

## Chapter NR 485

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

<p>NR 485.01 Applicability; purpose.                  NR 485.02 Definitions.                  NR 485.03 General limitations.                  NR 485.04 Motor vehicle emission limitations; exemptions.                  NR 485.045 Repair cost limit for vehicle inspection program.                  NR 485.05 Visible emission limits for motor vehicles, internal combustion engines and mobile sources.</p>	<p>NR 485.055 Particulate emission limit for gasoline and diesel internal combustion engines.                  NR 485.06 Tampering with air pollution control equipment.                  NR 485.07 Inspection requirement for motor vehicle tampering.</p>
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**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).

(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 (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

**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

**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

**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

**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 ON AND AFTER DECEMBER 1, 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
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

**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

<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
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	92	0.270	N/A
31	0.095	N/A	93	0.272	N/A
32	0.097	N/A	94	0.275	N/A
33	0.101	N/A	95	0.278	N/A
34	0.105	N/A	96	0.279	N/A
35	0.110	N/A	97	0.282	N/A
36	0.113	N/A	98	0.291	N/A
37	0.115	N/A	99	0.297	N/A
38	0.117	N/A	100	0.304	N/A
39	0.120	N/A	101	0.308	N/A
40	0.124	N/A	102	0.308	N/A
41	0.127	N/A	103	0.309	N/A
42	0.129	N/A	104	0.310	N/A
43	0.130	N/A	105	0.316	N/A
44	0.133	N/A	106	0.321	N/A
45	0.148	N/A	107	0.323	N/A
46	0.150	N/A	108	0.341	N/A
47	0.156	N/A	109	0.344	0.012
48	0.166	N/A	110	0.347	0.014
49	0.174	N/A	111	0.348	0.017
50	0.176	N/A	112	0.350	0.019
51	0.179	N/A	113	0.351	0.019
52	0.180	N/A	114	0.353	0.020
53	0.182	N/A	115	0.366	0.021
54	0.185	N/A	116	0.385	0.023
55	0.187	N/A	117	0.404	0.026
56	0.189	N/A	118	0.421	0.028
57	0.196	N/A	119	0.433	0.028
58	0.203	N/A	120	0.435	0.029
59	0.207	N/A	121	0.440	0.031
60	0.209	N/A	122	0.446	0.032
61	0.210	N/A	123	0.452	0.033
62	0.212	N/A	124	0.458	0.034
63	0.212	N/A	125	0.461	0.034
64	0.213	N/A	126	0.468	0.034
65	0.214	N/A	127	0.471	0.036
66	0.215	N/A	128	0.474	0.037
67	0.216	N/A	129	0.478	0.037
68	0.218	N/A	130	0.481	0.040
69	0.221	N/A	131	0.482	0.041
70	0.222	N/A	132	0.483	0.042
71	0.224	N/A	133	0.484	0.044
72	0.225	N/A	134	0.485	0.044
73	0.227	N/A	135	0.488	0.044
74	0.228	N/A	136	0.494	0.045
75	0.230	N/A	137	0.497	0.045
76	0.231	N/A	138	0.500	0.045
77	0.231	N/A	139	0.501	0.048
78	0.231	N/A	140	0.503	0.049
79	0.236	N/A	141	0.504	0.049
80	0.240	N/A	142	0.506	0.049
81	0.243	N/A	143	0.509	0.051
82	0.245	N/A	144	0.511	0.052
83	0.247	N/A	145	0.513	0.053
84	0.250	N/A	146	0.515	0.053
85	0.252	N/A	147	0.516	0.054
86	0.254	N/A	148	0.518	0.055
87	0.257	N/A	149	0.519	0.056
88	0.260	N/A	150	0.521	0.057
89	0.263	N/A	151	0.522	0.058
90	0.267	N/A	152	0.524	0.058
91	0.269	N/A	153	0.525	0.059

**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	0.527	0.059	197	0.960	0.415
155	0.528	0.060	198	0.970	0.416
156	0.530	0.062	199	0.976	0.418
157	0.531	0.064	200	0.985	0.420
158	0.533	0.066	201	0.993	0.427
159	0.534	0.066	202	0.999	0.438
160	0.537	0.070	203	1.006	0.443
161	0.563	0.077	204	1.018	0.448
162	0.588	0.087	205	1.031	0.453
163	0.604	0.093	206	1.044	0.456
164	0.630	0.099	207	1.056	0.459
165	0.640	0.103	208	1.067	0.463
166	0.656	0.129	209	1.075	0.466
167	0.677	0.151	210	1.082	0.469
168	0.683	0.153	211	1.090	0.482
169	0.686	0.162	212	1.097	0.490
170	0.687	0.178	213	1.101	0.497
171	0.689	0.191	214	1.103	0.504
172	0.698	0.200	215	1.106	0.508
173	0.711	0.208	216	1.109	0.517
174	0.737	0.216	217	1.111	0.521
175	0.764	0.229	218	1.113	0.521
176	0.770	0.239	219	1.115	0.523
177	0.776	0.253	220	1.118	0.527
178	0.788	0.258	221	1.120	0.531
179	0.806	0.262	222	1.128	0.537
180	0.813	0.273	223	1.142	0.544
181	0.824	0.280	224	1.160	0.547
182	0.841	0.284	225	1.162	0.554
183	0.849	0.291	226	1.172	0.562
184	0.864	0.314	227	1.181	0.568
185	0.871	0.322	228	1.184	0.569
186	0.876	0.324	229	1.188	0.574
187	0.881	0.326	230	1.192	0.574
188	0.886	0.328	231	1.193	0.574
189	0.891	0.339	232	1.197	0.575
190	0.902	0.348	233	1.199	0.575
191	0.914	0.358	234	1.203	0.576
192	0.925	0.370	235	1.208	0.577
193	0.938	0.383	236	1.209	0.577
194	0.941	0.395	237	1.210	0.577
195	0.944	0.406	238	1.211	0.578
196	0.949	0.413	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	47	0.208	N/A
31	0.126	N/A	48	0.221	N/A
32	0.129	N/A	49	0.232	N/A
33	0.135	N/A	50	0.235	N/A
34	0.140	N/A	51	0.238	N/A
35	0.146	N/A	52	0.240	N/A
36	0.150	N/A	53	0.242	N/A
37	0.153	N/A	54	0.246	N/A
38	0.156	N/A	55	0.249	N/A
39	0.160	N/A	56	0.252	N/A
40	0.165	N/A	57	0.261	N/A
41	0.169	N/A	58	0.271	N/A
42	0.172	N/A	59	0.276	N/A
43	0.173	N/A	60	0.278	N/A
44	0.177	N/A	61	0.280	N/A
45	0.197	N/A	62	0.282	N/A
46	0.200	N/A	63	0.283	N/A

