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AUTOMOTIVE FUEL ECONOMY PROGRAM

ANNUAL UPDATE
CALENDAR YEAR 2003

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SECTION I: INTRODUCTION

The Automotive Fuel Economy Program Annual Update summarizes the fuel economy performance of the vehicle fleet during 2003, and the activities of the National Highway Traffic Safety Administration (NHTSA) to date. Included in this report is a section summarizing current rulemaking activities to date.

The Secretary of Transportation is required to administer a program for regulating the fuel economy of new passenger cars and light trucks in the United States market. The authority to administer the program was delegated by the Secretary to the Administrator of NHTSA, 49 C.F.R. 1.50(f).

NHTSA's responsibilities in the fuel economy area include:

- (1) establishing and amending average fuel economy standards for manufacturers of passenger cars and light trucks, as necessary;
- (2) promulgating regulations concerning procedures, definitions, and reports necessary to support the fuel economy standards;
- (3) considering petitions for exemption from established fuel economy standards by low volume manufacturers (those producing fewer than 10,000 passenger cars annually worldwide) and establishing alternative standards for them;
- (4) enforcing fuel economy standards and regulations; and
- (5) responding to petitions concerning domestic production by foreign manufacturers, and other matters.

Passenger car fuel economy standards were established by Congress for Model Year (MY) 1985 and thereafter at a level of 27.5 miles per gallon (mpg). NHTSA is authorized to amend the standard above or below that level. The agency has established light truck standards each year, but Congress mandated through the DOT Appropriations Acts for fiscal years 1996 through 2001, no increase from the MY 1996 value of 20.7 mpg for MYs 1998 through 2003. The Congressional freeze on CAFE standards was repealed in mid-December 2001. Given the short lead-time (CAFE standards must be set 18 months prior to the affected model year), in April 2002, the agency set the MY 2004 light truck standard at 20.7 mpg. All fuel economy standards through MY 2007 are listed in Table I-1.

Corporate Average Fuel Economy (CAFE) is the sales weighted average fuel economy, expressed in mpg, of a manufacturer's fleet of passenger cars or light trucks with a gross vehicle weight rating (GVWR) of 8,500 lbs. or less, manufactured for sale in the United States, for any given model year. Fuel economy is defined as the average mileage traveled by an automobile per gallon of gasoline (or equivalent amount of other fuel) consumed as measured in accordance with the testing and evaluation protocol set forth by Environmental Protection Agency (EPA).

Manufacturers perform their own fuel economy tests of new car models and submit the results to EPA. EPA is responsible for conducting its own tests or verifying the manufacturers' dynamometer tests. EPA also is responsible for compiling the production data from manufacturers' reports and furnishing CAFE results to NHTSA.

Fuel economy test data from the manufacturers and EPA serves as the starting point for both CAFE values and real world fuel economy projections. For CAFE, the test data is adjusted upward to account for any credits for dual fuel and dedicated alternative fuel vehicles, and for passenger cars only, is adjusted upward for credits available to manufacturers to account for test procedure changes since the CAFE program was established. This report presents CAFE values since they are used to determine manufacturer compliance with fuel economy standards.

The Federal government provides real world fuel economy projections to consumers in several ways: on new vehicle labels, in the *Fuel Economy Guide*, and on EPA and Department of Energy (DOE) websites. The *Fuel Economy Guide* is published and distributed by DOE based on EPA data. The *Fuel Economy Guide* lists the city and highway fuel economy estimates that are included on the Fuel Economy label on new vehicles. A downloadable version of the *Fuel Economy Guide* can be found at <http://www.fueleconomy.gov>. These estimates are derived from the same dynamometer test values used for CAFE calculation, mentioned above. EPA adjusts these laboratory test results to account for the difference between controlled laboratory conditions and actual driving on the road. The laboratory fuel economy results are adjusted downward to derive the estimates in the *Fuel Economy Guide* and on new passenger cars and light trucks labels. The city test value is lowered 10 percent and the highway test value is reduced 22 percent. Thus, the city and highway fuel economy estimates used to calculate CAFE differ from the numbers in the *Fuel Economy Guide* and on the new car and light truck window labels.

Table I-1
Fuel Economy Standards for Passenger Cars and Light Trucks
Model Years 1978 through 2007 (in MPG)

Model Year	Passenger Cars	Light Trucks ⁽¹⁾		
		Two-wheel Drive	Four-wheel Drive	Combined ^{(2), (3)}
1978	18.0 ⁽⁴⁾
1979	19.0 ⁽⁴⁾	17.2	15.8	...
1980	20.0 ⁽⁴⁾	16.0	14.0	... ⁽⁵⁾
1981	22.0	16.7 ⁽⁶⁾	15.0	... ⁽⁵⁾
1982	24.0	18.0	16.0	17.5
1983	26.0	19.5	17.5	19.0
1984	27.0	20.3	18.5	20.0
1985	27.5 ⁽⁴⁾	19.7 ⁽⁷⁾	18.9 ⁽⁷⁾	19.5 ⁽⁷⁾
1986	26.0 ⁽⁸⁾	20.5	19.5	20.0
1987	26.0 ⁽⁹⁾	21.0	19.5	20.5
1988	26.0 ⁽⁹⁾	21.0	19.5	20.5
1989	26.5 ⁽¹⁰⁾	21.5	19.0	20.5
1990	27.5 ⁽⁴⁾	20.5	19.0	20.0
1991	27.5 ⁽⁴⁾	20.7	19.1	20.2
1992	27.5 ⁽⁴⁾	20.2
1993	27.5 ⁽⁴⁾	20.4
1994	27.5 ⁽⁴⁾	20.5
1995	27.5 ⁽⁴⁾	20.6
1996	27.5 ⁽⁴⁾	20.7
1997	27.5 ⁽⁴⁾	20.7
1998	27.5 ⁽⁴⁾	20.7
1999	27.5 ⁽⁴⁾	20.7
2000	27.5 ⁽⁴⁾	20.7
2001	27.5 ⁽⁴⁾	20.7
2002	27.5 ⁽⁴⁾	20.7
2003	27.5 ⁽⁴⁾	20.7
2004	27.5 ⁽⁴⁾	20.7
2005	27.5 ⁽⁴⁾	21.0
2006	27.5 ⁽⁴⁾	21.6
2007	27.5 ⁽⁴⁾	22.2

