

US EPA ARCHIVE DOCUMENT

Appendix H

HIGHWAY MOBILE SOURCE EMISSION FACTORS TABLES

All of the emission factor tables for each vehicle type are given within this appendix. Each emission factor table has a two digit identification table number. If the contents of the table is altitude dependent, then this table has an additional third digit in its number. The tables numbers have the following format:

VT.#.R

where:

VT indicates the vehicle type

1 = LDGV, 2 = LDGT1, 3 = LDGT2, 4 = HDGV,
5 = LDDV, 6 = LDDT, 7 = HDDV, and
8 = MC.

indicates which of the types of tables are referenced

R indicates the region code

1 = Low altitude non-California region and
2 = High altitude non-California region.

In addition to this coding scheme for the tables numbers, the table titles include the information to avoid confusion. Table H-1 gives a summary of every table number.

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Table H-1

SUMMARY OF THE EMISSION FACTOR TABLE NUMBERS
FOR EACH VEHICLE TYPE AND TABLE TYPE

Note: All table numbers are of the form VT.#.R, where VT=Vehicle Type code, #=the table number, and R=Region (1=low altitude, 2=high altitude).

Table Code "#"	Description	Vehicle Type Code "VT"							
		1	2	3	4	5	6	7	8
		LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
		.1A	.1A	.1A	.1A	.1	.1	.1	.1
		.1B	.1B	.1B	.1B	-	-	-	-
		.1C	.1C	-	-	-	-	-	-
		.1D	.1D	-	-	-	-	-	-
		.1E	.1E	-	-	-	-	-	-
		.2A	.2A	.2A	.2A	-	-	-	.2
		.2B	.2B	.2B	.2B	-	-	-	-
		.2C	.2C	.2C	.2C	-	-	-	-
		.2D	.2D	.2D	.2D	-	-	-	-
		.4A	.4A	.4A	.4A	.4A	.4A	.4	.4
		-	-	-	-	.4B	.4B	-	-
		.4C	.4C	.4C	-	-	-	-	-
		.5	.5	.5	.5	.5	.5	.5	.5
		.6A	.6A	.6A	.6	.6	.6	.6	.6
		.6B	.6B	.6B	-	-	-	-	-
		.6C	.6C	.6C	-	-	-	-	.6C
		.7A	.7A	.7A	.7A	-	-	-	.7A
		.7B	.7B	.7B	.7B	-	-	-	.7B
		.7C	.7C	.7C	.7C	.7	.7	-	.7C
		.8A	.8A	.8A	-	-	-	-	-
		.8B	.8B	.8B	-	-	-	-	-
		.8C	.8C	.8C	-	-	-	-	-
		.8D	.8D	.8D	-	-	-	-	-
		.9A	.9A	.9A	.9A	-	-	-	-
		.9B	.9B	.9B	.9B	-	-	-	-
		.9C	.9C	.9C	.9C	-	-	-	-
		.9D	.9D	.9D	.9D	-	-	-	-
		.9E	.9E	.9E	.9E	-	-	-	-
		.9F	.9F	.9F	.9F	-	-	-	-
		.9G	.9G	.9G	.9G	-	-	-	.9G
		.10A	.10A	.10A	.10A	.10A	.10A	.10A	.10A
		-	-	-	.10B	-	-	.10B	-
		.10C	.10C	.10C	.10C	-	-	-	-
		.10D	.10D	.10D	.10D	-	-	-	-
		.10E	.10E	.10E	.10E	-	-	-	-
		.11A	.11A	.11A	.11A	.11A	.11A	.11A	.11A
		.11B	.11B	.11B	.11B	.11B	.11B	.11B	.11B
		.11C	.11C	.11C	.11C	.11C	.11C	.11C	.11C
		.12A	.12A	.12A	.12A	-	-	-	.12A
		.12B	.12B	.12B	.12B	-	-	-	.12B
		.13	.13	.13	.13	-	-	-	.13

H-3
TABLE 1.1A.1
NONTAMPERED EXHAUST EMISSION RATES FOR
LOW ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES

* BER = ZML + (DR1 * M), for mileage up to 50K miles (M ≤ 5)
= ZML + DR1*5.0 + DR2*(M - 5.0), for mileage greater than 50K miles (M > 5)

Pol	Model Years	Zero Mile Emission Level	Det. Rate 1	Det. Rate 2	50,000 Mile Emission Level	100,000 Mile Emission Level
HC	Pre-1968	7.250	0.180	0.180	8.150	9.050
	1968-1969	4.430	0.250	0.250	5.680	6.930
	1970-1971	3.000	0.370	0.370	4.850	6.700
	1972-1974	3.380	0.160	0.160	4.180	4.980
	1975-1979	1.060	0.280	0.280	2.460	3.860
	1980	0.360	0.205	0.205	1.385	2.410
	1981	0.287	0.101	0.285	0.792	2.217
	1982	0.286	0.105	0.271	0.811	2.166
	1983	0.241	0.089	0.274	0.686	2.056
	1984	0.247	0.073	0.282	0.612	2.022
	1985	0.249	0.077	0.284	0.634	2.054
	1986	0.253	0.071	0.282	0.608	2.018
	1987	0.253	0.070	0.271	0.603	1.958
	1988	0.257	0.070	0.265	0.607	1.932
	1989	0.258	0.073	0.277	0.623	2.008
	1990	0.260	0.075	0.280	0.635	2.035
	1991	0.261	0.075	0.281	0.636	2.041
	1992-1993	0.261	0.076	0.283	0.641	2.056
	1994	0.247	0.074	0.279	0.617	2.012
	1995	0.233	0.073	0.275	0.598	1.973
	1996	0.210	0.072	0.273	0.570	1.935
	1997	0.193	0.072	0.273	0.553	1.918
	1998+	0.184	0.072	0.273	0.544	1.909
CO	Pre-1968	78.270	2.250	2.250	89.520	100.770
	1968-1969	56.340	2.550	2.550	69.090	81.840
	1970-1971	42.170	3.130	3.130	57.820	73.470
	1972-1974	40.940	2.350	2.350	52.690	64.440
	1975-1979	17.720	2.460	2.460	30.020	42.320
	1980	6.090	1.958	1.958	15.880	25.670
	1981	3.069	1.663	3.609	11.384	29.429
	1982	3.105	1.727	3.318	11.740	28.330
	1983	3.255	1.549	3.345	11.000	27.725
	1984	3.184	1.193	3.604	9.149	27.169
	1985	2.920	1.331	3.547	9.575	27.310
	1986	2.740	1.240	3.554	8.940	26.710
	1987	2.704	1.242	3.403	8.914	25.929
	1988	2.490	1.289	3.286	8.935	25.365
	1989	2.424	1.343	3.423	9.139	26.254
	1990	2.203	1.423	3.407	9.318	26.353
	1991	2.166	1.439	3.419	9.361	26.456
	1992+	2.147	1.448	3.434	9.387	26.557
NOx	Pre-1968	3.440	0.000	0.000	3.440	3.440
	1968-1972	4.350	0.000	0.000	4.350	4.350
	1973-1974	2.860	0.050	0.050	3.110	3.360
	1975-1976	2.440	0.040	0.040	2.640	2.840
	1977-1979	1.790	0.110	0.110	2.340	2.890
	1980	1.500	0.102	0.102	2.010	2.520
	1981	0.648	0.063	0.190	0.963	1.913
	1982	0.635	0.066	0.190	0.965	1.915
	1983	0.578	0.067	0.199	0.913	1.908
	1984	0.465	0.079	0.224	0.860	1.980
	1985	0.469	0.078	0.210	0.859	1.909
	1986	0.425	0.082	0.214	0.835	1.905
	1987	0.442	0.078	0.213	0.832	1.897
	1988	0.483	0.077	0.204	0.868	1.888
	1989	0.478	0.080	0.198	0.878	1.868
	1990	0.464	0.082	0.189	0.874	1.819
	1991	0.465	0.082	0.188	0.875	1.815
	1992-1993	0.467	0.083	0.186	0.882	1.812
	1994	0.365	0.083	0.189	0.780	1.725
	1995	0.240	0.083	0.193	0.655	1.620
	1996+	0.178	0.083	0.195	0.593	1.568

* WHERE : BER = Nontampered basic exhaust emission rates in grams/mile,
ZML = Zero mile level in grams/mile,
DR1 = Deterioration rate for ≤ 50K miles, in grams/mile/10K miles,
DR2 = Deterioration rate for > 50K miles, in grams/mile/10K miles,
M = Cumulative mileage / 10,000 miles.

DATE : JUNE 30, 1995

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TABLE 1.1A.2
NONTAMPERED EXHAUST EMISSION RATES FOR
HIGH ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES

* BER = ZML + (DR1 * M), for mileage up to 50K miles (M ≤ 5)
= ZML + DR1*5.0 + DR2*(M - 5.0), for mileage greater than 50K miles (M > 5)

Pol	Model Years	Zero Mile Emission Level	Det. Rate 1	Det. Rate 2	50,000 Mile Emission Level	100,000 Mile Emission Level
HC	Pre-1968	9.350	0.180	0.180	10.250	11.150
	1968-1969	5.600	0.250	0.250	6.850	8.100
	1970-1971	4.580	0.370	0.370	6.430	8.280
	1972-1974	4.620	0.160	0.160	5.420	6.220
	1975-1976	2.000	0.280	0.280	3.400	4.800
	1977	0.930	0.280	0.280	2.330	3.730
	1978-1979	2.080	0.280	0.280	3.480	4.880
	1980	0.780	0.205	0.205	1.805	2.830
	1981	0.531	0.101	0.285	1.036	2.461
	1982	0.350	0.105	0.271	0.875	2.230
	1983	0.223	0.089	0.274	0.668	2.038
	1984	0.247	0.073	0.282	0.612	2.022
	1985	0.249	0.077	0.284	0.634	2.054
	1986	0.253	0.071	0.282	0.608	2.018
	1987	0.253	0.070	0.271	0.603	1.958
	1988	0.257	0.070	0.265	0.607	1.932
	1989	0.258	0.073	0.277	0.623	2.008
	1990	0.260	0.075	0.280	0.635	2.035
	1991	0.261	0.075	0.281	0.636	2.041
	1992-1993	0.261	0.076	0.283	0.641	2.056
	1994	0.247	0.074	0.279	0.617	2.012
	1995	0.233	0.073	0.275	0.598	1.973
	1996	0.210	0.072	0.273	0.570	1.935
	1997	0.193	0.072	0.273	0.553	1.918
	1998+	0.184	0.072	0.273	0.544	1.909
CO	Pre-1968	117.700	2.250	2.250	128.950	140.200
	1968-1969	85.540	2.550	2.550	98.290	111.040
	1970-1971	79.640	3.130	3.130	95.290	110.940
	1972-1974	75.680	2.350	2.350	87.430	99.180
	1975-1976	47.030	2.460	2.460	59.330	71.630
	1977	19.630	2.460	2.460	31.930	44.230
	1978-1979	41.830	2.460	2.460	54.130	66.430
	1980	22.800	1.958	1.958	32.590	42.380
	1981	11.998	1.663	3.609	20.313	38.358
	1982	8.269	1.727	3.318	16.904	33.494
	1983	3.286	1.549	3.345	11.031	27.756
	1984	3.184	1.193	3.604	9.149	27.169
	1985	2.920	1.331	3.547	9.575	27.310
	1986	2.740	1.240	3.554	8.940	26.710
	1987	2.704	1.242	3.403	8.914	25.929
	1988	2.490	1.289	3.286	8.935	25.365
	1989	2.424	1.343	3.423	9.139	26.254
	1990	2.203	1.423	3.407	9.318	26.353
	1991	2.166	1.439	3.419	9.361	26.456
	1992+	2.147	1.448	3.434	9.387	26.557
NOx	Pre-1968	1.960	0.000	0.000	1.960	1.960
	1968-1972	2.910	0.000	0.000	2.910	2.910
	1973-1974	1.920	0.050	0.050	2.170	2.420
	1975-1976	1.700	0.040	0.040	1.900	2.100
	1977	1.370	0.110	0.110	1.920	2.470
	1978-1979	0.970	0.110	0.110	1.520	2.070
	1980	0.820	0.102	0.102	1.330	1.840
	1981	0.504	0.063	0.190	0.819	1.769
	1982	0.625	0.066	0.190	0.955	1.905
	1983	0.766	0.067	0.199	1.101	2.096
	1984	0.465	0.079	0.224	0.860	1.980
	1985	0.469	0.078	0.210	0.859	1.909
	1986	0.425	0.082	0.214	0.835	1.905
	1987	0.442	0.078	0.213	0.832	1.897
	1988	0.483	0.077	0.204	0.868	1.888
	1989	0.478	0.080	0.198	0.878	1.868
	1990	0.464	0.082	0.189	0.874	1.819
	1991	0.465	0.082	0.188	0.875	1.815
	1992-1993	0.467	0.083	0.186	0.882	1.812
	1994	0.365	0.083	0.189	0.780	1.725
	1995	0.240	0.083	0.193	0.655	1.620
	1996+	0.178	0.083	0.195	0.593	1.568

* WHERE : BER = Nontampered basic exhaust emission rates in grams/mile,
ZML = Zero mile level in grams/mile,
DR1 = Deterioration rate for ≤ 50K miles, in grams/mile/10K miles,
DR2 = Deterioration rate for > 50K miles, in grams/mile/10K miles,
M = Cumulative mileage / 10,000 miles.

DATE : JUNE 30, 1995

TABLE 1.1B.1

DATE : JUNE 30, 1995

EXHAUST EMISSION RATES FOR
LOW ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES
AT VARIOUS MILEAGE LEVELS
(ADJUSTED FOR INDUSTRY AVERAGE FUEL. RATES INCLUDE TAMPERING)

Poll	Model Years	Emission Rate (Grams/Mile)						
		0K	25K	50K	75K	100K	125K	150K
HC	Pre-1968	7.250	7.700	8.150	8.600	9.050	9.500	9.950
	1968-1969	4.430	5.060	5.690	6.322	6.954	7.586	8.212
	1970-1971	3.000	3.930	4.859	5.791	6.724	7.656	8.582
	1972	3.381	3.790	4.199	4.613	5.027	5.442	5.845
	1973-1974	3.383	3.810	4.237	4.680	5.122	5.565	5.974
	1975	1.224	2.252	3.311	4.395	5.479	6.563	7.410
	1976	1.234	2.277	3.352	4.450	5.548	6.646	7.500
	1977	1.234	2.272	3.341	4.429	5.516	6.603	7.456
	1978-1979	1.244	2.299	3.388	4.495	5.602	6.708	7.569
	1980	0.447	1.299	2.189	3.109	4.029	4.949	5.604
	1981	0.357	0.683	1.012	1.980	2.951	3.928	4.784
	1982	0.356	0.693	1.032	1.957	2.883	3.815	4.629
	1983	0.304	0.595	0.889	1.821	2.755	3.693	4.516
	1984	0.286	0.519	0.753	1.600	2.448	3.296	4.118
	1985	0.289	0.533	0.778	1.631	2.485	3.339	4.167
	1986	0.293	0.508	0.725	1.560	2.394	3.229	4.049
	1987	0.293	0.505	0.719	1.519	2.320	3.120	3.908
	1988	0.298	0.509	0.723	1.506	2.289	3.073	3.843
	1989	0.299	0.519	0.742	1.559	2.377	3.196	4.000
	1990	0.301	0.527	0.756	1.582	2.409	3.236	4.049
	1991	0.302	0.528	0.757	1.586	2.416	3.245	4.062
	1992-1993	0.302	0.531	0.763	1.598	2.433	3.269	4.091
	1994	0.286	0.509	0.735	1.558	2.382	3.206	4.017
	1995	0.270	0.490	0.713	1.525	2.337	3.149	3.948
	1996	0.243	0.461	0.680	1.487	2.293	3.100	3.893
	1997	0.224	0.441	0.661	1.467	2.273	3.080	3.873
	1998+	0.213	0.431	0.650	1.456	2.263	3.069	3.863
CO	Pre-1968	78.270	83.895	89.520	95.145	100.770	106.395	112.020
	1968-1969	56.353	62.841	69.330	75.884	82.438	88.993	95.403
	1970-1971	42.183	50.127	58.071	66.084	74.097	82.110	89.973
	1972	40.966	47.080	53.194	59.446	65.698	71.951	77.901
	1973-1974	41.019	47.610	54.202	61.208	68.215	75.222	81.323
	1975	19.268	28.214	37.235	46.963	56.696	66.431	73.640
	1976	19.346	28.294	37.326	46.987	56.653	66.322	73.539
	1977	19.337	28.182	37.131	46.552	55.978	65.404	72.573
	1978-1979	19.420	28.318	37.318	46.791	56.269	65.749	72.950
	1980	6.911	14.617	22.348	31.011	39.685	48.362	54.338
	1981	3.493	8.303	13.139	24.685	36.249	47.857	58.027
	1982	3.527	8.501	13.501	24.170	34.857	45.584	54.945
	1983	3.686	8.168	12.677	23.317	33.972	44.662	54.074
	1984	3.469	6.864	10.266	20.405	30.555	40.715	50.582
	1985	3.182	6.952	10.729	20.713	30.709	40.713	50.425
	1986	2.984	6.449	9.929	19.841	29.760	39.686	49.397
	1987	2.943	6.402	9.875	19.329	28.788	38.253	47.543
	1988	2.711	6.297	9.898	19.034	28.175	37.322	46.294
	1989	2.639	6.372	10.120	19.628	29.142	38.660	48.005
	1990	2.399	6.349	10.314	19.779	29.249	38.724	48.026
	1991	2.358	6.353	10.361	19.858	29.361	38.869	48.203
	1992+	2.338	6.356	10.389	19.927	29.471	39.019	48.394
NOx	Pre-1968	3.440	3.440	3.440	3.440	3.440	3.440	3.440
	1968-1972	4.350	4.350	4.350	4.350	4.350	4.350	4.350
	1973	2.891	3.080	3.269	3.415	3.561	3.707	3.836
	1974	2.894	3.092	3.289	3.438	3.586	3.735	3.865
	1975-1976	2.535	2.835	3.135	3.299	3.464	3.629	3.742
	1977-1979	1.884	2.356	2.829	3.168	3.507	3.846	4.134
	1980	1.624	2.108	2.592	2.924	3.256	3.588	3.860
	1981	0.767	0.973	1.180	1.800	2.420	3.040	3.595
	1982	0.754	0.969	1.184	1.806	2.427	3.049	3.606
	1983	0.692	0.912	1.132	1.785	2.439	3.092	3.677
	1984	0.547	0.791	1.035	1.702	2.369	3.036	3.689
	1985	0.552	0.793	1.034	1.660	2.287	2.913	3.526
	1986	0.501	0.750	1.000	1.634	2.269	2.904	3.528
	1987	0.520	0.758	0.995	1.627	2.259	2.891	3.511
	1988	0.568	0.802	1.037	1.643	2.248	2.854	3.448
	1989	0.562	0.805	1.049	1.637	2.225	2.813	3.390
	1990	0.546	0.795	1.044	1.606	2.168	2.730	3.281
	1991	0.547	0.796	1.045	1.604	2.164	2.723	3.271
	1992-1993	0.549	0.801	1.053	1.607	2.160	2.714	3.256
	1994	0.431	0.683	0.935	1.497	2.059	2.621	3.172
	1995	0.286	0.538	0.790	1.364	1.937	2.511	3.074
	1996+	0.214	0.466	0.718	1.298	1.877	2.457	3.025

TABLE 1.1B.2

DATE : JUNE 30, 1995

EXHAUST EMISSION RATES FOR
HIGH ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES
AT VARIOUS MILEAGE LEVELS
(ADJUSTED FOR INDUSTRY AVERAGE FUEL. RATES INCLUDE TAMPERING)

Poll	Model Years	Emission Rate (Grams/Mile)						
		0K	25K	50K	75K	100K	125K	150K
HC	Pre-1968	9.350	9.800	10.250	10.700	11.150	11.600	12.050
	1968-1969	5.601	6.230	6.860	7.492	8.124	8.756	9.382
	1970-1971	4.580	5.510	6.439	7.371	8.304	9.236	10.162
	1972	4.621	5.030	5.439	5.853	6.267	6.682	7.085
	1973-1974	4.623	5.050	5.477	5.920	6.362	6.805	7.214
	1975	2.283	3.310	4.369	5.453	6.537	7.621	8.468
	1976	2.300	3.342	4.418	5.516	6.614	7.712	8.566
	1977	1.086	2.124	3.194	4.281	5.369	6.456	7.308
	1978-1979	2.408	3.463	4.553	5.660	6.766	7.873	8.733
	1980	0.930	1.782	2.672	3.592	4.512	5.431	6.086
	1981	0.639	0.965	1.294	2.263	3.234	4.211	5.066
	1982	0.430	0.767	1.106	2.031	2.957	3.889	4.703
	1983	0.283	0.574	0.869	1.800	2.734	3.672	4.495
	1984	0.286	0.519	0.753	1.600	2.448	3.296	4.118
	1985	0.289	0.533	0.778	1.631	2.485	3.339	4.167
	1986	0.293	0.508	0.725	1.560	2.394	3.229	4.049
	1987	0.293	0.505	0.719	1.519	2.320	3.120	3.908
	1988	0.298	0.509	0.723	1.506	2.289	3.073	3.843
	1989	0.299	0.519	0.742	1.559	2.377	3.196	4.000
	1990	0.301	0.527	0.756	1.582	2.409	3.236	4.049
	1991	0.302	0.528	0.757	1.586	2.416	3.245	4.062
	1992-1993	0.302	0.531	0.763	1.598	2.433	3.269	4.091
	1994	0.286	0.509	0.735	1.558	2.382	3.206	4.017
	1995	0.270	0.490	0.713	1.525	2.337	3.149	3.948
	1996	0.243	0.461	0.680	1.487	2.293	3.100	3.893
	1997	0.224	0.441	0.661	1.467	2.273	3.080	3.873
	1998+	0.213	0.431	0.650	1.456	2.263	3.069	3.863
CO	Pre-1968	117.700	123.325	128.950	134.575	140.200	145.825	151.450
	1968-1969	85.553	92.041	98.530	105.084	111.638	118.193	124.603
	1970-1971	79.653	87.597	95.541	103.554	111.567	119.580	127.443
	1972	75.706	81.820	87.934	94.186	100.438	106.691	112.641
	1973-1974	75.759	82.350	88.942	95.948	102.955	109.962	116.063
	1975	50.617	59.563	68.584	78.312	88.045	97.780	104.989
	1976	50.822	59.771	68.802	78.463	88.130	97.798	105.016
	1977	21.388	30.233	39.182	48.604	58.029	67.456	74.625
	1978-1979	45.417	54.314	63.315	72.788	82.266	91.746	98.947
	1980	25.001	32.707	40.438	49.102	57.775	66.453	72.428
	1981	13.199	18.009	22.844	34.390	45.955	57.562	67.732
	1982	9.140	14.114	19.114	29.783	40.470	51.197	60.558
	1983	3.720	8.202	12.711	23.350	34.006	44.696	54.108
	1984	3.469	6.864	10.266	20.405	30.555	40.715	50.582
	1985	3.182	6.952	10.729	20.713	30.709	40.713	50.425
	1986	2.984	6.449	9.929	19.841	29.760	39.686	49.397
	1987	2.943	6.402	9.875	19.329	28.788	38.253	47.543
	1988	2.711	6.297	9.898	19.034	28.175	37.322	46.294
	1989	2.639	6.372	10.120	19.628	29.142	38.660	48.005
	1990	2.399	6.349	10.314	19.779	29.249	38.724	48.026
	1991	2.358	6.353	10.361	19.858	29.361	38.869	48.203
	1992+	2.338	6.356	10.389	19.927	29.471	39.019	48.394
NOx	Pre-1968	1.960	1.960	1.960	1.960	1.960	1.960	1.960
	1968-1972	2.910	2.910	2.910	2.910	2.910	2.910	2.910
	1973	1.951	2.140	2.329	2.475	2.621	2.767	2.896
	1974	1.954	2.152	2.349	2.498	2.646	2.795	2.925
	1975-1976	1.795	2.095	2.395	2.559	2.724	2.889	3.002
	1977	1.464	1.936	2.409	2.748	3.087	3.426	3.714
	1978-1979	1.064	1.536	2.009	2.348	2.687	3.026	3.314
	1980	0.937	1.420	1.904	2.236	2.568	2.900	3.173
	1981	0.604	0.810	1.016	1.636	2.256	2.876	3.432
	1982	0.742	0.957	1.173	1.794	2.416	3.038	3.594
	1983	0.906	1.126	1.347	2.000	2.653	3.307	3.891
	1984	0.547	0.791	1.035	1.702	2.369	3.036	3.689
	1985	0.552	0.793	1.034	1.660	2.287	2.913	3.526
	1986	0.501	0.750	1.000	1.634	2.269	2.904	3.528
	1987	0.520	0.758	0.995	1.627	2.259	2.891	3.511
	1988	0.568	0.802	1.037	1.643	2.248	2.854	3.448
	1989	0.562	0.805	1.049	1.637	2.225	2.813	3.390
	1990	0.546	0.795	1.044	1.606	2.168	2.730	3.281
	1991	0.547	0.796	1.045	1.604	2.164	2.723	3.271
	1992-1993	0.549	0.801	1.053	1.607	2.160	2.714	3.256
	1994	0.431	0.683	0.935	1.497	2.059	2.621	3.172
	1995	0.286	0.538	0.790	1.364	1.937	2.511	3.074
	1996+	0.214	0.466	0.718	1.298	1.877	2.457	3.025

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TABLE 1.1C

ASSUMED COMPLIANCE RATE OF EMISSION STANDARDS FOR
LIGHT DUTY GASOLINE POWERED VEHICLES
UNDER THE CALIFORNIA LEV PROGRAM

YEAR	TIER1	TLEV interm.	TLEV	LEV interm.	LEV	ULEV interm.	ULEV	ZEV
-----	-----	-----	-----	-----	-----	-----	-----	-----
1994	0.90	0.10	0.00	0.00	0.00	0.00	0.00	0.00
1995	0.85	0.15	0.00	0.00	0.00	0.00	0.00	0.00
1996	0.80	0.00	0.20	0.00	0.00	0.00	0.00	0.00
1997	0.73	0.00	0.00	0.25	0.00	0.02	0.00	0.00
1998	0.48	0.00	0.00	0.48	0.00	0.02	0.00	0.02
1999	0.23	0.00	0.00	0.00	0.73	0.00	0.02	0.02
2000	0.00	0.00	0.00	0.00	0.96	0.00	0.02	0.02
2001	0.00	0.00	0.00	0.00	0.90	0.00	0.05	0.05
2002	0.00	0.00	0.00	0.00	0.85	0.00	0.10	0.05
2003	0.00	0.00	0.00	0.00	0.75	0.00	0.15	0.10
2004	0.00	0.00	0.00	0.00	0.75	0.00	0.15	0.10
2005+	0.00	0.00	0.00	0.00	0.75	0.00	0.15	0.10

DATE : JUNE 30, 1995

TABLE 1.1D

CALIFORNIA LOW-EMITTING VEHICLES EMISSION RATES FOR
LIGHT DUTY GASOLINE POWERED VEHICLES
(MAXIMUM BENEFIT*)

POL	EMISSION LEVEL	ZERO MILE	DET. RATE 1	DET. RATE 2
HC	TLEV inter.	0.1340	0.0175	0.0175
	TLEV	0.0890	0.0116	0.0116
	LEV inter.	0.0750	0.0098	0.0098
	LEV	0.0560	0.0073	0.0073
	ULEV inter.	0.0430	0.0057	0.0055
	ULEV	0.0300	0.0039	0.0039
CO	TLEV inter.	2.4820	0.2896	0.2896
	TLEV	2.4820	0.2896	0.2896
	LEV inter.	0.6200	0.4758	0.4758
	LEV	0.6200	0.4758	0.4758
	ULEV inter.	0.6200	0.4758	0.4758
	ULEV	0.6200	0.4758	0.4758
NOx	TLEV inter.	0.1740	0.0433	0.0433
	TLEV	0.1740	0.0433	0.0433
	LEV inter.	0.1310	0.0325	0.0325
	LEV	0.0870	0.0217	0.0217
	ULEV inter.	0.1310	0.0325	0.0325
	ULEV	0.0870	0.0217	0.0217

* These emission rates assume that a "maximum benefit" inspection and maintenance (I/M) program is in place. The maximum benefit I/M program is one designed to ensure compliance for the fleet, on average, with its applicable emission standards at the end of its useful life.

DATE : JUNE 30, 1995

TABLE 1.1E

CALIFORNIA LOW-EMITTING VEHICLES EMISSION RATES FOR
LIGHT DUTY GASOLINE POWERED VEHICLES
(no I/M program)

POL	EMISSION LEVEL	ZERO MILE	DET. RATE 1	DET. RATE 2
HC	TLEV inter.	0.1340	0.0638	0.2648
	TLEV	0.0890	0.0638	0.2648
	LEV inter.	0.0750	0.0638	0.2648
	LEV	0.0560	0.0638	0.2648
	ULEV inter.	0.0430	0.0638	0.2648
	ULEV	0.0300	0.0638	0.2648
CO	TLEV inter.	2.4820	1.4480	3.4340
	TLEV	2.4820	1.4480	3.4340
	LEV inter.	0.6200	1.4480	3.4340
	LEV	0.6200	1.4480	3.4340
	ULEV inter.	0.6200	1.4480	3.4340
	ULEV	0.6200	1.4480	3.4340
NOx	TLEV inter.	0.1740	0.0830	0.1950
	TLEV	0.1740	0.0830	0.1950
	LEV inter.	0.1310	0.0830	0.1950
	LEV	0.0870	0.0830	0.1950
	ULEV inter.	0.1310	0.0830	0.1950
	ULEV	0.0870	0.0830	0.1950

DATE : JUNE 30, 1995

TABLE 1.2A.1

NONTAMPERED CRANKCASE EMISSIONS
FROM VEHICLES WITH OPERATING EVAPORATIVE SYSTEMS*
FOR LOW ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES

Model Years	Crankcase (Gm/Mile)
Pre-1963	4.10
1963-1967	0.80
1968+	0.00

* Vehicles with measurable purge capacity and no major vapor leaks
in their fuel systems.

