hydrocarbons, measured from second 94 of the cycle in grams, is less than the applicable phase 2 fast-pass emission limitation in sub. (1) of Table 3.

2. Carbon monoxide. For carbon monoxide, one of the following:

a. At least 30 seconds of the transient driving cycle has elapsed and the cumulative emission level of carbon monoxide, measured from the start of the cycle in grams, is less than the applicable composite fast-pass emission limitation in sub. (2) of Table 3.

b. At least 94 seconds of the transient driving cycle has elapsed and the cumulative emission level of carbon monoxide, measured from second 94 of the cycle in grams, is less than the applicable phase 2 fast-pass emission limitation in sub. (2) of Table 3.

3. Oxides of nitrogen. Except as provided in sub. (9), at least 30 seconds of the transient driving cycle has elapsed and the cumulative emission level of oxides of nitrogen, measured from the start of the cycle in grams, is less than the applicable composite fast-pass emission limitation in sub. (3) of Table 3.

(b) *Purge test.* Compliance with the minimum flow requirement of sub. (4) for the evaporative system purge test or an alternative evaporative system purge test may be demonstrated prior to the completion of the test if at least 30 seconds of the transient driving cycle has elapsed and the cumulative level of purge, measured from the start of the cycle in liters, is greater than the applicable fast-pass minimum flow in Table 4.

**(8) ALTERNATIVE EVAPORATIVE SYSTEM TESTS.** (a) *Pressure test.* The department may designate a test procedure as an alternative evaporative system integrity test if the department determines that the test procedure satisfies the same requirements as those for a federal alternative procedure specified in 40 CFR 51.357 (a) (10) (vi) and (13) as in effect on July 1, 1998.

(b) *Purge test.* The department may designate a test procedure as an alternative evaporative system purge test if the department determines that the test procedure satisfies the same requirements as those for a federal alternative procedure specified in 40 CFR 51.357 (a) (9) and (13) as in effect on July 1, 1998.

(c) *List of alternative tests.* The department shall maintain a list of alternative evaporative system integrity tests and alternative evaporative system purge tests, shall provide DOT with a current list, and shall send a copy of the list to any person upon request. A current copy of the list shall be available for inspection or copying at the department’s headquarters office.

**Note:** The department’s headquarters office is located at 101 South Webster Street, Madison, Wisconsin. Mail requests should be addressed to the Department of Natural Resources, Bureau of Air Management, PO Box 7921, Madison WI 53707.

**(9) EFFECTIVE DATE FOR OXIDES OF NITROGEN REQUIREMENTS.** An inspection under s. 110.20 (6) (a), Stats., shall include an inspection for emissions of oxides of nitrogen. However, the emission limitations for oxides of nitrogen in subs. (2) (c) and

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(7) (a) 3. shall apply for compliance purposes only to inspections conducted after May 1, 2001.

**(10) EXEMPTIONS.** In addition to the vehicles specified in s. 285.30 (5), Stats., the following motor vehicles are exempt from the emission limitations of this section:

- (a) A motor vehicle powered solely by electricity.
- (b) A motor vehicle registered under s. 341.266 (2) (a) or 341.268 (2) (a), Stats., except as provided in sub. (11).

**(11) PERIODIC TESTING OF COLLECTOR AND HOBBYIST VEHICLES.** A motor vehicle registered under s. 341.266 (2) (a) or 341.268 (2) (a), Stats., shall be inspected and subject to the emission limitations of this section only in conjunction with any of the following actions:

- (a) Initial registration of the vehicle under s. 341.266 (2) (a) or 341.268 (2) (a), Stats.
- (b) Any transfer of ownership of the vehicle.

**Table 1**  
**Emission Limitations For The Transient Emission Test**

**(1) MOTOR VEHICLES INSPECTED BETWEEN DECEMBER 1, 1995, AND NOVEMBER 30, 1996.**

(a) *Light-Duty Vehicles.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1996 and newer	0.90	0.60	17.5	14.0	2.3
1991-1995	1.40	0.90	23.0	18.5	3.0
1983-1990	2.30	1.40	35.0	28.0	3.5
1981-1982	2.30	1.40	70.0	55.0	3.5
1980	2.30	1.40	70.0	55.0	7.0
1977-1979	8.50	5.30	100	80.0	7.0
1975-1976	8.50	5.30	100	80.0	10.5
1973-1974	11.5	7.25	175	140	10.5
1968-1972	11.5	7.25	175	140	11.5

(b) *Light-Duty Trucks with GVWR of 6,000 pounds or less.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1996 and newer	1.15	0.75	23.0	18.5	3.0
1991-1995	2.75	1.75	70.0	55.0	3.5
1988-1990	3.70	2.30	90.0	72.0	4.0
1984-1987	3.70	2.30	90.0	72.0	8.0
1979-1983	8.50	5.30	115	90.0	8.0
1975-1978	9.20	5.80	140	110	10.5
1973-1974	11.5	7.25	175	140	10.5
1968-1972	11.5	7.25	175	140	11.5

(c) *Light-Duty Trucks with GVWR of 6,001 to 8,500 pounds and Heavy-Duty Vehicles with GVWR of 8,500 pounds or less.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1997 and newer	1.15	0.75	23.0	18.5	3.0
1991-1996	2.75	1.75	70.0	55.0	5.2
1988-1990	3.70	2.30	90.0	72.0	5.8
1984-1987	3.70	2.30	90.0	72.0	8.0
1979-1983	8.50	5.30	115	90.0	8.0
1975-1978	9.20	5.80	140	110	10.5
1973-1974	11.5	7.25	175	140	10.5
1968-1972	11.5	7.25	175	140	11.5

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**Table 1 (continued)**  
**Emission Limitations For The Transient Emission Test**

(d) *Heavy-Duty Vehicles with GVWR of 8,501 to 10,000 pounds.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1998 and newer	2.75	1.75	70.0	55.0	4.5
1991-1997	3.70	2.30	70.0	55.0	7.0
1987-1990	3.70	2.30	90.0	72.0	9.0
1985-1986	5.75	3.60	90.0	72.0	9.0
1979-1984	8.50	5.30	115	90.0	9.0
1974-1978	11.5	7.25	175	140	11.5
1970-1973	11.5	7.25	200	160	11.5
1968-1969	23.0	14.5	230	185	17.5

(e) *Heavy-Duty Vehicles with GVWR greater than 10,000 pounds.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1998 and newer	5.50	3.50	140	110	9.0
1991-1997	7.40	4.70	140	110	14.0
1987-1990	7.40	4.70	185	150	18.5
1985-1986	11.5	7.25	185	150	18.5
1979-1984	13.0	8.20	205	165	18.5
1974-1978	15.0	9.50	230	185	23.0
1970-1973	15.0	9.50	260	210	23.0
1968-1969	27.0	17.0	290	230	35.0

**(2) MOTOR VEHICLES INSPECTED BETWEEN DECEMBER 1, 1996, AND NOVEMBER 30, 1997.**

(a) *Light-Duty Vehicles.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1996 and newer	0.80	0.50	15.0	12.0	2.0
1991-1995	1.25	0.75	20.0	16.0	2.5
1983-1990	2.00	1.25	30.0	24.0	3.0
1981-1982	2.00	1.25	60.0	48.0	3.0
1980	2.00	1.25	60.0	48.0	6.0
1977-1979	7.50	5.00	90.0	72.0	6.0
1975-1976	7.50	5.00	90.0	72.0	9.0
1973-1974	10.0	6.00	150	120	9.0
1968-1972	10.0	6.00	150	120	10.0

(b) *Light-Duty Trucks with GVWR of 6,000 pounds or less.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1996 and newer	1.00	0.63	20.0	16.0	2.5
1991-1995	2.40	1.50	60.0	48.0	3.0
1988-1990	3.20	2.00	80.0	64.0	3.5
1984-1987	3.20	2.00	80.0	64.0	7.0
1979-1983	7.50	5.00	100	80.0	7.0
1975-1978	8.00	5.00	120	96.0	9.0
1973-1974	10.0	6.00	150	120	9.0
1968-1972	10.0	6.00	150	120	10.0

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**Table 1 (continued)**  
**Emission Limitations For The Transient Emission Test**

(c) *Light-Duty Trucks with GVWR of 6,001 to 8,500 pounds and Heavy-Duty Vehicles with GVWR of 8,500 pounds or less.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1997 and newer	1.00	0.63	20.0	16.0	2.5
1991-1996	2.40	1.50	60.0	48.0	4.5
1988-1990	3.20	2.00	80.0	64.0	5.0
1984-1987	3.20	2.00	80.0	64.0	7.0
1979-1983	7.50	5.00	100	80.0	7.0
1975-1978	8.00	5.00	120	96.0	9.0
1973-1974	10.0	6.00	150	120	9.0
1968-1972	10.0	6.00	150	120	10.0

(d) *Heavy-Duty Vehicles with GVWR of 8,501 to 10,000 pounds.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1998 and newer	2.40	1.50	60.0	48.0	4.0
1991-1997	3.20	2.00	60.0	48.0	6.0
1987-1990	3.20	2.00	80.0	64.0	8.0
1985-1986	5.00	3.10	80.0	64.0	8.0
1979-1984	7.50	5.00	100	80.0	8.0
1974-1978	10.0	6.00	150	120	10.0
1970-1973	10.0	6.00	175	140	10.0
1968-1969	20.0	12.5	200	160	15.0

(e) *Heavy-Duty Vehicles with GVWR greater than 10,000 pounds.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1998 and newer	4.80	3.00	120	96.0	8.0
1991-1997	6.40	4.00	120	96.0	12.0
1987-1990	6.40	4.00	160	128	16.0
1985-1986	10.0	6.00	160	128	16.0
1979-1984	11.5	7.00	180	145	16.0
1974-1978	13.0	8.00	200	160	20.0
1970-1973	13.0	8.00	225	180	20.0
1968-1969	24.0	15.0	250	200	30.0

**(3) MOTOR VEHICLES INSPECTED BETWEEN DECEMBER 1, 1997, AND NOVEMBER 30, 1998.**

(a) *Light-Duty Vehicles.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1996 and newer	0.60	0.40	10.0	8.0	1.5
1994-1995					
Tier 1 <sup>1</sup>	0.60	0.40	10.0	8.0	1.5
Not Tier 1 <sup>1</sup>	0.80	0.50	15.0	12.0	2.0
1991-1993	0.80	0.50	15.0	12.0	2.0
1987-1990	1.10	0.70	20.0	16.0	2.5
1983-1986	2.00	1.25	30.0	24.0	3.0
1981-1982	2.00	1.25	60.0	48.0	3.0
1980	2.00	1.25	60.0	48.0	6.0
1977-1979	7.50	5.00	90.0	72.0	6.0
1975-1976	7.50	5.00	90.0	72.0	9.0

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**Table 1 (continued)**  
**Emission Limitations For The Transient Emission Test**

1973-1974	10.00	6.00	150	120	9.0
1968-1972	10.00	6.00	150	120	10.0

(b) *Light-Duty Trucks with GVWR of 6,000 pounds or less.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1996 and newer					
(≤ 3750 lbs LVW) <sup>2</sup>	0.60	0.40	10.0	8.0	1.5
(>3750 lbs LVW) <sup>2</sup>	0.80	0.50	13.0	10.0	1.8
1994-1995					
Tier 1 <sup>3</sup>					
(≤ 3750 lbs LVW) <sup>4</sup>	0.60	0.40	10.0	8.0	1.5
(>3750 lbs LVW) <sup>4</sup>	0.80	0.50	13.0	10.0	1.8
Not Tier 1 <sup>3</sup>	1.60	1.00	40.0	32.0	2.5
1991-1993	1.60	1.00	40.0	32.0	2.5
1988-1990	2.20	1.40	55.0	44.0	3.0
1987	2.20	1.40	55.0	44.0	5.5
1984-1986	3.20	2.00	80.0	64.0	7.0
1979-1983	7.50	5.00	100	80.0	7.0
1975-1978	8.00	5.00	120	96.0	9.0
1973-1974	10.0	6.00	150	120	9.0
1968-1972	10.0	6.00	150	120	10.0

(c) *Light-Duty Trucks with GVWR of 6,001 to 8,500 pounds and Heavy-Duty Vehicles with GVWR of 8,500 pounds or less.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1997 and newer					
(≤ 5750 lbs ALVW) <sup>5</sup>	0.80	0.50	13.0	10.0	1.8
(>5750 lbs ALVW) <sup>5</sup>	0.80	0.50	15.0	12.0	2.0
1996					
Tier 1 <sup>6</sup>					
(≤ 5750 lbs ALVW) <sup>7</sup>	0.80	0.50	13.0	10.0	1.8
(>5750 lbs ALVW) <sup>7</sup>	0.80	0.50	15.0	12.0	2.0
Not Tier 1 <sup>6</sup>	1.60	1.00	40.0	32.0	3.5
1991-1995	1.60	1.00	40.0	32.0	3.5
1988-1990	2.20	1.40	55.0	44.0	4.0
1987	2.20	1.40	55.0	44.0	5.5
1984-1986	3.20	2.00	80.0	64.0	7.0
1979-1983	7.50	5.00	100	80.0	7.0
1975-1978	8.00	5.00	120	96.0	9.0
1973-1974	10.0	6.00	150	120	9.0
1968-1972	10.0	6.00	150	120	10.0

(d) *Heavy-Duty Vehicles with GVWR of 8,501 to 10,000 pounds.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1998 and newer	2.00	1.25	30.0	24.0	4.0
1991-1997	2.00	1.25	40.0	32.0	5.0
1987-1990	2.40	1.50	55.0	44.0	7.0
1985-1986	5.00	3.10	80.0	64.0	8.0
1979-1984	7.50	5.00	100	80.0	8.0
1974-1978	10.0	6.00	150	120	10.0

Unofficial Text (See Printed Volume). Current through date and Register shown on Title Page.