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

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
64	0.284	N/A	127	0.628	0.045
65	0.285	N/A	128	0.632	0.046
66	0.286	N/A	129	0.637	0.046
67	0.288	N/A	130	0.641	0.049
68	0.291	N/A	131	0.643	0.050
69	0.294	N/A	132	0.644	0.052
70	0.296	N/A	133	0.645	0.054
71	0.298	N/A	134	0.647	0.054
72	0.300	N/A	135	0.651	0.054
73	0.302	N/A	136	0.658	0.055
74	0.304	N/A	137	0.663	0.055
75	0.307	N/A	138	0.666	0.056
76	0.308	N/A	139	0.668	0.059
77	0.308	N/A	140	0.670	0.061
78	0.308	N/A	141	0.672	0.061
79	0.314	N/A	142	0.675	0.061
80	0.320	N/A	143	0.678	0.063
81	0.324	N/A	144	0.681	0.064
82	0.327	N/A	145	0.684	0.065
83	0.329	N/A	146	0.686	0.066
84	0.333	N/A	147	0.688	0.067
85	0.336	N/A	148	0.690	0.068
86	0.339	N/A	149	0.692	0.069
87	0.343	N/A	150	0.694	0.070
88	0.347	N/A	151	0.696	0.071
89	0.350	N/A	152	0.698	0.072
90	0.356	N/A	153	0.700	0.073
91	0.358	N/A	154	0.702	0.073
92	0.360	N/A	155	0.704	0.074
93	0.363	N/A	156	0.706	0.077
94	0.367	0.000	157	0.708	0.079
95	0.370	0.000	158	0.710	0.082
96	0.372	0.000	159	0.712	0.082
97	0.376	0.000	160	0.716	0.086
98	0.388	0.000	161	0.750	0.095
99	0.396	0.000	162	0.784	0.107
100	0.405	0.001	163	0.805	0.115
101	0.410	0.002	164	0.840	0.122
102	0.411	0.003	165	0.853	0.127
103	0.412	0.006	166	0.874	0.159
104	0.413	0.007	167	0.903	0.186
105	0.421	0.008	168	0.910	0.189
106	0.428	0.009	169	0.914	0.200
107	0.430	0.010	170	0.916	0.220
108	0.455	0.013	171	0.919	0.236
109	0.459	0.015	172	0.931	0.247
110	0.462	0.017	173	0.948	0.257
111	0.464	0.021	174	0.983	0.267
112	0.466	0.024	175	1.018	0.283
113	0.468	0.024	176	1.027	0.295
114	0.471	0.025	177	1.035	0.312
115	0.488	0.026	178	1.051	0.318
116	0.513	0.029	179	1.074	0.323
117	0.538	0.032	180	1.084	0.337
118	0.561	0.035	181	1.099	0.345
119	0.577	0.035	182	1.121	0.350
120	0.580	0.036	183	1.132	0.359
121	0.586	0.038	184	1.152	0.387
122	0.594	0.040	185	1.161	0.398
123	0.603	0.041	186	1.168	0.400
124	0.610	0.042	187	1.175	0.402
125	0.615	0.042	188	1.181	0.405
126	0.624	0.042	189	1.188	0.418

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

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
190	1.203	0.429	215	1.474	0.627
191	1.219	0.442	216	1.478	0.638
192	1.233	0.457	217	1.481	0.643
193	1.251	0.473	218	1.484	0.643
194	1.255	0.487	219	1.487	0.645
195	1.258	0.501	220	1.490	0.651
196	1.265	0.510	221	1.493	0.655
197	1.280	0.512	222	1.504	0.663
198	1.293	0.514	223	1.522	0.671
199	1.301	0.516	224	1.547	0.675
200	1.313	0.518	225	1.549	0.684
201	1.324	0.527	226	1.562	0.694
202	1.332	0.540	227	1.574	0.701
203	1.341	0.547	228	1.579	0.702
204	1.357	0.553	229	1.584	0.708
205	1.375	0.559	230	1.589	0.708
206	1.392	0.563	231	1.590	0.709
207	1.408	0.567	232	1.596	0.710
208	1.422	0.571	233	1.598	0.710
209	1.433	0.575	234	1.604	0.711
210	1.443	0.579	235	1.610	0.712
211	1.453	0.595	236	1.612	0.712
212	1.463	0.605	237	1.613	0.712
213	1.468	0.614	238	1.614	0.713
214	1.470	0.622	239	1.615	0.716

(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	65	0.559	N/A
31	0.253	N/A	66	0.567	N/A
32	0.258	N/A	67	0.575	N/A
33	0.263	N/A	68	0.588	N/A
34	0.268	N/A	69	0.595	N/A
35	0.277	N/A	70	0.601	N/A
36	0.283	N/A	71	0.606	N/A
37	0.293	N/A	72	0.610	N/A
38	0.297	N/A	73	0.617	N/A
39	0.298	N/A	74	0.631	N/A
40	0.313	N/A	75	0.643	N/A
41	0.320	N/A	76	0.651	N/A
42	0.327	N/A	77	0.659	N/A
43	0.342	N/A	78	0.667	N/A
44	0.360	N/A	79	0.676	N/A
45	0.376	N/A	80	0.681	N/A
46	0.389	N/A	81	0.685	N/A
47	0.408	N/A	82	0.689	N/A
48	0.423	N/A	83	0.694	N/A
49	0.434	N/A	84	0.700	N/A
50	0.444	N/A	85	0.705	N/A
51	0.454	N/A	86	0.709	N/A
52	0.465	N/A	87	0.713	N/A
53	0.472	N/A	88	0.717	N/A
54	0.478	N/A	89	0.721	N/A
55	0.485	N/A	90	0.724	N/A
56	0.493	N/A	91	0.727	N/A
57	0.500	N/A	92	0.729	N/A
58	0.505	N/A	93	0.731	N/A
59	0.514	N/A	94	0.734	0.000
60	0.537	N/A	95	0.740	0.000
61	0.540	N/A	96	0.748	0.001
62	0.543	N/A	97	0.759	0.001
63	0.546	N/A	98	0.771	0.002
64	0.551	N/A	99	0.783	0.003

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

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
100	0.793	0.005	164	1.509	0.247
101	0.810	0.007	165	1.533	0.274
102	0.823	0.009	166	1.555	0.309
103	0.836	0.011	167	1.576	0.318
104	0.853	0.016	168	1.598	0.322
105	0.871	0.017	169	1.618	0.333
106	0.887	0.022	170	1.636	0.343
107	0.899	0.029	171	1.666	0.356
108	0.931	0.036	172	1.685	0.385
109	0.947	0.040	173	1.726	0.409
110	0.957	0.047	174	1.742	0.433
111	0.965	0.052	175	1.756	0.453
112	0.971	0.056	176	1.769	0.463
113	0.977	0.061	177	1.784	0.507
114	0.983	0.064	178	1.802	0.523
115	1.003	0.072	179	1.822	0.528
116	1.030	0.081	180	1.843	0.541
117	1.041	0.082	181	1.864	0.549
118	1.050	0.083	182	1.884	0.559
119	1.052	0.092	183	1.896	0.571
120	1.055	0.094	184	1.915	0.584
121	1.061	0.097	185	1.940	0.598
122	1.071	0.100	186	1.958	0.613
123	1.081	0.103	187	1.972	0.624
124	1.091	0.106	188	1.985	0.629
125	1.102	0.108	189	1.991	0.629
126	1.110	0.110	190	1.993	0.638
127	1.116	0.112	191	1.995	0.648
128	1.121	0.114	192	2.001	0.659
129	1.125	0.116	193	2.015	0.663
130	1.128	0.118	194	2.031	0.671
131	1.130	0.120	195	2.047	0.681
132	1.132	0.122	196	2.063	0.693
133	1.134	0.123	197	2.079	0.709
134	1.135	0.124	198	2.094	0.725
135	1.143	0.127	199	2.109	0.740
136	1.147	0.130	200	2.122	0.754
137	1.156	0.134	201	2.130	0.767
138	1.163	0.139	202	2.137	0.775
139	1.186	0.146	203	2.157	0.787
140	1.253	0.149	204	2.172	0.795
141	1.262	0.151	205	2.194	0.803
142	1.271	0.153	206	2.222	0.854
143	1.277	0.155	207	2.245	0.859
144	1.283	0.157	208	2.268	0.872
145	1.291	0.162	209	2.279	0.892
146	1.294	0.164	210	2.288	0.896
147	1.296	0.166	211	2.301	0.903
148	1.298	0.168	212	2.316	0.924
149	1.303	0.169	213	2.332	0.938
150	1.316	0.170	214	2.345	0.941
151	1.330	0.171	215	2.354	0.951
152	1.342	0.172	216	2.362	0.966
153	1.348	0.173	217	2.368	0.979
154	1.353	0.175	218	2.376	0.980
155	1.362	0.178	219	2.384	0.981
156	1.365	0.180	220	2.391	1.005
157	1.366	0.189	221	2.395	1.016
158	1.373	0.198	222	2.400	1.022
159	1.397	0.203	223	2.405	1.028
160	1.423	0.207	224	2.409	1.035
161	1.440	0.214	225	2.413	1.041
162	1.452	0.221	226	2.417	1.045
163	1.465	0.229	227	2.426	1.051