DATE : JUNE 30, 1995

TABLE 1.2A.2

NONTAMPERED CRANKCASE EMISSIONS
FROM VEHICLES WITH OPERATING EVAPORATIVE SYSTEMS*
FOR HIGH ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES

Model Years	Crankcase (Gm/Mile)
Pre-1963	5.29
1963-1967	1.03
1968+	0.00

* Vehicles with measurable purge capacity and no major vapor leaks
in their fuel systems.

DATE : JUNE 30, 1995

TABLE 1.2B.1

TAMPERING OFFSETS FOR TOTAL CRANKCASE EMISSIONS
FOR LOW ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES
AT VARIOUS MILEAGE INTERVALS

Model Years	Tampering Offset (Grams/Mile)*						
	0K	25K	50K	75K	100K	125K	150K
Pre-1968	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1968-1974	0.014	0.021	0.028	0.035	0.042	0.049	0.050
1975-1977	0.013	0.020	0.027	0.034	0.041	0.048	0.050
1978-1979	0.013	0.020	0.027	0.034	0.041	0.047	0.049
1980	0.013	0.020	0.026	0.033	0.040	0.047	0.048
1981+	0.000	0.002	0.009	0.011	0.013	0.015	0.015

* Based on averages of 4.23 trips per day and 28.31 miles per day.

DATE : JUNE 30, 1995

TABLE 1.2B.2

TAMPERING OFFSETS FOR TOTAL CRANKCASE EMISSIONS
FOR HIGH ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES
AT VARIOUS MILEAGE INTERVALS

Model Years	Tampering Offset (Grams/Mile)*						
	0K	25K	50K	75K	100K	125K	150K
Pre-1968	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1968-1974	0.014	0.021	0.028	0.035	0.042	0.049	0.050
1975-1977	0.013	0.020	0.027	0.034	0.041	0.048	0.050
1978-1979	0.013	0.020	0.027	0.034	0.041	0.047	0.049
1980	0.013	0.020	0.026	0.033	0.040	0.047	0.048
1981+	0.000	0.002	0.009	0.011	0.013	0.015	0.015

* Based on averages of 4.23 trips per day and 28.31 miles per day.

DATE : JUNE 30, 1995

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TABLE 1.2C
RUNNING LOSS EMISSIONS FOR
LIGHT DUTY GASOLINE POWERED VEHICLES

Model Years	Fuel RVP (psi)	Emission Rate (Grams/Mile)									
		80.0F----		87.0F----		95.0F----		105.0F----			
		7.1	19.6	47.9	7.1	19.6	47.9	7.1	19.6	47.9	7.1
		mph	mph	mph	mph	mph	mph	mph	mph	mph	mph
VEHICLES WITH OPERATING EVAPORATIVE SYSTEMS*											
Pre-1971	7.0	1.17	0.42	0.17	2.17	0.78	0.32	5.39	1.95	0.80	10.06
	9.0	4.76	1.73	0.71	7.86	2.85	1.17	12.79	4.63	1.90	25.80
	10.4	8.55	3.10	1.27	13.35	4.84	1.98	23.70	8.58	3.51	38.27
	11.7	13.61	4.93	2.02	22.64	8.20	3.36	34.05	12.33	5.05	50.06
1971+	7.0	0.07	0.03	0.00	0.08	0.03	0.00	0.15	0.04	0.00	0.30
	9.0	0.12	0.04	0.00	0.21	0.05	0.00	0.54	0.10	0.00	1.74
	10.4	0.25	0.06	0.00	0.60	0.12	0.00	1.55	0.29	0.00	2.89
	11.7	0.62	0.12	0.00	1.45	0.27	0.01	2.50	0.46	0.01	3.87

VEHICLES FAILING EITHER PURGE OR PRESSURE TEST

Pre-1971	7.0	1.17	0.42	0.17	2.17	0.78	0.32	5.39	1.95	0.80	10.06	3.65	1.49
	9.0	4.76	1.73	0.71	7.86	2.85	1.17	12.79	4.63	1.90	25.80	9.35	3.82
	10.4	8.55	3.10	1.27	13.35	4.84	1.98	23.70	8.58	3.51	38.27	13.86	5.67
	11.7	13.61	4.93	2.02	22.64	8.20	3.36	34.05	12.33	5.05	50.06	18.14	7.42
1971+	7.0	1.00	0.36	0.15	1.69	0.61	0.25	3.78	1.37	0.56	7.05	2.55	1.05
	9.0	4.05	1.47	0.60	6.14	2.22	0.91	8.96	3.24	1.33	18.07	6.54	2.68
	10.4	7.27	2.63	1.08	10.42	3.77	1.54	16.59	6.01	2.46	26.80	9.71	3.97
	11.7	11.58	4.19	1.72	17.67	6.40	2.62	23.84	8.63	3.53	35.05	12.70	5.20

* Vehicles with measurable purge capacity and no major vapor leaks in their fuel systems.

DATE : JUNE 30, 1995

TABLE 1.2D

REFUELING EMISSIONS* FOR
LIGHT DUTY GASOLINE POWERED VEHICLES

Model Years	Fuel Economy (miles/gal)	Uncontrolled (grams/mile)	With Onboard (grams/mile)
Pre-1971	12.46	0.309	0.309
1971	12.06	0.319	0.319
1972	12.15	0.317	0.317
1973-1974	11.95	0.322	0.322
1975	13.20	0.292	0.292
1976	14.58	0.264	0.264
1977	15.32	0.251	0.251
1978	16.55	0.233	0.233
1979	16.83	0.229	0.229
1980	19.42	0.198	0.198
1981	20.74	0.186	0.186
1982	21.55	0.179	0.179
1983	21.52	0.179	0.179
1984	21.85	0.176	0.176
1985	22.47	0.171	0.171
1986	23.21	0.166	0.166
1987	23.42	0.164	0.164
1988	23.74	0.162	0.162
1989	23.31	0.165	0.165
1990	23.03	0.167	0.167
1991	22.73	0.169	0.169
1992	22.71	0.170	0.170
1993	22.68	0.170	0.170
1994	22.66	0.170	0.170
1995-1997	22.64	0.170	0.170
1998	22.64	0.170	0.107
1999	22.64	0.170	0.043
2000+	22.64	0.170	0.012

* Refueling Emissions (g/mi) = [Displacement (g/gal)
+ Spillage (g/gal)] / Fuel Economy (mi/gal).

Fuel volatility of 9.0 RVP is assumed.

The algorithm for Onboard effects was taken from MOBILE5b
and reflects the phase-in included in the Final Rule.

DATE : JUNE 30, 1995

TABLE 1.4A

REGISTRATION MIX AND
MILEAGE ACCUMULATION RATES FOR
LIGHT DUTY GASOLINE POWERED VEHICLES

Model Year Index**	July 1 Registration Mix*	Mileage Accumulation Rate (per vehicle*)	Jan 1 Registration Mix	Jan 1 Mileage Accumulation Rate*** (fleet)	Jan 1 Mileage Accumulation (fleet)
1	0.049	14390.	0.017	14390.	1799.
2	0.079	13612.	0.082	14196.	10768.
3	0.083	12875.	0.086	13428.	24576.
4	0.082	12180.	0.085	12701.	37637.
5	0.084	11522.	0.087	12016.	49991.
6	0.081	10899.	0.084	11366.	61679.
7	0.077	10310.	0.080	10752.	72735.
8	0.056	9751.	0.058	10170.	83193.
9	0.050	9225.	0.052	9620.	93085.
10	0.051	8726.	0.053	9100.	102442.
11	0.050	8254.	0.052	8608.	111294.
12	0.054	7807.	0.056	8142.	119667.
13	0.047	7386.	0.049	7702.	127586.
14	0.037	6987.	0.038	7286.	135078.
15	0.024	6608.	0.025	6892.	142165.
16	0.019	6251.	0.020	6519.	148869.
17	0.014	5913.	0.014	6167.	155210.
18	0.015	5594.	0.015	5833.	161208.
19	0.011	5291.	0.011	5518.	166882.
20	0.008	5005.	0.008	5220.	172249.
21	0.006	4735.	0.006	4938.	177326.
22	0.005	4478.	0.005	4671.	182129.
23	0.004	4237.	0.004	4418.	186672.
24	0.003	4007.	0.003	4180.	190970.
25+	0.010	3790.	0.010	3953.	195034.

* Default information that may be altered by the MOBILE5a user with information about the local area.

** The indices refer to the most recent model year vehicles in any given calendar year. Index 1 references the newest model year vehicles and index 25+ references the oldest model year vehicles.

*** Sales weighted fleet mileage accumulation adjusted to January 1, where: JANMAR(1) = MAR(1) and,

$$\text{JANMAR}(\text{MYI}) = .25 * \text{MAR}(\text{MYI}) + .75 * \text{MAR}(\text{MYI}-1), \text{ MYI} = 2, \dots, 25+.$$

DATE : JUNE 30, 1995

TABLE 1.4C

TRIPS PER DAY AND MILES PER DAY FOR
LIGHT DUTY GASOLINE POWERED VEHICLES

Model Year Index*	Trips per Day	Miles per Day
1	4.66	39.42
2	4.60	38.89
3	4.54	36.79
4	4.48	34.80
5	4.43	32.92
6	4.37	31.14
7	4.31	29.46
8	4.25	27.86
9	4.19	26.35
10	4.13	24.93
11	4.08	23.58
12	4.02	22.31
13	3.96	21.10
14	3.90	19.96
15	3.84	18.88
16	3.78	17.86
17	3.72	16.89
18	3.67	15.98
19	3.61	15.12
20	3.55	14.30
21	3.49	13.53
22	3.43	12.80
23	3.37	12.10
24	3.31	11.45
25+	3.26	10.83

* The indices refer to the most recent model year vehicles in any given calendar year. Index 1 references the newest model year vehicles and index 25+ references the oldest model year vehicles.

DATE : JUNE 30, 1995

TABLE 1.5

EXAMPLE TRAVEL WEIGHTING FRACTION CALCULATION FOR
LIGHT DUTY GASOLINE POWERED VEHICLES
JANUARY 1, 1995

Model Years	(A) LDV Fleet Registration	(B) Sales Fraction	(C=A*B/DAF) LDGV Registration	(D) Annual Mileage Accrual Rate	(C*D/TFNORM) Travel (C*D) Fractions		
1995	0.049	0.999	0.049	0.017	14390.	243.6	0.024
1994	0.079	0.999	0.079	0.082	14196.	1162.1	0.112
1993	0.083	0.999	0.083	0.086	13428.	1154.9	0.112
1992	0.082	0.999	0.082	0.085	12701.	1079.3	0.104
1991	0.084	0.999	0.084	0.087	12016.	1047.0	0.101
1990	0.081	1.000	0.081	0.084	11366.	955.0	0.092
1989	0.077	1.000	0.077	0.080	10752.	858.8	0.083
1988	0.056	1.000	0.056	0.058	10170.	590.8	0.057
1987	0.050	0.997	0.050	0.052	9620.	498.9	0.048
1986	0.051	0.997	0.051	0.053	9100.	481.4	0.047
1985	0.050	0.991	0.050	0.052	8608.	446.9	0.043
1984	0.054	0.983	0.053	0.056	8142.	456.5	0.044
1983	0.047	0.979	0.046	0.049	7702.	375.9	0.036
1982	0.037	0.953	0.035	0.038	7286.	279.1	0.027
1981	0.024	0.941	0.023	0.025	6892.	171.2	0.017
1980	0.019	0.956	0.018	0.020	6519.	127.4	0.012
1979	0.014	0.979	0.014	0.014	6167.	88.1	0.009
1978	0.015	0.991	0.015	0.015	5833.	88.9	0.009
1977	0.011	0.995	0.011	0.011	5518.	60.1	0.006
1976	0.008	0.997	0.008	0.008	5220.	40.8	0.004
1975	0.006	0.998	0.006	0.006	4938.	29.4	0.003
1974	0.005	0.997	0.005	0.005	4671.	23.7	0.002
1973	0.004	0.998	0.004	0.004	4418.	18.2	0.002
1972	0.003	0.998	0.003	0.003	4180.	13.0	0.001
1971-	0.010	0.999	0.010	0.010	3953.	40.9	0.004

DAF: 0.991

TFNORM: 10332.0

WHERE :

- A = July 1 registration mix from Table 1.4A,
B = Gasoline fleet sales fractions,
D = Sales weighted fleet mileage accumulation rate from Table 1.4A.

NOTE : In general, the travel weighting fractions will change for every calendar year since the sales fraction (column B) changes for almost every model year.

For the first model year (A*B) must be divided by 3 in order to properly adjust registration from July 1 to January 1.

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TABLE 1.6A.1

SPEED CORRECTION FACTOR COEFFICIENTS FOR LOW ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES

$$\begin{aligned} SF(s) &= EXP(A + B*s + C*s**2 + D*s**3 + E*s**4 + F*s**5), \text{ HC \& CO} \\ &= A + B*s + C*s**2 + D*s**3 + E*s**4 + F*s**5, \text{ NOX} \end{aligned}$$

Pollutant and Model Years	A	B	C	D	E	F
HC						
Pre-1968	0.231026E+01	-0.289572E+00	0.152990E-01	-0.446689E-03	0.648183E-05	-0.363456E-07
1968	0.239726E+01	-0.299985E+00	0.161351E-01	-0.487491E-03	0.729093E-05	-0.419769E-07
1969	0.240873E+01	-0.308187E+00	0.168168E-01	-0.506843E-03	0.753855E-05	-0.431596E-07
1970	0.223217E+01	-0.284985E+00	0.153833E-01	-0.456738E-03	0.673486E-05	-0.383798E-07
1971	0.225223E+01	-0.287778E+00	0.156820E-01	-0.473179E-03	0.707954E-05	-0.408456E-07
1972	0.234948E+01	-0.304959E+00	0.168416E-01	-0.509623E-03	0.759516E-05	-0.434963E-07
1973-1974	0.268382E+01	-0.344633E+00	0.195417E-01	-0.625720E-03	0.978442E-05	-0.583369E-07
1975-1976	0.239540E+01	-0.335781E+00	0.211609E-01	-0.731550E-03	0.120715E-04	-0.748567E-07
CO						
Pre-1968	0.233989E+01	-0.296978E+00	0.160071E-01	-0.477396E-03	0.706752E-05	-0.403978E-07
1968	0.246551E+01	-0.305023E+00	0.160497E-01	-0.473969E-03	0.699075E-05	-0.399758E-07
1969	0.277804E+01	-0.319130E+00	0.153183E-01	-0.422327E-03	0.584948E-05	-0.314969E-07
1970	0.278899E+01	-0.327107E+00	0.162943E-01	-0.467573E-03	0.671906E-05	-0.374401E-07
1971	0.270743E+01	-0.331038E+00	0.176179E-01	-0.538583E-03	0.817402E-05	-0.477803E-07
1972	0.268454E+01	-0.332817E+00	0.176277E-01	-0.524123E-03	0.772221E-05	-0.437025E-07
1973-1974	0.283929E+01	-0.368756E+00	0.210782E-01	-0.676438E-03	0.106267E-04	-0.636405E-07
1975-1976	0.248747E+01	-0.391562E+00	0.270721E-01	-0.976178E-03	0.165270E-04	-0.104317E-06
NOX						
Pre-1968	0.168635E+01	-0.118303E+00	0.654975E-02	-0.137139E-03	0.100849E-05	0.000000E+00
1968	0.122677E+01	-0.444978E-01	0.262476E-02	-0.567150E-04	0.434293E-06	0.000000E+00
1969	0.101743E+01	-0.118958E-01	0.914365E-03	-0.215740E-04	0.182300E-06	0.000000E+00
1970	0.987600E+00	-0.195674E-01	0.169645E-02	-0.404000E-04	0.328001E-06	0.000000E+00
1971	0.115917E+01	-0.444536E-01	0.296425E-02	-0.668990E-04	0.522365E-06	0.000000E+00
1972	0.128169E+01	-0.804874E-01	0.535735E-02	-0.118891E-03	0.901060E-06	0.000000E+00
1973-1974	0.783838E+00	0.328549E-03	0.106029E-02	-0.319350E-04	0.290389E-06	0.000000E+00
1975-1976	0.942131E+00	-0.423240E-01	0.386253E-02	-0.939853E-04	0.753883E-06	0.000000E+00

* WHERE : s = average speed (mph),

sadj = basic test procedure speed; adjusted for fraction of cold start operation x
and fraction of hot start operation w, $[1/sadj = (w+x)/26 + (1-w-x)/16]$.

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TABLE 1.6A.2

SPEED CORRECTION FACTOR COEFFICIENTS FOR HIGH ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES

$$\begin{aligned} \text{SF}(s) &= \text{EXP}(A + B^*s + C^*s^{**2} + D^*s^{**3} + E^*s^{**4} + F^*s^{**5}), \text{ HC \& CO} \\ &= A + B^*s + C^*s^{**2} + D^*s^{**3} + E^*s^{**4} + F^*s^{**5}, \text{ NOX} \end{aligned}$$

Pollutant and Model Years	A	B	C	D	E	F
HC						
Pre-1968	0.224612E+01	-0.290973E+00	0.158890E-01	-0.472494E-03	0.694077E-05	-0.392798E-07
1968	0.202779E+01	-0.273049E+00	0.153577E-01	-0.460304E-03	0.678527E-05	-0.384880E-07
1969	0.215056E+01	-0.283620E+00	0.153836E-01	-0.442136E-03	0.628732E-05	-0.346311E-07
1970	0.223021E+01	-0.293648E+00	0.162356E-01	-0.484148E-03	0.711591E-05	-0.402861E-07
1971	0.212230E+01	-0.291072E+00	0.169089E-01	-0.526148E-03	0.802705E-05	-0.470117E-07
1972	0.215361E+01	-0.283451E+00	0.156948E-01	-0.469759E-03	0.693832E-05	-0.394707E-07
1973-1974	0.211340E+01	-0.285676E+00	0.163180E-01	-0.500793E-03	0.755067E-05	-0.437187E-07
1975-1976	0.239540E+01	-0.335781E+00	0.211609E-01	-0.731550E-03	0.120715E-04	-0.748567E-07
CO						
Pre-1968	0.181978E+01	-0.254663E+00	0.152347E-01	-0.487397E-03	0.758207E-05	-0.449514E-07
1968	0.186919E+01	-0.276679E+00	0.172335E-01	-0.558279E-03	0.871678E-05	-0.516980E-07
1969	0.182133E+01	-0.272054E+00	0.170304E-01	-0.552021E-03	0.862543E-05	-0.511440E-07
1970	0.201421E+01	-0.295188E+00	0.186353E-01	-0.621606E-03	0.993657E-05	-0.599779E-07
1971	0.204533E+01	-0.310618E+00	0.204852E-01	-0.708527E-03	0.116215E-04	-0.715690E-07
1972	0.231868E+01	-0.341147E+00	0.209446E-01	-0.665891E-03	0.102225E-04	-0.598265E-07
1973-1974	0.215487E+01	-0.329116E+00	0.210112E-01	-0.689057E-03	0.108390E-04	-0.647125E-07
1975-1976	0.248747E+01	-0.391562E+00	0.270721E-01	-0.976178E-03	0.165270E-04	-0.104317E-06
NOX						
Pre-1968	0.244424E+01	-0.250107E+00	0.138293E-01	-0.287025E-03	0.207585E-05	0.000000E+00
1968	0.188656E+01	-0.161289E+00	0.904995E-02	-0.185609E-03	0.132555E-05	0.000000E+00
1969	0.155777E+01	-0.113032E+00	0.671832E-02	-0.143409E-03	0.106079E-05	0.000000E+00
1970	0.204516E+01	-0.194014E+00	0.110736E-01	-0.231754E-03	0.168372E-05	0.000000E+00
1971	0.163262E+01	-0.121861E+00	0.703020E-02	-0.146293E-03	0.106141E-05	0.000000E+00
1972	0.144825E+01	-0.122444E+00	0.795024E-02	-0.171078E-03	0.125777E-05	0.000000E+00
1973-1974	0.153447E+01	-0.125671E+00	0.785919E-02	-0.169428E-03	0.125494E-05	0.000000E+00
1975-1976	0.942131E+00	-0.423240E-01	0.386253E-02	-0.939853E-04	0.753883E-06	0.000000E+00

* WHERE : s = average speed (mph),

sadj = basic test procedure speed; adjusted for fraction of cold start operation x
and fraction of hot start operation w, $[1/\text{sadj} = (w+x)/26 + (1-w-x)/16]$.

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TABLE 1.6B

SPEED CORRECTION FACTOR COEFFICIENTS FOR
LIGHT DUTY GASOLINE POWERED VEHICLES* $SCF(s, s_{adj}) = SF(s)/SF(s_{adj})$, for $s \leq 48.0$ mph $SF(s) = A/s + b$, for 1977+ HC/CO and 1980+ NOx $= EXP((A + B * s) + (C * s^2))$, for 1977-79 NOx

Speed Range (in MPH)	Model Years	Coefficient					
		----- A	----- B	----- HC	----- CO A	----- B	----- NOx A B C
2.5-19.6	1977-1979						
	1980	19.6000	0.0000		21.2805	-0.0857	0.3467
	1981	13.9841	0.2865		15.1792	0.2255	1.4560
	1982	13.9841	0.2865		15.1792	0.2255	1.4560
	1983	14.3026	0.2703		18.6488	0.0485	1.4560
	1984	14.2955	0.2706		17.8068	0.0914	1.4560
	1985	14.9050	0.2395		17.5416	0.1050	1.4560
	1986	15.3831	0.2151		17.7062	0.0966	1.4560
	1987	14.9675	0.2364		15.5822	0.2050	1.4560
	1988	11.5304	0.4116		10.1580	0.4816	1.4560
	1989	11.0875	0.4343		9.2325	0.5289	1.4560
	1990	10.7212	0.4530		9.5102	0.5148	1.4560
	1991+	10.0146	0.4891		9.4537	0.5177	1.4560
		9.8987	0.4950		9.4851	0.5161	1.4560
	1977-1979	19.6000	0.0000		19.6000	0.0000	-0.0261
	1980	22.6600	-0.1500		23.1300	-0.1800	0.9260
19.6-48.0	1977-1979						
	1980	15.8200	0.1900		13.5400	0.3100	0.9260
	1981	14.9900	0.2300		13.1000	0.3400	1.2100
	1982	14.4400	0.2600		9.0800	0.5400	1.2000
	1983	15.1500	0.2300		9.7900	0.5000	1.2700
	1984	14.3900	0.2700		9.5500	0.5100	1.2100
	1985	14.6900	0.2400		11.4700	0.4100	1.2000
	1986	15.5200	0.2100		16.9800	0.1300	1.1700
	1987	16.4600	0.1600		20.6500	-0.0500	1.1200
	1988	17.4200	0.1100		21.1200	-0.0800	1.0700
	1989	18.4000	0.0600		22.5600	-0.1500	1.1000
	1990	18.7000	0.0400		23.2500	-0.1900	1.1300
	1991+						1.1400
							0.0004
							0.0004

* WHERE: s = average speed (mph)
 s_{adj} = basic test procedure speed at 19.6 mph

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TABLE 1.6C

HIGH-SPEED SPEED CORRECTION FACTOR COEFFICIENTS FOR
LIGHT DUTY GASOLINE POWERED VEHICLES

$$* \text{HSCF}(s) = \text{SCF48} * (1.0 + (\text{SCF65} - \text{SCF48}) * (s - S1) / (65.0 - S1))$$

SCF65 coefficients for various pollutants at high speeds.

Model year	HC (s > 55.0)	CO (s > 55.0)	NOx (s > 48.0)
pre-1982	1.270000	2.800000	1.950000
1982	1.230000	2.660000	1.920000
1983	1.160000	2.440000	1.910000
1984	1.080000	2.190000	1.890000
1985	1.030000	2.010000	1.800000
1986	0.940000	1.730000	1.750000
1987	0.890000	1.570000	1.750000
1988	0.800000	1.290000	1.680000
1989	0.840000	1.390000	1.650000
1990	0.790000	1.230000	1.580000
1991+	0.790000	1.210000	1.570000

- * WHERE: s = average speed (mph)
 SCF48 = the speed correction factor at 48.0 mph calculated using the coefficients listed in Table 1.6A for model years through 1976 or Table 1.6B for model year 1977 and later
 SCF65 = the coefficient listed in the table above
 S1 = 55.0 mph for HC and CO or 48.0 mph for NOx.

NOTE: The maximum speed allowed in Mobile5a is 65.0 mph.

NOTE: The speed correction factors for HC and CO do not change between 48.0 and 55.0 mph. HC and CO at speeds between 48.0 and 55.0 mph use the 48.0 mph speed correction factor calculated using the coefficients listed in Table 1.6A for model years through 1976 or in Table 1.6B for model year 1977 and later.

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TABLE 1.7A

LOW (< 75F) TEMPERATURE CORRECTION FACTOR COEFFICIENTS FOR
LIGHT DUTY GASOLINE POWERED VEHICLES

* $TCF(1) = TC(1) \cdot (T - 75.0)$, 1980+ CO,
 $TCF(b) = \exp [TC(b) \cdot (T - 75.0)]$, all others

Pol	Model Years	Test Segment 1	Test Segment 2	Test Segment 3
HC	Pre-1968	-0.20623E-01	-0.24032E-02	-0.10081E-02
	1968-1969	-0.24462E-01	-0.32017E-02	-0.86884E-03
	1970-1971	-0.21255E-01	-0.52755E-03	0.93659E-03
	1972-1974	-0.21427E-01	-0.39442E-03	0.49731E-02
	1975-1979	-0.23517E-01	-0.88057E-02	-0.16222E-02
	1980	-0.26820E-01	-0.75815E-02	-0.51660E-02
	1981	-0.32775E-01	-0.83176E-02	-0.90264E-02
	1982	-0.32082E-01	-0.85130E-02	-0.90264E-02
	1983	-0.36491E-01	-0.74210E-02	-0.59700E-02
	1984	-0.35513E-01	-0.81506E-02	-0.65977E-02
	1985	-0.32437E-01	-0.78173E-02	-0.63349E-02
	1986	-0.30471E-01	-0.84450E-02	-0.68826E-02
	1987	-0.30325E-01	-0.90327E-02	-0.73839E-02
	1988	-0.27959E-01	-0.94236E-02	-0.77326E-02
	1989	-0.26867E-01	-0.85843E-02	-0.70257E-02
	1990	-0.24273E-01	-0.83468E-02	-0.68413E-02
	1991	-0.23768E-01	-0.82591E-02	-0.67700E-02
	1992+	-0.23768E-01	-0.82591E-02	-0.67700E-02
CO	Pre-1968	-0.13487E-01	0.15784E-02	0.11097E-02
	1968-1969	-0.21126E-01	-0.15289E-02	0.15749E-02
	1970-1971	-0.20843E-01	-0.59951E-02	0.18253E-02
	1972-1974	-0.19091E-01	-0.42373E-03	0.57982E-02
	1975-1979	-0.24835E-01	-0.88336E-02	-0.11553E-02
	1980	-0.12448E+01	-0.12478E-01	-0.74106E-02
	1981	-0.13095E+01	-0.14584E-01	-0.11371E-01
	1982	-0.12840E+01	-0.14584E-01	-0.11371E-01
	1983	-0.11761E+01	-0.13550E-01	-0.90777E-02
	1984	-0.11636E+01	-0.14658E-01	-0.90777E-02
	1985	-0.10515E+01	-0.14282E-01	-0.90777E-02
	1986	-0.10032E+01	-0.15277E-01	-0.90777E-02
	1987	-0.10146E+01	-0.16146E-01	-0.90777E-02
	1988	-0.94629E+00	-0.16807E-01	-0.90777E-02
	1989	-0.88655E+00	-0.15614E-01	-0.90777E-02
	1990	-0.79324E+00	-0.15360E-01	-0.90777E-02
	1991	-0.77390E+00	-0.15250E-01	-0.90777E-02
	1992+	-0.77390E+00	-0.15250E-01	-0.90777E-02
NOx	Pre-1968	-0.16897E-03	-0.89245E-02	-0.72580E-02
	1968-1972	-0.25074E-03	-0.59791E-02	-0.62690E-02
	1973-1974	-0.38855E-02	-0.24156E-02	-0.21188E-02
	1975-1976	-0.45504E-04	-0.12575E-02	-0.53153E-03
	1977-1979	-0.76044E-02	-0.68045E-02	-0.54198E-02
	1980	-0.19000E-02	-0.61656E-02	-0.49643E-02
	1981	-0.45479E-02	-0.74823E-02	-0.90882E-02
	1982	-0.47657E-02	-0.69890E-02	-0.90882E-02
	1983	-0.43258E-02	-0.97539E-02	-0.10132E-01
	1984	-0.43258E-02	-0.93986E-02	-0.10036E-01
	1985	-0.43258E-02	-0.85213E-02	-0.91794E-02
	1986	-0.43258E-02	-0.78839E-02	-0.88096E-02
	1987	-0.43258E-02	-0.77871E-02	-0.88966E-02
	1988	-0.43258E-02	-0.70534E-02	-0.83745E-02
	1989	-0.43258E-02	-0.68079E-02	-0.79177E-02
	1990	-0.43258E-02	-0.60641E-02	-0.72042E-02
	1991	-0.43258E-02	-0.59229E-02	-0.70563E-02
	1992+	-0.43258E-02	-0.59229E-02	-0.70563E-02

* WHERE :

$TCF(b)$ = Low temperature correction factor for appropriate pollutant,
ambient temperature (< 75F), and model year, for test segment b,
T = Ambient temperature (Fahrenheit),
 $TC(b)$ = Low temperature correction factor coefficient for appropriate
pollutant, reference temperature, and model year, for test segment b.

NOTE : The low temperature correction factor is used in conjunction with
the correction factor given in Table 1.7C.