**Table 1 (continued)**  
**Emission Limitations For The Transient Emission Test**

1970-1973	10.0	6.00	175	140	10.0
1968-1969	20.0	12.5	200	160	15.0

(e) *Heavy-Duty Vehicles with GVWR greater than 10,000 pounds.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1998 and newer	3.50	2.00	60.0	48.0	7.0
1991-1997	3.50	2.00	70.0	56.0	9.0
1987-1990	4.50	2.80	100	80.0	13.0
1985-1986	10.0	6.00	160	128	16.0
1979-1984	11.5	7.00	180	145	16.0
1974-1978	13.0	8.00	200	160	20.0
1970-1973	13.0	8.00	225	180	20.0
1968-1969	24.0	15.0	250	200	30.0

**(4) MOTOR VEHICLES INSPECTED BETWEEN DECEMBER 1, 1998, AND MARCH 31, 2006.** (a) *Light-Duty Vehicles.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1996 and newer	0.60	0.40	10.0	8.0	1.5
1994-1995					
Tier 1 <sup>1</sup>	0.60	0.40	10.0	8.0	1.5
Not Tier 1 <sup>1</sup>	0.80	0.50	15.0	12.0	2.0
1987-1993	0.80	0.50	15.0	12.0	2.0
1983-1986	2.00	1.25	30.0	24.0	3.0
1981-1982	2.00	1.25	60.0	48.0	3.0
1980	2.00	1.25	60.0	48.0	4.0
1977-1979	3.00	2.00	65.0	52.0	4.0
1975-1976	3.00	2.00	65.0	52.0	6.0
1973-1974	7.00	4.50	120	96.0	6.0
1968-1972	7.00	4.50	120	96.0	7.0

(b) *Light-Duty Trucks with GVWR of 6,000 pounds or less.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1996 and newer					
(≤3750 lbs LVW) <sup>2</sup>	0.60	0.40	10.0	8.0	1.5
(>3750 lbs LVW) <sup>2</sup>	0.80	0.50	13.0	10.0	1.8
1994-1995					
Tier 1 <sup>3</sup>					
(≤3750 lbs LVW) <sup>4</sup>	0.60	0.40	10.0	8.0	1.5
(>3750 lbs LVW) <sup>4</sup>	0.80	0.50	13.0	10.0	1.8
Not Tier 1 <sup>3</sup>	1.60	1.00	40.0	32.0	2.5
1988-1993	1.60	1.00	40.0	32.0	2.5
1987	1.60	1.00	40.0	32.0	4.5
1984-1986	3.20	2.00	70.0	56.0	4.5
1979-1983	3.40	2.00	70.0	56.0	4.5
1975-1978	4.00	2.50	80.0	64.0	6.0
1973-1974	7.00	4.50	120	96.0	6.0
1968-1972	7.00	4.50	120	96.0	7.0

Unofficial Text (See Printed Volume). Current through date and Register shown on Title Page.

**Table 1 (continued)**  
**Emission Limitations For The Transient Emission Test**

(c) *Light-Duty Trucks with GVWR of 6,001 to 8,500 pounds and Heavy-Duty Vehicles with GVWR of 8,500 pounds or less.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1997 and newer					
(≤ 5750 lbs ALVW) <sup>5</sup>	0.80	0.50	13.0	10.0	1.8
(>5750 lbs ALVW) <sup>5</sup>	0.80	0.50	15.0	12.0	2.0
1996					
Tier 1 <sup>6</sup>					
(≤ 5750 lbs ALVW) <sup>7</sup>	0.80	0.50	13.0	10.0	1.8
(>5750 lbs ALVW) <sup>7</sup>	0.80	0.50	15.0	12.0	2.0
Not Tier 1 <sup>6</sup>	1.60	1.00	40.0	32.0	3.5
1988-1995	1.60	1.00	40.0	32.0	3.5
1987	1.60	1.00	40.0	32.0	4.5
1984-1986	3.20	2.00	70.0	56.0	4.5
1979-1983	3.40	2.00	70.0	56.0	4.5
1975-1978	4.00	2.50	80.0	64.0	6.0
1973-1974	7.00	4.50	120	96.0	6.0
1968-1972	7.00	4.50	120	96.0	7.0

(d) *Heavy-Duty Vehicles with GVWR of 8,501 to 10,000 pounds.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1998 and newer	2.00	1.25	30.0	24.0	4.0
1991-1997	2.00	1.25	40.0	32.0	5.0
1987-1990	2.00	1.25	40.0	32.0	6.0
1985-1986	5.00	3.10	80.0	64.0	8.0
1979-1984	7.50	5.00	100	80.0	8.0
1974-1978	10.0	6.00	150	120	10.0
1970-1973	10.0	6.00	175	140	10.0
1968-1969	20.0	12.5	200	160	15.0

(e) *Heavy-Duty Vehicles with GVWR greater than 10,000 pounds.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1998 and newer	3.50	2.00	60.0	48.0	7.0
1991-1997	3.50	2.00	70.0	56.0	9.0
1987-1990	3.50	2.00	70.0	56.0	11.0
1985-1986	10.0	6.00	150	120	16.0
1979-1984	11.5	7.00	150	120	16.0
1974-1978	13.0	8.00	150	120	20.0
1970-1973	13.0	8.00	175	140	20.0
1968-1969	24.0	15.0	200	160	30.0

(5) MOTOR VEHICLES INSPECTED ON AND AFTER APRIL 1, 2006. (a) *Light-Duty Vehicles.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1996 and newer	0.60	0.40	10.0	8.0	1.5
1987-1995	0.80	0.50	15.0	12.0	2.0
1983-1986	2.00	1.25	30.0	24.0	3.0
1981-1982	2.00	1.25	60.0	48.0	3.0
1980	2.00	1.25	60.0	48.0	5.0

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**Table 1 (continued)**  
**Emission Limitations For The Transient Emission Test**

1977-1979	3.00	2.00	65.0	52.0	5.0
1975-1976	3.00	2.00	65.0	52.0	6.0
1973-1974	7.00	4.50	120	96.0	6.0
1968-1972	7.00	4.50	120	96.0	7.0

(b) *Light-Duty Trucks with GVWR of 6,000 pounds or less.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1996 and newer					
(≤ 3750 lbs LVW)	0.60	0.40	10.0	8.0	1.5
(>3750 lbs LVW)	0.80	0.50	13.0	10.0	1.8
1988-1995					
(≤ 3750 lbs LVW)	1.60	1.00	40.0	32.0	2.5
(>3750 lbs LVW)	1.60	1.00	40.0	32.0	3.5
1987	1.60	1.00	40.0	32.0	5.5
1984-1986	3.20	2.00	70.0	56.0	5.5
1979-1983	3.40	2.00	70.0	56.0	5.5
1975-1978	4.00	2.50	80.0	64.0	6.0
1973-1974	7.00	4.50	120	96.0	6.0
1968-1972	7.00	4.50	120	96.0	7.0

(c) *Light-Duty Trucks with GVWR of 6,001 to 8,500 pounds and Heavy-Duty Vehicles with GVWR of 8,500 pounds or less.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
1997 and newer					
(≤ 5750 lbs ALVW)	0.80	0.50	13.0	10.0	1.8
(>5750 lbs ALVW)	0.80	0.50	15.0	12.0	2.0
1990-1996	1.60	1.00	40.0	32.0	3.5
1987-1989	1.60	1.00	40.0	32.0	5.5
1984-1986	3.20	2.00	70.0	56.0	5.5
1979-1983	3.40	2.00	70.0	56.0	5.5
1975-1978	4.00	2.50	80.0	64.0	6.0
1973-1974	7.00	4.50	120	96.0	6.0
1968-1972	7.00	4.50	120	96.0	7.0

(d) *Heavy-Duty Vehicles with GVWR of 8,501 to 10,000 pounds.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
2005 and newer	1.00	0.63	30.0	24.0	3.0
1998-2004	2.00	1.25	30.0	24.0	7.0
1991-1997	2.00	1.25	40.0	32.0	9.0
1987-1990	2.00	1.25	40.0	32.0	11.0
1985-1986	5.00	3.10	80.0	64.0	16.0
1979-1984	7.50	5.00	100	80.0	16.0
1974-1978	10.0	6.00	150	120	20.0
1970-1973	10.0	6.00	175	140	20.0
1968-1969	20.0	12.5	200	160	30.0

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**Table 1 (continued)**  
**Emission Limitations For The Transient Emission Test**

(e) *Heavy-Duty Vehicles with GVWR greater than 10,000 pounds.*

Model Years	Hydrocarbons (grams/mile)		Carbon Monoxide (grams/mile)		Oxides of Nitrogen (grams/mile)
	Composite	Phase 2	Composite	Phase 2	Composite
2005 and newer	1.00	0.63	60.0	48.0	3.0
1998-2004	3.50	2.00	60.0	48.0	7.0
1991-1997	3.50	2.00	70.0	56.0	9.0
1987-1990	3.50	2.00	70.0	56.0	11.0
1985-1986	10.0	6.00	150	120	16.0
1979-1984	11.5	7.00	150	120	16.0
1974-1978	13.0	8.00	150	120	20.0
1970-1973	13.0	8.00	175	140	20.0
1968-1969	24.0	15.0	200	160	30.0

<sup>1</sup>Upon written department approval granted to DOT, the emission limitations for "Not Tier 1" may be applied to all 1994-1995 model year light-duty vehicles. (Note: On January 7, 1998, the department issued to DOT written approval for this use of the "Not Tier 1" emission limitations until November 30, 1999.)

<sup>2</sup>Upon written department approval granted to DOT, the emission limitations for ">3750 lbs LVW" may be applied to all 1996 model year and newer light-duty trucks with GVWR of 6,000 pounds or less.

<sup>3</sup>Upon written department approval granted to DOT, the emission limitations for "Not Tier 1" may be applied to all 1994-1995 model year light-duty trucks with GVWR of 6,000 pounds or less. (Note: On January 7, 1998, the department issued to DOT written approval for this use of the "Not Tier 1" emission limitations until November 30, 1999.)

<sup>4</sup>Upon written department approval granted to DOT, the emission limitations for ">3750 lbs LVW" may be applied to all 1994-1995 model year light-duty trucks with GVWR of 6,000 pounds or less which are certified to meet Tier 1 emission standards.

<sup>5</sup>Upon written department approval granted to DOT, the emission limitations for ">5750 lbs ALVW" may be applied to all 1997 model year and newer light-duty trucks with GVWR of 6,001 to 8,500 pounds and to all 1997 model year and newer heavy-duty vehicles with GVWR of 8,500 pounds or less.

<sup>6</sup>Upon written department approval granted to DOT, the emission limitations for "Not Tier 1" may be applied to all 1996 model year light-duty trucks with GVWR of 6,001 to 8,500 pounds and to all 1996 model year heavy-duty vehicles with GVWR of 8,500 pounds or less. (Note: On January 7, 1998, the department issued to DOT written approval for this use of the "Not Tier 1" emission limitations until November 30, 1999.)

