

## Chapter NR 485

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

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**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. 144.31, 144.40 and 144.42, 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. 144.42 (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 January 1, 1996, 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 January 1, 1996, 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. 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. 144.42 (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.

(23) "Transient emission test" means the emission test specified in 40 CFR 51.357 (a) (11), as in effect on January 1, 1996, 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.

**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.

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(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 rates that exceed 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±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±1.0 inches of water.

(6) **STEADY-STATE TESTS.** Any motor vehicle undergoing a steady-state test may not emit carbon monoxide (CO) or hydrocarbons (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 January 1, 1996.

(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 January 1, 1996.

(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; EPA WAIVER. (a) *NO<sub>x</sub> emissions.* 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 only to inspections conducted after November 30, 1997.

(b) *EPA waiver.* Notwithstanding par. (a), the emission limitations for oxides of nitrogen in subs. (2) (c) and (7) (a) 3. do not apply if the inspection is conducted in an ozone nonattainment area for which the administrator has determined, under section 182 (b) (1) (A) (i) or (f) (1) of the act, that oxides of nitrogen emission reductions in the ozone nonattainment area would not contribute to attainment of the ozone ambient air quality standard.

(10) EXEMPTIONS. In addition to the vehicles specified in s. 144.42 (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

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

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

(a) *Light-Duty Vehicles.*

(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

(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

(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 ON AND AFTER DECEMBER 1, 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	0.60	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
1983-1993	0.80	0.50	15.0	12.0	2.0
1981-1982	0.80	0.50	30.0	24.0	2.0
1980	0.80	0.50	30.0	24.0	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
1984-1987	1.60	1.00	40.0	32.0	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

(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
1984-1987	1.60	1.00	40.0	32.0	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	3.00	2.00	50.0	40.0	6.0
1979-1984	5.00	3.10	75.0	60.0	6.0
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
1979-1986	5.00	3.10	75.0	60.0	11.0
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.

<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.

<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.

<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 0.80 grams/mile but less than 1.25 grams/mile.*

Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
30	0.124	N/A	83	0.329	N/A	136	0.658	0.055	188	1.181	0.405
31	0.126	N/A	84	0.333	N/A	137	0.663	0.055	189	1.188	0.418
32	0.129	N/A	85	0.336	N/A	138	0.666	0.056	190	1.203	0.429
33	0.135	N/A	86	0.339	N/A	139	0.668	0.059	191	1.219	0.442
34	0.140	N/A	87	0.343	N/A	140	0.670	0.061	192	1.233	0.457
35	0.146	N/A	88	0.347	N/A	141	0.672	0.061	193	1.251	0.473
36	0.150	N/A	89	0.350	N/A	142	0.675	0.061	194	1.255	0.487
37	0.153	N/A	90	0.356	N/A	143	0.678	0.063	195	1.258	0.501
38	0.156	N/A	91	0.358	N/A	144	0.681	0.064	196	1.265	0.510
39	0.160	N/A	92	0.360	N/A	145	0.684	0.065	197	1.280	0.512
40	0.165	N/A	93	0.363	N/A	146	0.686	0.066	198	1.293	0.514
41	0.169	N/A	94	0.367	0.000	147	0.688	0.067	199	1.301	0.516
42	0.172	N/A	95	0.370	0.000	148	0.690	0.068	200	1.313	0.518
43	0.173	N/A	96	0.372	0.000	149	0.692	0.069	201	1.324	0.527
44	0.177	N/A	97	0.376	0.000	150	0.694	0.070	202	1.332	0.540
45	0.197	N/A	98	0.388	0.000	151	0.696	0.071	203	1.341	0.547
46	0.200	N/A	99	0.396	0.000	152	0.698	0.072	204	1.357	0.553
47	0.208	N/A	100	0.405	0.001	153	0.700	0.073	205	1.375	0.559
48	0.221	N/A	101	0.410	0.002	154	0.702	0.073	206	1.392	0.563
49	0.232	N/A	102	0.411	0.003	155	0.704	0.074	207	1.408	0.567
50	0.235	N/A	103	0.412	0.006	156	0.706	0.077	208	1.422	0.571
51	0.238	N/A	104	0.413	0.007	157	0.708	0.079	209	1.433	0.575
52	0.240	N/A	105	0.421	0.008	158	0.710	0.082	210	1.443	0.579
53	0.242	N/A	106	0.428	0.009	159	0.712	0.082	211	1.453	0.595
54	0.246	N/A	107	0.430	0.010	160	0.716	0.086	212	1.463	0.605
55	0.249	N/A	108	0.455	0.013	161	0.750	0.095	213	1.468	0.614
56	0.252	N/A	109	0.459	0.015	162	0.784	0.107	214	1.470	0.622
57	0.261	N/A	110	0.462	0.017	163	0.805	0.115	215	1.474	0.627
58	0.271	N/A	111	0.464	0.021	164	0.840	0.122	216	1.478	0.638
59	0.276	N/A	112	0.466	0.024	165	0.853	0.127	217	1.481	0.643
60	0.278	N/A	113	0.468	0.024	166	0.874	0.159	218	1.484	0.643
61	0.280	N/A	114	0.471	0.025	167	0.903	0.186	219	1.487	0.645
62	0.282	N/A	115	0.488	0.026	168	0.910	0.189	220	1.490	0.651
63	0.283	N/A	116	0.513	0.029	169	0.914	0.200	221	1.493	0.655
64	0.284	N/A	117	0.538	0.032	170	0.916	0.220	222	1.504	0.663
65	0.285	N/A	118	0.561	0.035	171	0.919	0.236	223	1.522	0.671
66	0.286	N/A	119	0.577	0.035	172	0.931	0.247	224	1.547	0.675
67	0.288	N/A	120	0.580	0.036	173	0.948	0.257	225	1.549	0.684
68	0.291	N/A	121	0.586	0.038	174	0.983	0.267	226	1.562	0.694
69	0.294	N/A	122	0.594	0.040	175	1.018	0.283	227	1.574	0.701
70	0.296	N/A	123	0.603	0.041	176	1.027	0.295	228	1.579	0.702
71	0.298	N/A	124	0.610	0.042	177	1.035	0.312	229	1.584	0.708
72	0.300	N/A	125	0.615	0.042	178	1.051	0.318	230	1.589	0.708
73	0.302	N/A	126	0.624	0.042	179	1.074	0.323	231	1.590	0.709
74	0.304	N/A	127	0.628	0.045	180	1.084	0.337	232	1.596	0.710
75	0.307	N/A	128	0.632	0.046	181	1.099	0.345	233	1.598	0.710
76	0.308	N/A	129	0.637	0.046	182	1.121	0.350	234	1.604	0.711
77	0.308	N/A	130	0.641	0.049	183	1.132	0.359	235	1.610	0.712
78	0.308	N/A	131	0.643	0.050	184	1.152	0.387	236	1.612	0.712
79	0.314	N/A	132	0.644	0.052	185	1.161	0.398	237	1.613	0.712
80	0.320	N/A	133	0.645	0.054	186	1.168	0.400	238	1.614	0.713
81	0.324	N/A	134	0.647	0.054	187	1.175	0.402	239	1.615	0.716
82	0.327	N/A	135	0.651	0.054						