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TABLE 1.7B

HIGH (> 75F) TEMPERATURE CORRECTION FACTOR COEFFICIENTS
AND FUEL RVP CORRECTION FACTORS FOR
LIGHT DUTY GASOLINE POWERED VEHICLES

$$\begin{aligned} * \text{TCF}(b) &= \text{EXP} [\text{TC}(b) * (T - 75.0)], \text{ Pre-1980} \\ \text{TRCF}(b) &= \text{EXP} [\text{RC}(b) * (\text{RVP} - 9.0) + \text{TC}(b) * (T - 75.0) \\ &\quad + \text{TRC}(b) * (\text{RVP} - 9.0) * (T - 75.0)], 1980+ \end{aligned}$$

PoI	Model Years	Parameter	Test Segment 1	Test Segment 2	Test Segment 3
HC	Pre-1968	TC	-0.14381E-01	0.13219E-02	0.34799E-02
	1968-1969		-0.12552E-01	0.42667E-02	0.75843E-02
	1970-1971		-0.10888E-01	-0.47925E-03	0.76666E-02
	1972-1974		-0.66107E-02	0.26288E-02	0.12320E-01
	1975-1979		-0.14095E-01	0.26179E-01	0.24297E-01
	1980-1982	RC	0.91402E-01	0.42060E-01	0.93179E-01
		TC	0.44270E-02	0.48358E-02	0.74688E-02
		TRC	0.29466E-02	0.00000E+00	0.47276E-02
	1983+	RC	0.23202E-01	0.15373E+00	0.13263E+00
		TC	0.00000E+00	0.86550E-02	0.83730E-02
		TRC	0.00000E+00	0.00000E+00	0.56009E-02
CO	Pre-1968	TC	-0.14691E-01	0.37462E-02	0.11014E-01
	1968-1969		-0.38767E-01	0.84685E-02	0.25179E-01
	1970-1971		-0.21165E-01	0.23603E-01	0.28483E-01
	1972-1974		-0.13146E-01	0.24717E-01	0.25848E-01
	1975-1979		-0.19612E-01	0.48537E-01	0.31439E-01
	1980-1982	RC	0.91345E-01	0.13968E+00	0.16322E+00
		TC	0.62182E-02	0.14943E-01	0.14923E-01
		TRC	0.00000E+00	0.00000E+00	0.00000E+00
	1983+	RC	0.40748E-01	0.26214E+00	0.23218E+00
		TC	0.35170E-02	0.14966E-01	0.20695E-01
		TRC	0.00000E+00	0.56416E-02	0.82344E-02
NOx	Pre-1968	TC	0.38841E-02	-0.87325E-02	-0.10839E-01
	1968-1972		-0.10389E-02	-0.92466E-02	-0.10108E-01
	1973-1974		-0.18301E-01	-0.10925E-01	-0.18042E-01
	1975-1976		-0.71420E-02	-0.87910E-02	-0.75470E-02
	1977-1979		-0.26153E-01	-0.18603E-01	-0.20878E-01
	1980-1982	RC	0.00000E+00	-0.40024E-01	0.00000E+00
		TC	0.00000E+00	0.00000E+00	0.00000E+00
		TRC	0.00000E+00	0.00000E+00	0.00000E+00
	1983+	RC	0.14219E-01	0.27491E-01	0.00000E+00
		TC	0.00000E+00	0.37789E-02	0.00000E+00
		TRC	0.00000E+00	0.00000E+00	0.00000E+00

* WHERE :

TCF(b) = High temperature correction factor for appropriate pollutant,
ambient temperature, and model year, for test segment b,
T = Ambient temperature (Fahrenheit),
TC(b) = High temperature correction factor coefficient for appropriate
pollutant, temperature, and model year, for test segment b,
TRCF(b) = High temperature and fuel RVP correction factor
for appropriate pollutant, ambient temperature, fuel RVP,
and model year, for test segment b,
RC(b) = Fuel RVP correction factor coefficient for appropriate
pollutant, fuel RVP, and model year, for test segment b,
RVP = Fuel volatility in psi,
TRC(b) = Combined temperature and fuel RVP correction factor coefficient
for appropriate pollutant, fuel RVP, ambient temperature,
and model year, for test segment b.

NOTE : The temperature correction factor is used in conjunction with
the correction factor given in Table 1.7C.

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TABLE 1.7C

NORMALIZED BAG FRACTIONS FOR
LIGHT DUTY GASOLINE POWERED VEHICLES

Pol	Model Years	Normalized Fractions									Total Test	
		Test B1	Segment 1 D11 D12	Test B2	Segment 2 D21 D22	Test B3	Segment 3 D31 D32	B0	D01	D02		
HC	Pre-1968	1.2820	0.0250		0.9730	0.0280		0.8390	0.0190		1.0000	0.0249
	1968-1969	1.3450	0.0740		0.9460	0.0540		0.8420	0.0480		1.0000	0.0565
	1970-1971	1.3450	0.1780		0.9190	0.1180		0.8940	0.0930		1.0000	0.1235
	1972-1974	1.3890	0.0440		0.9030	0.0560		0.8910	0.0360		1.0000	0.0481
	1975-1979	1.9360	0.3240		0.7340	0.2670		0.8010	0.2100		1.0000	0.2632
	1980	2.2000	0.7140		0.5710	0.1710		0.9140	0.1430		1.0000	0.2752
	1981	2.5130	0.6113	1.0996	0.4831	0.3181	0.8432	0.8448	0.3479	0.7530	1.0000	0.3866 0.8714
	1982	2.5041	0.6428	1.0552	0.4947	0.3348	0.7959	0.8294	0.3690	0.7107	1.0000	0.4076 0.8260
	1983	2.9497	0.5043	1.0717	0.3629	0.3623	1.0388	0.7446	0.4132	0.9638	1.0000	0.4054 1.0251
	1984	2.8847	0.3627	1.1283	0.3935	0.2834	1.0891	0.7353	0.3164	1.0169	1.0000	0.3087 1.0774
	1985	2.9379	0.3530	1.0389	0.3826	0.2800	1.0114	0.7159	0.3093	0.9364	1.0000	0.3031 0.9966
	1986	2.9446	0.2861	1.0055	0.3881	0.2490	0.9876	0.7004	0.2685	0.9128	1.0000	0.2619 0.9708
	1987	2.9623	0.2846	0.9768	0.3834	0.2579	0.9714	0.6961	0.2768	0.8972	1.0000	0.2686 0.9522
	1988	3.0028	0.2580	0.9027	0.3765	0.2521	0.9140	0.6786	0.2658	0.8389	1.0000	0.2571 0.8911
	1989	3.0026	0.2584	0.9026	0.3775	0.2423	0.9043	0.6768	0.2556	0.8275	1.0000	0.2493 0.8830
	1990	3.0346	0.2414	0.8449	0.3723	0.2335	0.8535	0.6626	0.2429	0.7750	1.0000	0.2377 0.8303
	1991	3.0392	0.2382	0.8364	0.3717	0.2312	0.8455	0.6603	0.2399	0.7666	1.0000	0.2350 0.8221
	1992+	3.0406	0.2373	0.8338	0.3716	0.2297	0.8422	0.6595	0.2382	0.7630	1.0000	0.2336 0.8188
CO	Pre-1968	1.2770	0.0330		1.0170	0.0290		0.7580	0.0250		1.0000	0.0287
	1968-1969	1.4420	0.0710		0.9960	0.0420		0.6740	0.0330		1.0000	0.0455
	1970-1971	1.5530	0.1090		0.9330	0.0790		0.7110	0.0380		1.0000	0.0740
	1972-1974	1.4020	0.0540		0.9860	0.0690		0.7230	0.0370		1.0000	0.0572
	1975-1979	1.8100	0.1490		0.8610	0.1590		0.6540	0.0930		1.0000	0.1389
	1980	2.3970	0.2770		0.6470	0.0610		0.6190	0.0760		1.0000	0.1096
	1981	2.9011	0.6068	1.1728	0.3343	0.2704	1.1378	0.8358	0.3693	0.9873	1.0000	0.3667 1.1039
	1982	2.8432	0.6100	1.1301	0.3660	0.2529	1.0578	0.8191	0.3718	0.9264	1.0000	0.3589 1.0368
	1983	2.4578	0.5397	0.9562	0.4189	0.2495	0.8853	1.0089	0.4067	0.9200	1.0000	0.3522 0.9094
	1984	2.1375	0.3153	0.8224	0.5202	0.1638	0.7041	1.0573	0.2425	0.7680	1.0000	0.2165 0.7459
	1985	2.2061	0.3460	0.8644	0.5201	0.2033	0.7799	1.0058	0.2786	0.8061	1.0000	0.2533 0.8045
	1986	2.0835	0.2654	0.8075	0.5741	0.1864	0.7296	0.9952	0.2259	0.7408	1.0000	0.2134 0.7487
	1987	2.0401	0.2575	0.7692	0.5978	0.1862	0.7098	0.9827	0.2203	0.7035	1.0000	0.2102 0.7203
	1988	2.0076	0.2418	0.7479	0.6309	0.2013	0.7202	0.9440	0.2183	0.6779	1.0000	0.2143 0.7143
	1989	2.0803	0.2616	0.8051	0.6070	0.2181	0.7727	0.9349	0.2386	0.7322	1.0000	0.2327 0.7683
	1990	2.1101	0.2665	0.8298	0.6170	0.2452	0.8230	0.8934	0.2545	0.7515	1.0000	0.2521 0.8049
	1991	2.1189	0.2678	0.8375	0.6173	0.2505	0.8342	0.8861	0.2579	0.7580	1.0000	0.2561 0.8141
	1992+	2.1287	0.2701	0.8454	0.6152	0.2539	0.8431	0.8826	0.2611	0.7653	1.0000	0.2592 0.8223
NOx	Pre-1968	1.1210	0.0090		0.7850	0.0010		1.3190	0.0090		1.0000	0.0001
	1968-1972	1.1610	0.0000		0.7960	0.0000		1.2670	0.0000		1.0000	0.0000
	1973-1974	1.2470	0.0240		0.7790	0.0070		1.2360	0.0280		1.0000	0.0162
	1975-1976	1.2950	0.0250		0.7850	0.0080		1.1880	0.0330		1.0000	0.0183
	1977-1979	1.3770	0.0500		0.7580	0.0610		1.1770	0.0780		1.0000	0.0634
	1980	1.3130	0.0470		0.8110	0.0340		1.1250	0.0540		1.0000	0.0421
	1981	1.7148	0.1001	0.2681	0.7407	0.0985	0.2732	0.9555	0.0956	0.2869	1.0000	0.0980 0.2759
	1982	1.6938	0.1092	0.2772	0.7505	0.1027	0.2761	0.9527	0.1029	0.2939	1.0000	0.1041 0.2812
	1983	1.8098	0.1898	0.4940	0.5484	0.1621	0.4125	1.2507	0.1835	0.4745	1.0000	0.1737 0.4462
	1984	1.7817	0.2579	0.6466	0.6205	0.2094	0.5266	1.1344	0.2473	0.6212	1.0000	0.2297 0.5772
	1985	1.8112	0.2182	0.5529	0.6012	0.1919	0.4694	1.1489	0.2173	0.5415	1.0000	0.2042 0.5063
	1986	1.8058	0.2186	0.5601	0.6277	0.1988	0.4890	1.1024	0.2225	0.5581	1.0000	0.2094 0.5225
	1987	1.7773	0.1936	0.5170	0.6404	0.1822	0.4663	1.0997	0.2003	0.5229	1.0000	0.1895 0.4922
	1988	1.7890	0.1592	0.4436	0.6362	0.1645	0.4272	1.0989	0.1731	0.4638	1.0000	0.1658 0.4406
	1989	1.8221	0.1661	0.4425	0.6184	0.1715	0.4206	1.1079	0.1807	0.4601	1.0000	0.1729 0.4359
	1990	1.8429	0.1464	0.3948	0.6089	0.1650	0.3934	1.1104	0.1673	0.4209	1.0000	0.1618 0.4012
	1991	1.8476	0.1437	0.3865	0.6068	0.1642	0.3879	1.1109	0.1655	0.4138	1.0000	0.1603 0.3947
	1992+	1.8506	0.1428	0.3821	0.6051	0.1640	0.3841	1.1118	0.1649	0.4095	1.0000	0.1599 0.3906

NOTE : The fractions given in this table are used in the calculation of the operating-mode/
temperature correction factor (OMTCF).

WHERE : OMTCF = [(TERM1 + TERM2 + TERM3)/DENOM],
 TERM1 = W*TCF(1)*(B1+D11*M), or *[B1+D11*5.0+D12*(M-5.0)],
 TERM2 = (1-W-X)*TCF(2)*(B2+D21*M), or *[B2+D21*5.0+D22*(M-5.0)],
 TERM3 = X*TCF(3)*(B3+D31*M), or *[B3+D31*5.0+D32*(M-5.0)],
 DENOM = B0+D01*M, or = B0+D01*5.0+D02*(M-5.0),
 W = Fraction of VMT in the cold start mode,
 X = Fraction of VMT in the hot start mode,
 TCF(b) = Temperature correction factor for pollutant/model year/test segment b
 from Table 1.7A,
 M = Cumulative mileage / 10,000 miles.

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TABLE 1.8A

AIR CONDITIONING CORRECTION FACTOR COEFFICIENTS FOR
LIGHT DUTY GASOLINE POWERED VEHICLES

$$* \text{ACCF} = U \cdot V \cdot (A + B \cdot (T - 75) - 1) + 1$$

Model Years	HC		CO		NOx	
	A	B	A	B	A	B
Pre-1975	0.1023E+01	0.3344E-02	0.1202E+01	0.1808E-02	0.1299E+01	0.5643E-04
1975+	0.1000E+01	0.3512E-02	0.1130E+01	0.1528E-02	0.1221E+01	0.4262E-03

* WHERE :

ACCF = Air Conditioning Correction Factor,
 V = Fraction of vehicles equipped with AC given in Table 1.1.8B,
 U = Fraction of vehicles with AC that are using it = $(DI - DILO) / (DIHI - DILO)$,
 $0 \leq U \leq 1$,
 DI = Discomfort index = $(DB + WB) \cdot 0.4 + 15$,
 DILO = The highest discomfort index where no AC is used,
 DIHI = The lowest discomfort index where all vehicles with AC use it,
 DB = Dry bulb temperature (Fahrenheit),
 WB = Wet bulb temperature (Fahrenheit),
 T = Ambient temperature (Fahrenheit).

TABLE 1.8B

ESTIMATED FRACTION OF
LIGHT DUTY GASOLINE POWERED VEHICLES
EQUIPPED WITH AIR CONDITIONING

Model Years	Fraction Equipped With Air Conditioning
Pre-1962	0.07
1962-1964	0.14
1965-1966	0.24
1967-1968	0.37
1969-1971	0.51
1972-1976	0.61
1977+	0.72

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TABLE 1.8C

EXTRA LOAD CORRECTION FACTOR COEFFICIENTS FOR
LIGHT DUTY GASOLINE POWERED VEHICLES

$$* \text{XLCF} = (\text{XLC}-1) * \text{U} + 1$$

Model Years	Coefficients (XLC)		
	HC	CO	NOx
Pre-1968	1.0786	1.2765	0.9535
1968-1969	1.0495	1.1384	1.0313
1970-1971	1.0852	1.2478	1.0313
1972	1.0556	1.1347	1.0313
1973-1974	1.0556	1.1347	1.0753
1975+	1.0455	1.3058	1.0719

* WHERE :

XLCF = Extra load correction factor,
 U = Fraction of VMT with an extra load,
 XLC = Correction factor coefficient.

TABLE 1.8D

TRAILER TOWING CORRECTION FACTOR COEFFICIENTS FOR
LIGHT DUTY GASOLINE POWERED VEHICLES

$$* \text{TTCF} = (\text{TTC}-1) * \text{U} + 1$$

Model Years	Coefficients (TTC)		
	HC	CO	NOx
Pre-1968	1.2614	1.9327	1.1184
1968-1969	1.2762	1.8940	1.1384
1970-1971	1.4598	2.4753	1.1384
1972	1.7288	2.1414	1.1384
1973-1974	1.7288	2.1414	1.2170
1975+	1.5909	3.9722	1.3875

* WHERE :

TTCF = Trailer towing correction factor,
 U = Fraction of VMT towing a trailer,
 TTC = Correction factor coefficient.

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TABLE 1.9ATAMPERING AND MISFUELING RATES FOR
LIGHT DUTY GASOLINE POWERED VEHICLES

Model Years	System	Zero Mile Level	Det. Rate 1	Det. Rate 2	50,000 Mile Level	100,000 Mile Level
NON-I/M AREA						
Pre-1981	Air Pump Disablement	0.0072	0.02610	0.04122	0.138	0.344
	Catalyst Removal	0.0084	0.01930	0.01878	0.105	0.199
	EGR System Disabled	0.0412	0.03470	0.01126	0.215	0.271
	Filler Neck Damaged	0.0027	0.02420	0.02641	0.124	0.256
	Fuel Tank Misfueled	-0.0286	0.01000	-0.00021	0.021	0.020
	Total Misfueled	-0.0259	0.03420	0.02617	0.145	0.276
	PCV System Disabled	0.0107	0.00220	0.00220	0.022	0.033
	Cannister Disconnect	0.0192	0.00970	0.01979	0.068	0.167
	Both Cannister & Cap	0.0334	0.00960	0.02252	0.081	0.194
1981-1983	Air Pump Disablement	0.0033	0.00480	0.03593	0.027	0.207
	Catalyst Removal	-0.0019	0.00380	0.01374	0.017	0.086
	EGR System Disabled	0.0225	0.00400	0.00941	0.043	0.090
	Filler Neck Damaged	-0.0110	0.00670	0.00611	0.022	0.053
	Fuel Tank Misfueled	0.0220	-0.00330	0.00280	0.005	0.020
	Total Misfueled	0.0110	0.00340	0.00903	0.028	0.073
	PCV System Disabled	-0.0036	0.00220	0.00063	0.007	0.011
	Cannister Disconnect	0.0078	0.00130	0.00132	0.014	0.021
	Both Cannister & Cap	0.0110	0.00460	0.01295	0.034	0.099
1984+	Air Pump Disablement	0.0006	0.00280	0.01041	0.015	0.067
	Catalyst Removal	-0.0008	0.00140	0.00146	0.006	0.013
	EGR System Disabled	0.0061	0.00170	0.00234	0.015	0.026
	Filler Neck Damaged	-0.0009	0.00060	0.00060	0.002	0.005
	Fuel Tank Misfueled	0.0009	0.00190	0.00190	0.010	0.020
	Total Misfueled	0.0000	0.00250	0.00250	0.012	0.025
	PCV System Disabled	-0.0002	0.00130	0.00052	0.006	0.009
	Cannister Disconnect	-0.0013	0.00260	0.00103	0.012	0.017
	Both Cannister & Cap	-0.0012	0.00550	0.00127	0.026	0.033
WITH I/M AREA						
Pre-1981	Air Pump Disablement	0.0668	0.00550	0.03111	0.094	0.250
	Catalyst Removal	0.0067	0.00840	0.00840	0.049	0.091
	EGR System Disabled	0.0744	0.01050	0.01050	0.127	0.179
	Filler Neck Damaged	0.0379	0.00890	0.00890	0.082	0.127
	Fuel Tank Misfueled	0.0528	-0.00380	-0.00380	0.034	0.015
	Total Misfueled	0.0907	0.00510	0.00510	0.116	0.142
	PCV System Disabled	0.0048	0.00230	0.00230	0.016	0.028
	Cannister Disconnect	0.0099	0.00850	0.01243	0.052	0.115
	Both Cannister & Cap	-0.0116	0.01560	0.01349	0.066	0.134
1981-1983	Air Pump Disablement	0.0066	0.00290	0.01591	0.021	0.101
	Catalyst Removal	-0.0152	0.00600	0.00600	0.015	0.045
	EGR System Disabled	0.0203	0.00140	0.00167	0.027	0.036
	Filler Neck Damaged	-0.0005	0.00090	0.00040	0.004	0.006
	Fuel Tank Misfueled	0.0112	0.00080	-0.00030	0.015	0.014
	Total Misfueled	0.0108	0.00170	0.00014	0.019	0.020
	PCV System Disabled	-0.0028	0.00210	0.00210	0.008	0.018
	Cannister Disconnect	-0.0158	0.00850	0.00026	0.027	0.028
	Both Cannister & Cap	-0.0173	0.01220	0.00203	0.044	0.054
1984+	Air Pump Disablement	0.0053	0.00110	0.00055	0.011	0.014
	Catalyst Removal	0.0000	0.00030	0.00030	0.002	0.003
	EGR System Disabled	0.0012	0.00060	0.00092	0.004	0.009
	Filler Neck Damaged	0.0000	0.00020	0.00020	0.001	0.002
	Fuel Tank Misfueled	0.0000	0.00340	0.00340	0.017	0.034
	Total Misfueled	0.0000	0.00360	0.00360	0.018	0.036
	PCV System Disabled	-0.0018	0.00140	0.00355	0.005	0.023
	Cannister Disconnect	-0.0013	0.00260	0.00103	0.012	0.017
	Both Cannister & Cap	-0.0012	0.00550	0.00127	0.026	0.033

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TABLE 1.9B

EXCESS EMISSIONS
DUE TO TAMPERING AND/OR MISFUELING FOR
LIGHT DUTY GASOLINE POWERED VEHICLES

Type of Tampering	Emission Control System	Pollutant	Excess Emissions (g/mi)			
			FTP	Bag 1	Bag 2	Bag 3
Air Pump Disablement	Oxidation	HC	1.37	1.80	1.37	1.04
		CO	30.61	34.67	33.90	21.28
	3way/Oxidation 3way	HC	0.85	1.36	0.76	0.61
		CO	21.02	31.80	18.21	18.25
Catalyst Removal	Oxidation	HC	3.05	2.31	3.40	2.95
		CO	28.01	41.40	28.97	16.06
	3way/Oxidation 3way	HC	2.04	1.80	2.25	1.81
		CO	13.74	16.32	14.11	11.07
NOx		1.52	1.49	1.36	1.83	
Total Misfueled	Oxidation	HC	2.47	2.30	2.57	2.40
		CO	20.96	46.50	13.13	16.62
	3way/Oxidation 3way	HC	1.44	1.42	1.56	1.21
		CO	6.57	8.08	6.60	5.37
NOx		0.57	0.64	0.45	0.74	
EGR System Disabled		NOx				
		Pre-1975	1.21	1.40	0.96	1.54
		1975-1976	3.31	3.82	2.63	4.21
		1977-1980	3.48	4.11	2.68	4.53
		1981+	1.23	1.36	1.19	1.21
EGR System Disabled	and Catalyst Removal	NOx	3.39	3.02	3.46	3.55
EGR System Disabled	and Total Misfueled	NOx	1.99	2.12	1.85	2.16

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TABLE 1.9C

EXCESS CRANKCASE EMISSIONS FOR
LIGHT DUTY GASOLINE POWERED VEHICLES

Model Years	Excess Crankcase (Gm/Mile)
PCV System Disabled	
1964-1970	1.28
1971-1974	1.27
1975-1977	1.26
1978-1979	1.24
1980	1.22
1981+	1.21

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TABLE 1.9D

RUNNING LOSS EMISSION RATE FOR
LIGHT DUTY GASOLINE POWERED VEHICLES

MODEL YEARS 1972-2020

Fuel RVP psi	Ambient Temp F	Trip Length (duration)					
		> 0 & ≤10min	> 10 & ≤20min	> 20 & ≤30min	> 30 & ≤40min	> 40 & ≤50min	>50min
SPEED 7.1 MPH							
7.0	80.0	0.30	0.30	0.31	0.32	0.34	0.40
	87.0	0.32	0.36	0.36	0.39	0.42	0.52
	95.0	0.34	0.44	0.54	0.71	0.83	1.14
	105.0	0.37	0.61	0.95	1.40	1.80	2.38
9.0	80.0	0.33	0.41	0.48	0.59	0.66	0.86
	87.0	0.35	0.52	0.73	0.99	1.23	1.61
	95.0	0.61	1.01	1.48	2.46	3.38	4.50
	105.0	0.83	1.93	4.58	8.61	12.07	14.73
10.4	80.0	0.36	0.56	0.81	1.14	1.44	1.91
	87.0	0.62	1.05	1.63	2.77	3.81	5.01
	95.0	0.79	1.79	4.10	7.66	10.73	13.15
	105.0	1.05	2.86	7.81	15.09	20.24	24.26
11.7	80.0	0.62	1.06	1.67	2.84	3.92	5.16
	87.0	0.77	1.70	3.81	7.07	9.91	12.24
	95.0	0.97	2.53	6.66	12.76	17.65	21.12
	105.0	1.26	3.74	10.94	20.17	27.34	32.36
SPEED 19.6 MPH							
7.0	80.0	0.09	0.11	0.12	0.12	0.13	0.15
	87.0	0.09	0.13	0.13	0.14	0.15	0.18
	95.0	0.10	0.14	0.15	0.20	0.23	0.32
	105.0	0.11	0.18	0.20	0.31	0.41	0.61
9.0	80.0	0.10	0.13	0.14	0.17	0.19	0.24
	87.0	0.10	0.16	0.17	0.23	0.29	0.41
	95.0	0.14	0.30	0.35	0.51	0.61	0.77
	105.0	0.15	0.37	0.63	1.46	2.09	2.88
10.4	80.0	0.11	0.17	0.18	0.26	0.34	0.49
	87.0	0.14	0.31	0.37	0.57	0.69	0.88
	95.0	0.15	0.36	0.59	1.32	1.87	2.56
	105.0	0.16	0.45	0.98	2.56	3.46	4.81
11.7	80.0	0.14	0.31	0.37	0.57	0.70	0.91
	87.0	0.14	0.35	0.56	1.22	1.71	2.36
	95.0	0.16	0.42	0.84	2.15	3.05	4.18
	105.0	0.18	0.53	1.33	3.26	4.55	6.35
SPEED 47.9 MPH							
7.0	80.0	0.02	0.02	0.02	0.02	0.02	0.02
	87.0	0.02	0.02	0.02	0.02	0.02	0.02
	95.0	0.02	0.02	0.02	0.02	0.02	0.02
	105.0	0.06	0.02	0.02	0.02	0.02	0.02
9.0	80.0	0.02	0.02	0.02	0.02	0.02	0.02
	87.0	0.02	0.02	0.02	0.02	0.02	0.02
	95.0	0.02	0.02	0.02	0.02	0.02	0.02
	105.0	0.09	0.02	0.02	0.02	0.02	0.02
10.4	80.0	0.02	0.02	0.02	0.02	0.02	0.02
	87.0	0.02	0.02	0.02	0.02	0.02	0.02
	95.0	0.08	0.02	0.02	0.02	0.02	0.02
	105.0	0.09	0.03	0.03	0.03	0.03	0.03
11.7	80.0	0.02	0.02	0.02	0.02	0.02	0.02
	87.0	0.05	0.03	0.03	0.03	0.03	0.03
	95.0	0.09	0.05	0.04	0.03	0.03	0.03
	105.0	0.09	0.05	0.04	0.03	0.03	0.03

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TABLE 1.9E

RUNNING LOSS EMISSION RATE FOR
PRESSURE/PURGE TEST FAILED VEHICLES

Fuel RVP psi	Ambient Temp F	Trip Length (duration)					
		> 0 & ≤10min	> 10 & ≤20min	> 20 & ≤30min	> 30 & ≤40min	> 40 & ≤50min	>50min
7.0	80.0	1.08	4.91	5.20	5.20	5.20	5.20
	87.0	1.63	6.85	10.47	10.47	13.18	11.14
	95.0	2.34	9.35	17.20	27.99	36.95	47.17
	105.0	3.36	15.55	30.37	51.83	70.03	93.51
9.0	80.0	2.20	8.85	15.88	24.45	32.34	40.21
	87.0	2.88	11.24	22.32	41.86	55.05	74.61
	95.0	3.88	19.21	38.05	65.68	89.90	120.26
	105.0	6.48	34.29	72.58	134.85	188.43	251.53
10.4	80.0	3.03	11.76	23.74	45.69	60.06	82.22
	87.0	3.99	19.84	39.52	68.66	94.18	126.01
	95.0	6.05	31.82	66.96	123.65	172.52	230.39
	105.0	8.99	48.78	105.72	201.18	282.84	377.19
11.7	80.0	4.04	20.13	40.19	70.04	96.17	128.70
	87.0	5.84	30.58	64.14	118.01	164.53	219.78
	95.0	8.13	43.83	94.44	178.65	250.83	334.66
	105.0	11.38	62.53	137.11	263.89	372.01	495.78

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TABLE 1.9F

TECHNOLOGY GROUP FRACTIONS
FOR RESTING LOSS HC BY MODEL YEAR FOR
LIGHT DUTY GASOLINE POWERED VEHICLES

MODEL YEAR -----	OPEN BOTTOM CANISTER -----	CLOSED BOTTOM CANISTER -----
Pre-1981	0.438	0.562
1981	0.438	0.562
1982	0.409	0.591
1983	0.404	0.596
1984	0.423	0.577
1985	0.370	0.630
1986	0.351	0.649
1987	0.184	0.816
1988	0.158	0.842
1989	0.078	0.922
1990	0.070	0.930
1991	0.088	0.912
1992+	0.000	1.000

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TABLE 1.9G.1

HOT SOAK EMISSION RATES FOR
LOW ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES

AMBIENT TEMPERATURE 82F

MODEL YEAR	AT 9.0 RVP			AT 11.5 RVP		
	PASS	FAILED PURGE	FAILED PRESSURE	PASS	FAILED PURGE	FAILED PRESSURE
Pre -1971	14.67	14.67	14.67	22.45	22.45	22.45
1971	10.63	14.67	14.67	15.68	22.45	22.45
1972-1977	7.79	14.50	14.67	11.96	22.19	22.45
1978-1980	2.20	5.83	5.89	4.17	17.69	17.90

HOT SOAK EMISSION RATES FOR 1981+ PASS
LOW ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES
AMBIENT TEMPERATURE 82F

FUEL DELIVERY SYSTEM	FOR RVP LESS THAN 9.0 EMISSION RATE = A+B*RVP		FOR RVP 9.0 OR GREATER EMISSION RATE = C+D*RVP+E*RVP**2		
	A	B	C	D	E
CARB	0.255930	0.138230	-1.326657	0.000000	0.034897
TBI	0.258327	0.041297	-4.609710	0.582190	0.000000
PFI	-0.406730	0.102970	18.495880	-4.253800	0.250720

DIURNAL EMISSION RATES FOR
LOW ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES

MINIMUM TEMPERATURE 60F, MAXIMUM 84F

MODEL YEAR	AT 9.0 RVP			AT 11.5 RVP		
	PASS	FAILED PURGE	FAILED PRESSURE	PASS	FAILED PURGE	FAILED PRESSURE
Pre -1971	34.27	34.27	34.27	56.18	56.18	56.18
1971	23.74	34.27	34.27	46.07	56.18	56.18
1972-1977	16.81	17.71	24.12	31.28	34.96	38.88
1978-1980	12.99	13.77	20.18	22.29	24.98	28.89

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TABLE 1.9G.2

HOT SOAK EMISSION RATES FOR
HIGH ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES

AMBIENT TEMPERATURE 82F

MODEL YEAR	AT 9.0 RVP			AT 11.5 RVP		
	PASS	FAILED PURGE	FAILED PRESSURE	PASS	FAILED PURGE	FAILED PRESSURE
Pre -1971	19.07	19.07	19.07	29.18	29.18	29.18
1971	13.82	19.07	19.07	20.38	29.18	29.18
1972-1976	10.03	14.52	19.07	18.87	27.30	36.74
1977	7.79	14.50	14.67	11.96	22.19	22.45
1978-1980	2.86	7.58	7.66	5.42	23.00	23.27

HOT SOAK EMISSION RATES FOR 1981+ PASS
HIGH ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES
AMBIENT TEMPERATURE 82F

FUEL DELIVERY SYSTEM	FOR RVP LESS THAN 9.0 EMISSION RATE = A+B*RVP		FOR RVP 9.0 OR GREATER EMISSION RATE = C+D*RVP+E*RVP**2		
	A	B	C	D	E
CARB	0.255930	0.138230	-1.326657	0.000000	0.034897
TBI	0.258327	0.041297	-4.609710	0.582190	0.000000
PFI	-0.406730	0.102970	18.495880	-4.253800	0.250720

DIURNAL EMISSION RATES FOR
HIGH ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES

MINIMUM TEMPERATURE 60F, MAXIMUM 84F

MODEL YEAR	AT 9.0 RVP			AT 11.5 RVP		
	PASS	FAILED PURGE	FAILED PRESSURE	PASS	FAILED PURGE	FAILED PRESSURE
Pre -1971	44.55	44.55	44.55	73.03	73.03	73.03
1971	30.86	44.55	44.55	59.89	73.03	73.03
1972-1976	20.81	24.47	38.11	43.78	55.71	66.80
1977	16.81	17.71	24.12	31.28	34.96	38.88
1978-1980	16.89	17.90	26.23	28.98	32.47	37.56

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TABLE 1.10A.1

METHANE OFFSETS*
FOR LOW ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES

Model Years	FTP	Methane Offsets (g/mi)		Bag 3
		Bag 1	Bag 2	
Pre-1975	0.279	0.366	0.282	0.207
1975-1979	0.136	0.196	0.132	0.097
1980	0.066	0.086	0.062	0.057
1981-1982	0.086	0.115	0.083	0.069
1983+	0.063	0.082	0.060	0.056

* Methane offsets are used to estimate nonmethane hydrocarbon emissions (NMHC), i.e., NMHC = Total HC - Methane Offset.