1. Standards for MY 1979 light trucks were established for vehicles with a gross vehicle weight rating (GVWR) of 6,000 pounds or less. Standards for MY 1980 and beyond are for light trucks with a GVWR of 8,500 pounds or less.
2. For MY 1979, light truck manufacturers could comply separately with standards for four-wheel drive, general utility vehicles and all other light trucks, or combine their trucks into a single fleet and comply with the standard of 17.2 mpg.
3. For MYs 1982-1991, manufacturers could comply with the two-wheel and four-wheel drive standards or could combine all light trucks and comply with the combined standard.
4. Established by Congress in Title V of the Motor Vehicle Information and Cost Savings Act.
5. A manufacturer whose light truck fleet was powered exclusively by basic engines which were not also used in passenger cars could meet standards of 14 mpg and 14.5 mpg in MYs 1980 and 1981, respectively.
6. Revised in June 1979 from 18.0 mpg.
7. Revised in October 1984 from 21.6 mpg for two-wheel drive, 19.0 mpg for four-wheel drive, and 21.0 mpg for combined.
8. Revised in October 1985 from 27.5 mpg.
9. Revised in October 1986 from 27.5 mpg.
10. Revised in September 1988 from 27.5 mpg.

SECTION II: VEHICLE FUEL ECONOMY PERFORMANCE AND CHARACTERISTICS

A. Fuel Economy Performance by Manufacturer

The fuel economy achievements for domestic and foreign-based manufacturers in MY 2003 were updated to include final EPA calculations, where available, since the publication of the *Automotive Fuel Economy Program, Annual Update Calendar Year 2002*. These fuel economy achievements and current projected data for MY 2003 are listed in Tables II-1 and II-2.

Overall fleet fuel economy for passenger cars was 29.5 mpg in MY 2003, an increase of 0.5 mpg above the MY 2002 level. For MY 2003, CAFE values increased above MY 2002 levels for 12 of 22 passenger car manufacturers' fleets. (See Table II-1.) These 12 companies accounted for more than 68 percent of the total MY 2003 production. Manufacturers continued to introduce new technologies and more fuel-efficient models, and some larger, heavier, or more powerful less fuel-efficient models. For MY 2003, the overall domestic manufacturers' sales weighted passenger car fleet average CAFE was 29.0 mpg. For MY 2003, DaimlerChrysler, General Motors, Honda, and Quantum domestic sales weighted passenger car CAFE values rose 2.0 mpg, 0.1 mpg, 2.0 mpg, and 2.2 mpg, respectively, from their MY 2002 levels. Toyota domestic sales weighted passenger car CAFE values fell 5.5 mpg from its MY 2002 level. Both Ford and Nissan domestic sales weighted passenger car CAFE values remained at their MY 2002 levels. Overall, the domestic manufacturers' combined sales weighted MY 2003 CAFE decreased 0.1 mpg below the MY 2002 level.

Table II-1

PASSENGER CAR FUEL ECONOMY PERFORMANCE BY MANUFACTURER MODEL YEARS 2002 AND 2003		
MANUFACTURER	MODEL YEAR CAFE (MPG)	
	2002	2003
DOMESTIC		
DaimlerChrysler*.....	27.7	29.7
Ford*.....	27.9	27.9
General Motors.....	28.8	28.9
Honda.....	32.4	34.4
Nissan.....	28.9	28.9
Quantum.....	30.2	32.4
Toyota.....	33.6	28.1
Sales Weighted Average (Domestic)	29.1	29.1
IMPORT		
BMW.....	26.2	26.8
Daewoo**.....	28.2	...
DaimlerChrysler.....	26.6	26.3
Ferrari/Maserati.....	...	14.5
Fiat.....	15.1	...
Ford.....	28.1	28.2
General Motors.....	27.8	28.3
Honda.....	29.8	31.9
Hyundai.....	31.2	30.4
Kia.....	29.7	30.4
Lotus.....	20.8	20.8
Nissan.....	29.5	27.4
Porsche.....	23.9	24.1
Subaru.....	27.6	27.6
Suzuki.....	33.8	33.0
Toyota.....	29.3	32.4
Volkswagen.....	29.5	29.8
Sales Weighted Average (Import)	28.8	29.9
SALES WEIGHTED TOTAL FLEET AVERAGE	29.0	29.5
FUEL ECONOMY STANDARDS	27.5	27.5

*For MY 2003, DaimlerChrysler and Ford domestic passenger car fleets CAFE levels were 28.8 mpg and 26.7 mpg. These manufacturers earned CAFE incentives for the sale of alternative fuel vehicles. These incentives and EPA adjustments raised their CAFE values to the figures shown above.

**In MY 2003, Daewoo discontinued importing passenger cars to the United States.

Table II-2

LIGHT TRUCK FUEL ECONOMY PERFORMANCE BY MANUFACTURER MODEL YEARS 2002 AND 2003		
MANUFACTURER	MODEL YEAR CAFE (MPG)	
	Combined	
	2002	2003
BMW	20.1	20.0
DaimlerChrysler*	21.5	22.2
Ford*	20.7	21.3
General Motors*	21.2	21.1
Honda.....	25.4	24.7
Hyundai.....	24.5	24.4
Isuzu.....	21.0	22.3
Kia.....	21.4	19.7
Nissan	20.7	21.9
Porsche** .....	...	18.0
Subaru** .....	...	26.3
Suzuki	21.9	21.9
Toyota	22.1	21.9
Volkswagen.....	20.6	21.3
SALES WEIGHTED TOTAL FLEET AVERAGE	21.4	21.7
FUEL ECONOMY STANDARDS	20.7	20.7

*The MY 2003 light truck fuel economy values for DaimlerChrysler, Ford, and General Motors light truck fleets were 21.2 mpg, 20.0 mpg, and 20.1 mpg, respectively. These manufacturers earned CAFE incentives for the sale of alternative fuel vehicles. These incentives raised their CAFE values to the figures shown above.