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

(b) 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)	Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
30	0.247	N/A	83	0.694	N/A	136	1.147	0.130	188	1.985	0.629
31	0.253	N/A	84	0.700	N/A	137	1.156	0.134	189	1.991	0.629
32	0.258	N/A	85	0.705	N/A	138	1.163	0.139	190	1.993	0.638
33	0.263	N/A	86	0.709	N/A	139	1.186	0.146	191	1.995	0.648
34	0.268	N/A	87	0.713	N/A	140	1.253	0.149	192	2.001	0.659
35	0.277	N/A	88	0.717	N/A	141	1.262	0.151	193	2.015	0.663
36	0.283	N/A	89	0.721	N/A	142	1.271	0.153	194	2.031	0.671
37	0.293	N/A	90	0.724	N/A	143	1.277	0.155	195	2.047	0.681
38	0.297	N/A	91	0.727	N/A	144	1.283	0.157	196	2.063	0.693
39	0.298	N/A	92	0.729	N/A	145	1.291	0.162	197	2.079	0.709
40	0.313	N/A	93	0.731	N/A	146	1.294	0.164	198	2.094	0.725
41	0.320	N/A	94	0.734	0.000	147	1.296	0.166	199	2.109	0.740
42	0.327	N/A	95	0.740	0.000	148	1.298	0.168	200	2.122	0.754
43	0.342	N/A	96	0.748	0.001	149	1.303	0.169	201	2.130	0.767
44	0.360	N/A	97	0.759	0.001	150	1.316	0.170	202	2.137	0.775
45	0.376	N/A	98	0.771	0.002	151	1.330	0.171	203	2.157	0.787
46	0.389	N/A	99	0.783	0.003	152	1.342	0.172	204	2.172	0.795
47	0.408	N/A	100	0.793	0.005	153	1.348	0.173	205	2.194	0.803
48	0.423	N/A	101	0.810	0.007	154	1.353	0.175	206	2.222	0.854
49	0.434	N/A	102	0.823	0.009	155	1.362	0.178	207	2.245	0.859
50	0.444	N/A	103	0.836	0.011	156	1.365	0.180	208	2.268	0.872
51	0.454	N/A	104	0.853	0.016	157	1.366	0.189	209	2.279	0.892
52	0.465	N/A	105	0.871	0.017	158	1.373	0.198	210	2.288	0.896
53	0.472	N/A	106	0.887	0.022	159	1.397	0.203	211	2.301	0.903
54	0.478	N/A	107	0.899	0.029	160	1.423	0.207	212	2.316	0.924
55	0.485	N/A	108	0.931	0.036	161	1.440	0.214	213	2.332	0.938
56	0.493	N/A	109	0.947	0.040	162	1.452	0.221	214	2.345	0.941
57	0.500	N/A	110	0.957	0.047	163	1.465	0.229	215	2.354	0.951
58	0.505	N/A	111	0.965	0.052	164	1.509	0.247	216	2.362	0.966
59	0.514	N/A	112	0.971	0.056	165	1.533	0.274	217	2.368	0.979
60	0.537	N/A	113	0.977	0.061	166	1.555	0.309	218	2.376	0.980
61	0.540	N/A	114	0.983	0.064	167	1.576	0.318	219	2.384	0.981
62	0.543	N/A	115	1.003	0.072	168	1.598	0.322	220	2.391	1.005
63	0.546	N/A	116	1.030	0.081	169	1.618	0.333	221	2.395	1.016
64	0.551	N/A	117	1.041	0.082	170	1.636	0.343	222	2.400	1.022
65	0.559	N/A	118	1.050	0.083	171	1.666	0.356	223	2.405	1.028
66	0.567	N/A	119	1.052	0.092	172	1.685	0.385	224	2.409	1.035
67	0.575	N/A	120	1.055	0.094	173	1.726	0.409	225	2.413	1.041
68	0.588	N/A	121	1.061	0.097	174	1.742	0.433	226	2.417	1.045
69	0.595	N/A	122	1.071	0.100	175	1.756	0.453	227	2.426	1.051
70	0.601	N/A	123	1.081	0.103	176	1.769	0.463	228	2.428	1.055
71	0.606	N/A	124	1.091	0.106	177	1.784	0.507	229	2.431	1.059
72	0.610	N/A	125	1.102	0.108	178	1.802	0.523	230	2.433	1.064
73	0.617	N/A	126	1.110	0.110	179	1.822	0.528	231	2.441	1.069
74	0.631	N/A	127	1.116	0.112	180	1.843	0.541	232	2.461	1.071
75	0.643	N/A	128	1.121	0.114	181	1.864	0.549	233	2.476	1.072
76	0.651	N/A	129	1.125	0.116	182	1.884	0.559	234	2.488	1.073
77	0.659	N/A	130	1.128	0.118	183	1.896	0.571	235	2.498	1.081
78	0.667	N/A	131	1.130	0.120	184	1.915	0.584	236	2.508	1.083
79	0.676	N/A	132	1.132	0.122	185	1.940	0.598	237	2.516	1.084
80	0.681	N/A	133	1.134	0.123	186	1.958	0.613	238	2.520	1.085
81	0.685	N/A	134	1.135	0.124	187	1.972	0.624	239	2.523	1.086
82	0.689	N/A	135	1.143	0.127						