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

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
228	2.428	1.055	234	2.488	1.073
229	2.431	1.059	235	2.498	1.081
230	2.433	1.064	236	2.508	1.083
231	2.441	1.069	237	2.516	1.084
232	2.461	1.071	238	2.520	1.085
233	2.476	1.072	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	86	1.201	N/A
31	0.415	N/A	87	1.217	N/A
32	0.423	N/A	88	1.233	N/A
33	0.436	N/A	89	1.248	N/A
34	0.451	N/A	90	1.262	N/A
35	0.464	N/A	91	1.271	N/A
36	0.468	N/A	92	1.279	N/A
37	0.475	N/A	93	1.287	N/A
38	0.487	N/A	94	1.295	0.001
39	0.506	N/A	95	1.302	0.002
40	0.530	N/A	96	1.309	0.003
41	0.549	N/A	97	1.316	0.004
42	0.569	N/A	98	1.325	0.008
43	0.588	N/A	99	1.339	0.015
44	0.609	N/A	100	1.356	0.021
45	0.621	N/A	101	1.365	0.026
46	0.636	N/A	102	1.378	0.039
47	0.649	N/A	103	1.397	0.044
48	0.666	N/A	104	1.420	0.055
49	0.679	N/A	105	1.445	0.094
50	0.696	N/A	106	1.470	0.110
51	0.712	N/A	107	1.491	0.116
52	0.727	N/A	108	1.506	0.132
53	0.745	N/A	109	1.517	0.151
54	0.760	N/A	110	1.528	0.159
55	0.776	N/A	111	1.542	0.172
56	0.797	N/A	112	1.559	0.186
57	0.814	N/A	113	1.578	0.199
58	0.826	N/A	114	1.594	0.207
59	0.837	N/A	115	1.605	0.216
60	0.849	N/A	116	1.615	0.229
61	0.862	N/A	117	1.625	0.235
62	0.872	N/A	118	1.642	0.240
63	0.887	N/A	119	1.670	0.245
64	0.895	N/A	120	1.694	0.261
65	0.903	N/A	121	1.705	0.267
66	0.925	N/A	122	1.717	0.277
67	0.933	N/A	123	1.732	0.287
68	0.945	N/A	124	1.747	0.298
69	0.959	N/A	125	1.763	0.308
70	0.970	N/A	126	1.779	0.316
71	0.980	N/A	127	1.795	0.322
72	0.988	N/A	128	1.810	0.329
73	0.997	N/A	129	1.823	0.338
74	1.022	N/A	130	1.835	0.346
75	1.037	N/A	131	1.845	0.354
76	1.051	N/A	132	1.854	0.356
77	1.064	N/A	133	1.862	0.357
78	1.075	N/A	134	1.870	0.359
79	1.087	N/A	135	1.883	0.362
80	1.097	N/A	136	1.888	0.364
81	1.105	N/A	137	1.896	0.368
82	1.114	N/A	138	1.911	0.378
83	1.136	N/A	139	1.928	0.391
84	1.160	N/A	140	1.949	0.402
85	1.182	N/A	141	1.969	0.408

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

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
142	1.982	0.422	190	3.151	1.278
143	1.999	0.428	191	3.163	1.300
144	2.011	0.432	192	3.209	1.313
145	2.022	0.434	193	3.223	1.324
146	2.035	0.439	194	3.237	1.340
147	2.043	0.450	195	3.263	1.367
148	2.049	0.460	196	3.302	1.387
149	2.063	0.467	197	3.338	1.402
150	2.085	0.472	198	3.372	1.417
151	2.104	0.480	199	3.390	1.432
152	2.117	0.491	200	3.428	1.446
153	2.127	0.503	201	3.470	1.460
154	2.138	0.505	202	3.493	1.477
155	2.152	0.515	203	3.509	1.492
156	2.168	0.522	204	3.522	1.501
157	2.186	0.527	205	3.533	1.510
158	2.205	0.537	206	3.550	1.522
159	2.224	0.549	207	3.578	1.561
160	2.242	0.568	208	3.607	1.585
161	2.268	0.586	209	3.630	1.597
162	2.308	0.610	210	3.658	1.607
163	2.352	0.648	211	3.701	1.627
164	2.406	0.677	212	3.745	1.645
165	2.421	0.699	213	3.778	1.656
166	2.435	0.720	214	3.814	1.663
167	2.470	0.738	215	3.825	1.669
168	2.501	0.767	216	3.835	1.674
169	2.537	0.828	217	3.844	1.685
170	2.571	0.855	218	3.853	1.705
171	2.625	0.869	219	3.864	1.711
172	2.657	0.885	220	3.874	1.735
173	2.683	0.900	221	3.891	1.752
174	2.701	0.941	222	3.928	1.760
175	2.717	0.979	223	3.966	1.774
176	2.732	1.002	224	4.008	1.778
177	2.756	1.025	225	4.010	1.797
178	2.781	1.047	226	4.012	1.802
179	2.811	1.065	227	4.016	1.804
180	2.853	1.089	228	4.019	1.806
181	2.898	1.109	229	4.057	1.810
182	2.946	1.133	230	4.065	1.814
183	2.988	1.158	231	4.072	1.827
184	3.023	1.184	232	4.081	1.833
185	3.057	1.209	233	4.104	1.837
186	3.076	1.222	234	4.124	1.841
187	3.101	1.231	235	4.128	1.845
188	3.120	1.239	236	4.132	1.851
189	3.136	1.254	237	4.137	1.855
			238	4.147	1.857
			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	40	0.717	N/A
31	0.515	N/A	41	0.722	N/A
32	0.558	N/A	42	0.735	N/A
33	0.567	N/A	43	0.741	N/A
34	0.569	N/A	44	0.743	N/A
35	0.571	N/A	45	0.771	N/A
36	0.600	N/A	46	0.896	N/A
37	0.640	N/A	47	0.988	N/A
38	0.689	N/A	48	1.020	N/A
39	0.713	N/A	49	1.028	N/A



