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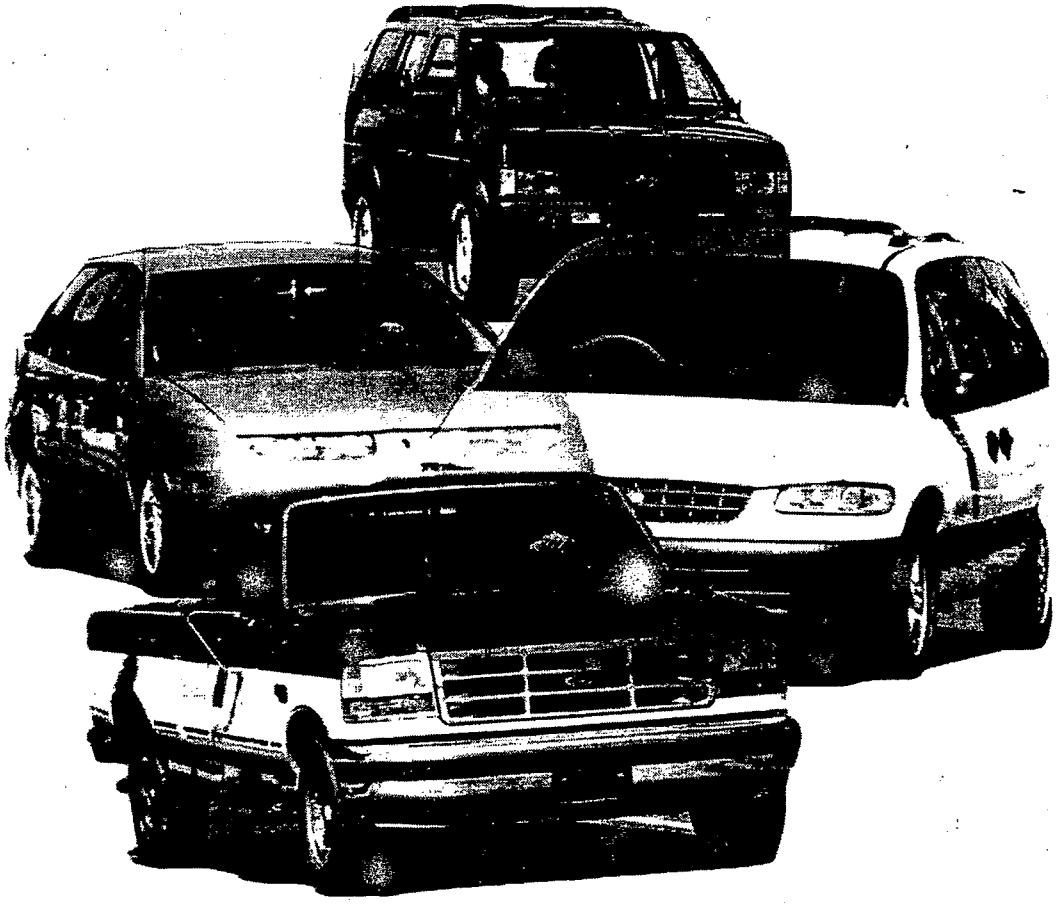
Light-Duty Automotive Technology and Fuel Economy Trends Through 1999



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Light-Duty Automotive Technology and Fuel Economy Trends Through 1999

by

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Office of Mobile Sources
U.S. Environmental Protection Agency

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This technical report does not necessarily represent final EPA decisions or positions. It is intended to present technical analysis of issues using data which are currently available. The purpose in the release of such reports is to facilitate the exchange of technical information and to inform the public of technical developments which may form the basis for a final EPA decision, position, or regulatory action.

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Executive Summary

Introduction to the Report

This report is a summary of the key trends related to the fuel economy of model year 1975 through 1999 light vehicles sold in the United States.

The fuel economy values in this report are laboratory data similar to those used by the U.S. Department of Transportation (DOT) for compliance with the corporate average fuel economy standards. These laboratory values, however, are significantly higher than the estimated values used on new car labels and in the *Fuel Economy Guide*.