VOC/TOG CORRECTION FACTOR FOR
LIGHT DUTY GASOLINE POWERED VEHICLES

VOC/TOG = (Total HC - Methane offset)*FID + Methane offset.

$$* FID = \text{SHRMKT}(1) * CF + \text{SHRMKT}(2) * (CF + 0.074 * \text{OXYCNT}(1) * 100) + \text{SHRMKT}(3) * (CF + 0.062 * \text{OXYCNT}(2) * 100)$$

Model Years	TOG	VOG
Pre-1975	1.0352	1.0239
1975	1.0226	0.9975
1976-1977	1.0219	0.9959
1978-1979	1.0211	0.9942
1980	1.0206	0.9905
1981	1.0211	0.9710
1982	1.0211	0.9709
1983	1.0218	0.9690
1984	1.0213	0.9680
1985	1.0202	0.9705
1986	1.0196	0.9719
1987	1.1090	0.9734
1988	1.0175	0.9768
1989	1.0172	0.9777
1990	1.0167	0.9787
1991+	1.0163	0.9797

The correction factor is the same for Gasoline, Ether blend and Alcohol blend fueled vehicles in MOBILE5a

* WHERE:

FID -FID correction factor (TOG or VOC)

SHRMKT(i)-Market share for i=1-Gasoline,i=2-Ether blend,
i=3-Alcohol blend.

CF -Coefficients from the table above (TOG or VOC)

OXYCNT(j)-Oxygen content adjustment for j=1-Ether blend,
j=2-Alcohol blend.

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TABLE 1.10A.2

METHANE OFFSETS*
FOR HIGH ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES

Model Years	FTP	Methane Offsets (g/mi)		Bag 3
		Bag 1	Bag 2	
Pre-1975	0.376	0.494	0.381	0.279
1975-1976	0.255	0.368	0.248	0.182
1977	0.119	0.172	0.116	0.085
1978-1979	0.264	0.382	0.257	0.189
1980	0.142	0.186	0.134	0.123
1981-1982	0.142	0.190	0.138	0.115
1983+	0.086	0.115	0.084	0.069

* Methane offsets are used to estimate nonmethane hydrocarbon emissions (NMHC), i.e., NMHC = Total HC - Methane Offset.

VOC/TOG CORRECTION FACTOR FOR
LIGHT DUTY GASOLINE POWERED VEHICLES

VOC/TOG = (Total HC - Methane offset)*FID + Methane offset.

* $FID = \text{SHRMKT}(1) * CF + \text{SHRMKT}(2) * (CF + 0.074 * \text{OXYCNT}(1) * 100) + \text{SHRMKT}(3) * (CF + 0.062 * \text{OXYCNT}(2) * 100)$

Model Years	TOG	VOG
Pre-1975	1.0352	1.0239
1975	1.0226	0.9975
1976-1977	1.0219	0.9959
1978-1979	1.0211	0.9942
1980	1.0206	0.9905
1981	1.0211	0.9710
1982	1.0211	0.9709
1983	1.0218	0.9690
1984	1.0213	0.9680
1985	1.0202	0.9705
1986	1.0196	0.9719
1987	1.1090	0.9734
1988	1.0175	0.9768
1989	1.0172	0.9777
1990	1.0167	0.9787
1991+	1.0163	0.9797

The correction factor is the same for Gasoline, Ether blend and Alcohol blend fueled vehicles in MOBILE5a

* WHERE:

FID -FID correction factor (TOG or VOC)

SHRMKT(i)-Market share for i=1-Gasoline, i=2-Ether blend, i=3-Alcohol blend.

CF -Coefficients from the table above (TOG or VOC)

OXYCNT(j)-Oxygen content adjustment for j=1-Ether blend, j=2-Alcohol blend.

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TABLE 1.10C

PERCENT TECHNOLOGY DISTRIBUTIONS
(EXHAUST AND EVAPORATIVE EMISSION SYSTEMS)
FOR LIGHT DUTY GASOLINE POWERED VEHICLES

Model Years	Air Pump Only	Oxidation Catalyst	3Way Catalyst	EGR System	Air Pump & Oxidation or 3Way Catalyst	EGR System & 3Way Catalyst
Pre-1968	0.0	0.0	0.0	0.0	0.0	0.0
1968-1971	5.0	0.0	0.0	0.0	0.0	0.0
1972	10.0	0.0	0.0	0.0	0.0	0.0
1973	30.0	0.0	0.0	80.0	0.0	0.0
1974	30.0	0.0	0.0	90.0	0.0	0.0
1975	15.0	80.0	0.0	90.0	30.0	0.0
1976	10.0	85.0	0.0	90.0	30.0	0.0
1977	10.0	85.0	0.0	90.0	20.0	0.0
1978-1979	5.0	90.0	0.0	90.0	25.0	0.0
1980	0.0	88.0	7.0	97.0	65.0	7.0
1981	0.0	15.0	85.0	90.0	75.0	85.0
1982	0.0	14.0	86.0	90.0	70.0	85.0
1983	0.0	12.0	88.0	90.0	60.0	85.0
1984-1985	0.0	0.0	100.0	93.0	60.0	93.0
1986	0.0	0.0	100.0	93.0	40.0	93.0
1987+	0.0	0.0	100.0	90.0	30.0	90.0

Model Years	Evaporative Canister	PCV System
Pre-1963	0.0	0.0
1963-1967	0.0	0.0
1968-1970	0.0	100.0
1971+	100.0	100.0

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TABLE 1.10D

PERCENT TECHNOLOGY DISTRIBUTIONS
(FUEL DELIVERY SYSTEMS)
FOR LIGHT DUTY GASOLINE POWERED VEHICLES

Model Years	Carbureted	Ported Fuel-Injected	Throttle-Body Fuel-Injected
1981	91.0	6.1	2.9
1982	83.2	6.2	10.6
1983	72.9	8.8	18.3
1984	60.8	11.0	28.2
1985	48.5	30.7	20.8
1986	32.4	39.2	28.4
1987	25.9	37.2	36.9
1988	10.1	49.2	40.7
1989	12.8	59.7	27.5
1990	2.0	76.1	21.9
1991	0.3	79.5	20.2
1992+	0.3	79.5	20.2

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TABLE 1.10E

EVAPORATIVE TEST PROCEDURE
PHASE-IN PERCENTAGE

MODEL YEAR	% MEETING NEW TP REQUIREMENT
-----	-----
1996	20.0
1997	40.0
1998	90.0
1999	100.0

EVAPORATIVE TEST PROCEDURE
EMISSION REDUCTION PERCENTAGE

EMISSION SOURCE	PROBLEM FREE	PURGE FAILURE	PRESSURE FAILURE
-----	-----	-----	-----
Hot soak	50.0	30.0	30.0
Diurnal			
Full	50.0	0.0	0.0
Multiple 2-3	75.0	0.0	0.0
Multiple 4	40.0	0.0	0.0
Partial	50.0	0.0	0.0
Running Loss	80.0	30.0	30.0
Resting Loss	75.0	75.0	75.0

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TABLE 1.11A.1
BY-MODEL-YEAR EMISSION LEVELS FOR LOW ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES
TOTAL NONMETHANE HC

		January 1 of Calendar Year																																																																							
		1985			1986			1987			1988			1989			1990			1991			1992			1993			1994			1995			1996																																						
		MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**																																								
+		1961	20.0	1962	20.0	1963	16.7	1964	16.7	1965	16.7	1966	16.4	1967	16.7	1968	14.4	1969	14.4	1970	14.4	1971	14.4	1972	14.4	1973	14.4	1974	14.4	1975	14.4	1976	14.4	1977	14.4	1978	14.4	1979	14.4	1980	14.4	1981	14.4	1982	14.4	1983	14.4	1984	14.4	1985	14.4	1986	14.4	1987	14.4	1988	14.4	1989	14.4	1990	14.4	1991	14.4	1992	14.4	1993	14.4	1994	14.4	1995	14.4	1996	14.4
		1962	19.7	1963	16.4	1964	16.4	1965	16.4	1966	16.4	1967	16.4	1968	16.4	1969	13.9	1970	14.1	1971	14.1	1972	14.1	1973	14.1	1974	14.1	1975	14.1	1976	14.1	1977	14.1	1978	14.1	1979	14.1	1980	14.1	1981	14.1	1982	14.1	1983	14.1	1984	14.1	1985	14.1	1986	14.1	1987	14.1	1988	14.1	1989	14.1	1990	14.1	1991	14.1	1992	14.1	1993	14.1	1994	14.1	1995	14.1	1996	14.1		
		1963	16.2	1964	16.2	1965	16.2	1966	16.2	1967	16.2	1968	16.2	1969	16.2	1970	13.9	1971	13.9	1972	14.0	1973	14.0	1974	14.0	1975	14.0	1976	14.0	1977	14.0	1978	14.0	1979	14.0	1980	14.0	1981	14.0	1982	14.0	1983	14.0	1984	14.0	1985	14.0	1986	14.0	1987	14.0	1988	14.0	1989	14.0	1990	14.0	1991	14.0	1992	14.0	1993	14.0	1994	14.0	1995	14.0	1996	14.0				
		1964	16.0	1965	16.0	1966	16.0	1967	16.0	1968	16.0	1969	16.0	1970	16.0	1971	13.6	1972	13.6	1973	13.6	1974	13.6	1975	13.6	1976	13.6	1977	13.6	1978	13.6	1979	13.6	1980	13.6	1981	13.6	1982	13.6	1983	13.6	1984	13.6	1985	13.6	1986	13.6	1987	13.6	1988	13.6	1989	13.6	1990	13.6	1991	13.6	1992	13.6	1993	13.6	1994	13.6	1995	13.6	1996	13.6						
		1965	15.7	1966	15.7	1967	15.7	1968	15.7	1969	15.7	1970	15.7	1971	15.7	1972	13.3	1973	13.3	1974	13.3	1975	13.3	1976	13.3	1977	13.3	1978	13.3	1979	13.3	1980	13.3	1981	13.3	1982	13.3	1983	13.3	1984	13.3	1985	13.3	1986	13.3	1987	13.3	1988	13.3	1989	13.3	1990	13.3	1991	13.3	1992	13.3	1993	13.3	1994	13.3	1995	13.3	1996	13.3								
		1966	15.5	1967	15.5	1968	15.5	1969	15.5	1970	15.5	1971	15.5	1972	15.5	1973	13.1	1974	13.1	1975	13.1	1976	13.1	1977	13.1	1978	13.1	1979	13.1	1980	13.1	1981	13.1	1982	13.1	1983	13.1	1984	13.1	1985	13.1	1986	13.1	1987	13.1	1988	13.1	1989	13.1	1990	13.1	1991	13.1	1992	13.1	1993	13.1	1994	13.1	1995	13.1	1996	13.1										
		1967	15.3	1968	12.8	1969	12.8	1970	12.8	1971	12.8	1972	12.8	1973	12.8	1974	13.4	1975	13.4	1976	13.4	1977	13.4	1978	13.4	1979	13.4	1980	13.4	1981	13.4	1982	13.4	1983	13.4	1984	13.4	1985	13.4	1986	13.4	1987	13.4	1988	13.4	1989	13.4	1990	13.4	1991	13.4	1992	13.4	1993	13.4	1994	13.4	1995	13.4	1996	13.4												
		1968	12.6	1969	12.6	1970	12.6	1971	12.6	1972	12.6	1973	12.6	1974	12.6	1975	13.4	1976	13.4	1977	13.4	1978	13.4	1979	13.4	1980	13.4	1981	13.4	1982	13.4	1983	13.4	1984	13.4	1985	13.4	1986	13.4	1987	13.4	1988	13.4	1989	13.4	1990	13.4	1991	13.4	1992	13.4	1993	13.4	1994	13.4	1995	13.4	1996	13.4														
		1969	12.3	1970	12.3	1971	12.3	1972	12.3	1973	12.3	1974	12.3	1975	12.3	1976	12.9	1977	12.9	1978	12.9	1979	12.9	1980	12.9	1981	12.9	1982	12.9	1983	12.9	1984	12.9	1985	12.9	1986	12.9	1987	12.9	1988	12.9	1989	12.9	1990	12.9	1991	12.9	1992	12.9	1993	12.9	1994	12.9	1995	12.9	1996	12.9																
		1970	12.4	1971	12.5	1972	8.3	1973	8.3	1974	8.3	1975	8.3	1976	8.3	1977	8.3	1978	8.3	1979	8.3	1980	8.3	1981	8.3	1982	8.3	1983	8.3	1984	8.3	1985	8.3	1986	8.3	1987	8.3	1988	8.3	1989	8.3	1990	8.3	1991	8.3	1992	8.3	1993	8.3	1994	8.3	1995	8.3	1996	8.3																		
		1971	12.1	1972	8.0	1973	8.0	1974	8.0	1975	8.0	1976	8.0	1977	8.0	1978	8.0	1979	8.0	1980	8.0	1981	8.0	1982	8.0	1983	8.0	1984	8.0	1985	8.0	1986	8.0	1987	8.0	1988	8.0	1989	8.0	1990	8.0	1991	8.0	1992	8.0	1993	8.0	1994	8.0	1995	8.0	1996	8.0																				
		1972	7.7	1973	7.7	1974	7.7	1975	7.7	1976	7.7	1977	7.7	1978	7.7	1979	7.8	1980	7.8	1981	7.8	1982	7.8	1983	7.8	1984	7.8	1985	7.8	1986	7.8	1987	7.8	1988	7.8	1989	7.8	1990	7.8	1991	7.8	1992	7.8	1993	7.8	1994	7.8	1995	7.8	1996	7.8																						
		1973	7.5	1974	7.5	1975	7.4	1976	7.4	1977	7.4	1978	7.4	1979	7.4	1980	7.4	1981	7.4	1982	7.4	1983	7.4	1984	7.4	1985	7.4	1986	7.4	1987	7.4	1988	7.4	1989	7.4	1990	7.4	1991	7.4	1992	7.4	1993	7.4	1994	7.4	1995	7.4	1996	7.4																								
		1974	7.2	1975	7.0	1976	7.1	1977	7.1	1978	7.1	1979	7.1	1980	7.1	1981	7.1	1982	7.1	1983	7.1	1984	7.1	1985	7.1	1986	7.1	1987	7.1	1988	7.1	1989	7.1	1990	7.1	1991	7.1	1992	7.1	1993	7.1	1994	7.1	1995	7.1	1996	7.1																										
		1975	6.6	1976	6.6	1977	6.6	1978	6.6	1979	6.6	1980	6.6	1981	6.6	1982	6.6	1983	6.6	1984	6.6	1985	6.6	1986	6.6	1987	6.6	1988	6.6	1989	6.6	1990	6.6	1991	6.6	1992	6.6	1993	6.6	1994	6.6	1995	6.6	1996	6.6																												
		1976	6.2	1977	6.2	1978	5.7	1979	5.7	1980	5.7	1981	5.7	1982	5.7	1983	5.7	1984	5.7	1985	5.7	1986	5.7	1987	5.7	1988	5.7	1989	5.7	1990	5.7	1991	5.7	1992	5.7	1993	5.7	1994	5.7	1995	5.7	1996	5.7																														
		1977	5.8	1978	5.3	1979	5.3	1980	5.3	1981	5.3	1982	5.3	1983	5.3	1984	5.3	1985	5.3	1986	5.3	1987	5.3	1988	5.3	1989	5.3	1990	5.3	1991	5.3	1992	5.3	1993	5.3	1994	5.3	1995	5.3	1996	5.3																																
		1978	4.9	1979	4.9	1980	4.9	1981	4.9	1982	4.9	1983	4.9	1984	4.9	1985	4.9	1986	4.9	1987	4.9	1988	4.9	1989	4.9	1990	4.9	1991	4.9	1992	4.9	1993	4.9	1994	4.9	1995	4.9	1996	4.9																																		
		1979	4.4	1980	3.1	1981	2.3	1982	2.3	1983	2.3	1984	2.3	1985	2.3	1986	2.3	1987	2.3	1988	2.3	1989	2.3	1990	2.3	1991	2.3	1992	2.3	1993	2.3	1994	2.3	1995	2.3	1996	2.3																																				
		1980	2.7	1981	1.8	1982	1.8	1983	1.8	1984	1.8	1985	1.8	1986	1.8	1987	1.8	1988	1.8	1989	1.8	1990	1.8	1991	1.8	1992	1.8	1993	1.8	1994	1.8	1995	1.8	1996	1.8																																						
		1981	1.3	1982	1.4	1983	1.2	1984	1.2	1985	1.2	1986	1.2	1987	1.2	1988	1.2	1989	1.2	1990	1.2	1991	1.2	1992	1.2	1993	1.2	1994	1.2	1995	1.2	1996	1.2																																								
		1982	1.2	1983	1.1	1984	1.0	1985	1.0	1986	1.0	1987	1.0	1988	1.0	1989	1.0	1990	1.0	1991	1.0	1992	1.0	1993	1.0	1994	1.0	1995	1.0	1996	1.0																																										
		1983	1.0	1984	0.9	1985	0.9	1986	0.9	1987	0.9	1988	0.9	1989	0.9	1990	0.9	1991	0.9	1992	0.9	1993	0.9	1994	0.9	1995	0.9	1996	0.9																																												
		1984	0.8	1985	0.8	1986	0.8	1987	0.8	1988	0.8	1989	0.8	1990	0.8	1991	0.8	1992	0.8	1993	0.8	1994	0.8	1995	0.8	1996	0.8																																														
		1985	0.7	1986	0.7	1987	0.7	1988	0.7	1989	0.7	1990	0.7	1991	0.7	1992	0.7	1993	0.7	1994	0.7	1995	0.7	1996	0.7																																																

*MY -- Indicates the model year.

**E -- Indicates the average grams/mile emission level for model year "MY" on January 1 of the given calendar year. These emission levels are calculated for the FTP test conditions:

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TABLE 1.11A.1 (continued)
BY-MODEL-YEAR EMISSION LEVELS FOR LOW ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES
TOTAL NONMETHANE HC

1997		1998		1999		2000		2003		January 1 of Calendar Year				2010		2012		2015		2018		2020	
MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**
1973	9.6	1974	9.6	1975	10.6	1976	10.6	1979	9.8	1981	7.7	1984	7.4	1986	7.3	1988	6.9	1991	7.2	1994	7.1	1996	6.9
1974	9.4	1975	10.3	1976	10.3	1977	10.3	1980	7.3	1982	7.3	1985	7.2	1987	6.9	1989	6.9	1992	7.0	1995	6.9	1997	6.6
1975	10.0	1976	10.1	1977	10.1	1978	9.3	1981	7.2	1983	6.9	1986	6.9	1988	6.5	1990	6.8	1993	6.8	1996	6.5	1998	6.2
1976	9.8	1977	9.8	1978	9.1	1979	9.1	1982	6.8	1984	6.7	1987	6.4	1989	6.5	1991	6.6	1994	6.5	1997	6.2	1999	6.0
1977	9.5	1978	8.8	1979	8.8	1980	9.1	1983	6.5	1985	6.5	1988	6.1	1990	6.3	1992	6.4	1995	6.2	1998	5.8	2000	5.8
1978	8.5	1979	8.5	1980	6.4	1981	6.5	1984	6.2	1986	6.2	1989	6.1	1991	6.1	1993	6.1	1996	5.9	1999	5.6	2001	5.6
1979	8.3	1980	6.1	1981	6.3	1982	6.3	1985	6.0	1987	5.7	1990	5.9	1992	5.9	1994	5.8	1997	5.5	2000	5.3	2002	5.3
1980	5.9	1981	5.9	1982	5.6	1983	5.7	1986	5.7	1988	5.4	1991	5.6	1993	5.6	1995	5.5	1998	5.1	2001	5.1	2003	5.1
1981	5.7	1982	5.6	1983	5.5	1984	5.5	1987	5.2	1989	5.3	1992	5.4	1994	5.3	1996	5.1	1999	4.9	2002	4.9	2004	4.9
1982	5.3	1983	5.2	1984	5.2	1985	5.2	1988	4.9	1990	5.1	1993	5.1	1995	5.0	1997	4.8	2000	4.6	2003	4.6	2005	4.6
1983	4.9	1984	4.9	1985	4.9	1986	4.8	1989	4.8	1991	4.8	1994	4.8	1996	4.6	1998	4.3	2001	4.3	2004	4.3	2006	4.3
1984	4.6	1985	4.6	1986	4.5	1987	4.4	1990	4.5	1992	4.5	1995	4.4	1997	4.2	1999	4.0	2002	4.0	2005	4.0	2007	4.0
1985	4.3	1986	4.2	1987	4.1	1988	4.0	1991	4.2	1993	4.2	1996	4.0	1998	3.8	2000	3.7	2003	3.7	2006	3.7	2008	3.7
1986	3.9	1987	3.8	1988	3.7	1989	3.8	1992	3.9	1994	3.8	1997	3.6	1999	3.4	2001	3.4	2004	3.4	2007	3.4	2009	3.4
1987	3.4	1988	3.4	1989	3.5	1990	3.5	1993	3.5	1995	3.4	1998	3.1	2000	3.1	2002	3.1	2005	3.1	2008	3.1	2010	3.1
1988	3.0	1989	3.1	1990	3.2	1991	3.2	1994	3.1	1996	3.0	1999	2.8	2001	2.8	2003	2.8	2006	2.8	2009	2.8	2011	2.8
1989	2.8	1990	2.8	1991	2.8	1992	2.8	1995	2.7	1997	2.6	2000	2.4	2002	2.4	2004	2.4	2007	2.4	2010	2.4	2012	2.4
1990	2.4	1991	2.4	1992	2.4	1993	2.4	1996	2.2	1998	2.0	2001	2.0	2003	2.0	2005	2.0	2008	2.0	2011	2.0	2013	2.0
1991	2.0	1992	2.0	1993	2.0	1994	2.0	1997	1.8	1999	1.6	2002	1.6	2004	1.6	2006	1.6	2009	1.6	2012	1.6	2014	1.6
1992	1.6	1993	1.6	1994	1.5	1995	1.5	1998	1.2	2000	1.2	2003	1.2	2005	1.2	2007	1.2	2010	1.2	2013	1.2	2015	1.2
1993	1.1	1994	1.1	1995	1.0	1996	1.0	1999	0.8	2001	0.8	2004	0.8	2006	0.8	2008	0.8	2011	0.8	2014	0.8	2016	0.8
1994	1.0	1995	0.9	1996	0.9	1997	0.9	2000	0.7	2002	0.7	2005	0.7	2007	0.7	2009	0.7	2012	0.7	2015	0.7	2017	0.7
1995	0.8	1996	0.8	1997	0.7	1998	0.7	2001	0.6	2003	0.6	2006	0.6	2008	0.6	2010	0.6	2013	0.6	2016	0.6	2018	0.6
1996	0.6	1997	0.6	1998	0.5	1999	0.5	2002	0.5	2004	0.5	2007	0.5	2009	0.5	2011	0.5	2014	0.5	2017	0.5	2019	0.5
1997	0.5	1998	0.4	1999	0.4	2000	0.4	2003	0.4	2005	0.4	2008	0.4	2010	0.4	2012	0.4	2015	0.4	2018	0.4	2020	0.4

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DATE : JUNE 30, 1995

TABLE 1.11B.1
BY-MODEL-YEAR EMISSION LEVELS FOR LOW ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES
CO

		January 1 of Calendar Year																																			
		1985			1986			1987			1988			1989			1990			1991			1992			1993			1994			1995			1996		
MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**				
1961	122.2	1962	122.2	1963	122.2	1964	122.2	1965	122.2	1966	122.2	1967	122.2	1968	106.1	1969	106.1	1970	103.2	1971	103.2	1972	103.2	1973	103.2	1974	103.2	1975	103.2	1976	103.2	1977	103.2	1978	103.2		
1962	121.3	1963	121.3	1964	121.3	1965	121.3	1966	121.3	1967	121.3	1968	105.1	1969	105.1	1970	101.9	1971	101.9	1972	85.8	1973	85.8	1974	85.8	1975	85.8	1976	85.8	1977	85.8	1978	85.8	1979	85.8		
1963	120.3	1964	120.3	1965	120.3	1966	120.3	1967	120.3	1968	104.0	1969	104.0	1970	100.6	1971	100.6	1972	84.8	1973	84.8	1974	84.8	1975	84.8	1976	84.8	1977	84.8	1978	84.8	1979	84.8	1980	84.8		
1964	119.3	1965	119.3	1966	119.3	1967	119.3	1968	102.8	1969	102.8	1970	99.2	1971	99.2	1972	83.7	1973	83.7	1974	83.7	1975	83.7	1976	83.7	1977	83.7	1978	83.7	1979	83.7	1980	83.7	1981	83.7		
1965	118.2	1966	118.2	1967	118.2	1968	101.6	1969	101.6	1970	96.1	1971	97.7	1972	82.6	1973	82.6	1974	82.6	1975	65.6	1976	65.6	1977	65.6	1978	65.6	1979	65.6	1980	65.6	1981	65.6	1982	65.6		
1966	117.1	1967	117.1	1968	100.3	1969	100.3	1970	96.1	1971	96.1	1972	80.1	1973	80.1	1974	81.4	1975	64.3	1976	64.3	1977	64.3	1978	64.3	1979	64.3	1980	64.3	1981	64.3	1982	64.3	1983	64.3		
1967	115.8	1968	98.9	1969	98.9	1970	94.4	1971	94.4	1972	80.1	1973	80.1	1974	80.1	1975	62.9	1976	63.1	1977	63.1	1978	63.1	1979	63.1	1980	63.1	1981	63.1	1982	63.1	1983	63.1	1984	63.1		
1968	97.5	1969	97.5	1970	92.6	1971	92.6	1972	78.8	1973	78.8	1974	78.8	1975	61.4	1976	61.6	1977	61.6	1978	61.9	1979	61.9	1980	61.9	1981	61.9	1982	61.9	1983	61.9	1984	61.9	1985	61.9		
1969	95.9	1970	90.7	1971	90.7	1972	77.4	1973	77.4	1974	77.4	1975	59.8	1976	60.0	1977	60.0	1978	60.3	1979	60.3	1980	60.3	1981	60.3	1982	60.3	1983	60.3	1984	60.3	1985	60.3	1986	60.3		
1970	88.8	1971	88.8	1972	75.9	1973	75.9	1974	75.9	1975	56.4	1976	56.6	1977	56.6	1978	56.8	1979	56.8	1980	56.8	1981	56.8	1982	56.8	1983	56.8	1984	56.8	1985	56.8	1986	56.8	1987	56.8		
1971	86.7	1972	74.3	1973	74.3	1974	74.3	1975	56.4	1976	56.4	1977	54.7	1978	54.9	1979	54.9	1980	45.7	1981	45.7	1982	45.7	1983	45.7	1984	45.7	1985	45.7	1986	45.7	1987	45.7	1988	45.7		
1972	72.7	1973	72.7	1974	72.7	1975	52.5	1976	52.5	1977	52.5	1978	53.0	1979	53.0	1980	33.6	1981	33.6	1982	33.6	1983	33.6	1984	33.6	1985	33.6	1986	33.6	1987	33.6	1988	33.6	1989	33.6		
1973	70.9	1974	70.9	1975	50.4	1976	50.4	1977	50.6	1978	50.6	1979	50.9	1980	32.0	1981	32.0	1982	37.9	1983	37.9	1984	37.9	1985	37.9	1986	37.9	1987	37.9	1988	37.9	1989	37.9	1990	37.9		
1974	69.0	1975	50.4	1976	50.4	1977	50.6	1978	50.6	1979	48.6	1980	30.2	1981	36.4	1982	34.9	1983	34.2	1984	34.0	1985	34.0	1986	34.0	1987	34.0	1988	34.0	1989	34.0	1990	34.0	1991	34.0		
1975	48.2	1976	48.4	1977	48.4	1978	46.3	1979	46.3	1980	28.3	1981	32.9	1982	31.7	1983	31.0	1984	30.5	1985	30.6	1986	30.6	1987	30.6	1988	30.6	1989	30.6	1990	30.6	1991	30.6	1992	30.6		
1976	46.1	1977	46.1	1978	46.1	1979	43.8	1980	26.3	1981	29.3	1982	28.3	1983	27.6	1984	26.8	1985	27.0	1986	26.4	1987	25.6	1988	25.6	1989	25.6	1990	25.6	1991	25.6	1992	25.6	1993	25.6		
1977	43.6	1978	43.8	1979	43.8	1980	24.2	1981	25.4	1982	24.7	1983	24.0	1984	22.9	1985	23.2	1986	22.5	1987	22.0	1988	21.6	1989	21.6	1990	21.6	1991	21.6	1992	21.6	1993	21.6	1994	21.6		
1978	41.2	1979	41.2	1980	22.0	1981	21.3	1982	21.0	1983	20.2	1984	18.9	1985	19.2	1986	18.5	1987	18.1	1988	17.8	1989	18.4	1990	18.5	1991	18.5	1992	18.5	1993	18.5	1994	18.5	1995	18.5		
1979	38.4	1980	22.0	1981	21.3	1982	21.3	1983	16.2	1984	14.5	1985	14.9	1986	14.0	1987	14.0	1988	13.9	1989	14.3	1990	14.5	1991	14.5	1992	14.5	1993	14.5	1994	14.5	1995	14.5	1996	14.5		
1980	19.7	1981	17.0	1982	17.0	1983	16.2	1984	9.9	1985	8.1	1986	8.0	1987	8.0	1988	8.1	1989	8.2	1990	8.2	1991	8.2	1992	8.2	1993	8.2	1994	8.2	1995	8.2	1996	8.2	1997	8.2		
1981	12.4	1982	12.8	1983	12.0	1984	12.0	1985	8.6	1986	8.1	1987	8.0	1988	8.0	1989	8.1	1990	8.2	1991	8.2	1992	8.2	1993	8.2	1994	8.2	1995	8.2	1996	8.2	1997	8.2	1998	8.2		
1982	10.4	1983	9.9	1984	8.3	1985	8.3	1986	6.3	1987	6.3	1988	6.1	1989	6.2	1990	6.2	1991	6.2	1992	6.2	1993	6.2	1994	6.2	1995	6.2	1996	6.2	1997	6.2	1998	6.2	1999	6.2		
1983	7.7	1984	6.6	1985	6.7	1986	6.7	1987	4.4	1988	4.3	1989	4.2	1990	4.1	1991	4.0	1992	4.0	1993	4.0	1994	4.0	1995	4.0	1996	4.0	1997	4.0	1998	4.0	1999	4.0	2000	4.0		
1984	4.9	1985	4.7	1986	4.4	1987	4.4	1988	3.0	1989	2.9	1990	2.7	1991	2.6	1992	2.6	1993	2.6	1994	2.6	1995	2.6	1996	2.6	1997	2.6	1998	2.6	1999	2.6	2000	2.6	2001	2.6		
1985	3.4	1986	3.2	1987	3.2	1988	3.2	1989	3.0	1990	2.9	1991	2.7	1992	2.6	1993	2.6	1994	2.6	1995	2.6	1996	2.6	1997	2.6	1998	2.6	1999	2.6	2000	2.6	2001	2.6	2002	2.6		

*MY -- Indicates the model year.