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

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
50	1.035	N/A	115	2.623	0.216
51	1.047	N/A	116	2.677	0.227
52	1.063	N/A	117	2.707	0.237
53	1.089	N/A	118	2.709	0.240
54	1.123	N/A	119	2.719	0.245
55	1.126	N/A	120	2.760	0.252
56	1.129	N/A	121	2.790	0.267
57	1.133	N/A	122	2.799	0.280
58	1.149	N/A	123	2.803	0.318
59	1.235	N/A	124	2.808	0.330
60	1.248	N/A	125	2.821	0.348
61	1.248	N/A	126	2.865	0.356
62	1.248	N/A	127	2.896	0.359
63	1.267	N/A	128	2.907	0.361
64	1.278	N/A	129	2.911	0.363
65	1.296	N/A	130	2.913	0.364
66	1.333	N/A	131	2.915	0.364
67	1.373	N/A	132	2.957	0.367
68	1.376	N/A	133	3.015	0.378
69	1.384	N/A	134	3.016	0.381
70	1.403	N/A	135	3.017	0.405
71	1.411	N/A	136	3.021	0.423
72	1.417	N/A	137	3.023	0.439
73	1.420	N/A	138	3.028	0.449
74	1.425	N/A	139	3.035	0.455
75	1.435	N/A	140	3.036	0.469
76	1.447	N/A	141	3.036	0.478
77	1.459	N/A	142	3.036	0.486
78	1.467	N/A	143	3.036	0.495
79	1.475	N/A	144	3.036	0.508
80	1.475	N/A	145	3.036	0.510
81	1.481	N/A	146	3.036	0.510
82	1.481	N/A	147	3.036	0.512
83	1.485	N/A	148	3.036	0.514
84	1.491	N/A	149	3.036	0.516
85	1.495	N/A	150	3.036	0.524
86	1.508	N/A	151	3.037	0.542
87	1.514	N/A	152	3.037	0.543
88	1.523	N/A	153	3.043	0.546
89	1.533	N/A	154	3.075	0.549
90	1.539	N/A	155	3.223	0.553
91	1.551	N/A	156	3.801	0.578
92	1.553	N/A	157	3.894	0.680
93	1.554	N/A	158	4.113	0.713
94	1.563	N/A	159	4.447	0.932
95	1.565	N/A	160	4.950	1.000
96	1.570	N/A	161	5.586	1.062
97	1.597	N/A	162	6.432	1.253
98	1.634	N/A	163	7.279	1.887
99	1.672	N/A	164	8.105	2.111
100	1.727	N/A	165	8.487	2.496
101	1.773	N/A	166	8.554	3.095
102	1.833	N/A	167	8.595	3.402
103	1.942	N/A	168	8.621	3.610
104	2.108	N/A	169	9.135	3.937
105	2.113	N/A	170	9.426	4.157
106	2.131	N/A	171	9.976	4.351
107	2.192	N/A	172	10.469	4.459
108	2.279	N/A	173	10.835	4.669
109	2.391	0.115	174	11.271	4.950
110	2.397	0.119	175	11.770	5.600
111	2.427	0.163	176	12.013	5.654
112	2.493	0.183	177	12.233	5.898
113	2.579	0.192	178	12.447	6.046
114	2.585	0.200	179	12.648	6.078

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

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
180	12.819	6.124	210	18.635	10.242
181	13.415	6.267	211	18.803	10.248
182	13.603	6.549	212	19.029	10.315
183	13.836	7.046	213	19.331	10.458
184	14.456	7.463	214	19.333	10.630
185	14.637	7.555	215	19.337	10.687
186	15.100	7.699	216	19.387	10.754
187	15.326	7.911	217	19.521	10.971
188	15.690	8.172	218	19.655	11.012
189	15.917	8.258	219	19.823	11.250
190	16.012	8.361	220	19.869	11.327
191	16.309	8.600	221	19.881	11.353
192	16.457	8.655	222	19.898	11.390
193	16.621	8.674	223	19.908	11.463
194	16.792	8.693	224	19.915	11.511
195	16.979	8.778	225	20.005	11.522
196	17.085	8.867	226	20.084	11.546
197	17.164	8.924	227	20.085	11.587
198	17.233	8.973	228	20.085	11.652
199	17.316	9.045	229	20.139	11.652
200	17.427	9.098	230	20.209	11.654
201	17.483	9.215	231	20.215	11.672
202	17.559	9.386	232	20.217	11.729
203	17.698	9.463	233	20.245	11.744
204	17.879	9.579	234	20.274	11.806
205	18.035	9.680	235	20.277	11.808
206	18.262	9.773	236	20.285	11.809
207	18.334	9.911	237	20.287	11.810
208	18.421	9.961	238	20.301	11.845
209	18.535	10.152	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	61	1.872	N/A
31	0.773	N/A	62	1.872	N/A
32	0.837	N/A	63	1.900	N/A
33	0.851	N/A	64	1.917	N/A
34	0.853	N/A	65	1.944	N/A
35	0.857	N/A	66	2.000	N/A
36	0.900	N/A	67	2.060	N/A
37	0.960	N/A	68	2.064	N/A
38	1.034	N/A	69	2.076	N/A
39	1.070	N/A	70	2.104	N/A
40	1.076	N/A	71	2.117	N/A
41	1.083	N/A	72	2.125	N/A
42	1.102	N/A	73	2.130	N/A
43	1.111	N/A	74	2.138	N/A
44	1.114	N/A	75	2.152	N/A
45	1.157	N/A	76	2.170	N/A
46	1.344	N/A	77	2.188	N/A
47	1.482	N/A	78	2.200	N/A
48	1.530	N/A	79	2.212	N/A
49	1.542	N/A	80	2.212	N/A
50	1.553	N/A	81	2.221	N/A
51	1.571	N/A	82	2.222	N/A
52	1.595	N/A	83	2.227	N/A
53	1.633	N/A	84	2.236	N/A
54	1.685	N/A	85	2.243	N/A
55	1.689	N/A	86	2.262	N/A
56	1.693	N/A	87	2.271	N/A
57	1.700	N/A	88	2.284	N/A
58	1.723	N/A	89	2.299	N/A
59	1.852	N/A	90	2.308	N/A
60	1.872	N/A			