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

(c) 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)	Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
30	0.407	N/A	83	1.136	N/A	136	1.888	0.364	188	3.120	1.239
31	0.415	N/A	84	1.160	N/A	137	1.896	0.368	189	3.136	1.254
32	0.423	N/A	85	1.182	N/A	138	1.911	0.378	190	3.151	1.278
33	0.436	N/A	86	1.201	N/A	139	1.928	0.391	191	3.163	1.300
34	0.451	N/A	87	1.217	N/A	140	1.949	0.402	192	3.209	1.313
35	0.464	N/A	88	1.233	N/A	141	1.969	0.408	193	3.223	1.324
36	0.468	N/A	89	1.248	N/A	142	1.982	0.422	194	3.237	1.340
37	0.475	N/A	90	1.262	N/A	143	1.999	0.428	195	3.263	1.367
38	0.487	N/A	91	1.271	N/A	144	2.011	0.432	196	3.302	1.387
39	0.506	N/A	92	1.279	N/A	145	2.022	0.434	197	3.338	1.402
40	0.530	N/A	93	1.287	N/A	146	2.035	0.439	198	3.372	1.417
41	0.549	N/A	94	1.295	0.001	147	2.043	0.450	199	3.390	1.432
42	0.569	N/A	95	1.302	0.002	148	2.049	0.460	200	3.428	1.446
43	0.588	N/A	96	1.309	0.003	149	2.063	0.467	201	3.470	1.460
44	0.609	N/A	97	1.316	0.004	150	2.085	0.472	202	3.493	1.477
45	0.621	N/A	98	1.325	0.008	151	2.104	0.480	203	3.509	1.492
46	0.636	N/A	99	1.339	0.015	152	2.117	0.491	204	3.522	1.501
47	0.649	N/A	100	1.356	0.021	153	2.127	0.503	205	3.533	1.510
48	0.666	N/A	101	1.365	0.026	154	2.138	0.505	206	3.550	1.522
49	0.679	N/A	102	1.378	0.039	155	2.152	0.515	207	3.578	1.561
50	0.696	N/A	103	1.397	0.044	156	2.168	0.522	208	3.607	1.585
51	0.712	N/A	104	1.420	0.055	157	2.186	0.527	209	3.630	1.597
52	0.727	N/A	105	1.445	0.094	158	2.205	0.537	210	3.658	1.607
53	0.745	N/A	106	1.470	0.110	159	2.224	0.549	211	3.701	1.627
54	0.760	N/A	107	1.491	0.116	160	2.242	0.568	212	3.745	1.645
55	0.776	N/A	108	1.506	0.132	161	2.268	0.586	213	3.778	1.656
56	0.797	N/A	109	1.517	0.151	162	2.308	0.610	214	3.814	1.663
57	0.814	N/A	110	1.528	0.159	163	2.352	0.648	215	3.825	1.669
58	0.826	N/A	111	1.542	0.172	164	2.406	0.677	216	3.835	1.674
59	0.837	N/A	112	1.559	0.186	165	2.421	0.699	217	3.844	1.685
60	0.849	N/A	113	1.578	0.199	166	2.435	0.720	218	3.853	1.705
61	0.862	N/A	114	1.594	0.207	167	2.470	0.738	219	3.864	1.711
62	0.872	N/A	115	1.605	0.216	168	2.501	0.767	220	3.874	1.735
63	0.887	N/A	116	1.615	0.229	169	2.537	0.828	221	3.891	1.752
64	0.895	N/A	117	1.625	0.235	170	2.571	0.855	222	3.928	1.760
65	0.903	N/A	118	1.642	0.240	171	2.625	0.869	223	3.966	1.774
66	0.925	N/A	119	1.670	0.245	172	2.657	0.885	224	4.008	1.778
67	0.933	N/A	120	1.694	0.261	173	2.683	0.900	225	4.010	1.797
68	0.945	N/A	121	1.705	0.267	174	2.701	0.941	226	4.012	1.802
69	0.959	N/A	122	1.717	0.277	175	2.717	0.979	227	4.016	1.804
70	0.970	N/A	123	1.732	0.287	176	2.732	1.002	228	4.019	1.806
71	0.980	N/A	124	1.747	0.298	177	2.756	1.025	229	4.057	1.810
72	0.988	N/A	125	1.763	0.308	178	2.781	1.047	230	4.065	1.814
73	0.997	N/A	126	1.779	0.316	179	2.811	1.065	231	4.072	1.827
74	1.022	N/A	127	1.795	0.322	180	2.853	1.089	232	4.081	1.833
75	1.037	N/A	128	1.810	0.329	181	2.898	1.109	233	4.104	1.837
76	1.051	N/A	129	1.823	0.338	182	2.946	1.133	234	4.124	1.841
77	1.064	N/A	130	1.835	0.346	183	2.988	1.158	235	4.128	1.845
78	1.075	N/A	131	1.845	0.354	184	3.023	1.184	236	4.132	1.851
79	1.087	N/A	132	1.854	0.356	185	3.057	1.209	237	4.137	1.855
80	1.097	N/A	133	1.862	0.357	186	3.076	1.222	238	4.147	1.857
81	1.105	N/A	134	1.870	0.359	187	3.101	1.231	239	4.158	1.860
82	1.114	N/A	135	1.883	0.362						