**E -- Indicates the average grams/mile emission level for model year "MY" on January 1 of the given calendar year. These emission levels are calculated for the FTP test conditions:

19.6 MPH, TEMP=75 Degrees F
20.6% of VMT traveled in cold start,
52.1% of VMT in stabilized,
27.3% of VMT in hot start.

Emissions are based on the January 1 mileage accumulation figures given in Table 1.4A.1

Continued on the next page.

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TABLE 1.11B.1 (continued)
BY-MODEL-YEAR EMISSION LEVELS FOR LOW ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES
CO

		January 1 of Calendar Year																																																																																																																																																									
		1997			1998			1999			2000			2003			2005			2008			2010			2012			2015			2018			2020																																																																																																																								
MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**																																																																																																																										
1973	86.7	1974	86.7	1975	86.7	1976	70.3	1977	69.5	1978	69.5	1979	70.6	1980	70.6	1981	69.3	1982	63.6	1983	63.6	1984	66.8	1985	64.8	1986	61.8	1987	61.8	1988	61.5	1989	64.1	1990	64.3	1991	64.1	1992	62.8	1993	62.8	1994	62.8	1995	62.8	1996	62.8	1997	62.8	1998	61.2	1999	61.2	2000	59.5	2001	59.5	2002	57.7	2003	57.7	2004	55.8	2005	55.8	2006	53.8	2007	53.8	2008	51.7	2009	51.7	2010	49.5	2011	49.5	2012	47.1	2013	47.1	2014	44.6	2015	44.6	2016	42.0	2017	42.0	2018	39.2	2019	39.2	2020	36.2	2021	36.2	2022	33.1	2023	33.1	2024	29.8	2025	29.8	2026	26.3	2027	26.3	2028	22.6	2029	22.6	2030	18.7	2031	18.7	2032	14.6	2033	14.6	2034	10.2	2035	10.2	2036	8.3	2037	8.3	2038	6.2	2039	6.2	2040	4.0	2041	4.0	2042	2.6	2043	2.6	2044	2.6	2045	2.6	2046	2.6	2047	2.6	2048	2.6	2049	2.6	2050	2.6
1974	85.8	1975	68.1	1976	68.4	1977	68.4	1978	68.6	1979	68.6	1980	68.6	1981	66.0	1982	61.6	1983	61.6	1984	61.6	1985	62.5	1986	62.5	1987	58.5	1988	58.5	1989	60.4	1990	60.4	1991	59.3	1992	59.3	1993	59.3	1994	59.3	1995	59.5	1996	59.5	1997	59.5	1998	59.5	1999	59.5	2000	59.5	2001	59.5	2002	57.7	2003	57.7	2004	55.8	2005	55.8	2006	53.8	2007	53.8	2008	51.7	2009	51.7	2010	49.5	2011	49.5	2012	47.1	2013	47.1	2014	44.6	2015	44.6	2016	42.0	2017	42.0	2018	39.2	2019	39.2	2020	36.2	2021	36.2	2022	33.1	2023	33.1	2024	29.8	2025	29.8	2026	26.3	2027	26.3	2028	22.6	2029	22.6	2030	18.7	2031	18.7	2032	14.6	2033	14.6	2034	10.2	2035	10.2	2036	8.3	2037	8.3	2038	6.2	2039	6.2	2040	4.0	2041	4.0	2042	2.6	2043	2.6	2044	2.6	2045	2.6	2046	2.6	2047	2.6	2048	2.6	2049	2.6	2050	2.6		
1975	68.1	1976	67.2	1977	67.2	1978	67.4	1979	67.4	1980	67.4	1981	67.4	1982	60.4	1983	61.7	1984	61.7	1985	61.7	1986	58.6	1987	58.6	1988	59.1	1989	59.1	1990	59.1	1991	59.1	1992	57.7	1993	57.7	1994	57.7	1995	57.7	1996	57.7	1997	57.7	1998	57.7	1999	57.7	2000	57.7	2001	57.7	2002	55.8	2003	55.8	2004	53.8	2005	53.8	2006	51.7	2007	51.7	2008	49.5	2009	49.5	2010	47.1	2011	47.1	2012	44.6	2013	44.6	2014	42.0	2015	42.0	2016	39.2	2017	39.2	2018	36.2	2019	36.2	2020	33.1	2021	33.1	2022	29.8	2023	29.8	2024	26.3	2025	26.3	2026	22.6	2027	22.6	2028	18.7	2029	18.7	2030	14.6	2031	14.6	2032	10.2	2033	10.2	2034	8.3	2035	8.3	2036	6.2	2037	6.2	2038	4.0	2039	4.0	2040	2.6	2041	2.6	2042	2.6	2043	2.6	2044	2.6	2045	2.6	2046	2.6	2047	2.6	2048	2.6	2049	2.6	2050	2.6				
1976	67.2	1977	66.2	1978	66.2	1979	66.2	1980	66.2	1981	64.2	1982	64.2	1983	58.2	1984	59.5	1985	59.5	1986	59.5	1987	55.2	1988	55.2	1989	55.2	1990	55.2	1991	55.2	1992	53.8	1993	53.8	1994	53.8	1995	53.8	1996	53.8	1997	53.8	1998	53.8	1999	53.8	2000	53.8	2001	53.8	2002	51.7	2003	51.7	2004	49.5	2005	49.5	2006	47.1	2007	47.1	2008	44.6	2009	44.6	2010	42.0	2011	42.0	2012	39.2	2013	39.2	2014	36.2	2015	36.2	2016	33.1	2017	33.1	2018	29.8	2019	29.8	2020	26.3	2021	26.3	2022	22.6	2023	22.6	2024	18.7	2025	18.7	2026	14.6	2027	14.6	2028	10.2	2029	10.2	2030	8.3	2031	8.3	2032	6.2	2033	6.2	2034	4.0	2035	4.0	2036	2.6	2037	2.6	2038	2.6	2039	2.6	2040	2.6	2041	2.6	2042	2.6	2043	2.6	2044	2.6	2045	2.6	2046	2.6	2047	2.6	2048	2.6	2049	2.6	2050	2.6						
1977	65.9	1978	64.8	1979	64.8	1980	64.8	1981	64.8	1982	64.8	1983	64.8	1984	64.8	1985	64.8	1986	64.8	1987	64.8	1988	64.8	1989	64.8	1990	64.8	1991	64.8	1992	64.8	1993	64.8	1994	64.8	1995	64.8	1996	64.8	1997	64.8	1998	64.8	1999	64.8	2000	64.8	2001	64.8	2002	64.8	2003	64.8	2004	64.8	2005	64.8	2006	64.8	2007	64.8	2008	64.8	2009	64.8	2010	64.8	2011	64.8	2012	64.8	2013	64.8	2014	64.8	2015	64.8	2016	64.8	2017	64.8	2018	64.8	2019	64.8	2020	64.8																																																																				
1978	64.8	1979	63.4	1980	63.4	1981	63.4	1982	63.4	1983	63.4	1984	63.4	1985	63.4	1986	63.4	1987	63.4	1988	63.4	1989	63.4	1990	63.4	1991	63.4	1992	63.4	1993	63.4	1994	63.4	1995	63.4	1996	63.4	1997	63.4	1998	63.4	1999	63.4	2000	63.4	2001	63.4	2002	63.4	2003	63.4	2004	63.4	2005	63.4	2006	63.4	2007	63.4	2008	63.4	2009	63.4	2010	63.4	2011	63.4	2012	63.4	2013	63.4	2014	63.4	2015	63.4	2016	63.4	2017	63.4	2018	63.4	2019	63.4	2020	63.4																																																																						
1979	63.4	1980	40.8	1981	40.8	1982	52.9	1983	52.9	1984	52.9	1985	52.9	1986	52.9	1987	52.9	1988	52.9	1989	52.9	1990	52.9	1991	52.9	1992	52.9	1993	52.9	1994	52.9	1995	52.9	1996	52.9	1997	52.9	1998	52.9	1999	52.9	2000	52.9	2001	52.9	2002	52.9	2003	52.9	2004	52.9	2005	52.9	2006	52.9	2007	52.9	2008	52.9	2009	52.9	2010	52.9	2011	52.9	2012	52.9	2013	52.9	2014	52.9	2015	52.9	2016	52.9	2017	52.9	2018	52.9	2019	52.9	2020	52.9																																																																								
1980	40.8	1981	53.6	1982	53.6	1983	53.6	1984	53.6	1985	53.6	1986	53.6	1987	53.6	1988	53.6	1989	53.6	1990	53.6	1991	53.6	1992	53.6	1993	53.6	1994	53.6	1995	53.6	1996	53.6	1997	53.6	1998	53.6	1999	53.6	2000	53.6	2001	53.6	2002	53.6	2003	53.6	2004	53.6	2005	53.6	2006	53.6	2007	53.6	2008	53.6	2009	53.6	2010	53.6	2011	53.6	2012	53.6	2013	53.6	2014	53.6	2015	53.6	2016	53.6	2017	53.6	2018	53.6	2019	53.6	2020	53.6																																																																										
1981	53.6	1982	48.4	1983	48.4	1984	48.4	1985	48.4	1986	48.4	1987	48.4	1988	48.4	1989	48.4	1990	48.4	1991	48.4	1992	48.4	1993	48.4	1994	48.4	1995	48.4	1996	48.4	1997	48.4	1998	48.4	1999	48.4	2000	48.4	2001	48.4	2002	48.4	2003	48.4	2004	48.4	2005	48.4	2006	48.4	2007	48.4	2008	48.4	2009	48.4	2010	48.4	2011	48.4	2012	48.4	2013	48.4	2014	48.4	2015	48.4	2016	48.4	2017	48.4	2018	48.4	2019	48.4	2020	48.4																																																																												
1982	48.4	1983	45.5	1984	45.5	1985	45.5	1986	45.5	1987	45.5	1988	45.5	1989	45.5	1990	45.5	1991	45.5	1992	45.5	1993	45.5	1994	45.5	1995	45.5	1996	45.5	1997	45.5	1998	45.5	1999	45.5	2000	45.5	2001	45.5	2002	45.5	2003	45.5	2004	45.5	2005	45.5	2006	45.5	2007	45.5	2008	45.5	2009	45.5	2010	45.5	2011	45.5	2012	45.5	2013	45.5	2014	45.5	2015	45.5	2016	45.5	2017	45.5	2018	45.5	2019	45.5	2020	45.5																																																																														
1983	45.5	1984	43.3	1985	43.3	1986	43.3	1987	43.3	1988	43.3	1989	43.3	1990	43.3	1991	43.3	1992	43.3	1993	43.3	1994	43.3	1995	43.3	1996	43.3	1997	43.3	1998	43.3	1999	43.3	2000	43.3	2001	43.3	2002	43.3	2003	43.3	2004	43.3	2005	43.3	2006	43.3	2007	43.3	2008	43.3	2009	43.3	2010	43.3	2011	43.3	2012	43.3	2013	43.3	2014	43.3	2015	43.3	2016	43.3	2017	43.3	2018	43.3	2019	43.3	2020	43.3																																																																																
1984	43.3	1985	40.3	1986	40.3	1987	40.3	1988	40.3	1989	40.3	1990	40.3	1991	40.3	1992	40.3	1993	40.3	1994	40.3	1995	40.3	1996	40.3	1997	40.3	1998	40.3	1999	40.3	2000	40.3	2001																																																																																																																									

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DATE : JUNE 30, 1995

TABLE 1.11C.1
BY-MODEL-YEAR EMISSION LEVELS FOR LOW ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES
NOx

		January 1 of Calendar Year																																																																							
		1985			1986			1987			1988			1989			1990			1991			1992			1993			1994			1995			1996																																						
		MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**																																								
+		1961	3.4	1962	3.4	1963	3.4	1964	3.4	1965	3.4	1966	3.4	1967	3.4	1968	3.4	1969	4.3	1970	4.3	1971	4.3	1972	4.3	1973	4.3	1974	4.3	1975	4.3	1976	4.3	1977	4.3	1978	4.3	1979	4.3	1980	4.3	1981	4.3	1982	4.3	1983	4.3	1984	4.3	1985	4.3	1986	4.3	1987	4.3	1988	4.3	1989	4.3	1990	4.3	1991	4.3	1992	4.3	1993	4.3	1994	4.3	1995	4.3	1996	4.3
		1962	3.4	1963	3.4	1964	3.4	1965	3.4	1966	3.4	1967	3.4	1968	3.4	1969	4.3	1970	4.3	1971	4.3	1972	4.3	1973	4.3	1974	4.3	1975	4.3	1976	4.3	1977	4.3	1978	4.3	1979	4.3	1980	4.3	1981	4.3	1982	4.3	1983	4.3	1984	4.3	1985	4.3	1986	4.3	1987	4.3	1988	4.3	1989	4.3	1990	4.3	1991	4.3	1992	4.3	1993	4.3	1994	4.3	1995	4.3	1996	4.3		
		1963	3.4	1964	3.4	1965	3.4	1966	3.4	1967	3.4	1968	3.4	1969	4.3	1970	4.3	1971	4.3	1972	4.3	1973	4.3	1974	4.3	1975	4.3	1976	4.3	1977	4.3	1978	4.3	1979	4.3	1980	4.3	1981	4.3	1982	4.3	1983	4.3	1984	4.3	1985	4.3	1986	4.3	1987	4.3	1988	4.3	1989	4.3	1990	4.3	1991	4.3	1992	4.3	1993	4.3	1994	4.3	1995	4.3	1996	4.3				
		1964	3.4	1965	3.4	1966	3.4	1967	3.4	1968	3.4	1969	4.3	1970	4.3	1971	4.3	1972	4.3	1973	4.3	1974	4.3	1975	4.3	1976	4.3	1977	4.3	1978	4.3	1979	4.3	1980	4.3	1981	4.3	1982	4.3	1983	4.3	1984	4.3	1985	4.3	1986	4.3	1987	4.3	1988	4.3	1989	4.3	1990	4.3	1991	4.3	1992	4.3	1993	4.3	1994	4.3	1995	4.3	1996	4.3						
		1965	3.4	1966	3.4	1967	3.4	1968	3.4	1969	4.3	1970	4.3	1971	4.3	1972	4.3	1973	4.3	1974	4.3	1975	4.3	1976	4.3	1977	4.3	1978	4.3	1979	4.3	1980	4.3	1981	4.3	1982	4.3	1983	4.3	1984	4.3	1985	4.3	1986	4.3	1987	4.3	1988	4.3	1989	4.3	1990	4.3	1991	4.3	1992	4.3	1993	4.3	1994	4.3	1995	4.3	1996	4.3								
		1966	3.4	1967	3.4	1968	3.4	1969	4.3	1970	4.3	1971	4.3	1972	4.3	1973	4.3	1974	4.3	1975	4.3	1976	4.3	1977	4.3	1978	4.3	1979	4.3	1980	4.3	1981	4.3	1982	4.3	1983	4.3	1984	4.3	1985	4.3	1986	4.3	1987	4.3	1988	4.3	1989	4.3	1990	4.3	1991	4.3	1992	4.3	1993	4.3	1994	4.3	1995	4.3	1996	4.3										
		1967	3.4	1968	4.3	1969	4.3	1970	4.3	1971	4.3	1972	4.3	1973	4.3	1974	4.3	1975	4.3	1976	4.3	1977	4.3	1978	4.3	1979	4.3	1980	4.3	1981	4.3	1982	4.3	1983	4.3	1984	4.3	1985	4.3	1986	4.3	1987	4.3	1988	4.3	1989	4.3	1990	4.3	1991	4.3	1992	4.3	1993	4.3	1994	4.3	1995	4.3	1996	4.3												
		1968	4.3	1969	4.3	1970	4.3	1971	4.3	1972	4.3	1973	4.3	1974	4.3	1975	4.3	1976	4.3	1977	4.3	1978	4.3	1979	4.3	1980	4.3	1981	4.3	1982	4.3	1983	4.3	1984	4.3	1985	4.3	1986	4.3	1987	4.3	1988	4.3	1989	4.3	1990	4.3	1991	4.3	1992	4.3	1993	4.3	1994	4.3	1995	4.3	1996	4.3														
		1969	4.3	1970	4.3	1971	4.3	1972	4.3	1973	4.3	1974	4.3	1975	4.3	1976	4.3	1977	4.3	1978	4.3	1979	4.3	1980	4.3	1981	4.3	1982	4.3	1983	4.3	1984	4.3	1985	4.3	1986	4.3	1987	4.3	1988	4.3	1989	4.3	1990	4.3	1991	4.3	1992	4.3	1993	4.3	1994	4.3	1995	4.3	1996	4.3																
		1970	4.3	1971	4.3	1972	4.3	1973	4.3	1974	4.3	1975	4.3	1976	4.3	1977	4.3	1978	4.3	1979	4.3	1980	4.3	1981	4.3	1982	4.3	1983	4.3	1984	4.3	1985	4.3	1986	4.3	1987	4.3	1988	4.3	1989	4.3	1990	4.3	1991	4.3	1992	4.3	1993	4.3	1994	4.3	1995	4.3	1996	4.3																		
		1971	4.3	1972	4.3	1973	4.3	1974	4.3	1975	4.3	1976	4.3	1977	4.3	1978	4.3	1979	4.3	1980	4.3	1981	4.3	1982	4.3	1983	4.3	1984	4.3	1985	4.3	1986	4.3	1987	4.3	1988	4.3	1989	4.3	1990	4.3	1991	4.3	1992	4.3	1993	4.3	1994	4.3	1995	4.3	1996	4.3																				
		1972	4.3	1973	3.5	1974	3.5	1975	3.5	1976	3.0	1977	3.0	1978	3.0	1979	3.0	1980	3.0	1981	3.0	1982	3.0	1983	3.0	1984	3.0	1985	3.0	1986	3.0	1987	3.0	1988	3.0	1989	3.0	1990	3.0	1991	3.0	1992	3.0	1993	3.0	1994	3.0	1995	3.0	1996	3.0																						
		1973	3.5	1974	2.9	1975	2.9	1976	2.9	1977	2.9	1978	2.9	1979	2.9	1980	2.9	1981	2.9	1982	2.9	1983	2.9	1984	2.9	1985	2.9	1986	2.9	1987	2.9	1988	2.9	1989	2.9	1990	2.9	1991	2.9	1992	2.9	1993	2.9	1994	2.9	1995	2.9	1996	2.9																								
		1974	3.5	1975	2.9	1976	2.9	1977	2.9	1978	2.9	1979	2.9	1980	2.9	1981	2.9	1982	2.9	1983	2.9	1984	2.9	1985	2.9	1986	2.9	1987	2.9	1988	2.9	1989	2.9	1990	2.9	1991	2.9	1992	2.9	1993	2.9	1994	2.9	1995	2.9	1996	2.9																										
		1975	2.9	1976	2.9	1977	2.9	1978	2.9	1979	2.9	1980	2.9	1981	2.9	1982	2.9	1983	2.9	1984	2.9	1985	2.9	1986	2.9	1987	2.9	1988	2.9	1989	2.9	1990	2.9	1991	2.9	1992	2.9	1993	2.9	1994	2.9	1995	2.9	1996	2.9																												
		1976	2.9	1977	2.8	1978	2.8	1979	2.8	1980	2.8	1981	2.8	1982	2.8	1983	2.8	1984	2.8	1985	2.8	1986	2.8	1987	2.8	1988	2.8	1989	2.8	1990	2.8	1991	2.8	1992	2.8	1993	2.8	1994	2.8	1995	2.8	1996	2.8																														
		1977	2.8	1978	2.7	1979	2.7	1980	2.7	1981	2.7	1982	2.7	1983	2.7	1984	2.7	1985	2.7	1986	2.7	1987	2.7	1988	2.7	1989	2.7	1990	2.7	1991	2.7	1992	2.7	1993	2.7	1994	2.7	1995	2.7	1996	2.7																																
		1978	2.7	1979	2.7	1980	2.7	1981	2.7	1982	2.7	1983	2.7	1984	2.7	1985	2.7	1986	2.7	1987	2.7	1988	2.7	1989	2.7	1990	2.7	1991	2.7	1992	2.7	1993	2.7	1994	2.7	1995	2.7	1996	2.7																																		
		1979	2.6	1980	2.3	1981	1.6	1982	1.6	1983	1.6	1984	1.6	1985	1.6	1986	1.6	1987	1.6	1988	1.6	1989	1.6	1990	1.6	1991	1.6	1992	1.6	1993	1.6	1994	1.6	1995	1.6	1996	1.6																																				
		1980	2.2	1981	1.3	1982	1.4	1983	1.4	1984	1.3	1985	1.3	1986	1.3	1987	1.3	1988	1.3	1989	1.3	1990	1.3	1991	1.3	1992	1.3	1993	1.3	1994	1.3	1995	1.3	1996	1.3																																						
		1981	1.1	1982	1.1	1983	1.0	1984	1.0	1985	1.0	1986	1.0	1987	1.0	1988	1.0	1989	1.0	1990	1.0	1991	1.0	1992	1.0	1993	1.0	1994	1.0	1995	1.0	1996	1.0																																								
		1982	1.0	1983	0.9	1984	0.9	1985	0.9	1986	0.9	1987	0.9	1988	0.9	1989	0.9	1990	0.9	1991	0.9	1992	0.9	1993	0.9	1994	0.9	1995	0.9	1996	0.9																																										
		1983	0.8	1984	0.8	1985	0.8	1986	0.8	1987	0.8	1988	0.8	1989	0.8	1990	0.8	1991	0.8	1992	0.8	1993	0.8	1994	0.8	1995	0.8	1996	0.8																																												
		1984	0.6	1985	0.6	1986	0.6	1987	0.6	1988	0.6	1989	0.6	1990	0.6	1991	0.6	1992	0.6	1993	0.6	1994	0.6	1995	0.6	1996	0.6																																														
		1985	0.6	1986	0.5	1987	0.5	1988	0.5	1989	0.5	1990	0.5	1991	0.5	1992	0.5	1993	0.5	1994	0.5	1995	0.5	1996	0.5																																																

*MY -- Indicates the model year.

**E -- Indicates the average grams/mile emission level for model year "MY" on January 1 of the given calendar year. These emission levels are calculated for the FTP test conditions:

19.6 MPH, TEMP=75 Degrees F

20.6% of VMT traveled in cold start,

52.1% of VMT in stabilized,

27.3% of VMT in hot start.

Emissions are based on the January 1 mileage accumulation figures given in Table 1.4A.1

Continued on the next page.

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TABLE 1.11C.1 (continued)
BY-MODEL-YEAR EMISSION LEVELS FOR LOW ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES
NOX