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

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
91	2.326	N/A	155	4.834	0.805
92	2.330	N/A	156	5.702	0.842
93	2.331	N/A	157	5.841	0.990
94	2.344	0.000	158	6.170	1.038
95	2.347	0.000	159	6.670	1.357
96	2.355	0.000	160	7.425	1.455
97	2.395	0.000	161	8.379	1.546
98	2.451	0.000	162	9.648	1.824
99	2.508	0.004	163	10.918	2.746
100	2.590	0.008	164	12.127	3.073
101	2.660	0.015	165	12.731	3.633
102	2.749	0.026	166	12.831	4.505
103	2.913	0.038	167	12.892	4.952
104	3.162	0.038	168	12.932	5.254
105	3.170	0.039	169	13.702	5.730
106	3.197	0.061	170	14.139	6.051
107	3.288	0.062	171	14.964	6.333
108	3.419	0.108	172	15.704	6.490
109	3.587	0.168	173	16.253	6.796
110	3.595	0.173	174	16.907	7.205
111	3.640	0.237	175	17.655	8.151
112	3.740	0.266	176	18.020	8.230
113	3.868	0.280	177	18.349	8.584
114	3.877	0.291	178	18.671	8.800
115	3.934	0.314	179	18.972	8.847
116	4.015	0.331	180	19.228	8.913
117	4.061	0.345	181	20.123	9.122
118	4.063	0.350	182	20.405	9.532
119	4.079	0.356	183	20.754	10.256
120	4.140	0.367	184	21.684	10.862
121	4.185	0.388	185	21.955	10.996
122	4.199	0.407	186	22.650	11.206
123	4.205	0.463	187	22.989	11.514
124	4.212	0.480	188	23.535	11.894
125	4.232	0.506	189	23.876	12.019
126	4.298	0.518	190	24.018	12.170
127	4.344	0.522	191	24.464	12.517
128	4.361	0.525	192	24.685	12.598
129	4.366	0.528	193	24.931	12.625
130	4.369	0.530	194	25.188	12.653
131	4.372	0.530	195	25.468	12.777
132	4.435	0.534	196	25.627	12.906
133	4.523	0.550	197	25.746	12.989
134	4.524	0.554	198	25.850	13.060
135	4.525	0.590	199	25.974	13.165
136	4.531	0.616	200	26.141	13.242
137	4.534	0.639	201	26.225	13.412
138	4.542	0.653	202	26.338	13.662
139	4.553	0.662	203	26.547	13.773
140	4.554	0.683	204	26.818	13.942
141	4.554	0.696	205	27.052	14.090
142	4.554	0.708	206	27.393	14.224
143	4.554	0.721	207	27.501	14.426
144	4.554	0.739	208	27.632	14.498
145	4.554	0.742	209	27.803	14.776
146	4.554	0.743	210	27.953	14.907
147	4.554	0.745	211	28.205	14.916
148	4.554	0.748	212	28.543	15.014
149	4.554	0.751	213	28.997	15.221
150	4.554	0.762	214	29.000	15.472
151	4.556	0.789	215	29.005	15.555
152	4.556	0.790	216	29.081	15.652
153	4.565	0.794	217	29.281	15.969
154	4.612	0.799	218	29.483	16.028
			219	29.734	16.375

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

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
220	29.803	16.487	230	30.314	16.962
221	29.821	16.524	231	30.323	16.988
222	29.847	16.578	232	30.325	17.072
223	29.862	16.684	233	30.368	17.094
224	29.873	16.755	234	30.411	17.184
225	30.008	16.770	235	30.416	17.187
226	30.126	16.805	236	30.428	17.188
227	30.127	16.865	237	30.430	17.189
228	30.127	16.960	238	30.452	17.241
229	30.208	16.960	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	81	4.322	N/A
31	1.546	N/A	82	4.398	N/A
32	1.568	N/A	83	4.482	N/A
33	1.582	N/A	84	4.515	N/A
34	1.593	N/A	85	4.518	N/A
35	1.602	N/A	86	4.520	N/A
36	1.621	N/A	87	4.522	N/A
37	1.631	N/A	88	4.522	N/A
38	1.702	N/A	89	4.523	N/A
39	1.784	N/A	90	4.526	N/A
40	1.879	N/A	91	4.527	N/A
41	2.162	N/A	92	4.527	N/A
42	2.307	N/A	93	4.528	N/A
43	2.343	N/A	94	4.528	0.000
44	2.376	N/A	95	4.528	0.000
45	2.406	N/A	96	4.529	0.000
46	2.433	N/A	97	4.575	0.000
47	2.458	N/A	98	4.703	0.002
48	2.483	N/A	99	4.805	0.005
49	2.774	N/A	100	4.886	0.010
50	2.844	N/A	101	4.957	0.017
51	2.900	N/A	102	5.104	0.052
52	2.936	N/A	103	5.340	0.085
53	3.133	N/A	104	5.496	0.094
54	3.304	N/A	105	5.625	0.122
55	3.407	N/A	106	5.815	0.151
56	3.456	N/A	107	6.473	0.191
57	3.480	N/A	108	7.037	0.234
58	3.518	N/A	109	7.419	0.246
59	3.560	N/A	110	7.643	0.257
60	3.593	N/A	111	7.759	0.286
61	3.628	N/A	112	7.824	0.379
62	3.641	N/A	113	7.889	0.425
63	3.655	N/A	114	7.960	0.457
64	3.680	N/A	115	8.024	0.477
65	3.700	N/A	116	8.076	0.494
66	3.728	N/A	117	8.111	0.504
67	3.857	N/A	118	8.130	0.512
68	3.894	N/A	119	8.148	0.519
69	3.943	N/A	120	8.211	0.529
70	3.983	N/A	121	8.478	0.529
71	4.009	N/A	122	8.548	0.530
72	4.023	N/A	123	8.561	0.531
73	4.023	N/A	124	8.568	0.532
74	4.053	N/A	125	8.572	0.533
75	4.063	N/A	126	8.584	0.548
76	4.077	N/A	127	8.592	0.610
77	4.225	N/A	128	8.596	0.614
78	4.243	N/A	129	8.597	0.622
79	4.260	N/A	130	8.601	0.631
80	4.282	N/A			

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

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
131	8.605	0.640	185	30.988	12.953
132	8.608	0.646	186	31.095	13.213
133	8.626	0.650	187	31.314	14.131
134	8.650	0.652	188	31.833	14.839
135	8.660	0.738	189	32.239	15.137
136	8.767	0.754	190	32.547	15.138
137	9.029	0.780	191	32.855	15.141
138	9.238	0.795	192	33.153	15.595
139	9.389	0.804	193	33.444	15.658
140	9.493	0.810	194	33.482	15.704
141	9.583	0.815	195	33.516	15.729
142	9.626	0.818	196	33.549	16.058
143	9.669	0.821	197	33.653	16.987
144	9.716	0.825	198	33.973	17.064
145	9.763	0.840	199	34.159	17.073
146	9.809	0.847	200	34.191	17.153
147	9.852	0.855	201	34.250	17.332
148	9.885	0.865	202	34.469	17.406
149	9.932	0.874	203	34.716	17.641
150	9.986	0.891	204	34.969	17.922
151	10.039	0.914	205	35.144	18.484
152	10.072	0.929	206	35.418	18.553
153	10.090	0.937	207	35.766	18.658
154	10.105	0.942	208	35.949	18.953
155	10.146	0.949	209	36.010	19.266
156	10.245	1.375	210	36.548	19.309
157	10.397	1.576	211	37.179	19.731
158	10.923	1.943	212	37.651	19.902
159	11.970	2.820	213	38.041	20.012
160	13.421	3.281	214	38.591	20.260
161	15.289	3.483	215	38.852	20.739
162	15.912	3.620	216	38.861	21.346
163	16.530	4.168	217	38.926	21.810
164	17.622	4.338	218	39.194	22.001
165	18.366	4.682	219	39.474	22.290
166	19.869	5.633	220	39.668	22.324
167	20.711	6.137	221	39.781	22.343
168	22.319	6.853	222	39.890	22.522
169	23.751	7.136	223	39.954	22.683
170	24.842	7.320	224	39.984	22.850
171	25.410	7.685	225	39.989	22.853
172	25.798	8.052	226	39.990	22.853
173	26.122	8.344	227	39.990	22.853
174	26.353	8.602	228	39.990	22.872
175	26.638	8.898	229	39.991	22.872
176	27.219	9.251	230	40.012	22.872
177	27.279	10.253	231	40.061	22.895
178	27.320	10.828	232	40.116	22.911
179	27.352	10.933	233	40.249	22.922
180	27.822	11.060	234	40.253	22.939
181	28.763	11.188	235	40.290	23.010
182	29.402	11.345	236	40.385	23.010
183	29.971	11.733	237	40.488	23.010
184	30.276	12.598	238	40.720	23.010
			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	37	4.783	N/A
31	3.985	N/A	38	4.813	N/A
32	4.215	N/A	39	4.876	N/A
33	4.440	N/A	40	5.104	N/A
34	4.579	N/A	41	5.217	N/A
35	4.688	N/A	42	5.383	N/A
36	4.749	N/A	43	5.571	N/A