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

## (2) CARBON MONOXIDE EXHAUST EMISSIONS.

(a) 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)	Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
30	0.693	N/A	83	2.227	N/A	136	4.531	0.616	188	23.535	11.894
31	0.773	N/A	84	2.236	N/A	137	4.534	0.639	189	23.876	12.019
32	0.837	N/A	85	2.243	N/A	138	4.542	0.653	190	24.018	12.170
33	0.851	N/A	86	2.262	N/A	139	4.553	0.662	191	24.464	12.517
34	0.853	N/A	87	2.271	N/A	140	4.554	0.683	192	24.685	12.598
35	0.857	N/A	88	2.284	N/A	141	4.554	0.696	193	24.931	12.625
36	0.900	N/A	89	2.299	N/A	142	4.554	0.708	194	25.188	12.653
37	0.960	N/A	90	2.308	N/A	143	4.554	0.721	195	25.468	12.777
38	1.034	N/A	91	2.326	N/A	144	4.554	0.739	196	25.627	12.906
39	1.070	N/A	92	2.330	N/A	145	4.554	0.742	197	25.746	12.989
40	1.076	N/A	93	2.331	N/A	146	4.554	0.743	198	25.850	13.060
41	1.083	N/A	94	2.344	0.000	147	4.554	0.745	199	25.974	13.165
42	1.102	N/A	95	2.347	0.000	148	4.554	0.748	200	26.141	13.242
43	1.111	N/A	96	2.355	0.000	149	4.554	0.751	201	26.225	13.412
44	1.114	N/A	97	2.395	0.000	150	4.554	0.762	202	26.338	13.662
45	1.157	N/A	98	2.451	0.000	151	4.556	0.789	203	26.547	13.773
46	1.344	N/A	99	2.508	0.004	152	4.556	0.790	204	26.818	13.942
47	1.482	N/A	100	2.590	0.008	153	4.565	0.794	205	27.052	14.090
48	1.530	N/A	101	2.660	0.015	154	4.612	0.799	206	27.393	14.224
49	1.542	N/A	102	2.749	0.026	155	4.834	0.805	207	27.501	14.426
50	1.553	N/A	103	2.913	0.038	156	5.702	0.842	208	27.632	14.498
51	1.571	N/A	104	3.162	0.038	157	5.841	0.990	209	27.803	14.776
52	1.595	N/A	105	3.170	0.039	158	6.170	1.038	210	27.953	14.907
53	1.633	N/A	106	3.197	0.061	159	6.670	1.357	211	28.205	14.916
54	1.685	N/A	107	3.288	0.062	160	7.425	1.455	212	28.543	15.014
55	1.689	N/A	108	3.419	0.108	161	8.379	1.546	213	28.997	15.221
56	1.693	N/A	109	3.587	0.168	162	9.648	1.824	214	29.000	15.472
57	1.700	N/A	110	3.595	0.173	163	10.918	2.746	215	29.005	15.555
58	1.723	N/A	111	3.640	0.237	164	12.127	3.073	216	29.081	15.652
59	1.852	N/A	112	3.740	0.266	165	12.731	3.633	217	29.281	15.969
60	1.872	N/A	113	3.868	0.280	166	12.831	4.505	218	29.483	16.028
61	1.872	N/A	114	3.877	0.291	167	12.892	4.952	219	29.734	16.375
62	1.872	N/A	115	3.934	0.314	168	12.932	5.254	220	29.803	16.487
63	1.900	N/A	116	4.015	0.331	169	13.702	5.730	221	29.821	16.524
64	1.917	N/A	117	4.061	0.345	170	14.139	6.051	222	29.847	16.578
65	1.944	N/A	118	4.063	0.350	171	14.964	6.333	223	29.862	16.684
66	2.000	N/A	119	4.079	0.356	172	15.704	6.490	224	29.873	16.755
67	2.060	N/A	120	4.140	0.367	173	16.253	6.796	225	30.008	16.770
68	2.064	N/A	121	4.185	0.388	174	16.907	7.205	226	30.126	16.805
69	2.076	N/A	122	4.199	0.407	175	17.655	8.151	227	30.127	16.865
70	2.104	N/A	123	4.205	0.463	176	18.020	8.230	228	30.127	16.960
71	2.117	N/A	124	4.212	0.480	177	18.349	8.584	229	30.208	16.960
72	2.125	N/A	125	4.232	0.506	178	18.671	8.800	230	30.314	16.962
73	2.130	N/A	126	4.298	0.518	179	18.972	8.847	231	30.323	16.988
74	2.138	N/A	127	4.344	0.522	180	19.228	8.913	232	30.325	17.072
75	2.152	N/A	128	4.361	0.525	181	20.123	9.122	233	30.368	17.094
76	2.170	N/A	129	4.366	0.528	182	20.405	9.532	234	30.411	17.184
77	2.188	N/A	130	4.369	0.530	183	20.754	10.256	235	30.416	17.187
78	2.200	N/A	131	4.372	0.530	184	21.684	10.862	236	30.428	17.188
79	2.212	N/A	132	4.435	0.534	185	21.955	10.996	237	30.430	17.189
80	2.212	N/A	133	4.523	0.550	186	22.650	11.206	238	30.452	17.241
81	2.221	N/A	134	4.524	0.554	187	22.989	11.514	239	30.488	17.370
82	2.222	N/A	135	4.525	0.590						