<sup>7</sup>Upon written department approval granted to DOT, the emission limitations for ">5750 lbs ALVW" may be applied to all 1996 model year light-duty trucks with GVWR of 6,001 to 8,500 pounds which are certified to meet Tier 1 emission standards and to all 1996 model year heavy-duty vehicles with GVWR of 8,500 pounds or less which are certified to meet Tier 1 emission standards.

**Table 2**  
**Emission Limitations For The Following Steady-State Tests:**

I.	Idle Test
II.	2 Speed Idle Test
III.	Loaded Test
IV.	Preconditioned Idle Test
V.	Idle Test with Loaded Preconditioning
VI.	Preconditioned 2 Speed Idle Test

**(1) LIGHT-DUTY VEHICLES.**

Model Years	Hydrocarbons (parts per million of exhaust)	Carbon Monoxide (as a percent of exhaust)
1981 and newer	220	1.2
1980	230	2.0
1979	275	3.0
1978	350	4.0
1975-1977	450	5.5
1972-1974	550	7.0
1968-1971	800	8.0

**(2) LIGHT-DUTY TRUCKS WITH GVWR OF 6,000 POUNDS OR LESS.**

Model Years	Hydrocarbons (parts per million of exhaust)	Carbon Monoxide (as a percent of exhaust)
1985 and newer	220	1.2
1981-1984	250	2.0

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**Table 2 (continued)**  
**Emission Limitations For The Following Steady-State Tests:**

1980	275	2.5
1979	300	3.0
1978	450	5.0
1975-1977	500	6.0
1972-1974	700	7.0
1968-1971	800	8.0

**(3) LIGHT-DUTY TRUCKS WITH GVWR OF 6,001 TO 8,500 POUNDS AND HEAVY-DUTY VEHICLES WITH GVWR OF 8,500 POUNDS OR LESS.**

Model Years	Hydrocarbons (parts per million of exhaust)	Carbon Monoxide (as a percent of exhaust)
1985 and newer	220	1.2
1981-1984	250	2.0
1980	275	2.5
1979	300	3.0
1978	450	5.5
1975-1977	550	6.5
1972-1974	700	7.0
1970-1971	800	8.0
1968-1969	1450	9.0

**(4) HEAVY-DUTY VEHICLES WITH GVWR GREATER THAN 8,500 POUNDS.**

Model Years	Hydrocarbons (parts per million of exhaust)	Carbon Monoxide (as a percent of exhaust)
1985 and newer	300	3.0
1979-1984	700	7.0
1972-1978	900	9.0
1968-1971	1500	9.5

**Table 3**  
**Fast-Pass Emission Limitations For The Transient Emission Test**

**(1) HYDROCARBON EXHAUST EMISSIONS.**

(a) *Motor vehicles having composite hydrocarbon emission limitations in Table 1 of at least 0.60 grams/mile but less than 0.80 grams/mile.*

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
30	0.093	N/A	56	0.189	N/A
31	0.095	N/A	57	0.196	N/A
32	0.097	N/A	58	0.203	N/A
33	0.101	N/A	59	0.207	N/A
34	0.105	N/A	60	0.209	N/A
35	0.110	N/A	61	0.210	N/A
36	0.113	N/A	62	0.212	N/A
37	0.115	N/A	63	0.212	N/A
38	0.117	N/A	64	0.213	N/A
39	0.120	N/A	65	0.214	N/A
40	0.124	N/A	66	0.215	N/A
41	0.127	N/A	67	0.216	N/A
42	0.129	N/A	68	0.218	N/A
43	0.130	N/A	69	0.221	N/A
44	0.133	N/A	70	0.222	N/A
45	0.148	N/A	71	0.224	N/A
46	0.150	N/A	72	0.225	N/A
47	0.156	N/A	73	0.227	N/A
48	0.166	N/A	74	0.228	N/A
49	0.174	N/A	75	0.230	N/A
50	0.176	N/A	76	0.231	N/A
51	0.179	N/A	77	0.231	N/A
52	0.180	N/A	78	0.231	N/A
53	0.182	N/A	79	0.236	N/A
54	0.185	N/A	80	0.240	N/A
55	0.187	N/A	81	0.243	N/A

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**Table 3 (continued)**  
**Fast-Pass Emission Limitations For The Transient Emission Test**

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
82	0.245	N/A	145	0.513	0.053
83	0.247	N/A	146	0.515	0.053
84	0.250	N/A	147	0.516	0.054
85	0.252	N/A	148	0.518	0.055
86	0.254	N/A	149	0.519	0.056
87	0.257	N/A	150	0.521	0.057
88	0.260	N/A	151	0.522	0.058
89	0.263	N/A	152	0.524	0.058
90	0.267	N/A	153	0.525	0.059
91	0.269	N/A	154	0.527	0.059
92	0.270	N/A	155	0.528	0.060
93	0.272	N/A	156	0.530	0.062
94	0.275	N/A	157	0.531	0.064
95	0.278	N/A	158	0.533	0.066
96	0.279	N/A	159	0.534	0.066
97	0.282	N/A	160	0.537	0.070
98	0.291	N/A	161	0.563	0.077
99	0.297	N/A	162	0.588	0.087
100	0.304	N/A	163	0.604	0.093
101	0.308	N/A	164	0.630	0.099
102	0.308	N/A	165	0.640	0.103
103	0.309	N/A	166	0.656	0.129
104	0.310	N/A	167	0.677	0.151
105	0.316	N/A	168	0.683	0.153
106	0.321	N/A	169	0.686	0.162
107	0.323	N/A	170	0.687	0.178
108	0.341	N/A	171	0.689	0.191
109	0.344	0.012	172	0.698	0.200
110	0.347	0.014	173	0.711	0.208
111	0.348	0.017	174	0.737	0.216
112	0.350	0.019	175	0.764	0.229
113	0.351	0.019	176	0.770	0.239
114	0.353	0.020	177	0.776	0.253
115	0.366	0.021	178	0.788	0.258
116	0.385	0.023	179	0.806	0.262
117	0.404	0.026	180	0.813	0.273
118	0.421	0.028	181	0.824	0.280
119	0.433	0.028	182	0.841	0.284
120	0.435	0.029	183	0.849	0.291
121	0.440	0.031	184	0.864	0.314
122	0.446	0.032	185	0.871	0.322
123	0.452	0.033	186	0.876	0.324
124	0.458	0.034	187	0.881	0.326
125	0.461	0.034	188	0.886	0.328
126	0.468	0.034	189	0.891	0.339
127	0.471	0.036	190	0.902	0.348
128	0.474	0.037	191	0.914	0.358
129	0.478	0.037	192	0.925	0.370
130	0.481	0.040	193	0.938	0.383
131	0.482	0.041	194	0.941	0.395
132	0.483	0.042	195	0.944	0.406
133	0.484	0.044	196	0.949	0.413
134	0.485	0.044	197	0.960	0.415
135	0.488	0.044	198	0.970	0.416
136	0.494	0.045	199	0.976	0.418
137	0.497	0.045	200	0.985	0.420
138	0.500	0.045	201	0.993	0.427
139	0.501	0.048	202	0.999	0.438
140	0.503	0.049	203	1.006	0.443
141	0.504	0.049	204	1.018	0.448
142	0.506	0.049	205	1.031	0.453
143	0.509	0.051	206	1.044	0.456
144	0.511	0.052	207	1.056	0.459

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**Table 3 (continued)**  
**Fast-Pass Emission Limitations For The Transient Emission Test**

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
208	1.067	0.463	224	1.160	0.547
209	1.075	0.466	225	1.162	0.554
210	1.082	0.469	226	1.172	0.562
211	1.090	0.482	227	1.181	0.568
212	1.097	0.490	228	1.184	0.569
213	1.101	0.497	229	1.188	0.574
214	1.103	0.504	230	1.192	0.574
215	1.106	0.508	231	1.193	0.574
216	1.109	0.517	232	1.197	0.575
217	1.111	0.521	233	1.199	0.575
218	1.113	0.521	234	1.203	0.576
219	1.115	0.523	235	1.208	0.577
220	1.118	0.527	236	1.209	0.577
221	1.120	0.531	237	1.210	0.577
222	1.128	0.537	238	1.211	0.578
223	1.142	0.544	239	1.211	0.580

(b) Motor vehicles having composite hydrocarbon emission limitations in Table 1 of at least 0.80 grams/mile but less than 1.25 grams/mile.

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
30	0.124	N/A	75	0.307	N/A
31	0.126	N/A	76	0.308	N/A
32	0.129	N/A	77	0.308	N/A
33	0.135	N/A	78	0.308	N/A
34	0.140	N/A	79	0.314	N/A
35	0.146	N/A	80	0.320	N/A
36	0.150	N/A	81	0.324	N/A
37	0.153	N/A	82	0.327	N/A
38	0.156	N/A	83	0.329	N/A
39	0.160	N/A	84	0.333	N/A
40	0.165	N/A	85	0.336	N/A
41	0.169	N/A	86	0.339	N/A
42	0.172	N/A	87	0.343	N/A
43	0.173	N/A	88	0.347	N/A
44	0.177	N/A	89	0.350	N/A
45	0.197	N/A	90	0.356	N/A
46	0.200	N/A	91	0.358	N/A
47	0.208	N/A	92	0.360	N/A
48	0.221	N/A	93	0.363	N/A
49	0.232	N/A	94	0.367	0.000
50	0.235	N/A	95	0.370	0.000
51	0.238	N/A	96	0.372	0.000
52	0.240	N/A	97	0.376	0.000
53	0.242	N/A	98	0.388	0.000
54	0.246	N/A	99	0.396	0.000
55	0.249	N/A	100	0.405	0.001
56	0.252	N/A	101	0.410	0.002
57	0.261	N/A	102	0.411	0.003
58	0.271	N/A	103	0.412	0.006
59	0.276	N/A	104	0.413	0.007
60	0.278	N/A	105	0.421	0.008
61	0.280	N/A	106	0.428	0.009
62	0.282	N/A	107	0.430	0.010
63	0.283	N/A	108	0.455	0.013
64	0.284	N/A	109	0.459	0.015
65	0.285	N/A	110	0.462	0.017
66	0.286	N/A	111	0.464	0.021
67	0.288	N/A	112	0.466	0.024
68	0.291	N/A	113	0.468	0.024
69	0.294	N/A	114	0.471	0.025
70	0.296	N/A	115	0.488	0.026
71	0.298	N/A	116	0.513	0.029
72	0.300	N/A	117	0.538	0.032
73	0.302	N/A	118	0.561	0.035
74	0.304	N/A	119	0.577	0.035

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**Table 3 (continued)**  
**Fast-Pass Emission Limitations For The Transient Emission Test**

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
120	0.580	0.036	180	1.084	0.337
121	0.586	0.038	181	1.099	0.345
122	0.594	0.040	182	1.121	0.350
123	0.603	0.041	183	1.132	0.359
124	0.610	0.042	184	1.152	0.387
125	0.615	0.042	185	1.161	0.398
126	0.624	0.042	186	1.168	0.400
127	0.628	0.045	187	1.175	0.402
128	0.632	0.046	188	1.181	0.405
129	0.637	0.046	189	1.188	0.418
130	0.641	0.049	190	1.203	0.429
131	0.643	0.050	191	1.219	0.442
132	0.644	0.052	192	1.233	0.457
133	0.645	0.054	193	1.251	0.473
134	0.647	0.054	194	1.255	0.487
135	0.651	0.054	195	1.258	0.501
136	0.658	0.055	196	1.265	0.510
137	0.663	0.055	197	1.280	0.512
138	0.666	0.056	198	1.293	0.514
139	0.668	0.059	199	1.301	0.516
140	0.670	0.061	200	1.313	0.518
141	0.672	0.061	201	1.324	0.527
142	0.675	0.061	202	1.332	0.540
143	0.678	0.063	203	1.341	0.547
144	0.681	0.064	204	1.357	0.553
145	0.684	0.065	205	1.375	0.559
146	0.686	0.066	206	1.392	0.563
147	0.688	0.067	207	1.408	0.567
148	0.690	0.068	208	1.422	0.571
149	0.692	0.069	209	1.433	0.575
150	0.694	0.070	210	1.443	0.579
151	0.696	0.071	211	1.453	0.595
152	0.698	0.072	212	1.463	0.605
153	0.700	0.073	213	1.468	0.614
154	0.702	0.073	214	1.470	0.622
155	0.704	0.074	215	1.474	0.627
156	0.706	0.077	216	1.478	0.638
157	0.708	0.079	217	1.481	0.643
158	0.710	0.082	218	1.484	0.643
159	0.712	0.082	219	1.487	0.645
160	0.716	0.086	220	1.490	0.651
161	0.750	0.095	221	1.493	0.655
162	0.784	0.107	222	1.504	0.663
163	0.805	0.115	223	1.522	0.671
164	0.840	0.122	224	1.547	0.675
165	0.853	0.127	225	1.549	0.684
166	0.874	0.159	226	1.562	0.694
167	0.903	0.186	227	1.574	0.701
168	0.910	0.189	228	1.579	0.702
169	0.914	0.200	229	1.584	0.708
170	0.916	0.220	230	1.589	0.708
171	0.919	0.236	231	1.590	0.709
172	0.931	0.247	232	1.596	0.710
173	0.948	0.257	233	1.598	0.710
174	0.983	0.267	234	1.604	0.711
175	1.018	0.283	235	1.610	0.712
176	1.027	0.295	236	1.612	0.712
177	1.035	0.312	237	1.613	0.712
178	1.051	0.318	238	1.614	0.713
179	1.074	0.323	239	1.615	0.716

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**Table 3 (continued)**  
**Fast-Pass Emission Limitations For The Transient Emission Test**

(c) Motor vehicles having composite hydrocarbon emission limitations in Table 1 of at least 1.25 grams/mile but less than 2.00 grams/mile.