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

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
44	5.888	N/A	108	15.372	1.091
45	6.199	N/A	109	15.530	1.113
46	6.245	N/A	110	15.687	1.213
47	6.318	N/A	111	16.018	1.344
48	6.418	N/A	112	16.527	1.399
49	6.540	N/A	113	16.810	1.520
50	6.690	N/A	114	16.961	1.640
51	6.875	N/A	115	17.120	1.684
52	7.029	N/A	116	17.135	1.693
53	7.129	N/A	117	17.249	1.786
54	7.359	N/A	118	17.451	2.007
55	7.722	N/A	119	17.509	2.084
56	8.017	N/A	120	17.605	2.179
57	8.249	N/A	121	17.734	2.264
58	8.425	N/A	122	18.049	2.328
59	8.563	N/A	123	18.447	2.375
60	8.686	N/A	124	18.592	2.437
61	8.804	N/A	125	18.657	2.543
62	8.916	N/A	126	18.796	2.593
63	9.025	N/A	127	18.952	2.641
64	9.138	N/A	128	19.137	2.663
65	9.250	N/A	129	19.329	2.672
66	9.354	N/A	130	19.519	2.676
67	9.457	N/A	131	19.707	2.683
68	9.575	N/A	132	19.882	2.817
69	9.728	N/A	133	19.905	2.992
70	9.938	N/A	134	20.049	3.111
71	10.140	N/A	135	20.460	3.234
72	10.222	N/A	136	20.746	3.304
73	10.261	N/A	137	21.068	3.310
74	10.278	N/A	138	21.380	3.320
75	10.290	N/A	139	21.748	3.354
76	10.715	N/A	140	22.046	3.436
77	10.790	N/A	141	22.348	3.443
78	10.844	N/A	142	22.397	3.452
79	10.921	N/A	143	22.407	3.490
80	11.010	N/A	144	22.417	3.552
81	11.090	N/A	145	22.922	3.588
82	11.136	N/A	146	22.951	3.600
83	11.136	N/A	147	22.976	3.616
84	11.165	N/A	148	23.017	3.627
85	11.191	N/A	149	23.073	3.636
86	11.205	N/A	150	23.161	3.676
87	11.211	N/A	151	23.218	3.882
88	11.211	N/A	152	23.253	4.011
89	11.211	N/A	153	23.337	4.047
90	11.211	N/A	154	23.425	4.067
91	11.220	N/A	155	23.534	4.081
92	11.294	N/A	156	23.652	4.116
93	11.332	N/A	157	23.739	4.251
94	11.355	0.000	158	24.606	5.099
95	11.383	0.000	159	25.615	5.383
96	11.410	0.001	160	26.073	6.362
97	11.433	0.006	161	28.496	7.926
98	11.516	0.020	162	29.772	8.429
99	11.820	0.051	163	31.056	9.201
100	12.104	0.092	164	33.351	10.825
101	12.344	0.131	165	34.890	12.291
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

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

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
172	42.033	17.158	206	58.097	29.942
173	42.432	17.532	207	58.572	30.284
174	42.742	17.965	208	59.024	30.755
175	43.399	18.242	209	59.321	31.287
176	43.895	18.283	210	59.715	31.549
177	44.227	18.480	211	60.045	31.820
178	44.926	19.576	212	60.453	32.250
179	45.256	20.015	213	60.935	32.546
180	45.553	20.203	214	61.307	32.808
181	45.753	20.433	215	61.666	33.142
182	46.210	21.025	216	62.148	33.529
183	47.017	21.882	217	62.532	33.763
184	48.185	22.204	218	62.546	33.921
185	48.741	22.859	219	62.559	33.961
186	49.462	23.533	220	62.570	33.983
187	50.313	24.281	221	62.846	34.007
188	51.285	25.078	222	63.097	34.032
189	52.076	25.276	223	63.150	34.054
190	52.857	25.578	224	63.150	34.061
191	52.876	25.859	225	63.150	34.082
192	53.067	25.985	226	63.150	34.100
193	53.777	26.153	227	63.150	34.109
194	54.242	26.582	228	63.150	34.129
195	54.489	27.067	229	63.150	34.284
196	54.601	27.456	230	63.150	34.397
197	54.912	27.805	231	63.150	34.463
198	55.588	28.070	232	63.150	34.465
199	56.266	28.590	233	63.150	34.466
200	56.617	28.914	234	63.153	34.468
201	56.863	29.063	235	63.159	34.470
202	57.204	29.502	236	63.173	34.471
203	57.371	29.697	237	63.193	34.472
204	57.487	29.713	238	63.214	34.472
205	57.728	29.783	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	56	0.368
31	0.133	57	0.375
32	0.141	58	0.380
33	0.161	59	0.382
34	0.174	60	0.384
35	0.180	61	0.387
36	0.182	62	0.389
37	0.184	63	0.392
38	0.185	64	0.397
39	0.185	65	0.400
40	0.188	66	0.401
41	0.195	67	0.405
42	0.208	68	0.413
43	0.233	69	0.422
44	0.246	70	0.431
45	0.257	71	0.441
46	0.269	72	0.450
47	0.280	73	0.452
48	0.287	74	0.453
49	0.289	75	0.460
50	0.300	76	0.468
51	0.308	77	0.485
52	0.326	78	0.488
53	0.348	79	0.494
54	0.354	80	0.505
55	0.360	81	0.522