**In MY 2003, both Porsche and Subaru began importing light trucks to the United States.

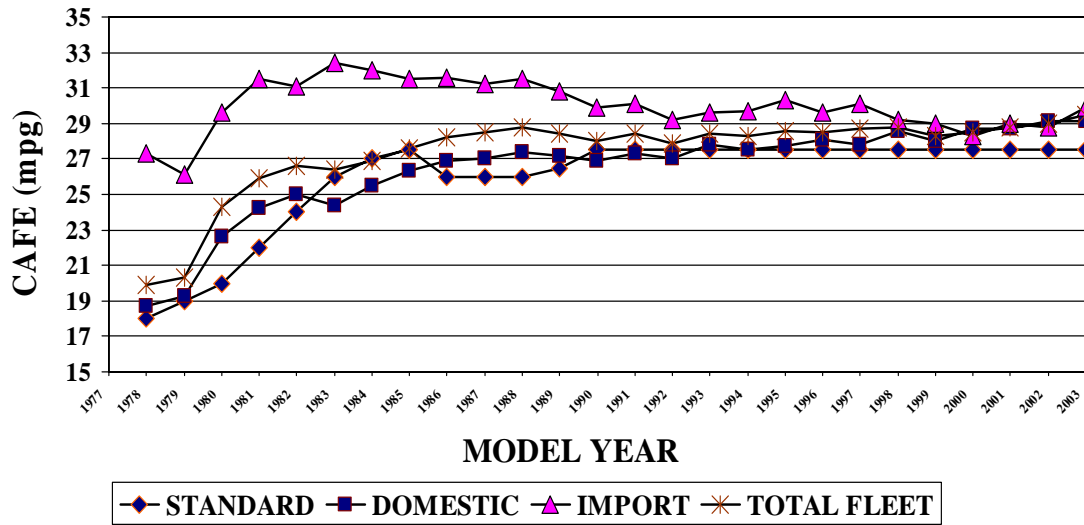
For MY 2003, the overall import manufacturers' sales weighted passenger car fleet average CAFE was 29.9 mpg, increasing 1.1 mpg above the MY 2002 level. Eight of 15 import car manufacturers increased their CAFE values between MYs 2002 and 2003. BMW, Ford, General Motors, Honda, Kia, Porsche, Toyota, and Volkswagen import sales weighted passenger

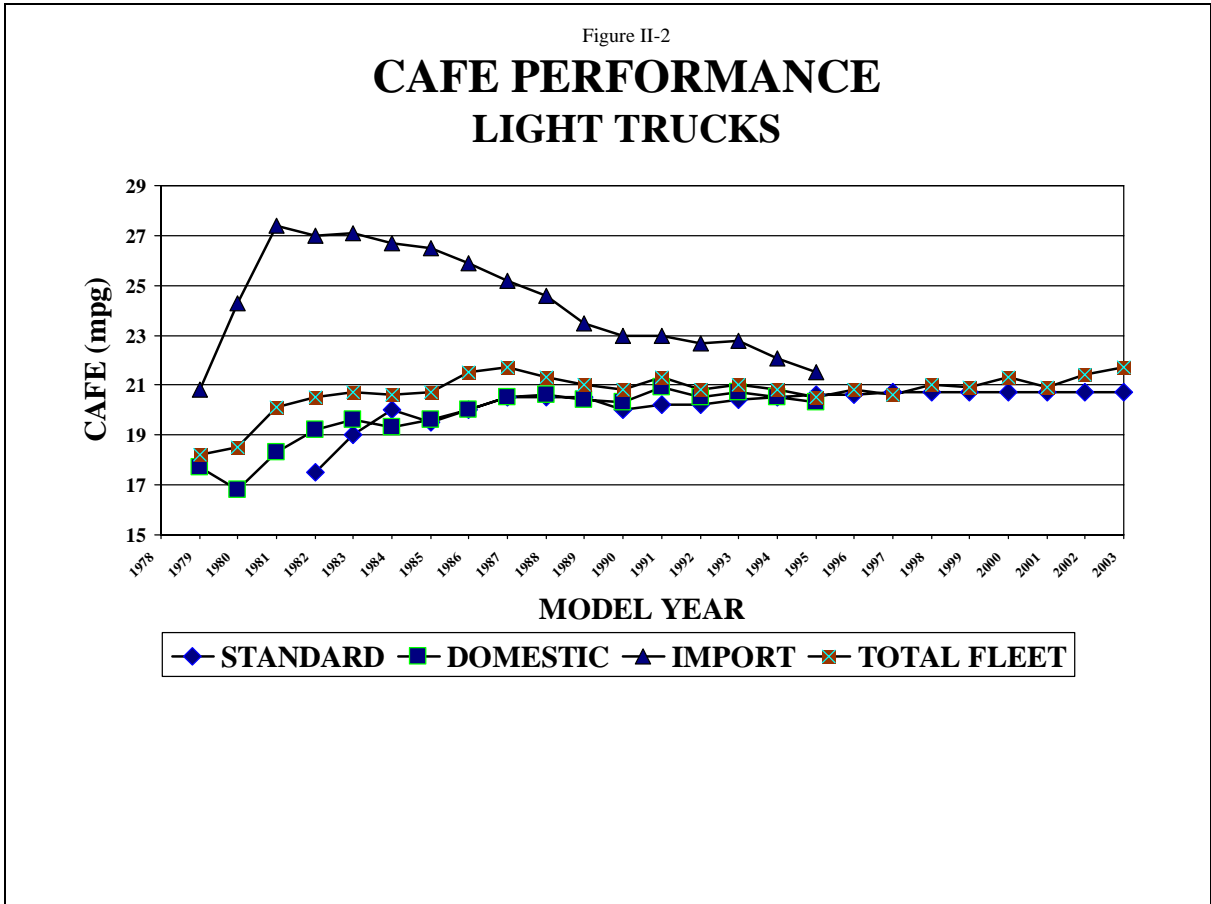
car CAFE values rose 0.6 mpg, 0.1 mpg, 0.5 mpg, 2.1 mpg, 0.7 mpg, 0.2 mpg, 3.1 mpg, and 0.3 mpg from their MY 2002 levels. DaimlerChrysler import, Hyundai, Nissan import, and Suzuki CAFE values fell 0.3 mpg, 0.8 mpg, 2.1 mpg, and 0.8 mpg from their MY 2002 levels. Figure II-1 illustrates the changes in total new passenger car fleet CAFE from MY 1978 to MY 2003.