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
30	0.247	N/A	92	0.729	N/A
31	0.253	N/A	93	0.731	N/A
32	0.258	N/A	94	0.734	0.000
33	0.263	N/A	95	0.740	0.000
34	0.268	N/A	96	0.748	0.001
35	0.277	N/A	97	0.759	0.001
36	0.283	N/A	98	0.771	0.002
37	0.293	N/A	99	0.783	0.003
38	0.297	N/A	100	0.793	0.005
39	0.298	N/A	101	0.810	0.007
40	0.313	N/A	102	0.823	0.009
41	0.320	N/A	103	0.836	0.011
42	0.327	N/A	104	0.853	0.016
43	0.342	N/A	105	0.871	0.017
44	0.360	N/A	106	0.887	0.022
45	0.376	N/A	107	0.899	0.029
46	0.389	N/A	108	0.931	0.036
47	0.408	N/A	109	0.947	0.040
48	0.423	N/A	110	0.957	0.047
49	0.434	N/A	111	0.965	0.052
50	0.444	N/A	112	0.971	0.056
51	0.454	N/A	113	0.977	0.061
52	0.465	N/A	114	0.983	0.064
53	0.472	N/A	115	1.003	0.072
54	0.478	N/A	116	1.030	0.081
55	0.485	N/A	117	1.041	0.082
56	0.493	N/A	118	1.050	0.083
57	0.500	N/A	119	1.052	0.092
58	0.505	N/A	120	1.055	0.094
59	0.514	N/A	121	1.061	0.097
60	0.537	N/A	122	1.071	0.100
61	0.540	N/A	123	1.081	0.103
62	0.543	N/A	124	1.091	0.106
63	0.546	N/A	125	1.102	0.108
64	0.551	N/A	126	1.110	0.110
65	0.559	N/A	127	1.116	0.112
66	0.567	N/A	128	1.121	0.114
67	0.575	N/A	129	1.125	0.116
68	0.588	N/A	130	1.128	0.118
69	0.595	N/A	131	1.130	0.120
70	0.601	N/A	132	1.132	0.122
71	0.606	N/A	133	1.134	0.123
72	0.610	N/A	134	1.135	0.124
73	0.617	N/A	135	1.143	0.127
74	0.631	N/A	136	1.147	0.130
75	0.643	N/A	137	1.156	0.134
76	0.651	N/A	138	1.163	0.139
77	0.659	N/A	139	1.186	0.146
78	0.667	N/A	140	1.253	0.149
79	0.676	N/A	141	1.262	0.151
80	0.681	N/A	142	1.271	0.153
81	0.685	N/A	143	1.277	0.155
82	0.689	N/A	144	1.283	0.157
83	0.694	N/A	145	1.291	0.162
84	0.700	N/A	146	1.294	0.164
85	0.705	N/A	147	1.296	0.166
86	0.709	N/A	148	1.298	0.168
87	0.713	N/A	149	1.303	0.169
88	0.717	N/A	150	1.316	0.170
89	0.721	N/A	151	1.330	0.171
90	0.724	N/A	152	1.342	0.172
91	0.727	N/A	153	1.348	0.173

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**Table 3 (continued)**  
**Fast-Pass Emission Limitations For The Transient Emission Test**

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
154	1.353	0.175	197	2.079	0.709
155	1.362	0.178	198	2.094	0.725
156	1.365	0.180	199	2.109	0.740
157	1.366	0.189	200	2.122	0.754
158	1.373	0.198	201	2.130	0.767
159	1.397	0.203	202	2.137	0.775
160	1.423	0.207	203	2.157	0.787
161	1.440	0.214	204	2.172	0.795
162	1.452	0.221	205	2.194	0.803
163	1.465	0.229	206	2.222	0.854
164	1.509	0.247	207	2.245	0.859
165	1.533	0.274	208	2.268	0.872
166	1.555	0.309	209	2.279	0.892
167	1.576	0.318	210	2.288	0.896
168	1.598	0.322	211	2.301	0.903
169	1.618	0.333	212	2.316	0.924
170	1.636	0.343	213	2.332	0.938
171	1.666	0.356	214	2.345	0.941
172	1.685	0.385	215	2.354	0.951
173	1.726	0.409	216	2.362	0.966
174	1.742	0.433	217	2.368	0.979
175	1.756	0.453	218	2.376	0.980
176	1.769	0.463	219	2.384	0.981
177	1.784	0.507	220	2.391	1.005
178	1.802	0.523	221	2.395	1.016
179	1.822	0.528	222	2.400	1.022
180	1.843	0.541	223	2.405	1.028
181	1.864	0.549	224	2.409	1.035
182	1.884	0.559	225	2.413	1.041
183	1.896	0.571	226	2.417	1.045
184	1.915	0.584	227	2.426	1.051
185	1.940	0.598	228	2.428	1.055
186	1.958	0.613	229	2.431	1.059
187	1.972	0.624	230	2.433	1.064
188	1.985	0.629	231	2.441	1.069
189	1.991	0.629	232	2.461	1.071
190	1.993	0.638	233	2.476	1.072
191	1.995	0.648	234	2.488	1.073
192	2.001	0.659	235	2.498	1.081
193	2.015	0.663	236	2.508	1.083
194	2.031	0.671	237	2.516	1.084
195	2.047	0.681	238	2.520	1.085
196	2.063	0.693	239	2.523	1.086

(d) Motor vehicles having composite hydrocarbon emission limitations in Table 1 of 2.00 grams/mile or greater.

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
30	0.407	N/A	49	0.679	N/A
31	0.415	N/A	50	0.696	N/A
32	0.423	N/A	51	0.712	N/A
33	0.436	N/A	52	0.727	N/A
34	0.451	N/A	53	0.745	N/A
35	0.464	N/A	54	0.760	N/A
36	0.468	N/A	55	0.776	N/A
37	0.475	N/A	56	0.797	N/A
38	0.487	N/A	57	0.814	N/A
39	0.506	N/A	58	0.826	N/A
40	0.530	N/A	59	0.837	N/A
41	0.549	N/A	60	0.849	N/A
42	0.569	N/A	61	0.862	N/A
43	0.588	N/A	62	0.872	N/A
44	0.609	N/A	63	0.887	N/A
45	0.621	N/A	64	0.895	N/A
46	0.636	N/A	65	0.903	N/A
47	0.649	N/A	66	0.925	N/A
48	0.666	N/A	67	0.933	N/A

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**Table 3 (continued)**  
**Fast-Pass Emission Limitations For The Transient Emission Test**

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
68	0.945	N/A	132	1.854	0.356
69	0.959	N/A	133	1.862	0.357
70	0.970	N/A	134	1.870	0.359
71	0.980	N/A	135	1.883	0.362
72	0.988	N/A	136	1.888	0.364
73	0.997	N/A	137	1.896	0.368
74	1.022	N/A	138	1.911	0.378
75	1.037	N/A	139	1.928	0.391
76	1.051	N/A	140	1.949	0.402
77	1.064	N/A	141	1.969	0.408
78	1.075	N/A	142	1.982	0.422
79	1.087	N/A	143	1.999	0.428
80	1.097	N/A	144	2.011	0.432
81	1.105	N/A	145	2.022	0.434
82	1.114	N/A	146	2.035	0.439
83	1.136	N/A	147	2.043	0.450
84	1.160	N/A	148	2.049	0.460
85	1.182	N/A	149	2.063	0.467
86	1.201	N/A	150	2.085	0.472
87	1.217	N/A	151	2.104	0.480
88	1.233	N/A	152	2.117	0.491
89	1.248	N/A	153	2.127	0.503
90	1.262	N/A	154	2.138	0.505
91	1.271	N/A	155	2.152	0.515
92	1.279	N/A	156	2.168	0.522
93	1.287	N/A	157	2.186	0.527
94	1.295	0.001	158	2.205	0.537
95	1.302	0.002	159	2.224	0.549
96	1.309	0.003	160	2.242	0.568
97	1.316	0.004	161	2.268	0.586
98	1.325	0.008	162	2.308	0.610
99	1.339	0.015	163	2.352	0.648
100	1.356	0.021	164	2.406	0.677
101	1.365	0.026	165	2.421	0.699
102	1.378	0.039	166	2.435	0.720
103	1.397	0.044	167	2.470	0.738
104	1.420	0.055	168	2.501	0.767
105	1.445	0.094	169	2.537	0.828
106	1.470	0.110	170	2.571	0.855
107	1.491	0.116	171	2.625	0.869
108	1.506	0.132	172	2.657	0.885
109	1.517	0.151	173	2.683	0.900
110	1.528	0.159	174	2.701	0.941
111	1.542	0.172	175	2.717	0.979
112	1.559	0.186	176	2.732	1.002
113	1.578	0.199	177	2.756	1.025
114	1.594	0.207	178	2.781	1.047
115	1.605	0.216	179	2.811	1.065
116	1.615	0.229	180	2.853	1.089
117	1.625	0.235	181	2.898	1.109
118	1.642	0.240	182	2.946	1.133
119	1.670	0.245	183	2.988	1.158
120	1.694	0.261	184	3.023	1.184
121	1.705	0.267	185	3.057	1.209
122	1.717	0.277	186	3.076	1.222
123	1.732	0.287	187	3.101	1.231
124	1.747	0.298	188	3.120	1.239
125	1.763	0.308	189	3.136	1.254
126	1.779	0.316	190	3.151	1.278
127	1.795	0.322	191	3.163	1.300
128	1.810	0.329	192	3.209	1.313
129	1.823	0.338	193	3.223	1.324
130	1.835	0.346	194	3.237	1.340
131	1.845	0.354	195	3.263	1.367

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**Table 3 (continued)**  
**Fast-Pass Emission Limitations For The Transient Emission Test**

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
196	3.302	1.387	218	3.853	1.705
197	3.338	1.402	219	3.864	1.711
198	3.372	1.417	220	3.874	1.735
199	3.390	1.432	221	3.891	1.752
200	3.428	1.446	222	3.928	1.760
201	3.470	1.460	223	3.966	1.774
202	3.493	1.477	224	4.008	1.778
203	3.509	1.492	225	4.010	1.797
204	3.522	1.501	226	4.012	1.802
205	3.533	1.510	227	4.016	1.804
206	3.550	1.522	228	4.019	1.806
207	3.578	1.561	229	4.057	1.810
208	3.607	1.585	230	4.065	1.814
209	3.630	1.597	231	4.072	1.827
210	3.658	1.607	232	4.081	1.833
211	3.701	1.627	233	4.104	1.837
212	3.745	1.645	234	4.124	1.841
213	3.778	1.656	235	4.128	1.845
214	3.814	1.663	236	4.132	1.851
215	3.825	1.669	237	4.137	1.855
216	3.835	1.674	238	4.147	1.857
217	3.844	1.685	239	4.158	1.860