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

Second	Composite (grams)	Second	Composite (grams)
82	0.530	146	0.984
83	0.536	147	0.988
84	0.543	148	0.991
85	0.553	149	0.994
86	0.560	150	0.996
87	0.561	151	0.999
88	0.561	152	1.004
89	0.561	153	1.008
90	0.561	154	1.013
91	0.561	155	1.018
92	0.561	156	1.024
93	0.561	157	1.034
94	0.561	158	1.061
95	0.561	159	1.100
96	0.561	160	1.136
97	0.561	161	1.169
98	0.561	162	1.193
99	0.563	163	1.231
100	0.573	164	1.289
101	0.592	165	1.333
102	0.617	166	1.374
103	0.650	167	1.439
104	0.679	168	1.479
105	0.694	169	1.510
106	0.716	170	1.575
107	0.739	171	1.650
108	0.745	172	1.688
109	0.746	173	1.703
110	0.747	174	1.726
111	0.758	175	1.739
112	0.771	176	1.751
113	0.776	177	1.762
114	0.783	178	1.790
115	0.794	179	1.817
116	0.806	180	1.847
117	0.810	181	1.877
118	0.810	182	1.909
119	0.811	183	1.940
120	0.818	184	1.970
121	0.822	185	2.005
122	0.833	186	2.062
123	0.842	187	2.103
124	0.851	188	2.138
125	0.854	189	2.171
126	0.854	190	2.198
127	0.854	191	2.228
128	0.854	192	2.265
129	0.854	193	2.308
130	0.854	194	2.349
131	0.854	195	2.389
132	0.854	196	2.414
133	0.854	197	2.451
134	0.854	198	2.474
135	0.854	199	2.513
136	0.870	200	2.555
137	0.881	201	2.600
138	0.887	202	2.623
139	0.898	203	2.636
140	0.917	204	2.638
141	0.941	205	2.639
142	0.954	206	2.642
143	0.965	207	2.659
144	0.978	208	2.678
145	0.980	209	2.700
		210	2.714



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

Second	Composite (grams)	Second	Composite (grams)
211	2.729	225	3.053
212	2.765	226	3.054
213	2.799	227	3.054
214	2.843	228	3.055
215	2.875	229	3.055
216	2.918	230	3.055
217	2.949	231	3.055
218	2.970	232	3.056
219	2.998	233	3.056
220	3.010	234	3.056
221	3.026	235	3.056
222	3.029	236	3.057
223	3.038	237	3.057
224	3.050	238	3.057
		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	76	0.624
31	0.177	77	0.646
32	0.188	78	0.651
33	0.214	79	0.659
34	0.232	80	0.673
35	0.240	81	0.696
36	0.243	82	0.706
37	0.245	83	0.716
38	0.246	84	0.724
39	0.246	85	0.737
40	0.250	86	0.747
41	0.260	87	0.748
42	0.277	88	0.748
43	0.311	89	0.748
44	0.328	90	0.748
45	0.343	91	0.748
46	0.359	92	0.748
47	0.373	93	0.748
48	0.383	94	0.748
49	0.385	95	0.748
50	0.400	96	0.748
51	0.410	97	0.748
52	0.434	98	0.748
53	0.464	99	0.751
54	0.472	100	0.764
55	0.480	101	0.789
56	0.491	102	0.822
57	0.500	103	0.867
58	0.506	104	0.905
59	0.509	105	0.925
60	0.512	106	0.955
61	0.516	107	0.985
62	0.519	108	0.993
63	0.523	109	0.995
64	0.529	110	0.996
65	0.533	111	1.010
66	0.535	112	1.028
67	0.540	113	1.034
68	0.551	114	1.044
69	0.563	115	1.059
70	0.575	116	1.075
71	0.588	117	1.080
72	0.600	118	1.080
73	0.603	119	1.081
74	0.604	120	1.091
75	0.613	121	1.096

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

Second	Composite (grams)	Second	Composite (grams)
122	1.111	181	2.503
123	1.122	182	2.545
124	1.135	183	2.586
125	1.138	184	2.627
126	1.139	185	2.673
127	1.139	186	2.749
128	1.139	187	2.804
129	1.139	188	2.851
130	1.139	189	2.894
131	1.139	190	2.931
132	1.139	191	2.971
133	1.139	192	3.020
134	1.139	193	3.077
135	1.139	194	3.132
136	1.160	195	3.185
137	1.174	196	3.219
138	1.183	197	3.268
139	1.197	198	3.299
140	1.223	199	3.350
141	1.255	200	3.406
142	1.272	201	3.466
143	1.286	202	3.497
144	1.304	203	3.514
145	1.307	204	3.517
146	1.312	205	3.519
147	1.317	206	3.523
148	1.321	207	3.545
149	1.325	208	3.570
150	1.328	209	3.600
151	1.332	210	3.619
152	1.338	211	3.639
153	1.344	212	3.686
154	1.350	213	3.732
155	1.357	214	3.791
156	1.365	215	3.833
157	1.379	216	3.890
158	1.414	217	3.932
159	1.466	218	3.960
160	1.514	219	3.997
161	1.559	220	4.013
162	1.591	221	4.035
163	1.641	222	4.038
164	1.719	223	4.050
165	1.777	224	4.066
166	1.832	225	4.070
167	1.919	226	4.072
168	1.972	227	4.072
169	2.013	228	4.073
170	2.100	229	4.073
171	2.200	230	4.073
172	2.251	231	4.073
173	2.270	232	4.074
174	2.301	233	4.074
175	2.318	234	4.075
176	2.335	235	4.075
177	2.349	236	4.076
178	2.387	237	4.076
179	2.423	238	4.076
180	2.462	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	32	0.301
31	0.275	33	0.317

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

Second	Composite (grams)	Second	Composite (grams)
34	0.327	98	0.922
35	0.330	99	0.924
36	0.332	100	0.929
37	0.334	101	0.941
38	0.336	102	0.970
39	0.337	103	1.027
40	0.354	104	1.093
41	0.366	105	1.155
42	0.410	106	1.234
43	0.414	107	1.275
44	0.438	108	1.305
45	0.477	109	1.320
46	0.506	110	1.332
47	0.518	111	1.346
48	0.522	112	1.358
49	0.526	113	1.378
50	0.554	114	1.406
51	0.574	115	1.426
52	0.587	116	1.438
53	0.601	117	1.448
54	0.615	118	1.460
55	0.629	119	1.462
56	0.643	120	1.467
57	0.667	121	1.476
58	0.678	122	1.494
59	0.683	123	1.505
60	0.686	124	1.517
61	0.693	125	1.546
62	0.699	126	1.569
63	0.703	127	1.586
64	0.707	128	1.596
65	0.711	129	1.603
66	0.716	130	1.605
67	0.721	131	1.606
68	0.726	132	1.607
69	0.742	133	1.607
70	0.759	134	1.608
71	0.773	135	1.614
72	0.784	136	1.616
73	0.790	137	1.631
74	0.794	138	1.643
75	0.799	139	1.656
76	0.809	140	1.673
77	0.821	141	1.703
78	0.833	142	1.739
79	0.839	143	1.767
80	0.844	144	1.774
81	0.857	145	1.785
82	0.870	146	1.806
83	0.883	147	1.830
84	0.894	148	1.844
85	0.902	149	1.845
86	0.907	150	1.846
87	0.910	151	1.852
88	0.912	152	1.868
89	0.913	153	1.877
90	0.914	154	1.879
91	0.915	155	1.886
92	0.916	156	1.900
93	0.917	157	1.910
94	0.918	158	1.936
95	0.919	159	1.954
96	0.920	160	1.986
97	0.921	161	2.050