The total sales weighted light truck fleet CAFE increased 0.3 mpg above the MY 2002 CAFE level of 21.4 mpg (See Table II-2). For MY 2003, CAFE values increased above MY 2002 levels for five of 12 light truck manufacturers' fleets. These five companies accounted for more than 48 percent of the total MY 2003 production. Manufacturers continued to introduce new technologies, and more fuel-efficient models and some heavier or more powerful fuel-efficient models. For MY 2003, DaimlerChrysler, Ford, Isuzu, Nissan, and Volkswagen sales weighted light truck CAFE values rose 0.7 mpg, 0.6 mpg, 1.3 mpg, 1.2 mpg, and 0.7 mpg, respectively, from their MY 2002 levels. BMW, General Motors, Honda, Hyundai, Kia, and Toyota sales weighted light truck CAFE values fell 0.1 mpg, 0.1 mpg, 0.7 mpg, 0.1 mpg, 1.7 mpg, and 0.2 mpg from their MY 2002 levels. Suzuki sales weighted light truck CAFE value remained at its MY 2002 level. Overall, the total manufacturers' combined sales weighted light truck fleet MY 2003 CAFE value was 21.7 mpg. Figure II-2 illustrates the trends in total light truck fleet CAFE from MY 1979 to MY 2003.

Six passenger car (BMW, DaimlerChrysler import, Ferrari/Maserati, Lotus, Nissan import, and Porsche) and three light truck manufacturers (BMW, Kia, and Porsche) are projected to fail to achieve the levels of the MY 2003 CAFE standards. In addition, several manufacturers

Figure II-1
CAFE PERFORMANCE
PASSENGER CARS





are not expected to pay civil penalties because the credits they earned by exceeding the fuel economy standards in earlier years offset later shortfalls. Other manufacturers may file either a carryback plan or a carryforward plan to demonstrate that they anticipate earning credits in future model years or have earned credits in previous model years to offset current deficits.

CAFE levels may be impacted because of changes made to a manufacturer's vehicle fleet. Changes that occur such as an increase or decrease in vehicle weights, manufacturer's use of materials like high- and medium-strength steel, plastic and plastic composites, or aluminum to build its vehicles, market-mix shifts due to changes in consumer demand, and the use of advanced technology may potentially impact CAFE levels.

B. Characteristics of the MY 2003 Passenger Car Fleet

Overall, the MY 2003 passenger car fleet reflects a continuing trend toward satisfying consumer preference for heavier cars. (See Table II-3.) Compared with MY 2002, the average curb weight for MY 2003 decreased by 12 pounds for the domestic fleet and increased by 56 pounds for the import fleet. The average curb weight of all passenger cars increased from 3,163 pounds in MY 2002 to 3,179 pounds in MY 2003, primarily because of the average curb weight increase for the import fleet. Average engine displacement increased from 174 to 179 cubic inches for domestic passenger cars and decreased from 152 to 150 cubic inches for import passenger cars from MY 2002 to MY 2003. Overall, the average engine displacement remained stable at 166 cubic inches. From MY 2002 to MY 2003, horsepower/100 pounds, a measure of

Table II-3

PASSENGER CAR FLEET CHARACTERISTICS FOR MYs 2002 AND 2003						
CHARACTERISTICS	TOTAL FLEET		DOMESTIC FLEET		IMPORT FLEET	
	2002	2003	2002	2003	2002	2003
Fleet Average Fuel Economy, mpg	29.0	29.5	29.1	29.1	28.8	29.8
Fleet Average Curb Weight, lbs.	3163	3179	3166	3154	3160	3216
Fleet Average Equivalent Test Weight, lbs.	3459	3486	3445	3507	3487	3461
Fleet Average Engine Displacement, cu. in.	166	166	174	179	152	150
Fleet Average Horsepower/Weight ratio, HP/100 lbs.	5.42	5.49	5.43	5.48	5.38	5.50
% of Fleet	100	100	64.9	53.6	35.1	46.4
Segmentation by EPA Size Class, %						
Two-Seater	1.7	2.2	1.2	1.2	2.4	3.5
Minicompact	1.4	1.7	0.3	0.6	3.3	3.0
Subcompact*	8.3	5.7	7.5	6.1	9.7	5.2
Compact*	37.1	38.4	33.0	32.2	44.7	45.4
Mid-Size*	36.1	35.8	35.1	32.8	38.0	39.2
Large*	15.5	16.3	22.8	27.2	1.9	3.7
Diesel Engines	0.41	0.37	0.0	0.0	1.2	0.8
Turbo or Supercharged Engines	4.4	3.9	0.0	0.08	9.21	6.50
Fuel Injection	100	100	100	100	100	100
Front-Wheel Drive	83.6	80.7	91.8	88.1	68.4	72.2
Automatic Transmissions	87.8	81.6	91.8	85.3	80.3	77.3
Automatic Transmissions with Lockup Clutches	99.7	99.8	100.0	100.0	98.9	99.5
Automatic Transmissions with Four or more Forward Speeds	98.2	97.9	98.5	99.7	97.5	95.5
% Electric	0.0	0.0	0.0	0.0	0.0	0.0

*Includes associated station wagons.

vehicle performance, increased from 5.43 to 5.48 for domestic passenger cars and from 5.38 to 5.50 for import passenger cars. The total fleet average for passenger cars increased from 5.42 horsepower/100 pounds in MY 2002 to 5.49 in MY 2003. The passenger car fleet in MY 2003 average the highest horsepower-to-weight ratio recorded in any year since 1955, the earliest year for which the agency has data.

The size/class breakdown shows an increase in two-seater, minicompact, compact, and large passenger cars, and a decrease in subcompact and mid-size passenger cars for the overall fleet. The size/class mix in the domestic fleet showed an increase in minicompact and large passenger cars and a decrease in subcompact, compact and mid-size passenger cars. The size/class mix in the import fleet showed an increase in two-seater, compact, mid-size, and large passenger cars and a decrease in minicompact and subcompact passenger cars. The import share of the passenger car market increased 11.3 percentage points in MY 2003 to over 46 percent of the market.

The domestic fleet rose above its MY 2002 level in the share of turbocharged and supercharged engines. Diesel engines were only offered on certain Mercedes and Volkswagen models during MY 2003. Consequently, diesel engine share decreased in MY 2003.