**(2) CARBON MONOXIDE EXHAUST EMISSIONS.** (a) *Motor vehicles having composite carbon monoxide emission limitations in Table 1 of at least 10.0 grams/mile but less than 15.0 grams/mile.*

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
30	0.462	N/A	69	1.384	N/A
31	0.515	N/A	70	1.403	N/A
32	0.558	N/A	71	1.411	N/A
33	0.567	N/A	72	1.417	N/A
34	0.569	N/A	73	1.420	N/A
35	0.571	N/A	74	1.425	N/A
36	0.600	N/A	75	1.435	N/A
37	0.640	N/A	76	1.447	N/A
38	0.689	N/A	77	1.459	N/A
39	0.713	N/A	78	1.467	N/A
40	0.717	N/A	79	1.475	N/A
41	0.722	N/A	80	1.475	N/A
42	0.735	N/A	81	1.481	N/A
43	0.741	N/A	82	1.481	N/A
44	0.743	N/A	83	1.485	N/A
45	0.771	N/A	84	1.491	N/A
46	0.896	N/A	85	1.495	N/A
47	0.988	N/A	86	1.508	N/A
48	1.020	N/A	87	1.514	N/A
49	1.028	N/A	88	1.523	N/A
50	1.035	N/A	89	1.533	N/A
51	1.047	N/A	90	1.539	N/A
52	1.063	N/A	91	1.551	N/A
53	1.089	N/A	92	1.553	N/A
54	1.123	N/A	93	1.554	N/A
55	1.126	N/A	94	1.563	N/A
56	1.129	N/A	95	1.565	N/A
57	1.133	N/A	96	1.570	N/A
58	1.149	N/A	97	1.597	N/A
59	1.235	N/A	98	1.634	N/A
60	1.248	N/A	99	1.672	N/A
61	1.248	N/A	100	1.727	N/A
62	1.248	N/A	101	1.773	N/A
63	1.267	N/A	102	1.833	N/A
64	1.278	N/A	103	1.942	N/A
65	1.296	N/A	104	2.108	N/A
66	1.333	N/A	105	2.113	N/A
67	1.373	N/A	106	2.131	N/A
68	1.376	N/A	107	2.192	N/A

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**Table 3 (continued)**  
**Fast-Pass Emission Limitations For The Transient Emission Test**

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
108	2.279	N/A	172	10.469	4.459
109	2.391	0.115	173	10.835	4.669
110	2.397	0.119	174	11.271	4.950
111	2.427	0.163	175	11.770	5.600
112	2.493	0.183	176	12.013	5.654
113	2.579	0.192	177	12.233	5.898
114	2.585	0.200	178	12.447	6.046
115	2.623	0.216	179	12.648	6.078
116	2.677	0.227	180	12.819	6.124
117	2.707	0.237	181	13.415	6.267
118	2.709	0.240	182	13.603	6.549
119	2.719	0.245	183	13.836	7.046
120	2.760	0.252	184	14.456	7.463
121	2.790	0.267	185	14.637	7.555
122	2.799	0.280	186	15.100	7.699
123	2.803	0.318	187	15.326	7.911
124	2.808	0.330	188	15.690	8.172
125	2.821	0.348	189	15.917	8.258
126	2.865	0.356	190	16.012	8.361
127	2.896	0.359	191	16.309	8.600
128	2.907	0.361	192	16.457	8.655
129	2.911	0.363	193	16.621	8.674
130	2.913	0.364	194	16.792	8.693
131	2.915	0.364	195	16.979	8.778
132	2.957	0.367	196	17.085	8.867
133	3.015	0.378	197	17.164	8.924
134	3.016	0.381	198	17.233	8.973
135	3.017	0.405	199	17.316	9.045
136	3.021	0.423	200	17.427	9.098
137	3.023	0.439	201	17.483	9.215
138	3.028	0.449	202	17.559	9.386
139	3.035	0.455	203	17.698	9.463
140	3.036	0.469	204	17.879	9.579
141	3.036	0.478	205	18.035	9.680
142	3.036	0.486	206	18.262	9.773
143	3.036	0.495	207	18.334	9.911
144	3.036	0.508	208	18.421	9.961
145	3.036	0.510	209	18.535	10.152
146	3.036	0.510	210	18.635	10.242
147	3.036	0.512	211	18.803	10.248
148	3.036	0.514	212	19.029	10.315
149	3.036	0.516	213	19.331	10.458
150	3.036	0.524	214	19.333	10.630
151	3.037	0.542	215	19.337	10.687
152	3.037	0.543	216	19.387	10.754
153	3.043	0.546	217	19.521	10.971
154	3.075	0.549	218	19.655	11.012
155	3.223	0.553	219	19.823	11.250
156	3.801	0.578	220	19.869	11.327
157	3.894	0.680	221	19.881	11.353
158	4.113	0.713	222	19.898	11.390
159	4.447	0.932	223	19.908	11.463
160	4.950	1.000	224	19.915	11.511
161	5.586	1.062	225	20.005	11.522
162	6.432	1.253	226	20.084	11.546
163	7.279	1.887	227	20.085	11.587
164	8.105	2.111	228	20.085	11.652
165	8.487	2.496	229	20.139	11.652
166	8.554	3.095	230	20.209	11.654
167	8.595	3.402	231	20.215	11.672
168	8.621	3.610	232	20.217	11.729
169	9.135	3.937	233	20.245	11.744
170	9.426	4.157	234	20.274	11.806
171	9.976	4.351	235	20.277	11.808

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**Table 3 (continued)**  
**Fast-Pass Emission Limitations For The Transient Emission Test**

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
236	20.285	11.809	238	20.301	11.845
237	20.287	11.810	239	20.325	11.934

(b) *Motor vehicles having composite carbon monoxide emission limitations in Table 1 of at least 15.0 grams/mile but less than 20.0 grams/mile.*

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
30	0.693	N/A	89	2.299	N/A
31	0.773	N/A	90	2.308	N/A
32	0.837	N/A	91	2.326	N/A
33	0.851	N/A	92	2.330	N/A
34	0.853	N/A	93	2.331	N/A
35	0.857	N/A	94	2.344	0.000
36	0.900	N/A	95	2.347	0.000
37	0.960	N/A	96	2.355	0.000
38	1.034	N/A	97	2.395	0.000
39	1.070	N/A	98	2.451	0.000
40	1.076	N/A	99	2.508	0.004
41	1.083	N/A	100	2.590	0.008
42	1.102	N/A	101	2.660	0.015
43	1.111	N/A	102	2.749	0.026
44	1.114	N/A	103	2.913	0.038
45	1.157	N/A	104	3.162	0.038
46	1.344	N/A	105	3.170	0.039
47	1.482	N/A	106	3.197	0.061
48	1.530	N/A	107	3.288	0.062
49	1.542	N/A	108	3.419	0.108
50	1.553	N/A	109	3.587	0.168
51	1.571	N/A	110	3.595	0.173
52	1.595	N/A	111	3.640	0.237
53	1.633	N/A	112	3.740	0.266
54	1.685	N/A	113	3.868	0.280
55	1.689	N/A	114	3.877	0.291
56	1.693	N/A	115	3.934	0.314
57	1.700	N/A	116	4.015	0.331
58	1.723	N/A	117	4.061	0.345
59	1.852	N/A	118	4.063	0.350
60	1.872	N/A	119	4.079	0.356
61	1.872	N/A	120	4.140	0.367
62	1.872	N/A	121	4.185	0.388
63	1.900	N/A	122	4.199	0.407
64	1.917	N/A	123	4.205	0.463
65	1.944	N/A	124	4.212	0.480
66	2.000	N/A	125	4.232	0.506
67	2.060	N/A	126	4.298	0.518
68	2.064	N/A	127	4.344	0.522
69	2.076	N/A	128	4.361	0.525
70	2.104	N/A	129	4.366	0.528
71	2.117	N/A	130	4.369	0.530
72	2.125	N/A	131	4.372	0.530
73	2.130	N/A	132	4.435	0.534
74	2.138	N/A	133	4.523	0.550
75	2.152	N/A	134	4.524	0.554
76	2.170	N/A	135	4.525	0.590
77	2.188	N/A	136	4.531	0.616
78	2.200	N/A	137	4.534	0.639
79	2.212	N/A	138	4.542	0.653
80	2.212	N/A	139	4.553	0.662
81	2.221	N/A	140	4.554	0.683
82	2.222	N/A	141	4.554	0.696
83	2.227	N/A	142	4.554	0.708
84	2.236	N/A	143	4.554	0.721
85	2.243	N/A	144	4.554	0.739
86	2.262	N/A	145	4.554	0.742
87	2.271	N/A	146	4.554	0.743
88	2.284	N/A	147	4.554	0.745

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**Table 3 (continued)**  
**Fast-Pass Emission Limitations For The Transient Emission Test**

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
148	4.554	0.748	194	25.188	12.653
149	4.554	0.751	195	25.468	12.777
150	4.554	0.762	196	25.627	12.906
151	4.556	0.789	197	25.746	12.989
152	4.556	0.790	198	25.850	13.060
153	4.565	0.794	199	25.974	13.165
154	4.612	0.799	200	26.141	13.242
155	4.834	0.805	201	26.225	13.412
156	5.702	0.842	202	26.338	13.662
157	5.841	0.990	203	26.547	13.773
158	6.170	1.038	204	26.818	13.942
159	6.670	1.357	205	27.052	14.090
160	7.425	1.455	206	27.393	14.224
161	8.379	1.546	207	27.501	14.426
162	9.648	1.824	208	27.632	14.498
163	10.918	2.746	209	27.803	14.776
164	12.127	3.073	210	27.953	14.907
165	12.731	3.633	211	28.205	14.916
166	12.831	4.505	212	28.543	15.014
167	12.892	4.952	213	28.997	15.221
168	12.932	5.254	214	29.000	15.472
169	13.702	5.730	215	29.005	15.555
170	14.139	6.051	216	29.081	15.652
171	14.964	6.333	217	29.281	15.969
172	15.704	6.490	218	29.483	16.028
173	16.253	6.796	219	29.734	16.375
174	16.907	7.205	220	29.803	16.487
175	17.655	8.151	221	29.821	16.524
176	18.020	8.230	222	29.847	16.578
177	18.349	8.584	223	29.862	16.684
178	18.671	8.800	224	29.873	16.755
179	18.972	8.847	225	30.008	16.770
180	19.228	8.913	226	30.126	16.805
181	20.123	9.122	227	30.127	16.865
182	20.405	9.532	228	30.127	16.960
183	20.754	10.256	229	30.208	16.960
184	21.684	10.862	230	30.314	16.962
185	21.955	10.996	231	30.323	16.988
186	22.650	11.206	232	30.325	17.072
187	22.989	11.514	233	30.368	17.094
188	23.535	11.894	234	30.411	17.184
189	23.876	12.019	235	30.416	17.187
190	24.018	12.170	236	30.428	17.188
191	24.464	12.517	237	30.430	17.189
192	24.685	12.598	238	30.452	17.241
193	24.931	12.625	239	30.488	17.370

(c) Motor vehicles having composite carbon monoxide emission limitations in Table 1 of at least 20.0 grams/mile but less than 30.0 grams/mile.