		January 1 of Calendar Year																																																																																													
		1997			1998			1999			2000			2003			2005			2008			2010			2012			2015			2018			2020																																																												
MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**																																																														
1973	3.8	1974	3.8	1975	3.2	1976	3.2	1977	3.2	1978	3.8	1979	3.2	1980	3.5	1981	4.2	1982	4.8	1983	4.4	1984	4.8	1985	4.6	1986	4.4	1987	4.4	1988	4.4	1989	4.4	1990	4.4	1991	4.4	1992	4.4	1993	4.4	1994	4.4	1995	4.4	1996	4.4	1997	4.4	1998	4.4	1999	4.4	2000	4.4	2001	4.4	2002	4.4	2003	4.4	2004	4.4	2005	4.4	2006	4.4	2007	4.4	2008	4.4	2009	4.4	2010	4.4	2011	4.4	2012	4.4	2013	4.4	2014	4.4	2015	4.4	2016	4.4	2017	4.4	2018	4.4	2019	4.4	2020	4.4
1974	3.8	1975	3.2	1976	3.8	1977	3.8	1978	3.8	1979	3.8	1980	3.8	1981	3.8	1982	3.8	1983	3.8	1984	3.8	1985	3.8	1986	3.8	1987	3.8	1988	3.8	1989	3.8	1990	3.8	1991	3.8	1992	3.8	1993	3.8	1994	3.8	1995	3.8	1996	3.8	1997	3.8	1998	3.8	1999	3.8	2000	3.8	2001	3.8	2002	3.8	2003	3.8	2004	3.8	2005	3.8	2006	3.8	2007	3.8	2008	3.8	2009	3.8	2010	3.8	2011	3.8	2012	3.8	2013	3.8	2014	3.8	2015	3.8	2016	3.8	2017	3.8	2018	3.8	2019	3.8	2020	3.8		
1975	3.2	1976	3.8	1977	3.8	1978	3.8	1979	3.8	1980	3.8	1981	3.8	1982	3.8	1983	3.8	1984	3.8	1985	3.8	1986	3.8	1987	3.8	1988	3.8	1989	3.8	1990	3.8	1991	3.8	1992	3.8	1993	3.8	1994	3.8	1995	3.8	1996	3.8	1997	3.8	1998	3.8	1999	3.8	2000	3.8	2001	3.8	2002	3.8	2003	3.8	2004	3.8	2005	3.8	2006	3.8	2007	3.8	2008	3.8	2009	3.8	2010	3.8	2011	3.8	2012	3.8	2013	3.8	2014	3.8	2015	3.8	2016	3.8	2017	3.8	2018	3.8	2019	3.8	2020	3.8				
1976	3.2	1977	3.8	1978	3.8	1979	3.8	1980	3.8	1981	3.8	1982	3.8	1983	3.8	1984	3.8	1985	3.8	1986	3.8	1987	3.8	1988	3.8	1989	3.8	1990	3.8	1991	3.8	1992	3.8	1993	3.8	1994	3.8	1995	3.8	1996	3.8	1997	3.8	1998	3.8	1999	3.8	2000	3.8	2001	3.8	2002	3.8	2003	3.8	2004	3.8	2005	3.8	2006	3.8	2007	3.8	2008	3.8	2009	3.8	2010	3.8	2011	3.8	2012	3.8	2013	3.8	2014	3.8	2015	3.8	2016	3.8	2017	3.8	2018	3.8	2019	3.8	2020	3.8						
1977	3.7	1978	3.7	1979	3.7	1980	3.7	1981	3.7	1982	3.7	1983	3.7	1984	3.7	1985	3.7	1986	3.7	1987	3.7	1988	3.7	1989	3.7	1990	3.7	1991	3.7	1992	3.7	1993	3.7	1994	3.7	1995	3.7	1996	3.7	1997	3.7	1998	3.7	1999	3.7	2000	3.7	2001	3.7	2002	3.7	2003	3.7	2004	3.7	2005	3.7	2006	3.7	2007	3.7	2008	3.7	2009	3.7	2010	3.7	2011	3.7	2012	3.7	2013	3.7	2014	3.7	2015	3.7	2016	3.7	2017	3.7	2018	3.7	2019	3.7	2020	3.7								
1978	3.7	1979	3.7	1980	3.7	1981	3.7	1982	3.7	1983	3.7	1984	3.7	1985	3.7	1986	3.7	1987	3.7	1988	3.7	1989	3.7	1990	3.7	1991	3.7	1992	3.7	1993	3.7	1994	3.7	1995	3.7	1996	3.7	1997	3.7	1998	3.7	1999	3.7	2000	3.7	2001	3.7	2002	3.7	2003	3.7	2004	3.7	2005	3.7	2006	3.7	2007	3.7	2008	3.7	2009	3.7	2010	3.7	2011	3.7	2012	3.7	2013	3.7	2014	3.7	2015	3.7	2016	3.7	2017	3.7	2018	3.7	2019	3.7	2020	3.7										
1979	3.6	1980	3.6	1981	3.6	1982	3.6	1983	3.6	1984	3.6	1985	3.6	1986	3.6	1987	3.6	1988	3.6	1989	3.6	1990	3.6	1991	3.6	1992	3.6	1993	3.6	1994	3.6	1995	3.6	1996	3.6	1997	3.6	1998	3.6	1999	3.6	2000	3.6	2001	3.6	2002	3.6	2003	3.6	2004	3.6	2005	3.6	2006	3.6	2007	3.6	2008	3.6	2009	3.6	2010	3.6	2011	3.6	2012	3.6	2013	3.6	2014	3.6	2015	3.6	2016	3.6	2017	3.6	2018	3.6	2019	3.6	2020	3.6												
1980	3.2	1981	3.2	1982	3.2	1983	3.2	1984	3.2	1985	3.2	1986	3.2	1987	3.2	1988	3.2	1989	3.2	1990	3.2	1991	3.2	1992	3.2	1993	3.2	1994	3.2	1995	3.2	1996	3.2	1997	3.2	1998	3.2	1999	3.2	2000	3.2	2001	3.2	2002	3.2	2003	3.2	2004	3.2	2005	3.2	2006	3.2	2007	3.2	2008	3.2	2009	3.2	2010	3.2	2011	3.2	2012	3.2	2013	3.2	2014	3.2	2015	3.2	2016	3.2	2017	3.2	2018	3.2	2019	3.2	2020	3.2														
1981	3.4	1982	3.4	1983	3.4	1984	3.4	1985	3.4	1986	3.4	1987	3.4	1988	3.4	1989	3.4	1990	3.4	1991	3.4	1992	3.4	1993	3.4	1994	3.4	1995	3.4	1996	3.4	1997	3.4	1998	3.4	1999	3.4	2000	3.4	2001	3.4	2002	3.4	2003	3.4	2004	3.4	2005	3.4	2006	3.4	2007	3.4	2008	3.4	2009	3.4	2010	3.4	2011	3.4	2012	3.4	2013	3.4	2014	3.4	2015	3.4	2016	3.4	2017	3.4	2018	3.4	2019	3.4	2020	3.4																
1982	3.2	1983	3.2	1984	3.2	1985	3.2	1986	3.2	1987	3.2	1988	3.2	1989	3.2	1990	3.2	1991	3.2	1992	3.2	1993	3.2	1994	3.2	1995	3.2	1996	3.2	1997	3.2	1998	3.2	1999	3.2	2000	3.2	2001	3.2	2002	3.2	2003	3.2	2004	3.2	2005	3.2	2006	3.2	2007	3.2	2008	3.2	2009	3.2	2010	3.2	2011	3.2	2012	3.2	2013	3.2	2014	3.2	2015	3.2	2016	3.2	2017	3.2	2018	3.2	2019	3.2	2020	3.2																		
1983	3.1	1984	3.1	1985	3.1	1986	3.1	1987	3.1	1988	3.1	1989	3.1	1990	3.1	1991	3.1	1992	3.1	1993	3.1	1994	3.1	1995	3.1	1996	3.1	1997	3.1	1998	3.1	1999	3.1	2000	3.1	2001	3.1	2002	3.1	2003	3.1	2004	3.1	2005	3.1	2006	3.1	2007	3.1	2008	3.1	2009	3.1	2010	3.1	2011	3.1	2012	3.1	2013	3.1	2014	3.1	2015	3.1	2016	3.1	2017	3.1	2018	3.1	2019	3.1	2020	3.1																				
1984	3.2	1985	3.1	1986	3.1	1987	3.1	1988	3.1	1989	3.1	1990	3.1	1991	3.1	1992	3.1	1993	3.1	1994	3.1	1995	3.1	1996	3.1	1997	3.1	1998	3.1	1999	3.1	2000	3.1	2001	3.1	2002	3.1	2003	3.1	2004	3.1	2005	3.1	2006	3.1	2007	3.1	2008	3.1	2009	3.1	2010	3.1	2011	3.1	2012	3.1	2013	3.1	2014	3.1	2015	3.1	2016	3.1	2017	3.1	2018	3.1	2019	3.1	2020	3.1																						
1985	2.9	1986	2.9	1987	2.9	1988	2.9	1989	2.9	1990	2.9	1991	2.9	1992	2.9	1993	2.9	1994	2.9	1995	2.9	1996	2.9	1997	2.9	1998	2.9	1999	2.9	2000	2.9	2001	2.9	2002	2.9	2003	2.9	2004	2.9	2005	2.9	2006	2.9	2007	2.9	2008	2.9	2009	2.9	2010	2.9	2011	2.9	2012	2.9	2013	2.9	2014	2.9	2015	2.9	2016	2.9	2017	2.9	2018	2.9	2019	2.9	2020	2.9																								
1986	2.7	1987	2.7	1988	2.7	1989	2.7	1990	2.7	1991	2.7	1992	2.7	1993	2.7	1994	2.7	1995	2.7	1996	2.7	1997	2.7	1998	2.7	1999	2.7	2000	2.7	2001	2.7	2002	2.7	2003	2.7	2004	2.7	2005	2.7	2006	2.7	2007	2.7	2008	2.7	2009	2.7	2010	2.7	2011	2.7	2012	2.7	2013	2.7	2014	2.7	2015	2.7	2016	2.7	2017	2.7	2018	2.7	2019	2.7	2020	2.7																										
1987	2.5	1988	2.5	1989	2.5	1990	2.5	1991	2.5	1992	2.5	1993	2.5	1994	2.5	1995	2.5	1996	2.5	1997	2.5	1998	2.5	1999	2.5	2000	2.5	2001	2.5	2002	2.5	2003	2.5	2004	2.5	2005	2.5	2006	2.5	2007	2.5	2008	2.5	2009	2.5	2010	2.5	2011	2.5	2012	2.5	2013	2.5	2014	2.5	2015	2.5	2016	2.5	2017	2.5	2018	2.5	2019	2.5	2020	2.5																												
1988	2.2	1989	2.2	1990	2.2	1991	2.2	1992	2.2	1993	2.2	1994	2.2	1995	2.2	1996	2.2	1997	2.2	1998	2.2	1999	2.2	2000	2.2	2001	2.2	2002	2.2	2003	2.2	2004	2.2	2005	2.2	2006	2.2	2007	2.2	2008	2.2	2009	2.2	2010	2.2	2011	2.2	2012	2.2	2013	2.2	2014																																											

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DATE : JUNE 30, 1995

TABLE 1.11A.2
BY-MODEL-YEAR EMISSION LEVELS FOR HIGH ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES
TOTAL NONMETHANE HC

		January 1 of Calendar Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
		1985			1986			1987			1988			1989			1990			1991			1992			1993			1994			1995			1996																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
1961	24.2	1962	24.2	1963	20.0	1964	20.0	1965	20.0	1966	20.0	1967	20.0	1968	16.6	1969	16.6	1970	16.6	1971	16.6	1972	16.6	1973	16.6	1974	16.6	1975	16.6	1976	16.6	1977	16.6	1978	16.6	1979	16.6	1980	16.6	1981	16.6	1982	16.6	1983	16.6	1984	16.6	1985	16.6	1986	16.6	1987	16.6	1988	16.6	1989	16.6	1990	16.6	1991	16.6	1992	16.6	1993	16.6	1994	16.6	1995	16.6	1996	16.6	1997	16.6	1998	16.6	1999	16.6	2000	16.6	2001	16.6	2002	16.6	2003	16.6	2004	16.6	2005	16.6	2006	16.6	2007	16.6	2008	16.6	2009	16.6	2010	16.6	2011	16.6	2012	16.6	2013	16.6	2014	16.6	2015	16.6	2016	16.6	2017	16.6	2018	16.6	2019	16.6	2020	16.6	2021	16.6	2022	16.6	2023	16.6	2024	16.6	2025	16.6	2026	16.6	2027	16.6	2028	16.6	2029	16.6	2030	16.6	2031	16.6	2032	16.6	2033	16.6	2034	16.6	2035	16.6	2036	16.6	2037	16.6	2038	16.6	2039	16.6	2040	16.6	2041	16.6	2042	16.6	2043	16.6	2044	16.6	2045	16.6	2046	16.6	2047	16.6	2048	16.6	2049	16.6	2050	16.6	2051	16.6	2052	16.6	2053	16.6	2054	16.6	2055	16.6	2056	16.6	2057	16.6	2058	16.6	2059	16.6	2060	16.6	2061	16.6	2062	16.6	2063	16.6	2064	16.6	2065	16.6	2066	16.6	2067	16.6	2068	16.6	2069	16.6	2070	16.6	2071	16.6	2072	16.6	2073	16.6	2074	16.6	2075	16.6	2076	16.6	2077	16.6	2078	16.6	2079	16.6	2080	16.6	2081	16.6	2082	16.6	2083	16.6	2084	16.6	2085	16.6	2086	16.6	2087	16.6	2088	16.6	2089	16.6	2090	16.6	2091	16.6	2092	16.6	2093	16.6	2094	16.6	2095	16.6	2096	16.6	2097	16.6	2098	16.6	2099	16.6	2100	16.6	2101	16.6	2102	16.6	2103	16.6	2104	16.6	2105	16.6	2106	16.6	2107	16.6	2108	16.6	2109	16.6	2110	16.6	2111	16.6	2112	16.6	2113	16.6	2114	16.6	2115	16.6	2116	16.6	2117	16.6	2118	16.6	2119	16.6	2120	16.6	2121	16.6	2122	16.6	2123	16.6	2124	16.6	2125	16.6	2126	16.6	2127	16.6	2128	16.6	2129	16.6	2130	16.6	2131	16.6	2132	16.6	2133	16.6	2134	16.6	2135	16.6	2136	16.6	2137	16.6	2138	16.6	2139	16.6	2140	16.6	2141	16.6	2142	16.6	2143	16.6	2144	16.6	2145	16.6	2146	16.6	2147	16.6	2148	16.6	2149	16.6	2150	16.6	2151	16.6	2152	16.6	2153	16.6	2154	16.6	2155	16.6	2156	16.6	2157	16.6	2158	16.6	2159	16.6	2160	16.6	2161	16.6	2162	16.6	2163	16.6	2164	16.6	2165	16.6	2166	16.6	2167	16.6	2168	16.6	2169	16.6	2170	16.6	2171	16.6	2172	16.6	2173	16.6	2174	16.6	2175	16.6	2176	16.6	2177	16.6	2178	16.6	2179	16.6	2180	16.6	2181	16.6	2182	16.6	2183	16.6	2184	16.6	2185	16.6	2186	16.6	2187	16.6	2188	16.6	2189	16.6	2190	16.6	2191	16.6	2192	16.6	2193	16.6	2194	16.6	2195	16.6	2196	16.6	2197	16.6	2198	16.6	2199	16.6	2200	16.6	2201	16.6	2202	16.6	2203	16.6	2204	16.6	2205	16.6	2206	16.6	2207	16.6	2208	16.6	2209	16.6	2210	16.6	2211	16.6	2212	16.6	2213	16.6	2214	16.6	2215	16.6	2216	16.6	2217	16.6	2218	16.6	2219	16.6	2220	16.6	2221	16.6	2222	16.6	2223	16.6	2224	16.6	2225	16.6	2226	16.6	2227	16.6	2228	16.6	2229	16.6	2230	16.6	2231	16.6	2232	16.6	2233	16.6	2234	16.6	2235	16.6	2236	16.6	2237	16.6	2238	16.6	2239	16.6	2240	16.6	2241	16.6	2242	16.6	2243	16.6	2244	16.6	2245	16.6	2246	16.6	2247	16.6	2248	16.6	2249	16.6	2250	16.6	2251	16.6	2252	16.6	2253	16.6	2254	16.6	2255	16.6	2256	16.6	2257	16.6	2258	16.6	2259	16.6	2260	16.6	2261	16.6	2262	16.6	2263	16.6	2264	16.6	2265	16.6	2266	16.6	2267	16.6	2268	16.6	2269	16.6	2270	16.6	2271	16.6	2272	16.6	2273	16.6	2274	16.6	2275	16.6	2276	16.6	2277	16.6	2278	16.6	2279	16.6	2280	16.6	2281	16.6	2282	16.6	2283	16.6	2284	16.6	2285	16.6	2286	16.6	2287	16.6	2288	16.6	2289	16.6	2290	16.6	2291	16.6	2292	16.6	2293	16.6	2294	16.6	2295	16.6	2296	16.6	2297	16.6	2298	16.6	2299	16.6	2300	16.6	2301	16.6	2302	16.6	2303	16.6	2304	16.6	2305	16.6	2306	16.6	2307	16.6	2308	16.6	2309	16.6	2310	16.6	2311	16.6	2312	16.6	2313	16.6	2314	16.6	2315	16.6	2316	16.6	2317	16.6	2318	16.6	2319	16.6	2320	16.6	2321	16.6	2322	16.6	2323	16.6	2324	16.6	2325	16.6	2326	16.6	2327	16.6	2328	16.6	2329	16.6	2330	16.6	2331	16.6	2332	16.6	2333	16.6	2334	16.6	2335	16.6	2336	16.6	2337	16.6	2338	16.6	2339	16.6	2340	16.6	2341	16.6	2342	16.6	2343	16.6	2344	16.6	2345	16.6	2346	16.6	2347	16.6	2348	16.6	2349	16.6	2350	16.6	2351	16.6	2352	16.6	2353	16.6	2354	16.6	2355	16.6	2356	16.6	2357	16.6	2358	16.6	2359	16.6	2360	16.6	2361	16.6	2362	16.6	2363	16.6	2364	16.6	2365	16.6	2366	16.6	2367	16.6	2368	16.6	2369	16.6	2370	16.6	2371	16.6	2372	16.6	2373	16.6	2374	16.6	2375	16.6	2376	16.6	2377	16.6	2378	16.6	2379	16.6	2380	16.6	2381	16.6	2382	16.6	2383	16.6	2384	16.6	2385	16.6	2386	16.6	2387	16.6	2388	16.6	2389	16.6	2390	16.6	2391	16.6	2392	16.6	2393	16.6	2394	16.6	2395	16.6	2396	16.6	2397	16.6	2398	16.6	2399	16.6	2400	16.6	2401	16.6	2402	16.6	2403	16.6	2404	16.6	2405	16.6	2406	16.6	2407	16.6	2408	16.6	2409	16.6	2410	16.6	2411	16.6	2412	16.6	2413	16.6	2414	16.6	2415	16.6	2416	16.6	2417	16.6	2418	16.6	2419	16.6	2420	16.6	2421	16.6	2422	16.6	2423	16.6	2424	16.6	2425	16.6	2426	16.6	2427	16.6	2428	16.6	2429	16.6	2430	16.6	2431	16.6	2432	16.6	2433	16.6	2434	16.6	2435	16.6	2436	16.6	2437	16.6	2438	16.6	2439	16.6	2440	16.6	2441	16.6	2442	16.6	2443	16.6	2444	16.6	2445	16.6	2446	16.6	2447	16.6	2448	16.6	2449	16.6	2450	16.6	2451	16.6	2452	16.6	2453	16.6	2454	16.6	2455	16.6	2456	16.6	2457	16.6	2458	16.6	2459	16.6	2460	16.6	2461	16.6	2462	16.6	2463	16.6	2464	16.6	2465	16.6	2466	16.6	2467	16.6	2468	16.6	2469	16.6	2470	16.6	2471	16.6	2472	16.6	2473	16.6	2474	16.6	2475	16.6	2476	16.6	2477	16.6	2478	16.6	2479	16.6	2480	16.6	2481	16.6	2482	16.6	2483	16.6	2484	16.6	2485	16.6	2486	16.6	2487	16.6	2488	16.6	2489	16.6	2490	16.6	2491	16.6	2492	16.6	2493	16.6	2494	16.6	2495	16.6	2496	16.6	2497	16.6	2498	16.6	2499	16.6	2500	16.6	2501	16.6	2502	16.6	2503	16.6	2504	16.6	2505	16.6	2506	16.6	2507	16.6	2508	16.6	2509	16.6	2510	16.6	2511	16.6	2512	16.6	2513	16.6	2514	16.6	2515	16.6	2516	16.6	2517	16.6	2518	16.6	2519	16.6	2520	16.6	2521	16.6	2522	16.6	2523	16.6	2524	16.6	2525	16.6	2526	16.6	2527	16.6	2528	16.6	2529	16.6	2530	16.6	2531	16.6	2532	16.6	2533	16.6	2534	16.6	2535	16.6	2536	16.6	2537	16.6	2538	16.6	2539	16.6	2540	16.6	2541	16.6	2542	16.6	2543	16.6	2544	16.6	2545	16.6	2546	16.6	2547	16.6	2548	16.6	2549	16.6	2550	16.6	2551	16.6	2552	16.6	2553	16.6	2554	16.6	2555	16.6	2556	16.6	2557	16.6	2558	16.6	2559	16.6	2560	16.6	2561	16.6	2562	16.6	2563	16.6	2564	16.6	2565	16.6	2566	16.6	2567	16.6	2568	16.6	2569	16.6	2570	16.6	2571	16.6	2572	16.6	2573	16.6	2574	16.6	2575	16.6	2576	16.6	2577	16.6	2578	16.6	2579	16.6	2580	16.6	2581	16.6	2582	16.6	2583	16.6	2584	16.6	2585	16.6	2586	16.6	2587	16.6	2588	16.6	2589	16.6	2590	16.6	2591	16.6	2592	16.6	2593	16.6	2594	16.6	2595	16.6	2596	16.6	2597	16.6	2598	16.6	2599	16.6	2600	16.6	2601	16.6	2602	16.6	2603	16.6	2604	16.6	2605	16.6	2606	16.6	2607	16.6	2608	16.6	2609	16.6	2610	16.6	2611	16.6	2612	16.6	2613	16.6	2614	16.6	2615	16.6	2616	16.6	2617	16.6	2618	16.6	2619	16.6	2620	16.6	2621	16.6	2622	16.6	2623	16.6	2624	16.6	2625	16.6	2626	16.

*MY -- Indicates the model year.

**E -- Indicates the average grams/mile emission level for model year "MY" on January 1 of the given calendar year. These emission levels are calculated for the FTP test conditions:

19.6 MPH, TEMP=75 Degrees F
20.6% of VMT traveled in cold start,
52.1% of VMT in stabilized,
27.3% of VMT in hot start,
60 TO 84F diurnal,
75F for hot soak and running loss emissions,

9.0 psi fuel RVP,
54.57% average in-use fuel tank level, including refueling emissions.

Emissions are based on the January 1 mileage accumulation figures given in Table 2.4A.1

Continued on the next page.

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TABLE 1.11A.2 (continued)
BY-MODEL-YEAR EMISSION LEVELS FOR HIGH ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES
TOTAL NONMETHANE HC

		January 1 of Calendar Year																																																																																													
		1997			1998			1999			2000			2003			2005			2008			2010			2012			2015			2018			2020																																																												
MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**																																																														
1973	11.3	1974	11.3	1975	12.1	1976	12.1	1977	12.1	1978	12.1	1979	11.2	1980	11.2	1981	8.2	1982	7.4	1983	7.3	1984	7.3	1985	7.0	1986	7.0	1987	7.3	1988	7.3	1989	7.2	1990	7.2	1991	7.0	1992	7.0	1993	7.0	1994	7.3	1995	7.1	1996	6.9	1997	6.9	1998	6.6	1999	6.3	2000	6.3	2001	6.3	2002	6.3	2003	6.3	2004	6.3	2005	6.3	2006	6.3	2007	6.3	2008	6.3	2009	6.3	2010	6.3	2011	6.3	2012	6.3	2013	6.3	2014	6.3	2015	6.3	2016	6.3	2017	6.3	2018	6.3	2019	6.3	2020	6.3
1974	11.1	1975	11.8	1976	11.8	1977	10.2	1978	10.2	1979	10.2	1980	8.0	1981	8.0	1982	7.5	1983	7.2	1984	7.2	1985	7.2	1986	6.9	1987	6.9	1988	6.9	1989	6.9	1990	6.9	1991	6.9	1992	6.9	1993	6.9	1994	6.9	1995	6.9	1996	6.9	1997	6.9	1998	6.9	1999	6.9	2000	6.9	2001	6.9	2002	6.9	2003	6.9	2004	6.9	2005	6.9	2006	6.9	2007	6.9	2008	6.9	2009	6.9	2010	6.9	2011	6.9	2012	6.9	2013	6.9	2014	6.9	2015	6.9	2016	6.9	2017	6.9	2018	6.9	2019	6.9	2020	6.9		
1975	11.4	1976	11.5	1977	10.0	1978	10.7	1979	10.7	1980	10.7	1981	7.7	1982	7.7	1983	7.2	1984	6.9	1985	6.9	1986	6.9	1987	6.6	1988	6.6	1989	6.6	1990	6.6	1991	6.6	1992	6.6	1993	6.6	1994	6.6	1995	6.6	1996	6.6	1997	6.6	1998	6.6	1999	6.6	2000	6.6	2001	6.6	2002	6.6	2003	6.6	2004	6.6	2005	6.6	2006	6.6	2007	6.6	2008	6.6	2009	6.6	2010	6.6	2011	6.6	2012	6.6	2013	6.6	2014	6.6	2015	6.6	2016	6.6	2017	6.6	2018	6.6	2019	6.6	2020	6.6				
1976	11.2	1977	9.7	1978	10.4	1979	10.4	1980	10.4	1981	10.4	1982	7.0	1983	7.0	1984	6.7	1985	6.5	1986	6.5	1987	6.5	1988	6.5	1989	6.5	1990	6.5	1991	6.5	1992	6.5	1993	6.5	1994	6.5	1995	6.5	1996	6.5	1997	6.5	1998	6.5	1999	6.5	2000	6.5	2001	6.5	2002	6.5	2003	6.5	2004	6.5	2005	6.5	2006	6.5	2007	6.5	2008	6.5	2009	6.5	2010	6.5	2011	6.5	2012	6.5	2013	6.5	2014	6.5	2015	6.5	2016	6.5	2017	6.5	2018	6.5	2019	6.5	2020	6.5						
1977	9.4	1978	10.1	1979	10.1	1980	7.2	1981	7.2	1982	7.2	1983	6.7	1984	6.7	1985	6.5	1986	6.2	1987	6.2	1988	6.2	1989	6.2	1990	6.2	1991	6.2	1992	6.2	1993	6.2	1994	6.2	1995	6.2	1996	6.2	1997	6.2	1998	6.2	1999	6.2	2000	6.2	2001	6.2	2002	6.2	2003	6.2	2004	6.2	2005	6.2	2006	6.2	2007	6.2	2008	6.2	2009	6.2	2010	6.2	2011	6.2	2012	6.2	2013	6.2	2014	6.2	2015	6.2	2016	6.2	2017	6.2	2018	6.2	2019	6.2	2020	6.2								
1978	9.8	1979	9.8	1980	7.0	1981	6.9	1982	6.9	1983	6.9	1984	6.2	1985	6.2	1986	6.2	1987	6.1	1988	6.1	1989	6.1	1990	6.1	1991	6.1	1992	6.1	1993	6.1	1994	6.1	1995	6.1	1996	6.1	1997	6.1	1998	6.1	1999	6.1	2000	6.1	2001	6.1	2002	6.1	2003	6.1	2004	6.1	2005	6.1	2006	6.1	2007	6.1	2008	6.1	2009	6.1	2010	6.1	2011	6.1	2012	6.1	2013	6.1	2014	6.1	2015	6.1	2016	6.1	2017	6.1	2018	6.1	2019	6.1	2020	6.1										
1979	9.5	1980	6.7	1981	6.6	1982	6.6	1983	6.6	1984	6.6	1985	6.3	1986	6.3	1987	6.3	1988	6.3	1989	6.3	1990	6.3	1991	6.3	1992	6.3	1993	6.3	1994	6.3	1995	6.3	1996	6.3	1997	6.3	1998	6.3	1999	6.3	2000	6.3	2001	6.3	2002	6.3	2003	6.3	2004	6.3	2005	6.3	2006	6.3	2007	6.3	2008	6.3	2009	6.3	2010	6.3	2011	6.3	2012	6.3	2013	6.3	2014	6.3	2015	6.3	2016	6.3	2017	6.3	2018	6.3	2019	6.3	2020	6.3												
1980	6.5	1981	6.4	1982	6.0	1983	6.0	1984	6.0	1985	6.0	1986	5.7	1987	5.7	1988	5.8	1989	5.9	1990	5.9	1991	5.9	1992	5.7	1993	5.7	1994	5.7	1995	5.7	1996	5.7	1997	5.7	1998	5.7	1999	5.7	2000	5.7	2001	5.7	2002	5.7	2003	5.7	2004	5.7	2005	5.7	2006	5.7	2007	5.7	2008	5.7	2009	5.7	2010	5.7	2011	5.7	2012	5.7	2013	5.7	2014	5.7	2015	5.7	2016	5.7	2017	5.7	2018	5.7	2019	5.7	2020	5.7														
1981	6.1	1982	5.7	1983	5.6	1984	5.6	1985	5.6	1986	5.6	1987	5.3	1988	5.3	1989	5.4	1990	5.4	1991	5.4	1992	5.4	1993	5.4	1994	5.4	1995	5.4	1996	5.4	1997	5.4	1998	5.4	1999	5.4	2000	5.4	2001	5.4	2002	5.4	2003	5.4	2004	5.4	2005	5.4	2006	5.4	2007	5.4	2008	5.4	2009	5.4	2010	5.4	2011	5.4	2012	5.4	2013	5.4	2014	5.4	2015	5.4	2016	5.4	2017	5.4	2018	5.4	2019	5.4	2020	5.4																
1982	5.4	1983	5.3	1984	5.2	1985	5.2	1986	5.2	1987	5.2	1988	4.9	1989	4.9	1990	5.1	1991	5.2	1992	5.2	1993	5.2	1994	5.0	1995	5.0	1996	5.0	1997	5.0	1998	5.0	1999	5.0	2000	5.0	2001	5.0	2002	5.0	2003	5.0	2004	5.0	2005	5.0	2006	5.0	2007	5.0	2008	5.0	2009	5.0	2010	5.0	2011	5.0	2012	5.0	2013	5.0	2014	5.0	2015	5.0	2016	5.0	2017	5.0	2018	5.0	2019	5.0	2020	5.0																		
1983	5.0	1984	4.9	1985	4.9	1986	4.9	1987	4.9	1988	4.9	1989	4.8	1990	4.8	1991	4.9	1992	4.8	1993	4.8	1994	4.8	1995	4.6	1996	4.6	1997	4.6	1998	4.6	1999	4.6	2000	4.6	2001	4.6	2002	4.6	2003	4.6	2004	4.6	2005	4.6	2006	4.6	2007	4.6	2008	4.6	2009	4.6	2010	4.6	2011	4.6	2012	4.6	2013	4.6	2014	4.6	2015	4.6	2016	4.6	2017	4.6	2018	4.6	2019	4.6	2020	4.6																				
1984	4.6	1985	4.6	1986	4.6	1987	4.4	1988	4.4	1989	4.4	1990	4.5	1991	4.5	1992	4.6	1993	4.4	1994	4.4	1995	4.4	1996	4.4	1997	4.4	1998	4.4	1999	4.4	2000	4.4	2001	4.4	2002	4.4	2003	4.4	2004	4.4	2005	4.4	2006	4.4	2007	4.4	2008	4.4	2009	4.4	2010	4.4	2011	4.4	2012	4.4	2013	4.4	2014	4.4	2015	4.4	2016	4.4	2017	4.4	2018	4.4	2019	4.4	2020	4.4																						
1985	4.3	1986	4.2	1987	4.1	1988	4.1	1989	4.1	1990	4.1	1991	4.2	1992	4.2	1993	4.3	1994	4.0	1995	4.0	1996	4.0	1997	3.8	1998	3.8	1999	3.8	2000	3.8	2001	3.8	2002	3.8	2003	3.8	2004	3.8	2005	3.8	2006	3.8	2007	3.8	2008	3.8	2009	3.8	2010	3.8	2011	3.8	2012	3.8	2013	3.8	2014	3.8	2015	3.8	2016	3.8	2017	3.8	2018	3.8	2019	3.8	2020	3.8																								
1986	3.9	1987	3.8	1988	3.7	1989	3.9	1990	3.9	1991	3.9	1992	3.9	1993	3.9	1994	3.9	1995	3.6	1996	3.6	1997	3.6	1998	3.5	1999	3.5	2000	3.5	2001	3.5	2002	3.5	2003	3.5	2004	3.5	2005	3.5	2006	3.5	2007	3.5	2008	3.5	2009	3.5	2010	3.5	2011	3.5	2012	3.5	2013	3.5	2014	3.5	2015	3.5	2016	3.5	2017	3.5	2018	3.5	2019	3.5	2020	3.5																										
1987	3.5	1988	3.4	1989	3.5	1990	3.6	1991	3.6	1992	3.6	1993	3.6	1994	3.6	1995	3.5	1996	3.2	1997	3.2	1998	3.2	1999	3.2	2000	3.2	2001	3.2	2002	3.2	2003	3.2	2004	3.2	2005	3.2	2006	3.2	2007	3.2	2008	3.2	2009	3.2	2010	3.2	2011	3.2	2012	3.2	2013	3.2	2014	3.2	2015	3.2	2016	3.2	2017	3.2	2018	3.2	2019	3.2	2020	3.2																												
1988	3.1	1989	3.2	1990	3.2	1991	3.2	1992	3.2	1993	3.2	1994	3.2	1995	3.2	1996	3.0	1997	2.8	1998	2.8	1999	2.8	2000	2.8	2001	2.8	2002	2.8	2003	2.8	2004	2.8	2005	2.8	2006	2.8	2007	2.8	2008	2.8	2009	2.8	2010	2.8	2011	2.8	2012	2.8	2013	2.8	2014	2.8	2015	2.8	2016																																							