Passenger car fleet average characteristics have changed significantly since MY 1978 (the first year of fuel economy standards). (See Table II-4.) After an initial trend in weight loss (from MY 1978 to MY 1982, the average passenger car fleet curb weight decreased from 3,349 to 2,808 pounds), the curb weight stabilized between 2,800 and 3,179 pounds. However, since

Table II-4

New Passenger Car Fleet Average Characteristics Model Years 1978-2003						
Model Year	Fuel Economy (mpg)	Curb Weight (lb.)	Equivalent Test Weight (lb.)	Interior Space (cu. ft.)	Engine Size (cu. in.)	Horsepower/Curb Weight (hp/100 lb.)
1978	19.9	3349	3627	112	260	3.68
1979	20.3	3180	3481	110	238	3.72
1980	24.3	2867	3162	105	187	3.51
1981	25.9	2883	3154	108	182	3.43
1982	26.6	2808	3098	107	173	3.47
1983	26.4	2908	3204	109	182	3.57
1984	26.9	2878	3170	108	178	3.66
1985	27.6	2867	3177	108	177	3.84
1986	28.2	2821	3127	106	169	3.89
1987	28.5	2805	3100	109	162	3.98
1988	28.8	2831	3100	108	161	4.11
1989	28.4	2879	3181	109	163	4.22
1990	28.0	2906	3192	108	162	4.53
1991	28.4	2934	3229	108	164	4.42
1992	27.9	3007	3307	109	169	4.56
1993	28.4	2980	3328	109	166	4.64
1994	28.3	3012	3318	109	169	4.79
1995	28.6	3047	3335	109	166	4.87
1996	28.5	3049	3352	109	165	4.93
1997	28.7	3068	3362	109	163	4.94
1998	28.8	3075	3372	109	161	5.05
1999	28.3	3116	3418	110	166	5.21
2000	28.5	3126	3433	111	166	5.25
2001	28.8	3148	3445	110	165	5.30
2002	29.0	3163	3459	111	166	5.42
2003	29.5	3179	3486	111	166	5.49

MY 1993, the average passenger car fleet curb weight has steadily increased and has reached a level only exceeded by the initial two years of the CAFE program. The average horsepower to

weight ratio (hp/100 lb.) of the passenger car fleet has increased each year since 1981. The average horsepower to weight ratio for MY 2003 passenger car was 5.49, compared to the average of 3.43 in MY 1981. Table II-4 shows that the MY 2003 passenger car fleet has nearly equal interior volume and more than 47 percent better CAFE than the MY 1978 fleet. (See Figure II-3.)

C. Characteristics of the MY 2003 Light Truck Fleet

The characteristics of the MY 2003 light truck fleet are shown in Table II-5. Unlike passenger cars, light truck manufacturers are not required to divide their fleets into domestic and import fleets. For comparison purposes, Table II-5 subdivides the light truck fleet into two-wheel drive and four-wheel drive classifications.

The MY 2003 average equivalent test weight of the total light truck fleet increased by 62 pounds over that for MY 2002. The average CAFE of the fleet increased by 0.3 mpg to 21.7 mpg. The share of the MY 2003 two-wheel drive fleet decreased by 0.3 percentage points below the MY 2002 level of 52.9 percent; thus the share of the MY 2003 four-wheel drive fleet increased by 0.3 percentage points above the MY 2002 level of 47.1 percent.

The size/class breakdown shows small increases in small pickup, large pickup (four-wheel drive), and special purpose (both two-wheel drive and four-wheel drive) vehicles, and small reductions in passenger vans, and large pickups (two-wheel drive) vehicles for the overall fleet. The size/class mix in the two-wheel drive showed an increase in small pickup, special purpose vehicles and a decrease in passenger van, and large pickup vehicles, while cargo van vehicles remained stable. The size/class mix in the four-wheel drive showed an increase in cargo van and large pickup and a decrease in passenger van and special purpose vehicles.