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
30	1.502	N/A	45	2.406	N/A
31	1.546	N/A	46	2.433	N/A
32	1.568	N/A	47	2.458	N/A
33	1.582	N/A	48	2.483	N/A
34	1.593	N/A	49	2.774	N/A
35	1.602	N/A	50	2.844	N/A
36	1.621	N/A	51	2.900	N/A
37	1.631	N/A	52	2.936	N/A
38	1.702	N/A	53	3.133	N/A
39	1.784	N/A	54	3.304	N/A
40	1.879	N/A	55	3.407	N/A
41	2.162	N/A	56	3.456	N/A
42	2.307	N/A	57	3.480	N/A
43	2.343	N/A	58	3.518	N/A
44	2.376	N/A	59	3.560	N/A

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**Table 3 (continued)**  
**Fast-Pass Emission Limitations For The Transient Emission Test**

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
60	3.593	N/A	124	8.568	0.532
61	3.628	N/A	125	8.572	0.533
62	3.641	N/A	126	8.584	0.548
63	3.655	N/A	127	8.592	0.610
64	3.680	N/A	128	8.596	0.614
65	3.700	N/A	129	8.597	0.622
66	3.728	N/A	130	8.601	0.631
67	3.857	N/A	131	8.605	0.640
68	3.894	N/A	132	8.608	0.646
69	3.943	N/A	133	8.626	0.650
70	3.983	N/A	134	8.650	0.652
71	4.009	N/A	135	8.660	0.738
72	4.023	N/A	136	8.767	0.754
73	4.023	N/A	137	9.029	0.780
74	4.053	N/A	138	9.238	0.795
75	4.063	N/A	139	9.389	0.804
76	4.077	N/A	140	9.493	0.810
77	4.225	N/A	141	9.583	0.815
78	4.243	N/A	142	9.626	0.818
79	4.260	N/A	143	9.669	0.821
80	4.282	N/A	144	9.716	0.825
81	4.322	N/A	145	9.763	0.840
82	4.398	N/A	146	9.809	0.847
83	4.482	N/A	147	9.852	0.855
84	4.515	N/A	148	9.885	0.865
85	4.518	N/A	149	9.932	0.874
86	4.520	N/A	150	9.986	0.891
87	4.522	N/A	151	10.039	0.914
88	4.522	N/A	152	10.072	0.929
89	4.523	N/A	153	10.090	0.937
90	4.526	N/A	154	10.105	0.942
91	4.527	N/A	155	10.146	0.949
92	4.527	N/A	156	10.245	1.375
93	4.528	N/A	157	10.397	1.576
94	4.528	0.000	158	10.923	1.943
95	4.528	0.000	159	11.970	2.820
96	4.529	0.000	160	13.421	3.281
97	4.575	0.000	161	15.289	3.483
98	4.703	0.002	162	15.912	3.620
99	4.805	0.005	163	16.530	4.168
100	4.886	0.010	164	17.622	4.338
101	4.957	0.017	165	18.366	4.682
102	5.104	0.052	166	19.869	5.633
103	5.340	0.085	167	20.711	6.137
104	5.496	0.094	168	22.319	6.853
105	5.625	0.122	169	23.751	7.136
106	5.815	0.151	170	24.842	7.320
107	6.473	0.191	171	25.410	7.685
108	7.037	0.234	172	25.798	8.052
109	7.419	0.246	173	26.122	8.344
110	7.643	0.257	174	26.353	8.602
111	7.759	0.286	175	26.638	8.898
112	7.824	0.379	176	27.219	9.251
113	7.889	0.425	177	27.279	10.253
114	7.960	0.457	178	27.320	10.828
115	8.024	0.477	179	27.352	10.933
116	8.076	0.494	180	27.822	11.060
117	8.111	0.504	181	28.763	11.188
118	8.130	0.512	182	29.402	11.345
119	8.148	0.519	183	29.971	11.733
120	8.211	0.529	184	30.276	12.598
121	8.478	0.529	185	30.988	12.953
122	8.548	0.530	186	31.095	13.213
123	8.561	0.531	187	31.314	14.131

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**Table 3 (continued)**  
**Fast-Pass Emission Limitations For The Transient Emission Test**

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
188	31.833	14.839	214	38.591	20.260
189	32.239	15.137	215	38.852	20.739
190	32.547	15.138	216	38.861	21.346
191	32.855	15.141	217	38.926	21.810
192	33.153	15.595	218	39.194	22.001
193	33.444	15.658	219	39.474	22.290
194	33.482	15.704	220	39.668	22.324
195	33.516	15.729	221	39.781	22.343
196	33.549	16.058	222	39.890	22.522
197	33.653	16.987	223	39.954	22.683
198	33.973	17.064	224	39.984	22.850
199	34.159	17.073	225	39.989	22.853
200	34.191	17.153	226	39.990	22.853
201	34.250	17.332	227	39.990	22.853
202	34.469	17.406	228	39.990	22.872
203	34.716	17.641	229	39.991	22.872
204	34.969	17.922	230	40.012	22.872
205	35.144	18.484	231	40.061	22.895
206	35.418	18.553	232	40.116	22.911
207	35.766	18.658	233	40.249	22.922
208	35.949	18.953	234	40.253	22.939
209	36.010	19.266	235	40.290	23.010
210	36.548	19.309	236	40.385	23.010
211	37.179	19.731	237	40.488	23.010
212	37.651	19.902	238	40.720	23.010
213	38.041	20.012	239	40.763	23.010

(d) *Motor vehicles having composite carbon monoxide emission limitations in Table 1 of 30.0 grams/mile or greater.*

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
30	3.804	N/A	66	9.354	N/A
31	3.985	N/A	67	9.457	N/A
32	4.215	N/A	68	9.575	N/A
33	4.440	N/A	69	9.728	N/A
34	4.579	N/A	70	9.938	N/A
35	4.688	N/A	71	10.140	N/A
36	4.749	N/A	72	10.222	N/A
37	4.783	N/A	73	10.261	N/A
38	4.813	N/A	74	10.278	N/A
39	4.876	N/A	75	10.290	N/A
40	5.104	N/A	76	10.715	N/A
41	5.217	N/A	77	10.790	N/A
42	5.383	N/A	78	10.844	N/A
43	5.571	N/A	79	10.921	N/A
44	5.888	N/A	80	11.010	N/A
45	6.199	N/A	81	11.090	N/A
46	6.245	N/A	82	11.136	N/A
47	6.318	N/A	83	11.136	N/A
48	6.418	N/A	84	11.165	N/A
49	6.540	N/A	85	11.191	N/A
50	6.690	N/A	86	11.205	N/A
51	6.875	N/A	87	11.211	N/A
52	7.029	N/A	88	11.211	N/A
53	7.129	N/A	89	11.211	N/A
54	7.359	N/A	90	11.211	N/A
55	7.722	N/A	91	11.220	N/A
56	8.017	N/A	92	11.294	N/A
57	8.249	N/A	93	11.332	N/A
58	8.425	N/A	94	11.355	0.000
59	8.563	N/A	95	11.383	0.000
60	8.686	N/A	96	11.410	0.001
61	8.804	N/A	97	11.433	0.006
62	8.916	N/A	98	11.516	0.020
63	9.025	N/A	99	11.820	0.051
64	9.138	N/A	100	12.104	0.092
65	9.250	N/A	101	12.344	0.131

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**Table 3 (continued)**  
**Fast-Pass Emission Limitations For The Transient Emission Test**

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
102	12.781	0.200	166	35.937	13.366
103	13.472	0.307	167	37.012	14.428
104	14.405	0.582	168	37.892	15.318
105	14.808	0.800	169	39.028	15.699
106	14.965	0.925	170	40.406	16.073
107	15.121	0.973	171	41.379	16.475
108	15.372	1.091	172	42.033	17.158
109	15.530	1.113	173	42.432	17.532
110	15.687	1.213	174	42.742	17.965
111	16.018	1.344	175	43.399	18.242
112	16.527	1.399	176	43.895	18.283
113	16.810	1.520	177	44.227	18.480
114	16.961	1.640	178	44.926	19.576
115	17.120	1.684	179	45.256	20.015
116	17.135	1.693	180	45.553	20.203
117	17.249	1.786	181	45.753	20.433
118	17.451	2.007	182	46.210	21.025
119	17.509	2.084	183	47.017	21.882
120	17.605	2.179	184	48.185	22.204
121	17.734	2.264	185	48.741	22.859
122	18.049	2.328	186	49.462	23.533
123	18.447	2.375	187	50.313	24.281
124	18.592	2.437	188	51.285	25.078
125	18.657	2.543	189	52.076	25.276
126	18.796	2.593	190	52.857	25.578
127	18.952	2.641	191	52.876	25.859
128	19.137	2.663	192	53.067	25.985
129	19.329	2.672	193	53.772	26.153
130	19.519	2.676	194	54.242	26.582
131	19.707	2.683	195	54.489	27.067
132	19.882	2.817	196	54.601	27.456
133	19.905	2.992	197	54.912	27.805
134	20.049	3.111	198	55.588	28.070
135	20.460	3.234	199	56.266	28.590
136	20.746	3.304	200	56.617	28.914
137	21.068	3.310	201	56.863	29.063
138	21.380	3.320	202	57.204	29.502
139	21.748	3.354	203	57.371	29.697
140	22.046	3.436	204	57.487	29.713
141	22.348	3.443	205	57.728	29.783
142	22.397	3.452	206	58.097	29.942
143	22.407	3.490	207	58.572	30.284
144	22.417	3.552	208	59.024	30.755
145	22.922	3.588	209	59.321	31.287
146	22.951	3.600	210	59.715	31.549
147	22.976	3.616	211	60.045	31.820
148	23.017	3.627	212	60.453	32.250
149	23.073	3.636	213	60.935	32.546
150	23.161	3.676	214	61.307	32.808
151	23.218	3.882	215	61.666	33.142
152	23.253	4.011	216	62.148	33.529
153	23.337	4.047	217	62.532	33.763
154	23.425	4.067	218	62.546	33.921
155	23.534	4.081	219	62.559	33.961
156	23.652	4.116	220	62.570	33.983
157	23.739	4.251	221	62.846	34.007
158	24.606	5.099	222	63.097	34.032
159	25.615	5.383	223	63.150	34.054
160	26.073	6.362	224	63.150	34.061
161	28.496	7.926	225	63.150	34.082
162	29.772	8.429	226	63.150	34.100
163	31.056	9.201	227	63.150	34.109
164	33.351	10.825	228	63.150	34.129
165	34.890	12.291	229	63.150	34.284

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**Table 3 (continued)**  
**Fast-Pass Emission Limitations For The Transient Emission Test**

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
230	63.150	34.397	235	63.159	34.470
231	63.150	34.463	236	63.173	34.471
232	63.150	34.465	237	63.193	34.472
233	63.150	34.466	238	63.214	34.472
234	63.153	34.468	239	63.233	34.473

**(3) OXIDES OF NITROGEN EXHAUST EMISSIONS.** (a) *Motor vehicles having composite oxides of nitrogen emission limitations in Table 1 of at least 1.5 grams/mile but less than 2.0 grams/mile.*

Second	Composite (grams)	Second	Composite (grams)
30	0.125	86	0.560
31	0.133	87	0.561
32	0.141	88	0.561
33	0.161	89	0.561
34	0.174	90	0.561
35	0.180	91	0.561
36	0.182	92	0.561
37	0.184	93	0.561
38	0.185	94	0.561
39	0.185	95	0.561
40	0.188	96	0.561
41	0.195	97	0.561
42	0.208	98	0.561
43	0.233	99	0.563
44	0.246	100	0.573
45	0.257	101	0.592
46	0.269	102	0.617
47	0.280	103	0.650
48	0.287	104	0.679
49	0.289	105	0.694
50	0.300	106	0.716
51	0.308	107	0.739
52	0.326	108	0.745
53	0.348	109	0.746
54	0.354	110	0.747
55	0.360	111	0.758
56	0.368	112	0.771
57	0.375	113	0.776
58	0.380	114	0.783
59	0.382	115	0.794
60	0.384	116	0.806
61	0.387	117	0.810
62	0.389	118	0.810
63	0.392	119	0.811
64	0.397	120	0.818
65	0.400	121	0.822
66	0.401	122	0.833
67	0.405	123	0.842
68	0.413	124	0.851
69	0.422	125	0.854
70	0.431	126	0.854
71	0.441	127	0.854
72	0.450	128	0.854
73	0.452	129	0.854
74	0.453	130	0.854
75	0.460	131	0.854
76	0.468	132	0.854
77	0.485	133	0.854
78	0.488	134	0.854
79	0.494	135	0.854
80	0.505	136	0.870
81	0.522	137	0.881
82	0.530	138	0.887
83	0.536	139	0.898
84	0.543	140	0.917
85	0.553	141	0.941

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**Table 3 (continued)**  
**Fast-Pass Emission Limitations For The Transient Emission Test**

Second	Composite (grams)	Second	Composite (grams)
142	0.954	191	2.228
143	0.965	192	2.265
144	0.978	193	2.308
145	0.980	194	2.349
146	0.984	195	2.389
147	0.988	196	2.414
148	0.991	197	2.451
149	0.994	198	2.474
150	0.996	199	2.513
151	0.999	200	2.555
152	1.004	201	2.600
153	1.008	202	2.623
154	1.013	203	2.636
155	1.018	204	2.638
156	1.024	205	2.639
157	1.034	206	2.642
158	1.061	207	2.659
159	1.100	208	2.678
160	1.136	209	2.700
161	1.169	210	2.714
162	1.193	211	2.729
163	1.231	212	2.765
164	1.289	213	2.799
165	1.333	214	2.843
166	1.374	215	2.875
167	1.439	216	2.918
168	1.479	217	2.949
169	1.510	218	2.970
170	1.575	219	2.998
171	1.650	220	3.010
172	1.688	221	3.026
173	1.703	222	3.029
174	1.726	223	3.038
175	1.739	224	3.050
176	1.751	225	3.053
177	1.762	226	3.054
178	1.790	227	3.054
179	1.817	228	3.055
180	1.847	229	3.055
181	1.877	230	3.055
182	1.909	231	3.055
183	1.940	232	3.056
184	1.970	233	3.056
185	2.005	234	3.056
186	2.062	235	3.056
187	2.103	236	3.057
188	2.138	237	3.057
189	2.171	238	3.057
190	2.198	239	3.057

(b) *Motor vehicles having composite oxides of nitrogen emission limitations in Table 1 of at least 2.0 grams/mile but less than 2.5 grams/mile.*

Second	Composite (grams)	Second	Composite (grams)
30	0.167	42	0.277
31	0.177	43	0.311
32	0.188	44	0.328
33	0.214	45	0.343
34	0.232	46	0.359
35	0.240	47	0.373
36	0.243	48	0.383
37	0.245	49	0.385
38	0.246	50	0.400
39	0.246	51	0.410
40	0.250	52	0.434
41	0.260	53	0.464

Unofficial Text (See Printed Volume). Current through date and Register shown on Title Page.