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DATE : JUNE 30, 1995

TABLE 1.11B.2
BY-MODEL-YEAR EMISSION LEVELS FOR HIGH ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES
CO

		January 1 of Calendar Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
		1985			1986			1987			1988			1989			1990			1991			1992			1993			1994			1995			1996																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
1961	161.6	1962	161.6	1963	161.6	1964	161.6	1965	161.6	1966	161.6	1967	161.6	1968	135.3	1969	135.3	1970	140.7	1971	140.7	1972	140.7	1973	135.3	1974	140.7	1975	140.7	1976	140.7	1977	140.7	1978	140.7	1979	140.7	1980	140.7	1981	140.7	1982	140.7	1983	140.7	1984	140.7	1985	140.7	1986	140.7	1987	140.7	1988	140.7	1989	140.7	1990	140.7	1991	140.7	1992	140.7	1993	140.7	1994	140.7	1995	140.7	1996	140.7	1997	140.7	1998	140.7	1999	140.7	2000	140.7	2001	140.7	2002	140.7	2003	140.7	2004	140.7	2005	140.7	2006	140.7	2007	140.7	2008	140.7	2009	140.7	2010	140.7	2011	140.7	2012	140.7	2013	140.7	2014	140.7	2015	140.7	2016	140.7	2017	140.7	2018	140.7	2019	140.7	2020	140.7	2021	140.7	2022	140.7	2023	140.7	2024	140.7	2025	140.7	2026	140.7	2027	140.7	2028	140.7	2029	140.7	2030	140.7	2031	140.7	2032	140.7	2033	140.7	2034	140.7	2035	140.7	2036	140.7	2037	140.7	2038	140.7	2039	140.7	2040	140.7	2041	140.7	2042	140.7	2043	140.7	2044	140.7	2045	140.7	2046	140.7	2047	140.7	2048	140.7	2049	140.7	2050	140.7	2051	140.7	2052	140.7	2053	140.7	2054	140.7	2055	140.7	2056	140.7	2057	140.7	2058	140.7	2059	140.7	2060	140.7	2061	140.7	2062	140.7	2063	140.7	2064	140.7	2065	140.7	2066	140.7	2067	140.7	2068	140.7	2069	140.7	2070	140.7	2071	140.7	2072	140.7	2073	140.7	2074	140.7	2075	140.7	2076	140.7	2077	140.7	2078	140.7	2079	140.7	2080	140.7	2081	140.7	2082	140.7	2083	140.7	2084	140.7	2085	140.7	2086	140.7	2087	140.7	2088	140.7	2089	140.7	2090	140.7	2091	140.7	2092	140.7	2093	140.7	2094	140.7	2095	140.7	2096	140.7	2097	140.7	2098	140.7	2099	140.7	2100	140.7	2101	140.7	2102	140.7	2103	140.7	2104	140.7	2105	140.7	2106	140.7	2107	140.7	2108	140.7	2109	140.7	2110	140.7	2111	140.7	2112	140.7	2113	140.7	2114	140.7	2115	140.7	2116	140.7	2117	140.7	2118	140.7	2119	140.7	2120	140.7	2121	140.7	2122	140.7	2123	140.7	2124	140.7	2125	140.7	2126	140.7	2127	140.7	2128	140.7	2129	140.7	2130	140.7	2131	140.7	2132	140.7	2133	140.7	2134	140.7	2135	140.7	2136	140.7	2137	140.7	2138	140.7	2139	140.7	2140	140.7	2141	140.7	2142	140.7	2143	140.7	2144	140.7	2145	140.7	2146	140.7	2147	140.7	2148	140.7	2149	140.7	2150	140.7	2151	140.7	2152	140.7	2153	140.7	2154	140.7	2155	140.7	2156	140.7	2157	140.7	2158	140.7	2159	140.7	2160	140.7	2161	140.7	2162	140.7	2163	140.7	2164	140.7	2165	140.7	2166	140.7	2167	140.7	2168	140.7	2169	140.7	2170	140.7	2171	140.7	2172	140.7	2173	140.7	2174	140.7	2175	140.7	2176	140.7	2177	140.7	2178	140.7	2179	140.7	2180	140.7	2181	140.7	2182	140.7	2183	140.7	2184	140.7	2185	140.7	2186	140.7	2187	140.7	2188	140.7	2189	140.7	2190	140.7	2191	140.7	2192	140.7	2193	140.7	2194	140.7	2195	140.7	2196	140.7	2197	140.7	2198	140.7	2199	140.7	2200	140.7	2201	140.7	2202	140.7	2203	140.7	2204	140.7	2205	140.7	2206	140.7	2207	140.7	2208	140.7	2209	140.7	2210	140.7	2211	140.7	2212	140.7	2213	140.7	2214	140.7	2215	140.7	2216	140.7	2217	140.7	2218	140.7	2219	140.7	2220	140.7	2221	140.7	2222	140.7	2223	140.7	2224	140.7	2225	140.7	2226	140.7	2227	140.7	2228	140.7	2229	140.7	2230	140.7	2231	140.7	2232	140.7	2233	140.7	2234	140.7	2235	140.7	2236	140.7	2237	140.7	2238	140.7	2239	140.7	2240	140.7	2241	140.7	2242	140.7	2243	140.7	2244	140.7	2245	140.7	2246	140.7	2247	140.7	2248	140.7	2249	140.7	2250	140.7	2251	140.7	2252	140.7	2253	140.7	2254	140.7	2255	140.7	2256	140.7	2257	140.7	2258	140.7	2259	140.7	2260	140.7	2261	140.7	2262	140.7	2263	140.7	2264	140.7	2265	140.7	2266	140.7	2267	140.7	2268	140.7	2269	140.7	2270	140.7	2271	140.7	2272	140.7	2273	140.7	2274	140.7	2275	140.7	2276	140.7	2277	140.7	2278	140.7	2279	140.7	2280	140.7	2281	140.7	2282	140.7	2283	140.7	2284	140.7	2285	140.7	2286	140.7	2287	140.7	2288	140.7	2289	140.7	2290	140.7	2291	140.7	2292	140.7	2293	140.7	2294	140.7	2295	140.7	2296	140.7	2297	140.7	2298	140.7	2299	140.7	2300	140.7	2301	140.7	2302	140.7	2303	140.7	2304	140.7	2305	140.7	2306	140.7	2307	140.7	2308	140.7	2309	140.7	2310	140.7	2311	140.7	2312	140.7	2313	140.7	2314	140.7	2315	140.7	2316	140.7	2317	140.7	2318	140.7	2319	140.7	2320	140.7	2321	140.7	2322	140.7	2323	140.7	2324	140.7	2325	140.7	2326	140.7	2327	140.7	2328	140.7	2329	140.7	2330	140.7	2331	140.7	2332	140.7	2333	140.7	2334	140.7	2335	140.7	2336	140.7	2337	140.7	2338	140.7	2339	140.7	2340	140.7	2341	140.7	2342	140.7	2343	140.7	2344	140.7	2345	140.7	2346	140.7	2347	140.7	2348	140.7	2349	140.7	2350	140.7	2351	140.7	2352	140.7	2353	140.7	2354	140.7	2355	140.7	2356	140.7	2357	140.7	2358	140.7	2359	140.7	2360	140.7	2361	140.7	2362	140.7	2363	140.7	2364	140.7	2365	140.7	2366	140.7	2367	140.7	2368	140.7	2369	140.7	2370	140.7	2371	140.7	2372	140.7	2373	140.7	2374	140.7	2375	140.7	2376	140.7	2377	140.7	2378	140.7	2379	140.7	2380	140.7	2381	140.7	2382	140.7	2383	140.7	2384	140.7	2385	140.7	2386	140.7	2387	140.7	2388	140.7	2389	140.7	2390	140.7	2391	140.7	2392	140.7	2393	140.7	2394	140.7	2395	140.7	2396	140.7	2397	140.7	2398	140.7	2399	140.7	2400	140.7	2401	140.7	2402	140.7	2403	140.7	2404	140.7	2405	140.7	2406	140.7	2407	140.7	2408	140.7	2409	140.7	2410	140.7	2411	140.7	2412	140.7	2413	140.7	2414	140.7	2415	140.7	2416	140.7	2417	140.7	2418	140.7	2419	140.7	2420	140.7	2421	140.7	2422	140.7	2423	140.7	2424	140.7	2425	140.7	2426	140.7	2427	140.7	2428	140.7	2429	140.7	2430	140.7	2431	140.7	2432	140.7	2433	140.7	2434	140.7	2435	140.7	2436	140.7	2437	140.7	2438	140.7	2439	140.7	2440	140.7	2441	140.7	2442	140.7	2443	140.7	2444	140.7	2445	140.7	2446	140.7	2447	140.7	2448	140.7	2449	140.7	2450	140.7	2451	140.7	2452	140.7	2453	140.7	2454	140.7	2455	140.7	2456	140.7	2457	140.7	2458	140.7	2459	140.7	2460	140.7	2461	140.7	2462	140.7	2463	140.7	2464	140.7	2465	140.7	2466	140.7	2467	140.7	2468	140.7	2469	140.7	2470	140.7	2471	140.7	2472	140.7	2473	140.7	2474	140.7	2475	140.7	2476	140.7	2477	140.7	2478	140.7	2479	140.7	2480	140.7	2481	140.7	2482	140.7	2483	140.7	2484	140.7	2485	140.7	2486	140.7	2487	140.7	2488	140.7	2489	140.7	2490	140.7	2491	140.7	2492	140.7	2493	140.7	2494	140.7	2495	140.7	2496	140.7	2497	140.7	2498	140.7	2499	140.7	2500	140.7	2501	140.7	2502	140.7	2503	140.7	2504	140.7	2505	140.7	2506	140.7	2507	140.7	2508	140.7	2509	140.7	2510	140.7	2511	140.7	2512	140.7	2513	140.7	2514	140.7	2515	140.7	2516	140.7	2517	140.7	2518	140.7	2519	140.7	2520	140.7	2521	140.7	2522	140.7	2523	140.7	2524	140.7	2525	140.7	2526	140.7	2527	140.7	2528	140.7	2529	140.7	2530	140.7	2531	140.7	2532	140.7	2533	140.7	2534	140.7	2535	140.7	2536	140.7	2537	140.7	2538	140.7	2539	140.7	2540	140.7	2541	140.7	2542	140.7	2543	140.7	2544	140.7	2545	140.7	2546	140.7	2547	140.7	2548	140.7	2549	140.7	2550	140.7	2551	140.7	2552	140.7	2553	140.7	2554	140.7	2555	140.7	2556	140.7	2557	140.7	2558	140.7	2559	140.7	2560	140.7	2561	140.7	2562	140.7	2563	140.7	2564	140.7	2565	140.7	2566	140.7	2567	140.7	2568	140.7	2569	140.7	2570	140.7	2571	140.7	2572	140.7	2573	140.7	2574	140.7	2575	140.7	2576	140.7	2577	140.7	2578	140.7	2579	140.7	2580	140.7	2581	140.7	2582	140.7	2583	140.7	2584	140.7	2585	140.7	2586	140.7	2587	140.7	2588	140.7	2589	140.7	2590	140.7	2591	140

*MY -- Indicates the model year.

**E -- Indicates the average grams/mile emission level for model year "MY" on January 1 of the given calendar year. These emission levels are calculated for the FTP test conditions:

19.6 MPH, TEMP=75 Degrees F
20.6% of VMT traveled in cold start,
52.1% of VMT in stabilized,
27.3% of VMT in hot start.

Emissions are based on the January 1 mileage accumulation figures given in Table 2.4A.1

Continued on the next page.

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TABLE 1.11B.2 (continued)
BY-MODEL-YEAR EMISSION LEVELS FOR HIGH ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES
CO

		January 1 of Calendar Year																																																																																													
		1997			1998			1999			2000			2003			2005			2008			2010			2012			2015			2018			2020																																																												
MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**																																																														
1973	121.5	1974	121.5	1975	101.6	1976	102.0	1977	71.5	1978	93.4	1979	96.8	1980	79.0	1981	66.8	1982	65.7	1983	61.8	1984	61.5	1985	61.5	1986	61.5	1987	61.5	1988	61.5	1989	61.5	1990	61.5	1991	61.5	1992	61.5	1993	61.5	1994	61.5	1995	61.5	1996	61.5	1997	61.5	1998	61.5	1999	61.5	2000	61.5	2001	61.5	2002	61.5	2003	61.5	2004	61.5	2005	61.5	2006	61.5	2007	61.5	2008	61.5	2009	61.5	2010	61.5	2011	61.5	2012	61.5	2013	61.5	2014	61.5	2015	61.5	2016	61.5	2017	61.5	2018	61.5	2019	61.5	2020	61.5
1974	120.5	1975	100.6	1976	101.0	1977	71.5	1978	93.4	1979	96.8	1980	79.0	1981	66.8	1982	65.7	1983	61.8	1984	61.5	1985	61.5	1986	61.5	1987	61.5	1988	61.5	1989	61.5	1990	61.5	1991	61.5	1992	61.5	1993	61.5	1994	61.5	1995	61.5	1996	61.5	1997	61.5	1998	61.5	1999	61.5	2000	61.5	2001	61.5	2002	61.5	2003	61.5	2004	61.5	2005	61.5	2006	61.5	2007	61.5	2008	61.5	2009	61.5	2010	61.5	2011	61.5	2012	61.5	2013	61.5	2014	61.5	2015	61.5	2016	61.5	2017	61.5	2018	61.5	2019	61.5	2020	61.5		
1975	99.4	1976	99.8	1977	70.4	1978	94.6	1979	94.6	1980	71.5	1981	69.2	1982	69.2	1983	61.7	1984	61.7	1985	61.7	1986	61.7	1987	61.7	1988	61.7	1989	61.7	1990	61.7	1991	61.7	1992	61.7	1993	61.7	1994	61.7	1995	61.7	1996	61.7	1997	61.7	1998	61.7	1999	61.7	2000	61.7	2001	61.7	2002	61.7	2003	61.7	2004	61.7	2005	61.7	2006	61.7	2007	61.7	2008	61.7	2009	61.7	2010	61.7	2011	61.7	2012	61.7	2013	61.7	2014	61.7	2015	61.7	2016	61.7	2017	61.7	2018	61.7	2019	61.7	2020	61.7				
1976	98.6	1977	69.2	1978	93.4	1979	93.4	1980	71.5	1981	69.2	1982	69.2	1983	61.7	1984	61.7	1985	61.7	1986	61.7	1987	61.7	1988	61.7	1989	61.7	1990	61.7	1991	61.7	1992	61.7	1993	61.7	1994	61.7	1995	61.7	1996	61.7	1997	61.7	1998	61.7	1999	61.7	2000	61.7	2001	61.7	2002	61.7	2003	61.7	2004	61.7	2005	61.7	2006	61.7	2007	61.7	2008	61.7	2009	61.7	2010	61.7	2011	61.7	2012	61.7	2013	61.7	2014	61.7	2015	61.7	2016	61.7	2017	61.7	2018	61.7	2019	61.7	2020	61.7						
1977	67.9	1978	92.1	1979	92.1	1980	62.3	1981	62.3	1982	60.5	1983	58.3	1984	59.5	1985	55.2	1986	57.3	1987	59.1	1988	57.3	1989	57.3	1990	57.3	1991	57.3	1992	57.3	1993	57.3	1994	57.3	1995	57.3	1996	57.3	1997	57.3	1998	57.3	1999	57.3	2000	57.3	2001	57.3	2002	57.3	2003	57.3	2004	57.3	2005	57.3	2006	57.3	2007	57.3	2008	57.3	2009	57.3	2010	57.3	2011	57.3	2012	57.3	2013	57.3	2014	57.3	2015	57.3	2016	57.3	2017	57.3	2018	57.3	2019	57.3	2020	57.3								
1978	90.8	1979	90.8	1980	61.2	1981	70.0	1982	60.5	1983	52.4	1984	57.8	1985	56.9	1986	55.4	1987	55.4	1988	59.1	1989	57.3	1990	57.3	1991	57.3	1992	57.3	1993	57.3	1994	57.3	1995	57.3	1996	57.3	1997	57.3	1998	57.3	1999	57.3	2000	57.3	2001	57.3	2002	57.3	2003	57.3	2004	57.3	2005	57.3	2006	57.3	2007	57.3	2008	57.3	2009	57.3	2010	57.3	2011	57.3	2012	57.3	2013	57.3	2014	57.3	2015	57.3	2016	57.3	2017	57.3	2018	57.3	2019	57.3	2020	57.3										
1979	89.4	1980	60.1	1981	67.9	1982	60.5	1983	52.4	1984	51.2	1985	52.7	1986	52.9	1987	49.1	1988	49.1	1989	49.1	1990	49.1	1991	49.1	1992	49.1	1993	49.1	1994	49.1	1995	49.1	1996	49.1	1997	49.1	1998	49.1	1999	49.1	2000	49.1	2001	49.1	2002	49.1	2003	49.1	2004	49.1	2005	49.1	2006	49.1	2007	49.1	2008	49.1	2009	49.1	2010	49.1	2011	49.1	2012	49.1	2013	49.1	2014	49.1	2015	49.1	2016	49.1	2017	49.1	2018	49.1	2019	49.1	2020	49.1												
1980	58.8	1981	65.7	1982	58.5	1983	52.4	1984	51.2	1985	48.5	1986	45.0	1987	46.7	1988	47.1	1989	47.1	1990	47.1	1991	47.1	1992	47.1	1993	47.1	1994	47.1	1995	47.1	1996	47.1	1997	47.1	1998	47.1	1999	47.1	2000	47.1	2001	47.1	2002	47.1	2003	47.1	2004	47.1	2005	47.1	2006	47.1	2007	47.1	2008	47.1	2009	47.1	2010	47.1	2011	47.1	2012	47.1	2013	47.1	2014	47.1	2015	47.1	2016	47.1	2017	47.1	2018	47.1	2019	47.1	2020	47.1														
1981	63.4	1982	56.3	1983	50.2	1984	48.7	1985	45.9	1986	45.3	1987	41.6	1988	42.0	1989	42.0	1990	42.0	1991	42.0	1992	42.0	1993	42.0	1994	42.0	1995	42.0	1996	42.0	1997	42.0	1998	42.0	1999	42.0	2000	42.0	2001	42.0	2002	42.0	2003	42.0	2004	42.0	2005	42.0	2006	42.0	2007	42.0	2008	42.0	2009	42.0	2010	42.0	2011	42.0	2012	42.0	2013	42.0	2014	42.0	2015	42.0	2016	42.0	2017	42.0	2018	42.0	2019	42.0	2020	42.0																
1982	54.0	1983	47.9	1984	48.7	1985	48.5	1986	45.3	1987	41.2	1988	37.4	1989	36.2	1990	36.2	1991	36.2	1992	36.2	1993	36.2	1994	36.2	1995	36.2	1996	36.2	1997	36.2	1998	36.2	1999	36.2	2000	36.2	2001	36.2	2002	36.2	2003	36.2	2004	36.2	2005	36.2	2006	36.2	2007	36.2	2008	36.2	2009	36.2	2010	36.2	2011	36.2	2012	36.2	2013	36.2	2014	36.2	2015	36.2	2016	36.2	2017	36.2	2018	36.2	2019	36.2	2020	36.2																		
1983	45.5	1984	46.0	1985	45.9	1986	45.3	1987	41.2	1988	37.4	1989	36.2	1990	36.2	1991	36.2	1992	36.2	1993	36.2	1994	36.2	1995	36.2	1996	36.2	1997	36.2	1998	36.2	1999	36.2	2000	36.2	2001	36.2	2002	36.2	2003	36.2	2004	36.2	2005	36.2	2006	36.2	2007	36.2	2008	36.2	2009	36.2	2010	36.2	2011	36.2	2012	36.2	2013	36.2	2014	36.2	2015	36.2	2016	36.2	2017	36.2	2018	36.2	2019	36.2	2020	36.2																				
1984	43.3	1985	43.2	1986	42.6	1987	41.2	1988	37.4	1989	36.2	1990	36.2	1991	36.2	1992	36.2	1993	36.2	1994	36.2	1995	36.2	1996	36.2	1997	36.2	1998	36.2	1999	36.2	2000	36.2	2001	36.2	2002	36.2	2003	36.2	2004	36.2	2005	36.2	2006	36.2	2007	36.2	2008	36.2	2009	36.2	2010	36.2	2011	36.2	2012	36.2	2013	36.2	2014	36.2	2015	36.2	2016	36.2	2017	36.2	2018	36.2	2019	36.2	2020	36.2																						
1985	40.3	1986	39.7	1987	38.4	1988	37.4	1989	35.9	1990	32.8	1991	29.8	1992	29.8	1993	29.8	1994	29.8	1995	29.8	1996	29.8	1997	29.8	1998	29.8	1999	29.8	2000	29.8	2001	29.8	2002	29.8	2003	29.8	2004	29.8	2005	29.8	2006	29.8	2007	29.8	2008	29.8	2009	29.8	2010	29.8	2011	29.8	2012	29.8	2013	29.8	2014	29.8	2015	29.8	2016	29.8	2017	29.8	2018	29.8	2019	29.8	2020	29.8																								
1986	36.6	1987	35.5	1988	34.6	1989	32.7	1990	29.7	1991	26.2	1992	26.3	1993	26.3	1994	26.3	1995	26.3	1996	26.3	1997	26.3	1998	26.3	1999	26.3	2000	26.3	2001	26.3	2002	26.3	2003	26.3	2004	26.3	2005	26.3	2006	26.3	2007	26.3	2008	26.3	2009	26.3	2010	26.3	2011	26.3	2012	26.3	2013	26.3	2014	26.3	2015	26.3	2016	26.3	2017	26.3	2018	26.3	2019	26.3	2020	26.3																										
1987	32.4	1988	31.6	1989	29.4	1990	26.2	1991	22.6	1992	22.6	1993	22.6	1994	22.6	1995	22.6	1996	22.6	1997	22.6	1998	22.6	1999	22.6	2000	22.6	2001	22.6	2002	22.6	2003	22.6	2004	22.6	2005	22.6	2006	22.6	2007	22.6	2008	22.6	2009	22.6	2010	22.6	2011																																															

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TABLE 1.11C.2 (continued)
BY-MODEL-YEAR EMISSION LEVELS FOR HIGH ALTITUDE
LIGHT DUTY GASOLINE POWERED VEHICLES
NOx

		January 1 of Calendar Year																																			
		1997			1998			1999			2000			2003			2005			2008			2010			2012			2015			2018			2020		
MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**	MY*	E**				
1973	2.9	1974	2.9	1975	2.5	1976	2.5	1977	3.5	1979	3.1	1981	4.1	1984	4.8	1986	4.6	1988	4.4	1991	4.4	1992	4.4	1993	4.3	1994	4.2	1995	4.1	1996	4.1	1997	4.0				
1974	2.9	1975	2.5	1976	2.5	1977	3.5	1978	3.0	1980	2.8	1982	4.1	1985	4.4	1987	4.4	1989	4.4	1990	4.3	1991	4.0	1992	4.0	1993	3.8	1994	3.8	1995	3.9	1996	3.9				
1975	2.4	1976	3.4	1977	3.4	1978	3.0	1979	3.0	1981	3.9	1983	4.4	1986	4.4	1988	4.2	1989	4.1	1990	3.9	1991	3.9	1992	3.8	1993	3.8	1994	3.8	1995	3.7	1996	3.7				
1976	2.4	1977	3.4	1978	2.9	1979	2.9	1980	2.7	1982	4.1	1984	4.1	1987	4.2	1989	4.1	1990	4.1	1991	3.9	1992	3.9	1993	3.8	1994	3.8	1995	3.6	1996	3.6	1997	3.6				
1977	3.3	1978	2.9	1979	2.9	1980	2.6	1981	3.6	1983	4.2	1985	4.0	1988	4.0	1990	3.8	1991	3.8	1992	3.7	1993	3.7	1994	3.7	1995	3.5	1996	3.5	1997	3.5	1998	3.5				
1978	2.8	1979	2.6	1980	3.5	1981	3.5	1982	3.6	1984	4.2	1986	3.9	1989	3.6	1991	3.6	1992	3.6	1993	3.5	1994	3.5	1995	3.5	1996	3.3	1997	3.3	1998	3.3	1999	3.3				
1979	2.8	1980	3.3	1981	3.3	1982	3.6	1983	3.8	1985	3.8	1987	3.9	1990	3.4	1992	3.4	1993	3.4	1994	3.2	1995	3.2	1996	3.2	1997	3.2	1998	3.2	1999	3.2	2000	3.2				
1980	2.5	1981	3.4	1982	3.4	1983	3.6	1984	3.7	1986	3.6	1988	3.4	1991	3.2	1993	3.2	1994	3.2	1995	3.1	1996	3.1	1997	2.9	1998	2.9	1999	2.9	2000	2.9	2001	2.9				
1981	3.2	1982	3.5	1983	3.6	1984	3.6	1985	3.3	1987	3.3	1989	3.0	1992	2.9	1994	2.8	1996	2.8	1997	2.8	1998	2.8	1999	2.8	2000	2.8	2001	2.8	2002	2.8	2003	2.8				
1982	3.2	1983	3.1	1984	3.1	1985	3.1	1986	3.1	1988	3.1	1990	2.9	1993	2.7	1995	2.6	1997	2.6	1998	2.6	1999	2.6	2000	2.6	2001	2.6	2002	2.6	2003	2.6	2004	2.6				
1983	3.3	1984	2.9	1985	2.9	1986	2.9	1987	2.8	1989	2.7	1991	2.7	1993	2.7	1995	2.4	1996	2.4	1997	2.4	1998	2.4	1999	2.4	2000	2.4	2001	2.4	2002	2.4	2003	2.4				
1984	3.2	1985	2.7	1986	2.7	1987	2.7	1988	2.6	1990	2.6	1992	2.4	1994	2.3	1996	2.3	1998	2.3	1999	2.3	2000	2.3	2001	2.3	2002	2.3	2003	2.3	2004	2.3	2005	2.3				
1985	2.9	1986	2.5	1987	2.5	1988	2.4	1989	2.4	1991	2.4	1993	2.1	1995	2.1	1997	2.1	1998	2.1	1999	2.1	2000	2.1	2001	2.1	2002	2.1	2003	2.1	2004	2.1	2005	2.1				
1986	2.7	1987	2.2	1988	2.2	1989	2.2	1990	2.2	1992	2.2	1994	1.9	1996	1.9	1997	1.9	1998	1.9	1999	1.9	2000	1.9	2001	1.9	2002	1.9	2003	1.9	2004	1.9	2005	1.9				
1987	2.5	1988	2.0	1989	2.0	1990	2.0	1991	2.0	1993	1.7	1995	1.7	1997	1.7	1998	1.7	1999	1.7	2000	1.7	2001	1.7	2002	1.7	2003	1.7	2004	1.7	2005	1.7	2006	1.7				
1988	2.2	1989	1.7	1990	1.7	1991	1.7	1992	1.7	1994	1.4	1996	1.4	1998	1.4	2000	1.4	2002	1.4	2003	1.4	2004	1.4	2005	1.4	2006	1.4	2007	1.4	2008	1.4	2009	1.4				
1989	2.0	1990	1.5	1991	1.5	1992	1.5	1993	1.5	1995	1.2	1997	1.2	1999	1.2	2001	1.2	2003	1.2	2004	1.2	2005	1.2	2006	1.2	2007	1.2	2008	1.2	2009	1.2	2010	1.2				
1990	1.7	1991	1.3	1992	1.3	1993	1.3	1994	1.3	1996	1.0	1998	1.0	2000	1.0	2002	1.0	2003	1.0	2004	1.0	2005	1.0	2006	1.0	2007	1.0	2008	1.0	2009	1.0	2010	1.0				
1991	1.5	1992	0.9	1993	0.9	1994	0.9	1995	0.8	1997	0.7	1999	0.7	2001	0.7	2003	0.7	2004	0.7	2005	0.7	2006	0.7	2007	0.7	2008	0.7	2009	0.7	2010	0.7	2011	0.7				
1992	1.3	1993	0.8	1994	0.8	1995	0.8	1996	0.6	1997	0.6	1998	0.6	1999	0.6	2000	0.6	2001	0.6	2002	0.6	2003	0.6	2004	0.6	2005	0.6	2006	0.6	2007	0.6	2008	0.6				
1993	1.0	1994	0.5	1995	0.5	1996	0.5	1997	0.4	1998	0.4	1999	0.4	2000	0.4	2001	0.4	2002	0.4	2003	0.4	2004	0.4	2005	0.4	2006	0.4	2007	0.4	2008	0.4	2009	0.4				
1994	0.8	1995	0.3	1996	0.3	1997	0.3	1998	0.3	1999	0.3	2000	0.3	2001	0.3	2002	0.3	2003	0.3	2004	0.3	2005	0.3	2006	0.3	2007	0.3	2008	0.3	2009	0.3	2010	0.3				
1995	0.5	1996	0.2	1997	0.2	1998	0.2	1999	0.2	2000	0.2	2001	0.2	2002	0.2	2003	0.2	2004	0.2	2005	0.2	2006	0.2	2007	0.2	2008	0.2	2009	0.2	2010	0.2	2011	0.2				
1996	0.3	1997	0.2	1998	0.2	1999	0.2	2000	0.2	2001	0.2	2002	0.2	2003	0.2	2004	0.2	2005	0.2	2006	0.2	2007	0.2	2008	0.2	2009	0.2	2010	0.2	2011	0.2	2012	0.2				
1997	0.2	1998	0.2	1999	0.2	2000	0.2	2001	0.2	2002	0.2	2003	0.2	2004	0.2	2005	0.2	2006	0.2	2007	0.2	2008	0.2	2009	0.2	2010	0.2	2011	0.2	2012	0.2	2013	0.2				
1998	0.2	1999	0.2	2000	0.2	2001	0.2	2002	0.2	2003	0.2	2004	0.2	2005	0.2	2006	0.2	2007	0.2	2008	0.2	2009	0.2	2010	0.2	2011	0.2	2012	0.2	2013	0.2	2014	0.2				
1999	0.2	2000	0.2	2001	0.2	2002	0.2	2003	0.2	2004	0.2	2005	0.2	2006	0.2	2007	0.2	2008	0.2	2009	0.2	2010	0.2	2011	0.2	2012	0.2	2013	0.2	2014	0.2	2015	0.2				
2000	0.2	2001	0.2	2002	0.2	2003	0.2	2004	0.2	2005	0.2	2006	0.2	2007	0.2	2008	0.2	2009	0.2	2010	0.2	2011	0.2	2012	0.2	2013	0.2	2014	0.2	2015	0.2	2016	0.2				
2001	0.2	2002	0.2	2003	0.2	2004	0.2	2005	0.2	2006	0.2	2007	0.2	2008	0.2	2009	0.2	2010	0.2	2011	0.2	2012	0.2	2013	0.2	2014	0.2	2015	0.2	2016	0.2	2017	0.2				
2002	0.2	2003	0.2	2004	0.2	2005	0.2	2006	0.2	2007	0.2	2008	0.2	2009	0.2	2010	0.2	2011	0.2	2012	0.2	2013	0.2	2014	0.2	2015	0.2	2016	0.2	2017	0.2	2018	0.2				
2003	0.2	2004	0.2	2005	0.2	2006	0.2	2007	0.2	2008	0.2	2009	0.2	2010	0.2	2011	0.2	2012	0.2	2013	0.2	2014	0.2	2015	0.2	2016	0.2	2017	0.2	2018	0.2	2019	0.2				
2004	0.2	2005	0.2	2006	0.2	2007	0.2	2008	0.2	2009	0.2	2010	0.2	2011	0.2	2012	0.2	2013	0.2	2014	0.2	2015	0.2	2016	0.2	2017	0.2	2018	0.2	2019	0.2	2020	0.2				
2005	0.2	2006	0.2	2007	0.2	2008	0.2	2009	0.2	2010	0.2	2011	0.2	2012	0.2	2013	0.2	2014	0.2	2015	0.2	2016	0.2	2017	0.2	2018	0.2	2019	0.2	2020	0.2	2021	0.2				
2006	0.2	2007	0.2	2008	0.2	2009	0.2	2010	0.2	2011	0.2	2012	0.2	2013	0.2	2014	0.2	2015	0.2	2016	0.2	2017	0.2	2018	0.2	2019	0.2	2020	0.2	2021	0.2	2022	0.2				
2007	0.2	2008	0.2	2009	0.2	2010	0.2	2011	0.2	2012	0.2	2013	0.2	2014	0.2	2015	0.2	2016	0.2	2017	0.2	2018	0.2	2019	0.2	2020	0.2	2021	0.2	2022	0.2	2023	0.2				
2008	0.2	2009	0.2	2010	0.2	2011	0.2	2012	0.2	2013	0.2	2014	0.2	2015	0.2	2016	0.2	2017	0.2	2018	0.2	2019	0.2	2020	0.2	2021	0.2	2022	0.2	2023	0.2	2024	0.2				
2009	0.2	2010	0.2	2011	0.2	2012	0.2	2013	0.2	2014	0.2	2015	0.2	2016	0.2	2017	0.2	2018	0.2	2019	0.2	2020	0.2	2021	0.2	2022	0.2	2023	0.2	2024	0.2	2025	0.2				
2010	0.2	2011	0.2	2012	0.2	2013	0.2	2014	0.2	2015	0.2	2016	0.2	2019																							