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

(b) 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)	Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
30	1.502	N/A	83	4.482	N/A	136	8.767	0.754	188	31.833	14.839
31	1.546	N/A	84	4.515	N/A	137	9.029	0.780	189	32.239	15.137
32	1.568	N/A	85	4.518	N/A	138	9.238	0.795	190	32.547	15.138
33	1.582	N/A	86	4.520	N/A	139	9.389	0.804	191	32.855	15.141
34	1.593	N/A	87	4.522	N/A	140	9.493	0.810	192	33.153	15.595
35	1.602	N/A	88	4.522	N/A	141	9.583	0.815	193	33.444	15.658
36	1.621	N/A	89	4.523	N/A	142	9.626	0.818	194	33.482	15.704
37	1.631	N/A	90	4.526	N/A	143	9.669	0.821	195	33.516	15.729
38	1.702	N/A	91	4.527	N/A	144	9.716	0.825	196	33.549	16.058
39	1.784	N/A	92	4.527	N/A	145	9.763	0.840	197	33.653	16.987
40	1.879	N/A	93	4.528	N/A	146	9.809	0.847	198	33.973	17.064
41	2.162	N/A	94	4.528	0.000	147	9.852	0.855	199	34.159	17.073
42	2.307	N/A	95	4.528	0.000	148	9.885	0.865	200	34.191	17.153
43	2.343	N/A	96	4.529	0.000	149	9.932	0.874	201	34.250	17.332
44	2.376	N/A	97	4.575	0.000	150	9.986	0.891	202	34.469	17.406
45	2.406	N/A	98	4.703	0.002	151	10.039	0.914	203	34.716	17.641
46	2.433	N/A	99	4.805	0.005	152	10.072	0.929	204	34.969	17.922
47	2.458	N/A	100	4.886	0.010	153	10.090	0.937	205	35.144	18.484
48	2.483	N/A	101	4.957	0.017	154	10.105	0.942	206	35.418	18.553
49	2.774	N/A	102	5.104	0.052	155	10.146	0.949	207	35.766	18.658
50	2.844	N/A	103	5.340	0.085	156	10.245	1.375	208	35.949	18.953
51	2.900	N/A	104	5.496	0.094	157	10.397	1.576	209	36.010	19.266
52	2.936	N/A	105	5.625	0.122	158	10.923	1.943	210	36.548	19.309
53	3.133	N/A	106	5.815	0.151	159	11.970	2.820	211	37.179	19.731
54	3.304	N/A	107	6.473	0.191	160	13.421	3.281	212	37.651	19.902
55	3.407	N/A	108	7.037	0.234	161	15.289	3.483	213	38.041	20.012
56	3.456	N/A	109	7.419	0.246	162	15.912	3.620	214	38.591	20.260
57	3.480	N/A	110	7.643	0.257	163	16.530	4.168	215	38.852	20.739
58	3.518	N/A	111	7.759	0.286	164	17.622	4.338	216	38.861	21.346
59	3.560	N/A	112	7.824	0.379	165	18.366	4.682	217	38.926	21.810
60	3.593	N/A	113	7.889	0.425	166	19.869	5.633	218	39.194	22.001
61	3.628	N/A	114	7.960	0.457	167	20.711	6.137	219	39.474	22.290
62	3.641	N/A	115	8.024	0.477	168	22.319	6.853	220	39.668	22.324
63	3.655	N/A	116	8.076	0.494	169	23.751	7.136	221	39.781	22.343
64	3.680	N/A	117	8.111	0.504	170	24.842	7.320	222	39.890	22.522
65	3.700	N/A	118	8.130	0.512	171	25.410	7.685	223	39.954	22.683
66	3.728	N/A	119	8.148	0.519	172	25.798	8.052	224	39.984	22.850
67	3.857	N/A	120	8.211	0.529	173	26.122	8.344	225	39.989	22.853
68	3.894	N/A	121	8.478	0.529	174	26.353	8.602	226	39.990	22.853
69	3.943	N/A	122	8.548	0.530	175	26.638	8.898	227	39.990	22.853
70	3.983	N/A	123	8.561	0.531	176	27.219	9.251	228	39.990	22.872
71	4.009	N/A	124	8.568	0.532	177	27.279	10.253	229	39.991	22.872
72	4.023	N/A	125	8.572	0.533	178	27.320	10.828	230	40.012	22.872
73	4.023	N/A	126	8.584	0.548	179	27.352	10.933	231	40.061	22.895
74	4.053	N/A	127	8.592	0.610	180	27.822	11.060	232	40.116	22.911
75	4.063	N/A	128	8.596	0.614	181	28.763	11.188	233	40.249	22.922
76	4.077	N/A	129	8.597	0.622	182	29.402	11.345	234	40.253	22.939
77	4.225	N/A	130	8.601	0.631	183	29.971	11.733	235	40.290	23.010
78	4.243	N/A	131	8.605	0.640	184	30.276	12.598	236	40.385	23.010
79	4.260	N/A	132	8.608	0.646	185	30.988	12.953	237	40.488	23.010
80	4.282	N/A	133	8.626	0.650	186	31.095	13.213	238	40.720	23.010
81	4.322	N/A	134	8.650	0.652	187	31.314	14.131	239	40.763	23.010
82	4.398	N/A	135	8.660	0.738						