**Table 3 (continued)**  
**Fast-Pass Emission Limitations For The Transient Emission Test**

Second	Composite (grams)	Second	Composite (grams)
54	0.472	119	1.081
55	0.480	120	1.091
56	0.491	121	1.096
57	0.500	122	1.111
58	0.506	123	1.122
59	0.509	124	1.135
60	0.512	125	1.138
61	0.516	126	1.139
62	0.519	127	1.139
63	0.523	128	1.139
64	0.529	129	1.139
65	0.533	130	1.139
66	0.535	131	1.139
67	0.540	132	1.139
68	0.551	133	1.139
69	0.563	134	1.139
70	0.575	135	1.139
71	0.588	136	1.160
72	0.600	137	1.174
73	0.603	138	1.183
74	0.604	139	1.197
75	0.613	140	1.223
76	0.624	141	1.255
77	0.646	142	1.272
78	0.651	143	1.286
79	0.659	144	1.304
80	0.673	145	1.307
81	0.696	146	1.312
82	0.706	147	1.317
83	0.716	148	1.321
84	0.724	149	1.325
85	0.737	150	1.328
86	0.747	151	1.332
87	0.748	152	1.338
88	0.748	153	1.344
89	0.748	154	1.350
90	0.748	155	1.357
91	0.748	156	1.365
92	0.748	157	1.379
93	0.748	158	1.414
94	0.748	159	1.466
95	0.748	160	1.514
96	0.748	161	1.559
97	0.748	162	1.591
98	0.748	163	1.641
99	0.751	164	1.719
100	0.764	165	1.777
101	0.789	166	1.832
102	0.822	167	1.919
103	0.867	168	1.972
104	0.905	169	2.013
105	0.925	170	2.100
106	0.955	171	2.200
107	0.985	172	2.251
108	0.993	173	2.270
109	0.995	174	2.301
110	0.996	175	2.318
111	1.010	176	2.335
112	1.028	177	2.349
113	1.034	178	2.387
114	1.044	179	2.423
115	1.059	180	2.462
116	1.075	181	2.503
117	1.080	182	2.545
118	1.080	183	2.586

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**Table 3 (continued)**  
**Fast-Pass Emission Limitations For The Transient Emission Test**

Second	Composite (grams)	Second	Composite (grams)
184	2.627	212	3.686
185	2.673	213	3.732
186	2.749	214	3.791
187	2.804	215	3.833
188	2.851	216	3.890
189	2.894	217	3.932
190	2.931	218	3.960
191	2.971	219	3.997
192	3.020	220	4.013
193	3.077	221	4.035
194	3.132	222	4.038
195	3.185	223	4.050
196	3.219	224	4.066
197	3.268	225	4.070
198	3.299	226	4.072
199	3.350	227	4.072
200	3.406	228	4.073
201	3.466	229	4.073
202	3.497	230	4.073
203	3.514	231	4.073
204	3.517	232	4.074
205	3.519	233	4.074
206	3.523	234	4.075
207	3.545	235	4.075
208	3.570	236	4.076
209	3.600	237	4.076
210	3.619	238	4.076
211	3.639	239	4.076

(c) Motor vehicles having composite oxides of nitrogen emission limitations in Table 1 of at least 2.5 grams/mile but less than 3.0 grams/mile.

Second	Composite (grams)	Second	Composite (grams)
30	0.262	63	0.703
31	0.275	64	0.707
32	0.301	65	0.711
33	0.317	66	0.716
34	0.327	67	0.721
35	0.330	68	0.726
36	0.332	69	0.742
37	0.334	70	0.759
38	0.336	71	0.773
39	0.337	72	0.784
40	0.354	73	0.790
41	0.366	74	0.794
42	0.410	75	0.799
43	0.414	76	0.809
44	0.438	77	0.821
45	0.477	78	0.833
46	0.506	79	0.839
47	0.518	80	0.844
48	0.522	81	0.857
49	0.526	82	0.870
50	0.554	83	0.883
51	0.574	84	0.894
52	0.587	85	0.902
53	0.601	86	0.907
54	0.615	87	0.910
55	0.629	88	0.912
56	0.643	89	0.913
57	0.667	90	0.914
58	0.678	91	0.915
59	0.683	92	0.916
60	0.686	93	0.917
61	0.693	94	0.918
62	0.699	95	0.919

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**Table 3 (continued)**  
**Fast-Pass Emission Limitations For The Transient Emission Test**

Second	Composite (grams)	Second	Composite (grams)
96	0.920	161	2.050
97	0.921	162	2.131
98	0.922	163	2.235
99	0.924	164	2.320
100	0.929	165	2.395
101	0.941	166	2.488
102	0.970	167	2.563
103	1.027	168	2.645
104	1.093	169	2.746
105	1.155	170	2.778
106	1.234	171	2.792
107	1.275	172	2.810
108	1.305	173	2.847
109	1.320	174	2.874
110	1.332	175	2.905
111	1.346	176	2.950
112	1.358	177	3.001
113	1.378	178	3.047
114	1.406	179	3.104
115	1.426	180	3.173
116	1.438	181	3.238
117	1.448	182	3.302
118	1.460	183	3.372
119	1.462	184	3.452
120	1.467	185	3.545
121	1.476	186	3.648
122	1.494	187	3.701
123	1.505	188	3.759
124	1.517	189	3.821
125	1.546	190	3.870
126	1.569	191	3.892
127	1.586	192	3.914
128	1.596	193	3.955
129	1.603	194	3.997
130	1.605	195	4.035
131	1.606	196	4.089
132	1.607	197	4.146
133	1.607	198	4.206
134	1.608	199	4.243
135	1.614	200	4.295
136	1.616	201	4.351
137	1.631	202	4.398
138	1.643	203	4.410
139	1.656	204	4.419
140	1.673	205	4.426
141	1.703	206	4.429
142	1.739	207	4.453
143	1.767	208	4.486
144	1.774	209	4.542
145	1.785	210	4.598
146	1.806	211	4.638
147	1.830	212	4.715
148	1.844	213	4.774
149	1.845	214	4.829
150	1.846	215	4.872
151	1.852	216	4.931
152	1.868	217	4.981
153	1.877	218	5.017
154	1.879	219	5.029
155	1.886	220	5.033
156	1.900	221	5.037
157	1.910	222	5.047
158	1.936	223	5.057
159	1.954	224	5.061
160	1.986	225	5.062

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**Table 3 (continued)**  
**Fast-Pass Emission Limitations For The Transient Emission Test**

Second	Composite (grams)	Second	Composite (grams)
226	5.063	233	5.067
227	5.063	234	5.068
228	5.063	235	5.069
229	5.063	236	5.070
230	5.064	237	5.070
231	5.065	238	5.070
232	5.066	239	5.070

(d) *Motor vehicles having composite oxides of nitrogen emission limitations in Table 1 of 3.0 grams/mile or greater:*

Second	Composite (grams)	Second	Composite (grams)
30	0.419	85	1.310
31	0.425	86	1.319
32	0.431	87	1.320
33	0.449	88	1.337
34	0.476	89	1.348
35	0.497	90	1.361
36	0.515	91	1.366
37	0.516	92	1.369
38	0.519	93	1.373
39	0.527	94	1.375
40	0.542	95	1.377
41	0.560	96	1.379
42	0.598	97	1.381
43	0.616	98	1.383
44	0.645	99	1.385
45	0.670	100	1.399
46	0.691	101	1.405
47	0.716	102	1.466
48	0.735	103	1.485
49	0.765	104	1.546
50	0.802	105	1.623
51	0.836	106	1.699
52	0.868	107	1.760
53	0.890	108	1.788
54	0.918	109	1.798
55	0.936	110	1.842
56	0.947	111	1.864
57	0.958	112	1.888
58	0.970	113	1.905
59	0.982	114	1.920
60	0.994	115	1.926
61	1.019	116	1.939
62	1.042	117	1.958
63	1.049	118	1.972
64	1.058	119	1.981
65	1.062	120	1.987
66	1.064	121	1.991
67	1.070	122	1.996
68	1.077	123	2.012
69	1.085	124	2.040
70	1.092	125	2.060
71	1.101	126	2.069
72	1.111	127	2.092
73	1.121	128	2.114
74	1.131	129	2.132
75	1.141	130	2.144
76	1.159	131	2.152
77	1.164	132	2.157
78	1.186	133	2.160
79	1.221	134	2.163
80	1.260	135	2.165
81	1.268	136	2.168
82	1.272	137	2.171
83	1.277	138	2.186
84	1.288	139	2.235

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**Table 3 (continued)**  
**Fast-Pass Emission Limitations For The Transient Emission Test**

Second	Composite (grams)	Second	Composite (grams)
140	2.298	190	4.696
141	2.333	191	4.731
142	2.373	192	4.780
143	2.406	193	4.837
144	2.416	194	4.876
145	2.420	195	4.928
146	2.424	196	4.972
147	2.435	197	5.025
148	2.455	198	5.104
149	2.471	199	5.189
150	2.484	200	5.275
151	2.495	201	5.336
152	2.509	202	5.366
153	2.522	203	5.387
154	2.533	204	5.427
155	2.541	205	5.444
156	2.552	206	5.447
157	2.589	207	5.477
158	2.631	208	5.520
159	2.704	209	5.560
160	2.758	210	5.603
161	2.802	211	5.657
162	2.904	212	5.698
163	2.960	213	5.762
164	3.027	214	5.836
165	3.127	215	5.944
166	3.187	216	6.008
167	3.306	217	6.040
168	3.384	218	6.072
169	3.467	219	6.089
170	3.565	220	6.101
171	3.640	221	6.118
172	3.718	222	6.126
173	3.781	223	6.139
174	3.827	224	6.145
175	3.852	225	6.148
176	3.903	226	6.150
177	3.930	227	6.151
178	3.970	228	6.152
179	4.015	229	6.153
180	4.074	230	6.154
181	4.159	231	6.156
182	4.230	232	6.157
183	4.286	233	6.159
184	4.334	234	6.160
185	4.388	235	6.162
186	4.447	236	6.163
187	4.505	237	6.164
188	4.561	238	6.166
189	4.625	239	6.168

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**Table 4**  
**Fast-Pass Minimum Flow For The Evaporative System Purge Test Or Any Alternative Evaporative System Purge Test**