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TABLE 1.12A

THE IMPACT OF OXYGENATED FUELS ON EMISSIONS
BY MODEL YEAR HC AVERAGE EMISSION LEVELS WITHOUT OXYGENATED FUEL AND BENEFIT FACTORS

NUM	1981		1982		1983		1984		1985		1986		1987		1988		1989	
	HC*	B**	HC*	B**	HC*	B**	HC*	B**	HC*	B**	HC*	B**	HC*	B**	HC*	B**	HC*	B**
1	0.38	5.40	0.39	5.11	0.33	4.99	0.32	4.97	0.33	4.77	0.33	4.52	0.33	4.29	0.33	3.97	0.33	4.15
2	0.52	5.36	0.53	5.09	0.44	5.04	0.41	5.09	0.43	4.90	0.42	4.70	0.42	4.49	0.42	4.19	0.43	4.36
3	0.68	5.34	0.69	5.10	0.59	5.10	0.53	5.22	0.55	5.05	0.53	4.91	0.52	4.71	0.53	4.45	0.54	4.61
4	0.86	5.45	0.88	5.11	0.75	5.17	0.65	5.36	0.68	5.21	0.64	5.13	0.64	4.94	0.64	4.72	0.66	4.87
5	1.08	5.45	1.09	5.23	0.96	5.35	0.87	5.60	0.89	5.47	0.86	5.45	0.85	5.30	0.84	5.14	0.87	5.25
6	1.32	5.55	1.33	5.35	1.20	5.49	1.10	5.77	1.13	5.67	1.10	5.68	1.08	5.56	1.07	5.43	1.10	5.52
7	1.58	5.65	1.57	5.46	1.45	5.61	1.36	5.90	1.39	5.82	1.35	5.86	1.32	5.76	1.31	5.66	1.36	5.74
8	1.85	5.73	1.82	5.55	1.70	5.72	1.63	6.02	1.66	5.96	1.62	6.02	1.58	5.93	1.56	5.86	1.62	5.93
9	2.13	5.80	2.09	5.63	1.97	5.81	1.91	6.12	1.94	6.08	1.90	6.16	1.85	6.08	1.82	6.03	1.89	6.10
10	2.48	5.91	2.41	5.75	2.33	5.94	2.33	6.24	2.36	6.22	2.34	6.30	2.27	6.24	2.24	6.21	2.32	6.27
11	2.76	5.96	2.67	5.81	2.59	6.00	2.61	6.30	2.63	6.28	2.61	6.37	2.53	6.32	2.49	6.30	2.59	6.35
12	3.02	6.00	2.91	5.85	2.84	6.04	2.87	6.35	2.90	6.33	2.88	6.42	2.78	6.38	2.73	6.36	2.85	6.41
13	3.28	6.02	3.15	5.88	3.08	6.08	3.12	6.39	3.16	6.36	3.14	6.46	3.03	6.42	2.98	6.42	3.11	6.45
14	3.51	6.04	3.37	5.90	3.30	6.09	3.36	6.41	3.40	6.38	3.38	6.49	3.27	6.45	3.22	6.45	3.36	6.48
15	3.66	6.04	3.52	5.91	3.47	6.10	3.53	6.42	3.60	6.40	3.59	6.51	3.47	6.47	3.44	6.48	3.60	6.50
16	3.81	6.05	3.67	5.92	3.63	6.11	3.69	6.43	3.79	6.41	3.80	6.52	3.68	6.49	3.66	6.50	3.83	6.52
17	3.95	6.05	3.81	5.92	3.77	6.11	3.84	6.43	3.95	6.42	3.97	6.53	3.85	6.51	3.85	6.52	4.02	6.54
18	4.08	6.04	3.94	5.92	3.91	6.11	3.98	6.44	4.08	6.42	4.10	6.54	3.98	6.51	3.98	6.52	4.15	6.54
19	4.21	6.04	4.07	5.92	4.04	6.11	4.11	6.44	4.21	6.42	4.23	6.54	4.11	6.52	4.11	6.53	4.27	6.55
20	4.33	6.04	4.19	5.92	4.16	6.11	4.23	6.45	4.33	6.43	4.35	6.55	4.24	6.53	4.23	6.54	4.39	6.55
21	4.44	6.04	4.30	5.92	4.28	6.11	4.35	6.45	4.44	6.43	4.46	6.55	4.35	6.53	4.35	6.55	4.50	6.56
22	4.54	6.03	4.41	5.92	4.39	6.11	4.46	6.46	4.55	6.43	4.57	6.56	4.47	6.54	4.46	6.55	4.61	6.56
23	4.65	6.03	4.52	5.92	4.50	6.11	4.57	6.46	4.65	6.43	4.68	6.56	4.58	6.54	4.57	6.56	4.71	6.56
24	4.74	6.03	4.61	5.92	4.60	6.11	4.67	6.46	4.75	6.43	4.78	6.56	4.68	6.55	4.68	6.56	4.81	6.57
25	4.83	6.03	4.71	5.92	4.70	6.11	4.77	6.47	4.85	6.44	4.87	6.57	4.78	6.55	4.77	6.57	4.90	6.57

Continued on the next page

HC* Indicates the average emission levels without oxygenated fuels

B** Indicate the benefit factors

To interpolate the benefit factor the following formula should be used:

$$\text{BENFAC} = (\text{BEFADJ}^*(Y2-Y1) + X2*Y1 - X1*Y2) / (X2 - X1)$$

where: BEFADJ - basic emission factor

Y1, Y2 - lower and upper benefit factor

X1, X2 - lower and upper interpolation values

For Pre-1981 LDGV or

Pre-1991 LDGT1+2 or

HDGV or MC

: BENFAC=NOCAT* 1.57+CAT* 4.46

where: NOCAT - fraction of vehicles that are not catalyst equipped

CAT - fraction of vehicles that are catalyst equipped

There is no effect on NOx.

For additional information see Table 1.13

"Exhaust Effects of Oxygenated Fuel Blends Percent of Change in Emissions"

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TABLE 1.12A (continued)

THE IMPACT OF OXYGENATED FUELS ON EMISSIONS
BY MODEL YEAR HC AVERAGE EMISSION LEVELS WITHOUT OXYGENATED FUEL AND BENEFIT FACTORS

NUM	1990		1991		1992		1993		1994		1995		1996		1997		1998	
	HC*	B**	HC*	B**	HC*	B**	HC*	B**	HC*	B**	HC*	B**	HC*	B**	HC*	B**	HC*	B**
1	0.34	4.01	0.34	4.00	0.34	4.01	0.34	4.01	0.32	4.01	0.31	4.00	0.28	4.01	0.27	4.01	0.26	4.02
2	0.44	4.24	0.44	4.23	0.44	4.25	0.44	4.25	0.42	4.24	0.40	4.23	0.38	4.23	0.36	4.23	0.35	4.24
3	0.55	4.51	0.55	4.50	0.55	4.52	0.55	4.52	0.53	4.49	0.51	4.47	0.49	4.47	0.47	4.47	0.46	4.48
4	0.67	4.78	0.67	4.78	0.67	4.79	0.67	4.79	0.65	4.76	0.63	4.73	0.60	4.72	0.59	4.72	0.58	4.72
5	0.88	5.18	0.89	5.18	0.89	5.19	0.89	5.19	0.87	5.17	0.84	5.14	0.81	5.12	0.80	5.12	0.79	5.12
6	1.12	5.48	1.13	5.48	1.13	5.48	1.13	5.48	1.10	5.46	1.07	5.43	1.04	5.42	1.03	5.42	1.02	5.42
7	1.38	5.71	1.38	5.72	1.39	5.72	1.39	5.72	1.36	5.70	1.32	5.67	1.29	5.65	1.27	5.65	1.26	5.65
8	1.64	5.92	1.65	5.92	1.66	5.93	1.66	5.93	1.62	5.90	1.58	5.87	1.55	5.85	1.53	5.85	1.52	5.85
9	1.91	6.10	1.92	6.10	1.93	6.11	1.93	6.11	1.89	6.08	1.85	6.05	1.82	6.03	1.80	6.02	1.79	6.02
10	2.35	6.28	2.36	6.29	2.37	6.30	2.37	6.30	2.33	6.27	2.29	6.24	2.25	6.22	2.24	6.21	2.23	6.21
11	2.61	6.36	2.63	6.37	2.64	6.38	2.64	6.38	2.59	6.36	2.55	6.35	2.51	6.34	2.49	6.34	2.49	6.33
12	2.88	6.42	2.89	6.42	2.91	6.43	2.91	6.43	2.86	6.43	2.81	6.43	2.77	6.43	2.75	6.44	2.75	6.44
13	3.14	6.46	3.16	6.46	3.18	6.47	3.18	6.47	3.13	6.47	3.08	6.47	3.03	6.47	3.02	6.47	3.01	6.47
14	3.41	6.49	3.43	6.49	3.45	6.50	3.45	6.50	3.39	6.50	3.34	6.50	3.29	6.50	3.28	6.50	3.27	6.50
15	3.66	6.52	3.69	6.52	3.71	6.52	3.71	6.52	3.65	6.52	3.60	6.52	3.55	6.52	3.54	6.52	3.53	6.53
16	3.92	6.54	3.95	6.54	3.97	6.55	3.97	6.55	3.91	6.55	3.85	6.55	3.81	6.55	3.79	6.55	3.78	6.55
17	4.12	6.55	4.15	6.56	4.17	6.56	4.17	6.56	4.11	6.56	4.06	6.56	4.01	6.56	3.99	6.56	3.98	6.56
18	4.24	6.56	4.28	6.56	4.30	6.56	4.30	6.56	4.24	6.56	4.18	6.56	4.13	6.56	4.12	6.56	4.11	6.56
19	4.36	6.56	4.39	6.56	4.42	6.57	4.42	6.57	4.36	6.57	4.30	6.57	4.26	6.57	4.24	6.57	4.23	6.57
20	4.48	6.56	4.51	6.57	4.53	6.57	4.53	6.57	4.47	6.57	4.41	6.57	4.37	6.57	4.35	6.57	4.34	6.57
21	4.59	6.57	4.62	6.57	4.64	6.57	4.64	6.57	4.58	6.57	4.52	6.57	4.48	6.57	4.46	6.57	4.45	6.57
22	4.69	6.57	4.72	6.57	4.74	6.57	4.74	6.57	4.68	6.57	4.63	6.57	4.58	6.57	4.57	6.57	4.56	6.57
23	4.79	6.57	4.82	6.57	4.84	6.58	4.84	6.58	4.78	6.58	4.73	6.58	4.68	6.58	4.66	6.58	4.66	6.58
24	4.88	6.57	4.91	6.58	4.93	6.58	4.93	6.58	4.87	6.58	4.82	6.58	4.77	6.58	4.76	6.58	4.75	6.58
25	4.97	6.58	5.00	6.58	5.02	6.58	5.02	6.58	4.96	6.58	4.91	6.58	4.86	6.58	4.85	6.58	4.84	6.58

HC* Indicates the average emission levels without oxygenated fuels

B** Indicate the benefit factors

To interpolate the benefit factor the following formula should be used:

$$\text{BENFAC} = (\text{BEFADJ} * (Y2 - Y1) + X2 * Y1 - X1 * Y2) / (X2 - X1)$$

where: BEFADJ - basic emission factor

Y1, Y2 - lower and upper benefit factor

X1, X2 - lower and upper interpolation values

For Pre-1981 LDGV or

Pre-1991 LDGT1+2 or

HDGV or MC : BENFAC=NOCAT* 1.57+CAT* 4.46

where: NOCAT - fraction of vehicles that are not catalyst equipped

CAT - fraction of vehicles that are catalyst equipped

There is no effect on NOx.

For additional information see Table 1.13

"Exhaust Effects of Oxygenated Fuel Blends Percent of Change in Emissions"

DATE : JUNE 30, 1995

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TABLE 1.12B

THE IMPACT OF OXYGENATED FUELS ON EMISSIONS
BY MODEL YEAR CO AVERAGE EMISSION LEVELS WITHOUT OXYGENATED FUEL AND BENEFIT FACTORS

NUM	1981		1982		1983		1984		1985		1986		1987		1988		1989	
	CO*	B**	CO*	B**	CO*	B**	CO*	B**	CO*	B**	CO*	B**	CO*	B**	CO*	B**	CO*	B**
1	4.96	8.42	5.08	8.39	5.05	7.97	4.59	7.17	4.52	6.98	4.27	6.39	4.24	6.30	4.12	5.92	4.11	5.93
2	7.13	8.87	7.34	8.84	7.08	8.48	6.16	7.77	6.27	7.61	5.91	7.08	5.88	7.01	5.83	6.70	5.89	6.72
3	9.46	9.17	9.74	9.15	9.23	8.83	7.80	8.23	8.09	8.10	7.58	7.65	7.55	7.59	7.54	7.33	7.68	7.36
4	11.91	9.37	12.25	9.35	11.38	9.09	9.37	8.59	9.75	8.50	9.01	8.12	8.95	8.06	8.90	7.84	9.11	7.88
5	15.02	9.62	15.12	9.58	14.26	9.42	12.42	9.14	12.77	9.07	12.03	8.84	11.85	8.78	11.71	8.63	12.04	8.67
6	18.26	9.79	18.09	9.75	17.27	9.64	15.64	9.49	15.96	9.43	15.22	9.30	14.91	9.24	14.67	9.13	15.13	9.17
7	21.59	9.93	21.15	9.88	20.36	9.81	18.98	9.73	19.26	9.69	18.53	9.60	18.08	9.55	17.75	9.47	18.34	9.51
8	24.97	10.03	24.27	9.98	23.51	9.94	22.38	9.90	22.63	9.88	21.92	9.82	21.33	9.78	20.90	9.71	21.63	9.75
9	28.39	10.12	27.40	10.06	26.68	10.04	25.83	10.04	26.04	10.02	25.36	9.99	24.61	9.95	24.09	9.90	24.96	9.94
10	32.96	10.27	31.52	10.21	31.13	10.22	31.22	10.25	31.24	10.23	30.81	10.23	29.88	10.19	29.23	10.16	30.22	10.19
11	36.15	10.31	34.44	10.25	34.08	10.27	34.42	10.31	34.42	10.30	34.01	10.30	32.93	10.27	32.19	10.25	33.32	10.27
12	39.12	10.35	37.19	10.30	36.92	10.31	37.49	10.37	37.50	10.36	37.13	10.37	35.92	10.34	35.12	10.32	36.39	10.35
13	42.03	10.39	39.87	10.34	39.68	10.36	40.49	10.42	40.52	10.41	40.18	10.43	38.83	10.40	37.96	10.38	39.40	10.41
14	44.46	10.42	42.13	10.37	42.02	10.39	42.99	10.46	43.16	10.46	42.90	10.47	41.42	10.45	40.59	10.43	42.21	10.46
15	45.81	10.44	43.53	10.38	43.55	10.41	44.57	10.48	45.11	10.49	45.06	10.51	43.59	10.49	43.02	10.48	44.78	10.51
16	47.11	10.45	44.87	10.40	45.03	10.43	46.10	10.51	47.01	10.52	47.17	10.55	45.71	10.52	45.41	10.52	47.30	10.55
17	48.31	10.46	46.12	10.41	46.38	10.45	47.49	10.53	48.58	10.54	48.87	10.57	47.44	10.55	47.31	10.55	49.24	10.58
18	49.41	10.47	47.27	10.42	47.57	10.46	48.70	10.55	49.75	10.56	50.06	10.59	48.70	10.57	48.59	10.58	50.43	10.60
19	50.46	10.48	48.38	10.43	48.72	10.47	49.86	10.57	50.86	10.58	51.20	10.61	49.91	10.59	49.83	10.60	51.58	10.62
20	51.45	10.49	49.43	10.44	49.82	10.49	50.98	10.58	51.93	10.59	52.29	10.63	51.07	10.61	51.02	10.62	52.67	10.64
21	52.40	10.50	50.44	10.45	50.87	10.50	52.05	10.60	52.95	10.61	53.34	10.65	52.18	10.63	52.17	10.64	53.72	10.65
22	53.31	10.51	51.40	10.46	51.88	10.51	53.07	10.62	53.93	10.62	54.34	10.66	53.25	10.65	53.27	10.65	54.72	10.67
23	54.16	10.52	52.32	10.47	52.85	10.52	54.05	10.63	54.86	10.64	55.29	10.68	54.28	10.66	54.32	10.67	55.68	10.69
24	54.98	10.53	53.20	10.48	53.77	10.53	54.98	10.64	55.74	10.65	56.20	10.69	55.26	10.68	55.33	10.69	56.60	10.70
25	55.76	10.54	54.04	10.48	54.64	10.54	55.88	10.66	56.59	10.66	57.07	10.70	56.20	10.69	56.30	10.70	57.48	10.71

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CO* Indicates the average emission levels without oxygenated fuels
B** Indicate the benefit factors

To interpolate the benefit factor the following formula should be used:
$$\text{BENFAC} = (\text{BEFADJ} * (\text{Y2} - \text{Y1}) + \text{X2} * \text{Y1} - \text{X1} * \text{Y2}) / (\text{X2} - \text{X1})$$

where: BEFADJ - basic emission factor
Y1, Y2 - lower and upper benefit factor
X1, X2 - lower and upper interpolation values

For Pre-1981 LDGV or
Pre-1991 LDGT1+2 or
HDGV or MC : BENFAC=NOCAT* 7.00+CAT* 9.97
where: NOCAT-fraction of vehicles that are not catalyst equipped
CAT -fraction of vehicles that are catalyst equipped

There is no effect on NOx.

For additional information see Table 1.13
"Exhaust Effects of Oxygenated Fuel Blends Percent of Change in Emissions"

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TABLE 1.12B (continued)

THE IMPACT OF OXYGENATED FUELS ON EMISSIONS
BY MODEL YEAR CO AVERAGE EMISSION LEVELS WITHOUT OXYGENATED FUEL AND BENEFIT FACTORS

NUM	1990		1991		1992		1993		1994		1995		1996		1997		1998	
	CO*	B**	CO*	B**	CO*	B**	CO*	B**	CO*	B**	CO*	B**	CO*	B**	CO*	B**	CO*	B**
1	4.01	5.63	4.00	5.58	3.99	5.56	3.99	5.56	3.99	5.56	3.99	5.56	3.99	5.56	3.99	5.56	3.99	5.56
2	5.90	6.50	5.91	6.46	5.91	6.45	5.91	6.45	5.91	6.45	5.91	6.45	5.91	6.45	5.91	6.45	5.91	6.45
3	7.78	7.20	7.81	7.17	7.83	7.16	7.83	7.16	7.83	7.16	7.83	7.16	7.83	7.16	7.83	7.16	7.83	7.16
4	9.24	7.75	9.27	7.73	9.30	7.73	9.30	7.73	9.30	7.73	9.30	7.73	9.30	7.73	9.30	7.73	9.30	7.73
5	12.16	8.59	12.21	8.57	12.25	8.57	12.25	8.57	12.25	8.57	12.25	8.57	12.25	8.57	12.25	8.57	12.25	8.57
6	15.25	9.11	15.31	9.11	15.37	9.11	15.37	9.11	15.37	9.11	15.37	9.11	15.37	9.11	15.37	9.11	15.37	9.11
7	18.46	9.47	18.54	9.47	18.60	9.47	18.60	9.47	18.60	9.47	18.60	9.47	18.60	9.47	18.60	9.47	18.60	9.47
8	21.75	9.73	21.84	9.73	21.92	9.73	21.92	9.73	21.92	9.73	21.92	9.73	21.92	9.73	21.92	9.73	21.92	9.73
9	25.08	9.92	25.19	9.92	25.29	9.93	25.29	9.93	25.29	9.93	25.29	9.93	25.29	9.93	25.29	9.93	25.29	9.93
10	30.29	10.18	30.40	10.18	30.51	10.18	30.51	10.18	30.51	10.18	30.51	10.18	30.51	10.18	30.51	10.18	30.51	10.18
11	33.40	10.27	33.53	10.27	33.66	10.28	33.66	10.28	33.66	10.28	33.66	10.28	33.66	10.28	33.66	10.28	33.66	10.28
12	36.51	10.35	36.65	10.35	36.80	10.35	36.80	10.35	36.80	10.35	36.80	10.35	36.80	10.35	36.80	10.35	36.80	10.35
13	39.56	10.41	39.73	10.42	39.90	10.42	39.90	10.42	39.90	10.42	39.90	10.42	39.90	10.42	39.90	10.42	39.90	10.42
14	42.50	10.47	42.71	10.47	42.91	10.48	42.91	10.48	42.91	10.48	42.91	10.48	42.91	10.48	42.91	10.48	42.91	10.48
15	45.38	10.52	45.65	10.53	45.87	10.53	45.87	10.53	45.87	10.53	45.87	10.53	45.87	10.53	45.87	10.53	45.87	10.53
16	48.20	10.57	48.53	10.57	48.79	10.57	48.79	10.57	48.79	10.57	48.79	10.57	48.79	10.57	48.79	10.57	48.79	10.57
17	50.29	10.60	50.65	10.60	50.92	10.61	50.92	10.61	50.92	10.61	50.92	10.61	50.92	10.61	50.92	10.61	50.92	10.61
18	51.45	10.62	51.79	10.62	52.05	10.62	52.05	10.62	52.05	10.62	52.05	10.62	52.05	10.62	52.05	10.62	52.05	10.62
19	52.55	10.64	52.89	10.64	53.13	10.64	53.13	10.64	53.13	10.64	53.13	10.64	53.13	10.64	53.13	10.64	53.13	10.64
20	53.60	10.65	53.93	10.66	54.16	10.66	54.16	10.66	54.16	10.66	54.16	10.66	54.16	10.66	54.16	10.66	54.16	10.66
21	54.61	10.67	54.93	10.67	55.14	10.68	55.14	10.68	55.14	10.68	55.14	10.68	55.14	10.68	55.14	10.68	55.14	10.68
22	55.57	10.68	55.88	10.69	56.08	10.69	56.08	10.69	56.08	10.69	56.08	10.69	56.08	10.69	56.08	10.69	56.08	10.69
23	56.49	10.70	56.78	10.70	56.98	10.71	56.98	10.71	56.98	10.71	56.98	10.71	56.98	10.71	56.98	10.71	56.98	10.71
24	57.37	10.71	57.65	10.72	57.83	10.72	57.83	10.72	57.83	10.72	57.83	10.72	57.83	10.72	57.83	10.72	57.83	10.72
25	58.20	10.73	58.47	10.73	58.64	10.73	58.64	10.73	58.64	10.73	58.64	10.73	58.64	10.73	58.64	10.73	58.64	10.73

CO* Indicates the average emission levels without oxygenated fuels
B** Indicate the benefit factors

To interpolate the benefit factor the following formula should be used:

$$BENFAC = (BENFADJ * (Y2 - Y1) + X2 * Y1 - X1 * Y2) / (X2 - X1)$$

where: BENFADJ - basic emission factor

Y1, Y2 - lower and upper benefit factor

X1, X2 - lower and upper interpolation values

For Pre-1981 LDGV or

Pre-1991 LDGT1+2 or

HDGV or MC

where: BENFAC = NOCAT* 7.00 + CAT* 9.97

NOCAT - fraction of vehicles that are not catalyst equipped

CAT - fraction of vehicles that are catalyst equipped

There is no effect on NOx.

For additional information see Table 1.13

"Exhaust Effects of Oxygenated Fuel Blends Percent of Change in Emissions"

DATE : JUNE 30, 1995

TABLE 1.13

REID VAPOR PRESSURE OF SUMMER TIME REFORMULATED GASOLINE

REGION	PHASE 1 (1995)	PHASE 1 (Complex Model 1997)	PHASE 2 (2000)
1	7.1	7.1	6.8
2	8.0	8.0	7.5

EXHAUST EFFECTS OF OXYGENATED FUEL BLENDS
PERCENT CHANGE IN EMISSIONS FOR
1980 AND EARLIER MODEL YEAR
LIGHT DUTY GASOLINE POWERED VEHICLES

VEHICLE	HC	CO	NOx
Non catalyst	-1.57%	-7.00%	-0.00%
Open loop	-4.46%	-9.97%	-0.00%

EXHAUST EFFECTS OF OXYGENATED FUEL BLENDS
PERCENT CHANGE IN EMISSIONS PER PERCENT OF OXYGEN IN FUEL FOR
1981 AND LATER MODEL YEAR
LIGHT DUTY GASOLINE POWERED VEHICLES
(CLOSED LOOP)

	FUEL SYSTEM	HC EMISSIONS		CO EMISSIONS	
		% CHANGE	g/mi*	% CHANGE	g/mi*
Normal Emitters	PFI	-4.01%	0.33	-3.46%	3.50
	TBI	-2.93%	0.38	-4.93%	3.72
	Carb	-6.15%	0.33	-6.77%	4.18
High Emitters	PFI	-5.78%	1.83	-9.87%	15.26
	TBI	-5.78%	1.83	-9.87%	15.26
	Carb	-6.59%	3.14	-9.87%	15.26
Very High Emitters	PFI	-6.59%	3.14	-11.44%	95.79
	TBI	-6.59%	3.14	-11.44%	95.79
	Carb	-6.59%	3.14	-11.44%	95.79

* These rates are for vehicles using EPA certification test fuel.

Note that oxygenates have no effect on NOx emissions.

ADDITIONAL EXHAUST HC REDUCTION FOR REFORMULATED GASOLINE FOR
LIGHT DUTY GASOLINE POWERED VEHICLES
(APPLIED AFTER ADJUSTMENTS FOR RVP AND OXYGENATED FUEL EFFECTS)

REGION	PHASE1	PHASE2
1	1.122	1.801
2	1.117	1.779

PERCENT CHANGE IN EXHAUST EMISSIONS FROM INDUSTRY AVERAGE FUEL
WHEN USING EPA CERTIFICATION TEST FUEL

HC	CO	NOx
-13.6%	-8.0%	-13.8%

Continued on the next page

TABLE 1.13 (continued)

SEASONAL VARIATION IN REFORMULATED GASOLINE

Month	SUMMER*	WINTER**
	7	1
Ethanol Market Share	0.0%	30.0%
Ethanol Oxygen Content (by weight)	N/A	3.5%
Ether Blend Market Share	100.0%	70.0%
Ether Blend Oxygen Content	2.1%	1.5%
RVP Waiver	N/A	Yes
Fuel RVP	Fixed	User supplied

- * User supplied RVP and oxygenated fuel program parameters are ignored in summer when Reformulated Gasoline is specified.
- ** Default oxygenated fuel program parameters can be overridden by the user in winter if the market share for oxygenated fuels is 100% and the combined oxygen content is at least 2.1%

REFORMULATED GASOLINE
ASSUMED COMPLEX MODEL PARAMETERS

	BASELINE INDUSTRY AVERAGE	-----PHASE 1----- REGION 1	-----PHASE 1----- REGION 2	-----PHASE 2----- REGION 1	-----PHASE 2----- REGION 2
MTBE*	0.00	2.10	2.10	2.10	2.10
ETBE*	0.00	0.00	0.00	0.00	0.00
Ethanol*	0.00	0.00	0.00	0.00	0.00
TAME*	0.00	0.00	0.00	0.00	0.00
SULFUR (ppm)	339.00	339.00	339.00	134.00	134.00
RVP (psi)	8.70	7.10	8.00	6.70	6.70
E200 (%)	41.00	41.00	41.00	44.44	44.44
E300 (%)	83.00	83.00	83.00	84.91	84.91
Aromatics**	32.00	27.20	25.50	24.79	24.79
Olefins**	9.20	9.20	9.20	12.56	12.56
Benzene**	1.53	0.95	0.95	0.95	0.95

- * Percent fuel oxygen content by weight.
- ** Percent fuel content by volume.

DATE : JUNE 30, 1995