## WISCONSIN ADMINISTRATIVE CODE

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

(c) 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)	Second	Composite (grams)	Phase 2 (grams)	Second	Composite (grams)	Phase 2 (grams)
30	3.804	N/A	83	11.136	N/A	136	20.746	3.304	188	51.285	25.078
31	3.985	N/A	84	11.165	N/A	137	21.068	3.310	189	52.076	25.276
32	4.215	N/A	85	11.191	N/A	138	21.380	3.320	190	52.857	25.578
33	4.440	N/A	86	11.205	N/A	139	21.748	3.354	191	52.876	25.859
34	4.579	N/A	87	11.211	N/A	140	22.046	3.436	192	53.067	25.985
35	4.688	N/A	88	11.211	N/A	141	22.348	3.443	193	53.777	26.153
36	4.749	N/A	89	11.211	N/A	142	22.397	3.452	194	54.242	26.582
37	4.783	N/A	90	11.211	N/A	143	22.407	3.490	195	54.489	27.067
38	4.813	N/A	91	11.220	N/A	144	22.417	3.552	196	54.601	27.456
39	4.876	N/A	92	11.294	N/A	145	22.922	3.588	197	54.912	27.805
40	5.104	N/A	93	11.332	N/A	146	22.951	3.600	198	55.588	28.070
41	5.217	N/A	94	11.355	0.000	147	22.976	3.616	199	56.266	28.590
42	5.383	N/A	95	11.383	0.000	148	23.017	3.627	200	56.617	28.914
43	5.571	N/A	96	11.410	0.001	149	23.073	3.636	201	56.863	29.063
44	5.888	N/A	97	11.433	0.006	150	23.161	3.676	202	57.204	29.502
45	6.199	N/A	98	11.516	0.020	151	23.218	3.882	203	57.371	29.697
46	6.245	N/A	99	11.820	0.051	152	23.253	4.011	204	57.487	29.713
47	6.318	N/A	100	12.104	0.092	153	23.337	4.047	205	57.728	29.783
48	6.418	N/A	101	12.344	0.131	154	23.425	4.067	206	58.097	29.942
49	6.540	N/A	102	12.781	0.200	155	23.534	4.081	207	58.572	30.284
50	6.690	N/A	103	13.472	0.307	156	23.652	4.116	208	59.024	30.755
51	6.875	N/A	104	14.405	0.582	157	23.739	4.251	209	59.321	31.287
52	7.029	N/A	105	14.808	0.800	158	24.606	5.099	210	59.715	31.549
53	7.129	N/A	106	14.965	0.925	159	25.615	5.383	211	60.045	31.820
54	7.359	N/A	107	15.121	0.973	160	26.073	6.362	212	60.453	32.250
55	7.722	N/A	108	15.372	1.091	161	28.496	7.926	213	60.935	32.546
56	8.017	N/A	109	15.530	1.113	162	29.772	8.429	214	61.307	32.808
57	8.249	N/A	110	15.687	1.213	163	31.056	9.201	215	61.666	33.142
58	8.425	N/A	111	16.018	1.344	164	33.351	10.825	216	62.148	33.529
59	8.563	N/A	112	16.527	1.399	165	34.890	12.291	217	62.532	33.763
60	8.686	N/A	113	16.810	1.520	166	35.937	13.366	218	62.546	33.921
61	8.804	N/A	114	16.961	1.640	167	37.012	14.428	219	62.559	33.961
62	8.916	N/A	115	17.120	1.684	168	37.892	15.318	220	62.570	33.983
63	9.025	N/A	116	17.135	1.693	169	39.028	15.699	221	62.846	34.007
64	9.138	N/A	117	17.249	1.786	170	40.406	16.073	222	63.097	34.032
65	9.250	N/A	118	17.451	2.007	171	41.379	16.475	223	63.150	34.054
66	9.354	N/A	119	17.509	2.084	172	42.033	17.158	224	63.150	34.061
67	9.457	N/A	120	17.605	2.179	173	42.432	17.532	225	63.150	34.082
68	9.575	N/A	121	17.734	2.264	174	42.742	17.965	226	63.150	34.100
69	9.728	N/A	122	18.049	2.328	175	43.399	18.242	227	63.150	34.109
70	9.938	N/A	123	18.447	2.375	176	43.895	18.283	228	63.150	34.129
71	10.140	N/A	124	18.592	2.437	177	44.227	18.480	229	63.150	34.284
72	10.222	N/A	125	18.657	2.543	178	44.926	19.576	230	63.150	34.397
73	10.261	N/A	126	18.796	2.593	179	45.256	20.015	231	63.150	34.463
74	10.278	N/A	127	18.952	2.641	180	45.553	20.203	232	63.150	34.465
75	10.290	N/A	128	19.137	2.663	181	45.753	20.433	233	63.150	34.466
76	10.715	N/A	129	19.329	2.672	182	46.210	21.025	234	63.153	34.468
77	10.790	N/A	130	19.519	2.676	183	47.017	21.882	235	63.159	34.470
78	10.844	N/A	131	19.707	2.683	184	48.185	22.204	236	63.173	34.471
79	10.921	N/A	132	19.882	2.817	185	48.741	22.859	237	63.193	34.472
80	11.010	N/A	133	19.905	2.992	186	49.462	23.533	238	63.214	34.472
81	11.090	N/A	134	20.049	3.111	187	50.313	24.281	239	63.233	34.473
82	11.136	N/A	135	20.460	3.234						