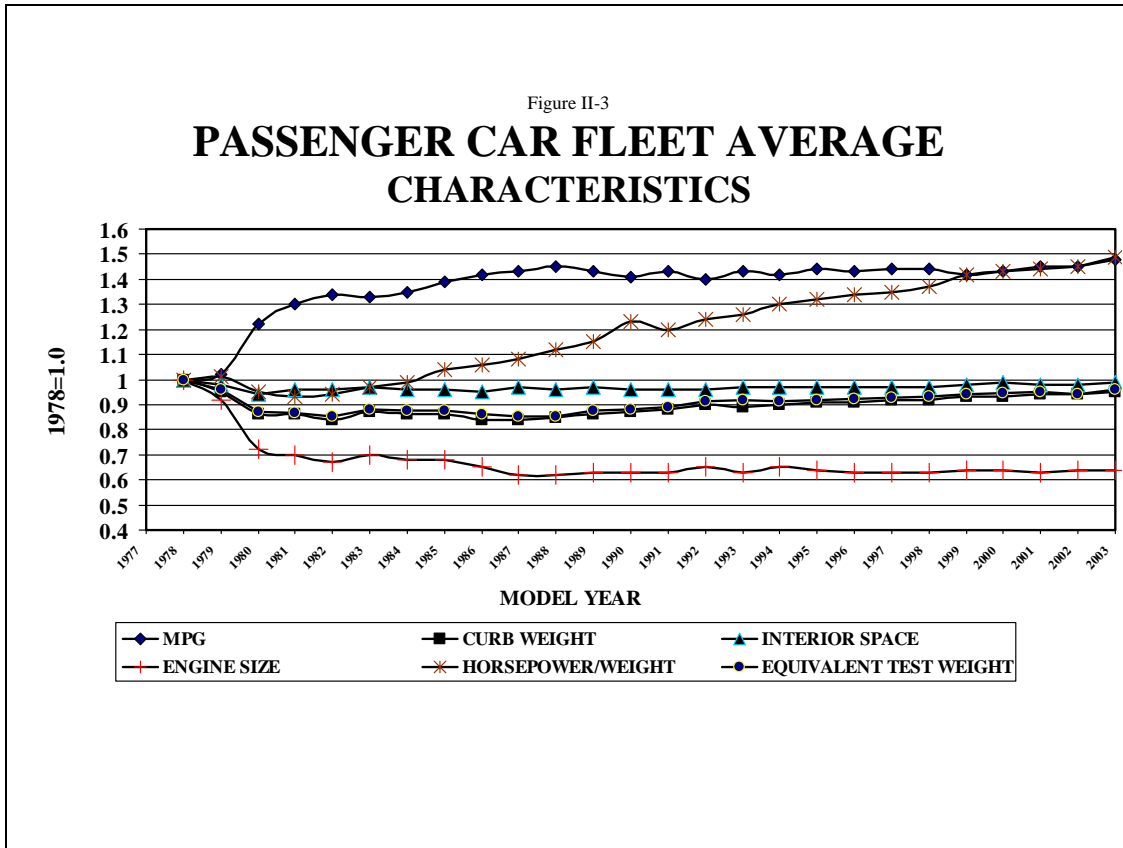


Table II-5

LIGHT TRUCK FLEET CHARACTERISTICS FOR MYs 2002 AND 2003						
CHARACTERISTICS	TOTAL FLEET		Two-wheel Drive		Four-wheel Drive	
	2002	2003	2002	2003	2002	2003
Fleet Average Fuel Economy, mpg	21.4	21.7	22.6	22.6	20.0	20.0
Fleet Average Equivalent Test Weight, lbs.	4637	4699	4481	4529	4814	4890
Fleet Average Engine Displacement, cu. in.	242	244	232	234	254	256
Fleet Average Horsepower/ Weight ratio, HP/100 lbs.	4.44	4.70	4.47	4.64	4.40	4.77
% of Fleet	100	100	53.2	52.9	46.8	47.1
% of Fleet from Foreign-based Manufacturers	19.8	22.1	17.2	16.7	19.1	24.1
Segmentation by Type, %						
Passenger Van	13.3	12.7	24.2	23.2	1.0	0.8
Cargo Van	1.5	1.5	2.7	2.7	0.1	0.2
Small Pickup	1.5	2.0	2.8	3.7	0.0	0.0
Large Pickup						
Two-Wheel Drive	17.3	15.5	32.5	29.3	0.0	0.0
Four-Wheel Drive	12.5	12.8	0.0	0.0	26.8	27.2
Special Purpose						
Two-Wheel Drive	20.1	21.8	37.7	41.1	0.0	0.0
Four-Wheel Drive	33.7	33.8	0.0	0.0	72.1	71.8
Diesel Engines	1.98	1.97	0.0	0.0	4.24	4.74
Turbo/Supercharged Engines	0.48	0.48	0.1	0.59	0.92	0.59
Fuel Injection	100	100	100	100	100	100
Automatic Transmissions	94.6	93.2	94.1	93.2	95.1	93.1
Automatic Transmissions with Lockup Clutches	99.7	99.7	99.5	99.4	100	100
Automatic Transmissions with Four or More Forward Speeds	99.4	98.6	99.5	98.6	99.2	98.6
% Electric	0.00	0.00	0.01	0.01	0.00	0.00

Historically, light truck fuel economy levels increased from 18.5 mpg in MY 1980 to 21.7 mpg in MY 1987. From 1988 until 2002, fuel economy stabilized at around 21.0 mpg (see Table II-6). Subsequently, in MY 2003, light truck fuel economy level increased to 21.7 mpg, increasing to its highest level since 1987. Light truck production increased from 1.9 million units in MY 1980 to over 7.9 million units in MY 2003. Light trucks comprised over 50 percent of the total light duty vehicle fleet production in MY 2003, over 4 times more than its share in MY 1980.

The size/class breakdown shows small increases in small pickup, large pickup (four-wheel drive), and special purpose (both two-wheel drive and four-wheel drive) vehicles, and small reductions in passenger vans, and large pickups (two-wheel drive) vehicles for the overall fleet.

The size/class mix in the two-wheel drive showed an increase in small pickup, special purpose vehicles and a decrease in passenger van, and large pickup vehicles, while cargo van vehicles remained stable. The size/class mix in the four-wheel drive showed an increase in cargo van and large pickup and a decrease in passenger van and special purpose vehicles.

D. Passenger Car and Light Truck Fleet Economy Averages

Passenger car CAFE increased substantially between 1978 and 1988, from 19.9 mpg to 28.8 mpg, but has remained relatively constant until 2003 (see Figure II-4 and Table II-6). In MY 2003, passenger car CAFE exceeded to a high of 29.5 mpg, the greatest level ever recorded. Light truck CAFE increased from 18.5 mpg in 1980 to a high of 21.7 mpg in 1987. In MY 2003, the light truck average achieved 21.7 mpg, increasing to its highest CAFE level in 17 years.

Figure II-4 illustrates an increase in the light duty fleet (combined passenger cars and light trucks) average CAFE through MY 1987, followed by a gradual decline. (Also, see Table II-6.) The shift to light trucks for general transportation has had a significant effect on fuel consumption, and may continue to do so in the future if sales of light trucks remain relatively constant or increase. In fact, due largely to the increasing proportion of light trucks in the fleet, the overall light vehicle fleet CAFE average was 25.0 mpg in MY 2003. The all-time high CAFE level for the overall light vehicle fleet was 26.2 mpg in MY 1987.

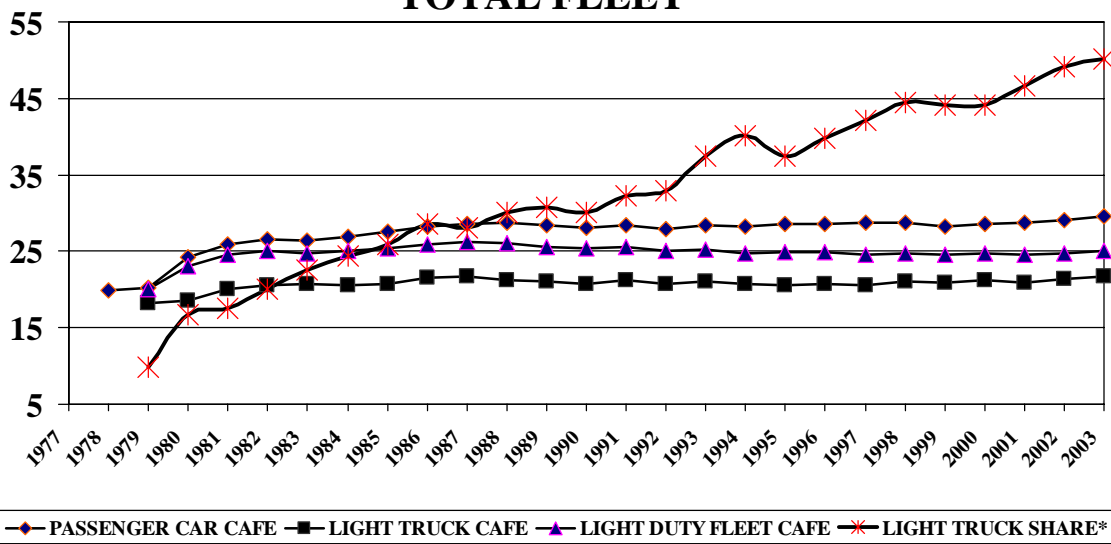
E. Domestic and Import Fleet Fuel Economy Averages

Domestic and import passenger car fleet average CAFE values have improved since MY 1978, although the increase is far more dramatic for the domestic fleet. In MY 2003, the domestic passenger car fleet average CAFE improved to 29.0 mpg. The import passenger car fleet average CAFE was 29.8 mpg. Compared with MY 1978, this reflects an increase of 10.3 mpg for domestic cars and 2.5 mpg for import cars.