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

Second	Composite (grams)	Second	Composite (grams)
162	2.131	201	4.351
163	2.235	202	4.398
164	2.320	203	4.410
165	2.395	204	4.419
166	2.488	205	4.426
167	2.563	206	4.429
168	2.645	207	4.453
169	2.746	208	4.486
170	2.778	209	4.542
171	2.792	210	4.598
172	2.810	211	4.638
173	2.847	212	4.715
174	2.874	213	4.774
175	2.905	214	4.829
176	2.950	215	4.872
177	3.001	216	4.931
178	3.047	217	4.981
179	3.104	218	5.017
180	3.173	219	5.029
181	3.238	220	5.033
182	3.302	221	5.037
183	3.372	222	5.047
184	3.452	223	5.057
185	3.545	224	5.061
186	3.648	225	5.062
187	3.701	226	5.063
188	3.759	227	5.063
189	3.821	228	5.063
190	3.870	229	5.063
191	3.892	230	5.064
192	3.914	231	5.065
193	3.955	232	5.066
194	3.997	233	5.067
195	4.035	234	5.068
196	4.089	235	5.069
197	4.146	236	5.070
198	4.206	237	5.070
199	4.243	238	5.070
200	4.295	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	53	0.890
31	0.425	54	0.918
32	0.431	55	0.936
33	0.449	56	0.947
34	0.476	57	0.958
35	0.497	58	0.970
36	0.515	59	0.982
37	0.516	60	0.994
38	0.519	61	1.019
39	0.527	62	1.042
40	0.542	63	1.049
41	0.560	64	1.058
42	0.598	65	1.062
43	0.616	66	1.064
44	0.645	67	1.070
45	0.670	68	1.077
46	0.691	69	1.085
47	0.716	70	1.092
48	0.735	71	1.101
49	0.765	72	1.111
50	0.802	73	1.121
51	0.836	74	1.131
52	0.868	75	1.141

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

Second	Composite (grams)	Second	Composite (grams)
76	1.159	141	2.333
77	1.164	142	2.373
78	1.186	143	2.406
79	1.221	144	2.416
80	1.260	145	2.420
81	1.268	146	2.424
82	1.272	147	2.435
83	1.277	148	2.455
84	1.288	149	2.471
85	1.310	150	2.484
86	1.319	151	2.495
87	1.320	152	2.509
88	1.337	153	2.522
89	1.348	154	2.533
90	1.361	155	2.541
91	1.366	156	2.552
92	1.369	157	2.589
93	1.373	158	2.631
94	1.375	159	2.704
95	1.377	160	2.758
96	1.379	161	2.802
97	1.381	162	2.904
98	1.383	163	2.960
99	1.385	164	3.027
100	1.399	165	3.127
101	1.405	166	3.187
102	1.466	167	3.306
103	1.485	168	3.384
104	1.546	169	3.467
105	1.623	170	3.565
106	1.699	171	3.640
107	1.760	172	3.718
108	1.788	173	3.781
109	1.798	174	3.827
110	1.842	175	3.852
111	1.864	176	3.903
112	1.888	177	3.930
113	1.905	178	3.970
114	1.920	179	4.015
115	1.926	180	4.074
116	1.939	181	4.159
117	1.958	182	4.230
118	1.972	183	4.286
119	1.981	184	4.334
120	1.987	185	4.388
121	1.991	186	4.447
122	1.996	187	4.505
123	2.012	188	4.561
124	2.040	189	4.625
125	2.060	190	4.696
126	2.069	191	4.731
127	2.092	192	4.780
128	2.114	193	4.837
129	2.132	194	4.876
130	2.144	195	4.928
131	2.152	196	4.972
132	2.157	197	5.025
133	2.160	198	5.104
134	2.163	199	5.189
135	2.165	200	5.275
136	2.168	201	5.336
137	2.171	202	5.366
138	2.186	203	5.387
139	2.235	204	5.427
140	2.298	205	5.444

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

Second	Composite (grams)	Second	Composite (grams)
206	5.447	223	6.139
207	5.477	224	6.145
208	5.520	225	6.148
209	5.560	226	6.150
210	5.603	227	6.151
211	5.657	228	6.152
212	5.698	229	6.153
213	5.762	230	6.154
214	5.836	231	6.156
215	5.944	232	6.157
216	6.008	233	6.159
217	6.040	234	6.160
218	6.072	235	6.162
219	6.089	236	6.163
220	6.101	237	6.164
221	6.118	238	6.166
222	6.126	239	6.168

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

Second	Purge Level (liters)	73	0.30
30	0.14		
31	0.14		
32	0.15		
33	0.15		
34	0.16		
35	0.16		
36	0.16		
37	0.17		
38	0.18		
39	0.18		
40	0.19		
41	0.19		
42	0.19		
43	0.20		
44	0.20		
45	0.20		
46	0.21		
47	0.22		
48	0.22		
49	0.22		
50	0.23		
51	0.24		
52	0.24		
53	0.24		
54	0.24		
55	0.24		
56	0.24		
57	0.24		
58	0.25		
59	0.25		
60	0.25		
61	0.26		
62	0.26		
63	0.26		
64	0.27		
65	0.27		
66	0.27		
67	0.28		
68	0.28		
69	0.29		
70	0.29		
71	0.29		
72	0.29		

Second	Purge Level (liters)		
74	0.30	96	0.38
75	0.30	97	0.39
76	0.31	98	0.39
77	0.31	99	0.39
78	0.32	100	0.40
79	0.32	101	0.40
80	0.32	102	0.40
81	0.32	103	0.41
82	0.33	104	0.41
83	0.33	105	0.41
84	0.34	106	0.42
85	0.34	107	0.42
86	0.34	108	0.43
87	0.35	109	0.43
88	0.35	110	0.43
89	0.35	111	0.44
90	0.36	112	0.44
91	0.36	113	0.44
92	0.37	114	0.44
93	0.37	115	0.45
94	0.37	116	0.46
95	0.38	117	0.46

**Table 4 (continued)**

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

Second	Purge Level (liters)		
118	0.47	160	0.61
119	0.47	161	0.62
120	0.47	162	0.62
121	0.48	163	0.63
122	0.48	164	0.63
123	0.48	165	0.64
124	0.49	166	0.64
125	0.49	167	0.64
126	0.50	168	0.65
127	0.50	169	0.65
128	0.50	170	0.66
129	0.50	171	0.66
130	0.51	172	0.67
131	0.51	173	0.67
132	0.52	174	0.68
133	0.52	175	0.68
134	0.52	176	0.68
135	0.53	177	0.68
136	0.53	178	0.68
137	0.54	179	0.68
138	0.54	180	0.68
139	0.54	181	0.68
140	0.55	182	0.68
141	0.55		
142	0.56		
143	0.56		
144	0.56		
145	0.57		
146	0.57		
147	0.58		
148	0.58		
149	0.59		
150	0.59		
151	0.59		
152	0.59		
153	0.59		
154	0.59		
155	0.60		
156	0.60		
157	0.61		
158	0.61		
159	0.61		

Second	Purge Level (liters)
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
221	0.88
222	0.88
223	0.89
224	0.90
225	0.90
226	0.91
227	0.91
228	0.92
229	0.92
230	0.92
231	0.92
232	0.93
233	0.93
234	0.93
235	0.93
236	0.94
237	0.94
238	0.94
239	0.94

**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.**

**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 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) Notwithstanding sub. (1), any person may replace the catalytic converter on a vehicle older than 5 model years or with more than 50,000 miles on the odometer with aftermarket equipment certified by the U.S. environmental protection agency (EPA). 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.

**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 registration 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 restricter; 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 restricter 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 restricter 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 restricter 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.