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

## (3) OXIDES OF NITROGEN EXHAUST EMISSIONS.

(a) 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)	Second	Composite (grams)	Second	Composite (grams)
30	0.167	83	0.716	136	1.160	188	2.851
31	0.177	84	0.724	137	1.174	189	2.894
32	0.188	85	0.737	138	1.183	190	2.931
33	0.214	86	0.747	139	1.197	191	2.971
34	0.232	87	0.748	140	1.223	192	3.020
35	0.240	88	0.748	141	1.255	193	3.077
36	0.243	89	0.748	142	1.272	194	3.132
37	0.245	90	0.748	143	1.286	195	3.185
38	0.246	91	0.748	144	1.304	196	3.219
39	0.246	92	0.748	145	1.307	197	3.268
40	0.250	93	0.748	146	1.312	198	3.299
41	0.260	94	0.748	147	1.317	199	3.350
42	0.277	95	0.748	148	1.321	200	3.406
43	0.311	96	0.748	149	1.325	201	3.466
44	0.328	97	0.748	150	1.328	202	3.497
45	0.343	98	0.748	151	1.332	203	3.514
46	0.359	99	0.751	152	1.338	204	3.517
47	0.373	100	0.764	153	1.344	205	3.519
48	0.383	101	0.789	154	1.350	206	3.523
49	0.385	102	0.822	155	1.357	207	3.545
50	0.400	103	0.867	156	1.365	208	3.570
51	0.410	104	0.905	157	1.379	209	3.600
52	0.434	105	0.925	158	1.414	210	3.619
53	0.464	106	0.955	159	1.466	211	3.639
54	0.472	107	0.985	160	1.514	212	3.686
55	0.480	108	0.993	161	1.559	213	3.732
56	0.491	109	0.995	162	1.591	214	3.791
57	0.500	110	0.996	163	1.641	215	3.833
58	0.506	111	1.010	164	1.719	216	3.890
59	0.509	112	1.028	165	1.777	217	3.932
60	0.512	113	1.034	166	1.832	218	3.960
61	0.516	114	1.044	167	1.919	219	3.997
62	0.519	115	1.059	168	1.972	220	4.013
63	0.523	116	1.075	169	2.013	221	4.035
64	0.529	117	1.080	170	2.100	222	4.038
65	0.533	118	1.080	171	2.200	223	4.050
66	0.535	119	1.081	172	2.251	224	4.066
67	0.540	120	1.091	173	2.270	225	4.070
68	0.551	121	1.096	174	2.301	226	4.072
69	0.563	122	1.111	175	2.318	227	4.072
70	0.575	123	1.122	176	2.335	228	4.073
71	0.588	124	1.135	177	2.349	229	4.073
72	0.600	125	1.138	178	2.387	230	4.073
73	0.603	126	1.139	179	2.423	231	4.073
74	0.604	127	1.139	180	2.462	232	4.074
75	0.613	128	1.139	181	2.503	233	4.074
76	0.624	129	1.139	182	2.545	234	4.075
77	0.646	130	1.139	183	2.586	235	4.075
78	0.651	131	1.139	184	2.627	236	4.076
79	0.659	132	1.139	185	2.673	237	4.076
80	0.673	133	1.139	186	2.749	238	4.076
81	0.696	134	1.139	187	2.804	239	4.076
82	0.706	135	1.139				

## WISCONSIN ADMINISTRATIVE CODE

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

(b) 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)	Second	Composite (grams)	Second	Composite (grams)
30	0.262	83	0.883	136	1.616	188	3.759
31	0.275	84	0.894	137	1.631	189	3.821
32	0.301	85	0.902	138	1.643	190	3.870
33	0.317	86	0.907	139	1.656	191	3.892
34	0.327	87	0.910	140	1.673	192	3.914
35	0.330	88	0.912	141	1.703	193	3.955
36	0.332	89	0.913	142	1.739	194	3.997
37	0.334	90	0.914	143	1.767	195	4.035
38	0.336	91	0.915	144	1.774	196	4.089
39	0.337	92	0.916	145	1.785	197	4.146
40	0.354	93	0.917	146	1.806	198	4.206
41	0.366	94	0.918	147	1.830	199	4.243
42	0.410	95	0.919	148	1.844	200	4.295
43	0.414	96	0.920	149	1.845	201	4.351
44	0.438	97	0.921	150	1.846	202	4.398
45	0.477	98	0.922	151	1.852	203	4.410
46	0.506	99	0.924	152	1.868	204	4.419
47	0.518	100	0.929	153	1.877	205	4.426
48	0.522	101	0.941	154	1.879	206	4.429
49	0.526	102	0.970	155	1.886	207	4.453
50	0.554	103	1.027	156	1.900	208	4.486
51	0.574	104	1.093	157	1.910	209	4.542
52	0.587	105	1.155	158	1.936	210	4.598
53	0.601	106	1.234	159	1.954	211	4.638
54	0.615	107	1.275	160	1.986	212	4.715
55	0.629	108	1.305	161	2.050	213	4.774
56	0.643	109	1.320	162	2.131	214	4.829
57	0.667	110	1.332	163	2.235	215	4.872
58	0.678	111	1.346	164	2.320	216	4.931
59	0.683	112	1.358	165	2.395	217	4.981
60	0.686	113	1.378	166	2.488	218	5.017
61	0.693	114	1.406	167	2.563	219	5.029
62	0.699	115	1.426	168	2.645	220	5.033
63	0.703	116	1.438	169	2.746	221	5.037
64	0.707	117	1.448	170	2.778	222	5.047
65	0.711	118	1.460	171	2.792	223	5.057
66	0.716	119	1.462	172	2.810	224	5.061
67	0.721	120	1.467	173	2.847	225	5.062
68	0.726	121	1.476	174	2.874	226	5.063
69	0.742	122	1.494	175	2.905	227	5.063
70	0.759	123	1.505	176	2.950	228	5.063
71	0.773	124	1.517	177	3.001	229	5.063
72	0.784	125	1.546	178	3.047	230	5.064
73	0.790	126	1.569	179	3.104	231	5.065
74	0.794	127	1.586	180	3.173	232	5.066
75	0.799	128	1.596	181	3.238	233	5.067
76	0.809	129	1.603	182	3.302	234	5.068
77	0.821	130	1.605	183	3.372	235	5.069
78	0.833	131	1.606	184	3.452	236	5.070
79	0.839	132	1.607	185	3.545	237	5.070
80	0.844	133	1.607	186	3.648	238	5.070
81	0.857	134	1.608	187	3.701	239	5.070
82	0.870	135	1.614				