The disparity between the average CAFEs of the import and domestic manufacturers has declined in recent years as domestic manufacturers have maintained relatively stable CAFE values and vehicle offerings, while the import manufacturers have introduced new vehicle offerings that feature larger passenger cars and light trucks to the market.

Figure II-4

CAFE PERFORMANCE TOTAL FLEET



*The light truck share represents the percentage of the total light duty fleet.

Table II-6

DOMESTIC AND IMPORT PASSENGER CAR AND LIGHT TRUCK FUEL ECONOMY AVERAGES FOR MODEL YEARS 1978-2003 (in MPG)										
Model Year	Domestic			Import			All Cars	All Light Trucks	Total Fleet	Light Truck Share of Fleet (%)
	Car	Light Truck	Combined	Car	Light Truck*	Combined				
1978	18.7	...	...	27.3	...	...	19.9	...	...	...
1979	19.3	17.7	19.1	26.1	20.8	25.5	20.3	18.2	20.1	9.8
1980	22.6	16.8	21.4	29.6	24.3	28.6	24.3	18.5	23.1	16.7
1981	24.2	18.3	22.9	31.5	27.4	30.7	25.9	20.1	24.6	17.6
1982	25.0	19.2	23.5	31.1	27.0	30.4	26.6	20.5	25.1	20.1
1983	24.4	19.6	23.0	32.4	27.1	31.5	26.4	20.7	24.8	22.5
1984	25.5	19.3	23.6	32.0	26.7	30.6	26.9	20.6	25.0	24.4
1985	26.3	19.6	24.0	31.5	26.5	30.3	27.6	20.7	25.4	25.9
1986	26.9	20.0	24.4	31.6	25.9	29.8	28.2	21.5	25.9	28.6
1987	27.0	20.5	24.6	31.2	25.2	29.6	28.5	21.7	26.2	28.1
1988	27.4	20.6	24.5	31.5	24.6	30.0	28.8	21.3	26.0	30.1
1989	27.2	20.4	24.2	30.8	23.5	29.2	28.4	21.0	25.6	30.8
1990	26.9	20.3	23.9	29.9	23.0	28.5	28.0	20.8	25.4	30.1
1991	27.3	20.9	24.4	30.1	23.0	28.4	28.4	21.3	25.6	32.2
1992	27.0	20.5	23.8	29.2	22.7	27.9	27.9	20.8	25.1	32.9
1993	27.8	20.7	24.2	29.6	22.8	28.1	28.4	21.0	25.2	37.4
1994	27.5	20.5	23.5	29.7	22.0	27.8	28.3	20.8	24.7	40.2
1995	27.7	20.3	23.8	30.3	21.5	27.9	28.6	20.5	24.9	37.4
1996	28.1	20.5	24.1	29.6	22.2	27.7	28.5	20.8	24.9	39.7
1997	27.8	20.2	23.3	30.1	22.1	27.5	28.7	20.6	24.6	42.1
1998	28.6	20.5	23.3	29.2	22.9	27.6	28.8	21.0	24.7	44.5
1999	28.0	...	...	29.0	...	...	28.3	20.9	24.5	44.0
2000	28.7	...	...	28.3	...	...	28.5	21.3	24.8	44.2
2001	28.7	...	...	29.0	...	...	28.8	20.9	24.5	46.7
2002	29.1	...	...	28.8	...	...	29.0	21.4	24.7	49.1
2003	29.1	...	...	29.9	...	...	29.5	21.7	25.0	50.1

*Light trucks from foreign-based manufacturers. NOTE: Beginning with MY 1999, the agency ceased categorizing the total light truck fleet by either domestic or import fleets.

SECTION III: RECENT ACTIVITIES

A. Light Truck CAFE Standards

On April 7, 2003, NHTSA published a final rule establishing light truck CAFE standards of 21.0 mpg for MY 2005, 21.6 mpg for MY 2006, and 22.2 mpg for MY 2007 (67 FR 16052). Under Federal law, NHTSA had to issue a final rule setting MY 2005 light truck CAFE standard at least 18 months before the beginning of the affected MY. The increase in light truck standards was the first since 1996, and the largest increase in the last 20 years.

B. Low Volume Petitions

49 U.S.C. 32902(d) provides that a low volume manufacturer of passenger cars may be exempted from the generally applicable passenger car fuel economy standards, if these standards are more stringent than the maximum feasible average fuel economy for that manufacturer, and if NHTSA establishes an alternative standard for that manufacturer at its maximum feasible level. A low volume manufacturer is one that manufactured fewer than 10,000 passenger cars worldwide, in the model year for which the exemption is sought (the affected model year) and in the second model year preceding that model year. In 2003, NHTSA did not act on any low volume petitions.

C. Enforcement

49 U.S.C. 32912(b) imposes a civil penalty of \$5.50 for each tenth of a mpg by which a manufacturer's CAFE level falls short of the standard, multiplied by the total number of passenger automobiles or light trucks produced by the manufacturer in that model year. Credits earned for exceeding the standard, in any of the three model years immediately before or subsequent to the model years in question, can be used to offset the penalty.

Table III-1 shows CAFE fines paid by manufacturers during calendar year 2003 and for MY 2003. Manufacturers paid civil penalties totaling \$20,980,432 for failing to comply with the CAFE standards of 27.5 mpg for passenger cars in MYs 2001-2003.

Table III-1

CAFE FINES COLLECTED			
Model Year	Manufacturer	Amount Fined	Date Paid
2001	Lotus Cars USA, Inc.	\$35,744.50	06/03
2002	Fiat Motors of North America	1,344,222	05/03
	Lotus Cars USA, Inc.	36,850	06/03
	BMW of North America	14,066,123.50	08/03
	Porsche North America	4,357,782	03/04
2003	Ferrari North America, Inc.	1,139,710	07/04

D. Carryback/Carryforward Plans

49 U.S.C. 32903 allows an automobile manufacturer to earn fuel economy credits during any model year in which the manufacturer's fleet exceeds the established CAFE standard. The amount of credits a manufacturer earns is determined by multiplying the number of tenths of a mile per gallon by which the average fuel economy of the manufacturer's fleet in the model year exceeds the standard by the total number of vehicles in the manufacturer's fleet for the model year.