Second	Purge Level (liters)	Second	Purge Level (liters)
30	0.14	93	0.37
31	0.14	94	0.37
32	0.15	95	0.38
33	0.15	96	0.38
34	0.16	97	0.39
35	0.16	98	0.39
36	0.16	99	0.39
37	0.17	100	0.40
38	0.18	101	0.40
39	0.18	102	0.40
40	0.19	103	0.41
41	0.19	104	0.41
42	0.19	105	0.41
43	0.20	106	0.42
44	0.20	107	0.42
45	0.20	108	0.43
46	0.21	109	0.43
47	0.22	110	0.43
48	0.22	111	0.44
49	0.22	112	0.44
50	0.23	113	0.44
51	0.24	114	0.44
52	0.24	115	0.45
53	0.24	116	0.46
54	0.24	117	0.46
55	0.24	118	0.47
56	0.24	119	0.47
57	0.24	120	0.47
58	0.25	121	0.48
59	0.25	122	0.48
60	0.25	123	0.48
61	0.26	124	0.49
62	0.26	125	0.49
63	0.26	126	0.50
64	0.27	127	0.50
65	0.27	128	0.50
66	0.27	129	0.50
67	0.28	130	0.51
68	0.28	131	0.52
69	0.29	132	0.52
70	0.29	133	0.52
71	0.29	134	0.53
72	0.29	135	0.53
73	0.30	136	0.54
74	0.30	137	0.54
75	0.30	138	0.54
76	0.31	139	0.55
77	0.31	140	0.55
78	0.32	141	0.56
79	0.32	142	0.56
80	0.32	143	0.56
81	0.32	144	0.56
82	0.33	145	0.57
83	0.33	146	0.57
84	0.34	147	0.58
85	0.34	148	0.58
86	0.34	149	0.59
87	0.34	150	0.59
88	0.35	151	0.59
89	0.35	152	0.59
90	0.35	153	0.59
91	0.36	154	0.59
92	0.36	155	0.60
	0.37	156	0.60

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**Table 4 (continued)**  
**Fast-Pass Minimum Flow For The Evaporative System Purge Test Or Any Alternative Evaporative System Purge Test**

Second	Purge Level (liters)	Second	Purge Level (liters)
157	0.61	221	0.88
158	0.61	222	0.88
159	0.61	223	0.89
160	0.61	224	0.90
161	0.62	225	0.90
162	0.62	226	0.91
163	0.63	227	0.91
164	0.63	228	0.92
165	0.64	229	0.92
166	0.64	230	0.92
167	0.64	231	0.92
168	0.65	232	0.93
169	0.65	233	0.93
170	0.66	234	0.93
171	0.66	235	0.93
172	0.67	236	0.94
173	0.67	237	0.94
174	0.68	238	0.94
175	0.68	239	0.94
176	0.68		
177	0.68		
178	0.68		
179	0.68		
180	0.68		
181	0.68		
182	0.68		
183	0.68		
184	0.68		
185	0.68		
186	0.69		
187	0.70		
188	0.72		
189	0.72		
190	0.73		
191	0.73		
192	0.74		
193	0.74		
194	0.74		
195	0.75		
196	0.76		
197	0.76		
198	0.76		
199	0.76		
200	0.77		
201	0.77		
202	0.77		
203	0.78		
204	0.79		
205	0.79		
206	0.80		
207	0.81		
208	0.81		
209	0.82		
210	0.83		
211	0.83		
212	0.84		
213	0.85		
214	0.85		
215	0.85		
216	0.86		
217	0.86		
218	0.87		
219	0.87		
220	0.88		

**History:** Renum. from NR 154.17 (3) and am. Register, September, 1986, No. 369, eff. 11-1-86; am. Table, Register, February, 1990, No. 410, eff. 3-1-90; r. and recr. Register, December, 1995, No. 480, eff. 1-1-96; am. (9) (b), Register, January, 1997, No. 493, eff. 2-1-97; r. and recr. Table 1 (3), renum. Table 3, (1) (a) to (c), (2) (a) to (c) and (3) (a) to (c) to be (1) (b) to (d), (2) (b) to (d) and (3) (b) to (d), Register, November, 1998, No. 515, eff. 12-1-98; am. (2) (c), (8) (a), (b), (10) (intro.), r. and recr. Table 3 (1) (a), (2) (a) and (3) (a), r. Table 1 (5), Register, November, 1999, No. 527, eff. 12-1-99; renum. (9) (a) to be (9), r. (9) (b), Register, January, 2001, No. 541, eff. 2-1-01; **CR 05-072: am. Table 1 (4) (title) and cr. Table 1 (5) Register March 2006 No. 603, eff. 4-1-06.**

**NR 485.045 Repair cost limit for vehicle inspection program. (1) REPAIR COST LIMIT.** For vehicles subject to the motor vehicle emission inspection program under s. 110.20 (6), Stats., the repair cost limit for determining eligibility for a waiver of compliance under s. 110.20 (13), Stats., from the emission limitations of s. NR 485.04, shall be established in accordance with 42 USC 7511a (b) (4) or (c) (3) (C), and regulations promulgated thereunder, and shall equal the following amounts:

(b) Effective January 1, 1993, \$75 for vehicles older than model year 1981 and \$200 for vehicles of a 1981 or newer model year.

(c) Effective July 1, 1994, for all vehicles in the counties of Kenosha, Milwaukee, Ozaukee, Racine, Washington and Waukesha, an amount established annually by the U.S. environmental protection agency. That limit shall be equal to the higher of \$450 or an amount calculated from a base of \$450 in 1989 by adjusting for inflation through the use of the federal Consumer Price Index.

**(2) CERTIFICATION OF REPAIR COST LIMIT.** Beginning in 1994, by April 1 of each year the department shall certify to DOT the amount of the repair cost limit calculated under sub. (1) (c) for determining eligibility for a waiver of compliance under s. 110.20 (13), Stats., for the subsequent 12 month period of July 1 through June 30.

**History:** Emerg. cr. eff. 11-15-92; cr. Register, June, 1993, No. 450, eff. 7-1-93; r. (1) (a), Register, December, 1995, No. 480, eff. 1-1-96.

**NR 485.05 Visible emission limits for motor vehicles, internal combustion engines and mobile sources.** No person may cause, allow or permit visible emissions in amounts greater than the following limitations, except when uncombined water is the cause for violation:

**(1) Gasoline-powered internal combustion engines of 25 HP or more, or gasoline-powered motor vehicles:** no visible emissions for longer than 5 consecutive seconds.

**(2) Diesel-powered motor vehicles of model year 1970 or later:** emissions of shade or density greater than number 1 on the

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Ringelmann chart or 20% opacity for longer than 10 consecutive seconds.

(3) Diesel-powered motor vehicles of model year 1969 or earlier: emissions of shade or density greater than number 2 on the Ringelmann chart or 40% opacity for longer than 10 consecutive seconds.

(4) Ships, locomotives, or semistationary diesel engines: emissions of shade or density greater than number 2 on the Ringelmann chart or 40% opacity for longer than an aggregate time of 5 minutes in any 30-minute period. At no time may emissions exceed a shade or density greater than number 4 on the Ringelmann chart or 80% opacity.

**History:** Renum. from NR 154.17 (4), Register, September, 1986, No. 369, eff. 10-1-86; am. (intro.) Register, July, 1989, No. 403, eff. 8-1-89; am. (intro.) and (4), Register, May, 1992, No. 437, eff. 6-1-92.

**NR 485.055 Particulate emission limit for gasoline and diesel internal combustion engines.** No person may cause, allow or permit the emissions of particulate matter to the ambient air from stationary or semistationary gasoline or diesel powered internal combustion reciprocating engines in excess of 0.50 pound of particulate per million Btu heat input.

**History:** Cr. Register, June, 1994, No. 462, eff. 7-1-94.

**NR 485.06 Tampering with air pollution control equipment.** (1) No person may tamper with or fail to maintain in good working order any air pollution control equipment which has been installed on a motor vehicle by the manufacturer prior to sale unless the person repairs or restores the equipment or replaces the equipment with new identical or comparable tested replacement equipment. Catalytic converters must be original equipment or EPA-certified equipment except as specified in sub. (2). Air pollution control equipment includes but is not limited to:

- (a) Positive crankcase ventilation equipment.
- (b) Exhaust emission control equipment.
- (c) Evaporative fuel loss control equipment.
- (d) Any control equipment operating on principles such as thermal decomposition, catalytic oxidation or reduction, absorption, or adsorption.

(2) (a) Notwithstanding sub. (1), any person may replace the catalytic converter with aftermarket equipment certified by the U.S. environmental protection agency (EPA) on the following categories of vehicles:

- 1. All vehicles of model year 1994 or earlier.
- 2. For vehicles of model year 1995 or later, those vehicles which are at least 8 model years older than the current model year, or those vehicles with more than 80,000 miles on the odometer.

(b) If the catalytic converter is replaced, the owner of the vehicle shall provide a receipt or other evidence showing that the replacement converter has been certified by EPA.

**History:** Renum. from NR 154.17 (2), Register, September, 1986, No. 369, eff. 10-1-86; renum. (intro.) to (4) to (1) (a) to (d) and cr. (2), Register, July, 1989, No. 403, eff. 8-1-89; **CR 05-072: am. (2) Register March 2006 No. 603, eff. 4-1-06.**

**NR 485.07 Inspection requirement for motor vehicle tampering.** (1) **APPLICABILITY.** This section applies to any motor vehicle which is subject to an air pollution control equipment inspection under s. 110.20 (6) (b), Stats., or which is inspected for tampering of air pollution control equipment.

(2) **RECORDS AND COMPLIANCE.** DOT or its designee shall maintain a record of vehicles failing the tampering inspection conducted under either s. 110.20 (6) (b), Stats., or any other enforcement mechanism. DOT may not register or renew regis-

tration of a failed vehicle until evidence of repair, replacement or restoration of the failed or missing parts is provided to DOT or its designee, and DOT or its designee reinspects the vehicle for the failed or missing parts.

(3) **FULL TAMPERING INSPECTION PROCEDURE.** (a) Full tampering inspections shall consist of a visual check for the presence and proper connection of the following air pollution control equipment: the positive crankcase ventilation (PCV) valve and connections; the evaporative emissions control canister; the exhaust system catalytic converter and oxygen sensor; the exhaust gas recirculation (EGR) assembly; the air pump, belts and hoses or the air injector assembly; the fuel inlet restrictor; a properly seated gas tank fill cap; and the thermostatic air cleaner/filter assembly. A vehicle shall fail the tampering inspection if this check indicates any evidence of tampering.

(b) Full tampering inspections shall also include a visual check of the status and operation of any emission service indicator light which has been installed on the motor vehicle by the manufacturer prior to sale. A vehicle shall fail the tampering inspection if the status of this light indicates an emission malfunction or if the light is not operational.

(c) Full tampering inspections may also include a test for the presence of lead deposits in the tailpipe if the vehicle is required to use unleaded gasoline. Evidence of the use of leaded fuel in vehicles requiring the use of unleaded fuel as shown by the presence of lead in the tailpipe, the presence of leaded fuel in the gas tank or evidence of current or previous tampering with the fuel inlet restrictor shall constitute tampering with the catalytic converter and the exhaust oxygen sensor if the vehicle originally had that equipment. When evidence of fuel inlet tampering is found, and a tailpipe lead test indicates the absence of lead deposits, DOT or its designee may waive the requirement to repair, replace or restore the catalytic converter and oxygen sensor equipment if the following conditions are met:

1. A full tampering inspection of the vehicle indicates no additional tampering.

2. The owner of the vehicle provides evidence to DOT or its designee that the catalytic converter and oxygen sensor were replaced subsequent to April 1, 1988, or the owner provides evidence to DOT or its designee that a previously tampered with but partially restored and functional fuel inlet restrictor was installed in the vehicle prior to or concurrently with the replacement of the catalytic converter and oxygen sensor, or DOT or its designee determines that the particular vehicle model is on a list of vehicle models that chronically fail the fuel inlet restrictor test due to improper new vehicle equipment design, improper new vehicle equipment installation or normal extended wear.

(4) **SUBSTITUTE PROCEDURE.** Upon written department approval granted to DOT, a partial tampering inspection procedure may be substituted for the full inspection procedure in sub. (3), provided that use of the substitute procedure maintains the inspection program effectiveness in terms of adequate pollution reduction and adequate identification and repair of tampered and misfueled vehicles and improperly maintained emission control equipment.

(5) **PROCEDURE REVIEW.** The department shall review the tampering inspection procedure in effect prior to each DOT inspection contract or contract extension. Upon such review, the department may withdraw or alter any substitute procedure approved under sub. (4).

**History:** Cr. Register, July, 1989, No. 403, eff. 8-1-89; am. (4) (a) (intro.), Register, May, 1992, No. 437, eff. 6-1-92; am. (1), (2), (3) (a) and (5), r. (3) (c), renum. (3) (b) to be (3) (c) and am. (intro.), cr. (3) (b), r. and recr. (4), Register, December, 1995, No. 480, eff. 1-1-96; am. (3) (c) (intro.), Register, January, 1997, No. 493, eff. 2-1-97.