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

(c) 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)	Second	Composite (grams)	Second	Composite (grams)
30	0.419	83	1.277	136	2.168	188	4.561
31	0.425	84	1.288	137	2.171	189	4.625
32	0.431	85	1.310	138	2.186	190	4.696
33	0.449	86	1.319	139	2.235	191	4.731
34	0.476	87	1.320	140	2.298	192	4.780
35	0.497	88	1.337	141	2.333	193	4.837
36	0.515	89	1.348	142	2.373	194	4.876
37	0.516	90	1.361	143	2.406	195	4.928
38	0.519	91	1.366	144	2.416	196	4.972
39	0.527	92	1.369	145	2.420	197	5.025
40	0.542	93	1.373	146	2.424	198	5.104
41	0.560	94	1.375	147	2.435	199	5.189
42	0.598	95	1.377	148	2.455	200	5.275
43	0.616	96	1.379	149	2.471	201	5.336
44	0.645	97	1.381	150	2.484	202	5.366
45	0.670	98	1.383	151	2.495	203	5.387
46	0.691	99	1.385	152	2.509	204	5.427
47	0.716	100	1.399	153	2.522	205	5.444
48	0.735	101	1.405	154	2.533	206	5.447
49	0.765	102	1.466	155	2.541	207	5.477
50	0.802	103	1.485	156	2.552	208	5.520
51	0.836	104	1.546	157	2.589	209	5.560
52	0.868	105	1.623	158	2.631	210	5.603
53	0.890	106	1.699	159	2.704	211	5.657
54	0.918	107	1.760	160	2.758	212	5.698
55	0.936	108	1.788	161	2.802	213	5.762
56	0.947	109	1.798	162	2.904	214	5.836
57	0.958	110	1.842	163	2.960	215	5.944
58	0.970	111	1.864	164	3.027	216	6.008
59	0.982	112	1.888	165	3.127	217	6.040
60	0.994	113	1.905	166	3.187	218	6.072
61	1.019	114	1.920	167	3.306	219	6.089
62	1.042	115	1.926	168	3.384	220	6.101
63	1.049	116	1.939	169	3.467	221	6.118
64	1.058	117	1.958	170	3.565	222	6.126
65	1.062	118	1.972	171	3.640	223	6.139
66	1.064	119	1.981	172	3.718	224	6.145
67	1.070	120	1.987	173	3.781	225	6.148
68	1.077	121	1.991	174	3.827	226	6.150
69	1.085	122	1.996	175	3.852	227	6.151
70	1.092	123	2.012	176	3.903	228	6.152
71	1.101	124	2.040	177	3.930	229	6.153
72	1.111	125	2.060	178	3.970	230	6.154
73	1.121	126	2.069	179	4.015	231	6.156
74	1.131	127	2.092	180	4.074	232	6.157
75	1.141	128	2.114	181	4.159	233	6.159
76	1.159	129	2.132	182	4.230	234	6.160
77	1.164	130	2.144	183	4.286	235	6.162
78	1.186	131	2.152	184	4.334	236	6.163
79	1.221	132	2.157	185	4.388	237	6.164
80	1.260	133	2.160	186	4.447	238	6.166
81	1.268	134	2.163	187	4.505	239	6.168
82	1.272	135	2.165				

**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)	Second	Purge Level (liters)	Second	Purge Level (liters)
30	0.14	83	0.33	136	0.54	188	0.72
31	0.14	84	0.34	137	0.54	189	0.72
32	0.15	85	0.34	138	0.54	190	0.73
33	0.15	86	0.34	139	0.55	191	0.73
34	0.16	87	0.35	140	0.55	192	0.74
35	0.16	88	0.35	141	0.56	193	0.74
36	0.16	89	0.35	142	0.56	194	0.74
37	0.17	90	0.36	143	0.56	195	0.75
38	0.18	91	0.36	144	0.56	196	0.76
39	0.18	92	0.37	145	0.57	197	0.76
40	0.19	93	0.37	146	0.57	198	0.76
41	0.19	94	0.37	147	0.58	199	0.76
42	0.19	95	0.38	148	0.58	200	0.77
43	0.20	96	0.38	149	0.59	201	0.77
44	0.20	97	0.39	150	0.59	202	0.77
45	0.20	98	0.39	151	0.59	203	0.78
46	0.21	99	0.39	152	0.59	204	0.79
47	0.22	100	0.40	153	0.59	205	0.79
48	0.22	101	0.40	154	0.59	206	0.80
49	0.22	102	0.40	155	0.60	207	0.81
50	0.23	103	0.41	156	0.60	208	0.81
51	0.24	104	0.41	157	0.61	209	0.82
52	0.24	105	0.41	158	0.61	210	0.83
53	0.24	106	0.42	159	0.61	211	0.83
54	0.24	107	0.42	160	0.61	212	0.84
55	0.24	108	0.43	161	0.62	213	0.85
56	0.24	109	0.43	162	0.62	214	0.85
57	0.24	110	0.43	163	0.63	215	0.85
58	0.25	111	0.44	164	0.63	216	0.86
59	0.25	112	0.44	165	0.64	217	0.86
60	0.25	113	0.44	166	0.64	218	0.87
61	0.26	114	0.44	167	0.64	219	0.87
62	0.26	115	0.45	168	0.65	220	0.88
63	0.26	116	0.46	169	0.65	221	0.88
64	0.27	117	0.46	170	0.66	222	0.88
65	0.27	118	0.47	171	0.66	223	0.89
66	0.27	119	0.47	172	0.67	224	0.90
67	0.28	120	0.47	173	0.67	225	0.90
68	0.28	121	0.48	174	0.68	226	0.91
69	0.29	122	0.48	175	0.68	227	0.91
70	0.29	123	0.48	176	0.68	228	0.92
71	0.29	124	0.49	177	0.68	229	0.92
72	0.29	125	0.49	178	0.68	230	0.92
73	0.30	126	0.50	179	0.68	231	0.92
74	0.30	127	0.50	180	0.68	232	0.93
75	0.30	128	0.50	181	0.68	233	0.93
76	0.31	129	0.50	182	0.68	234	0.93
77	0.31	130	0.51	183	0.68	235	0.93
78	0.32	131	0.52	184	0.68	236	0.94
79	0.32	132	0.52	185	0.68	237	0.94
80	0.32	133	0.52	186	0.69	238	0.94
81	0.32	134	0.53	187	0.70	239	0.94
82	0.33	135	0.53				

**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.

**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 more 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 am. 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 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 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:

1. A full tampering inspection of the vehicle indicates no additional tampering; and
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 func-

tional 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.