Already earned CAFE credits are carried forward by the agency (with affected manufacturers given an opportunity to comment on the agency's allocation of credits), and distributed to any of the three succeeding model years in which the manufacturer's fleet falls below the CAFE standard. For example, credits earned in MY 2000 may be used to offset deficiencies in MYs 2001, 2002, and/or 2003. A manufacturer also may submit to the agency a carryback plan to demonstrate that it will earn sufficient credits within the following three model years, which can be allocated to offset penalties in the model year involved.

BMW submitted a carryback plan dated October 10, 2002 to the agency for its MY 2001 light truck fleet CAFE compliance, using credits it projects to earn in MY 2004 to offset its MY 2001 shortfall liability. BMW's carryback plan was approved December 16, 2003.

Ford submitted a carryback plan dated June 2, 2003 to the agency for its MY 2001 light

truck fleet CAFE compliance, using credits its projects to earn in MY 2003 to offset its MY 2001 shortfall liability caused by Land Rover's MY 1999 light truck fleet.

Volkswagen submitted a carryback plan dated August 5, 2003 to the agency for its MY 2002 light truck fleet CAFE compliance, using credits its projects to earn in MY 2003 to offset its MY 2002 shortfall liability. Volkswagen's carryback plan was approved December 3, 2003.

Nissan submitted a carryforward plan dated October 10, 2003 to the agency for its MY 2003 import passenger car fleet CAFE compliance, using credits earned in MY 2000 to offset its MY 2003 shortfall liability. NHTSA approved this carryforward plan on January 7, 2004.

E. Manufacturing Incentives for Alternative Fuel Vehicles

The Alternative Motor Fuels Act of 1988 (AMFA) provides CAFE incentives for the manufacture of vehicles that use alcohol or natural gas fuels, either exclusively or as an alternate fuel in conjunction with gasoline or diesel fuel. AMFA instructed that NHTSA either extend the incentive program for dual fueled vehicles for up to four years beyond MY 2004, with a maximum allowable increase in average fuel economy per manufacturer of 0.9 miles per gallon, or issue a *Federal Register* explaining why the incentive program was not extended. On March 11, 2002, NHTSA published a notice of proposed rulemaking that solicited comments on the agency's proposal to extend the dual-fuel incentives program by four years, i.e., through the end of the 2008 MY (67 FR 10873). In 2003, NHTSA researched and analyzed comments to lay the factual foundation needed to determine whether an extension of this program is essential. On

February 19, 2004, NHTSA published a final rule extending AMFA credits for up to 0.9 mpg from 2005 through 2008.

F. Denial of Petition for Rulemaking: Code of Federal Regulations Bluewater Network

On October 14, 2003, NHTSA published a denial of petition for rulemaking submitted by Bluewater Network dated June 12, 2002, requesting that the agency initiate rulemaking to amend testing and calculation procedures and/or correction factors used to determine the fuel economy information relayed to consumers and policy makers, because NHTSA has no statutory authority to take the requested actions. Under 49 U.S.C. 32904 and 32908, EPA is statutorily responsible for conducting fuel economy testing and calculating vehicle fuel economy, determining manufacturers' CAFE performances, and developing fuel economy data to be provided to consumers.

This document also denied the petitioner's request that NHTSA use such amended calculations as the basis for data presented in the agency's annual report on the CAFE program. NHTSA is statutorily required to base its CAFE calculations on the data supplied by EPA, resulting from its test procedures. Given that a primary purpose of the annual report is to provide information on the status of manufacturers' compliance with the CAFE standards, NHTSA believes that presenting the CAFE values as they are calculated for compliance purposes in the appropriate manner in which to present fuel economy data in the annual report. The report is not intended for consumer information purposes, and the agency is no longer required to submit the report to Congress. The agency's recent update of the report includes a

discussion that thoroughly explains the differences between EPA fuel economy values, on-road values, and the CAFE compliance values (68 FR 59233).

G. Reforming the Automobile Fuel Economy Standards Program

On December 29, 2003, NHTSA published an advance notice of proposed rulemaking to seek comments on various issues relating to the CAFE program including possible enhancements to the program that will assist in furthering fuel conservation while protecting motor vehicle safety and the economic vitality of the auto industry. The agency was interested in improvements to the structure of the CAFE program authorized under current statutory authority.

The focus of the notice was to solicit comments on the structure of the CAFE program, not the stringency level for a future CAFE standard. (See 68 FR 74908.)

On December 29, 2003, NHTSA also published a companion notice, “Reforming the Automobile Fuel Economy Standards Program; Request for Product Plan Information.” This request for comments document served to acquire information regarding vehicle manufacturers’ future product plans to assist NHTSA in analyzing possible reforms to the CAFE program. The sought information will help the agency to assess the effect of these possible reforms on fuel

economy, manufacturers, consumers, the economy, motor vehicle safety, and American jobs (68 FR 74931).

H. Nissan Two-Fleet Rule Exemption

On April 22, 2004, NHTSA granted a petition that would enable Nissan North America to figure its CAFE on a single fleet. The CAFE statute requires NHTSA to grant such petitions unless it finds that doing so would reduce jobs in the United States related to motor vehicle manufacturing. In its analysis, NHTSA found that granting the petition would not reduce employment in the United States and that it might continue several parts-manufacturing jobs in this country. NHTSA also estimated that more jobs would be lost if it denied Nissan's petition than would be lost by granting it.

Under a "two-fleet" rule, the CAFE statute requires that auto manufacturers, in calculating fuel economy, divide their vehicles into domestic and non-domestic fleets. With the petition granted, Nissan can combine its fuel-efficient Mexican-made model with its less fuel-efficient models to create a single fleet that is more likely to meet the CAFE standard. Nissan is one of several auto manufacturers that qualify for this exemption. Only foreign auto manufacturers that produced or assembled vehicles in the United States between 1975 and 1985 qualify for this exemption. The exemption from the two-fleet rule applies to 2006-2010 model year cars (69 FR 21883).