Light vehicles include those vehicles that U.S. EPA and DOT classify as cars or light-duty trucks (sport utility vehicles, minivans, and pickup trucks with less than 8,500 pounds gross vehicle weight ratings).

Importance of the Report

Since the early 1970s, the U.S. EPA has issued reports that summarize new light vehicle fuel economy data.

Fuel economy continues to be a major area of public and policy interest for several reasons, including:

(1) Fuel economy is directly related to carbon dioxide emissions, the most prevalent pollutant associated with global warming, and light vehicles contribute about 20 percent of all U.S. carbon dioxide emissions.

(2) Light vehicles account for approximately 40 percent of all U.S. oil consumption; crude oil, from which nearly all light vehicle fuels are made, is considered to be a finite natural resource.

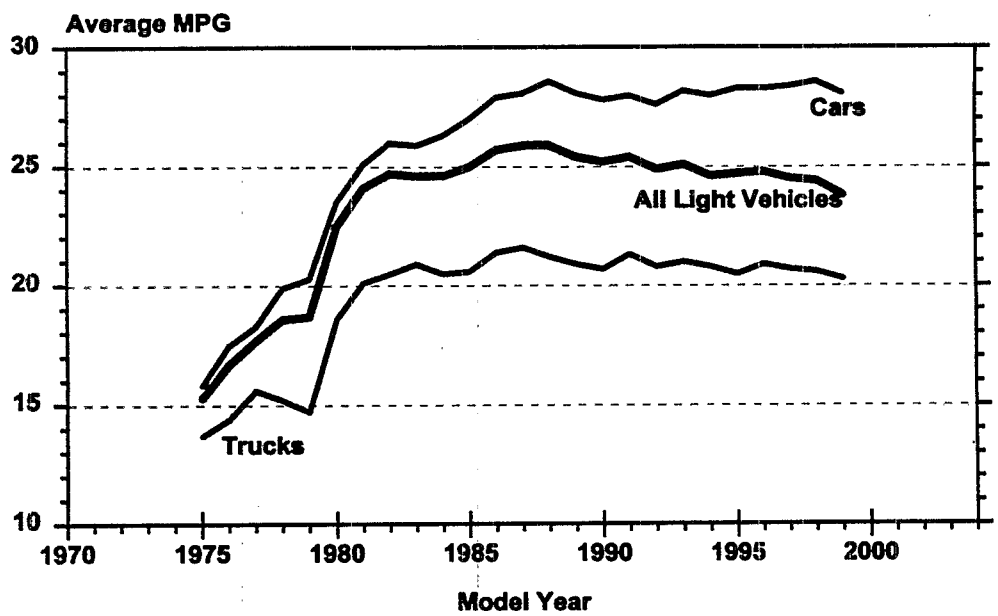
(3) Fuel economy is directly related to vehicle fueling cost.

Highlight #1: Fuel Economy is Declining

The average fuel economy for all model year 1999 light vehicles is 23.8 miles per gallon (MPG). Within the new light vehicle category for 1999, average fuel economy is 28.1 MPG for passenger cars and 20.3 MPG for light-duty trucks. The 1999 fuel economy average is the lowest value since 1980 and is 2.1 MPG less than the peak value of 25.9 MPG achieved in both 1987 and 1988. Average new light vehicle fuel economy has dropped 1.0 MPG since 1996.

All of the fleet-wide improvement in new light vehicle fuel economy occurred from the middle 1970s through the late 1980s, but it has been consistently falling since the late 1980s. Viewed separately, the average fuel economy for new cars has been essentially flat over the last 14 years, varying only from 27.6 MPG to 28.6 MPG. Similarly, the average fuel economy for new light trucks has been largely unchanged for the past 19 years, ranging from 20.1 MPG to 21.6 MPG. The increasing market share of light-duty trucks, which have lower average fuel economy than cars, is the primary reason for the decline in fuel economy of the overall new light vehicle fleet.

MPG by Model Year

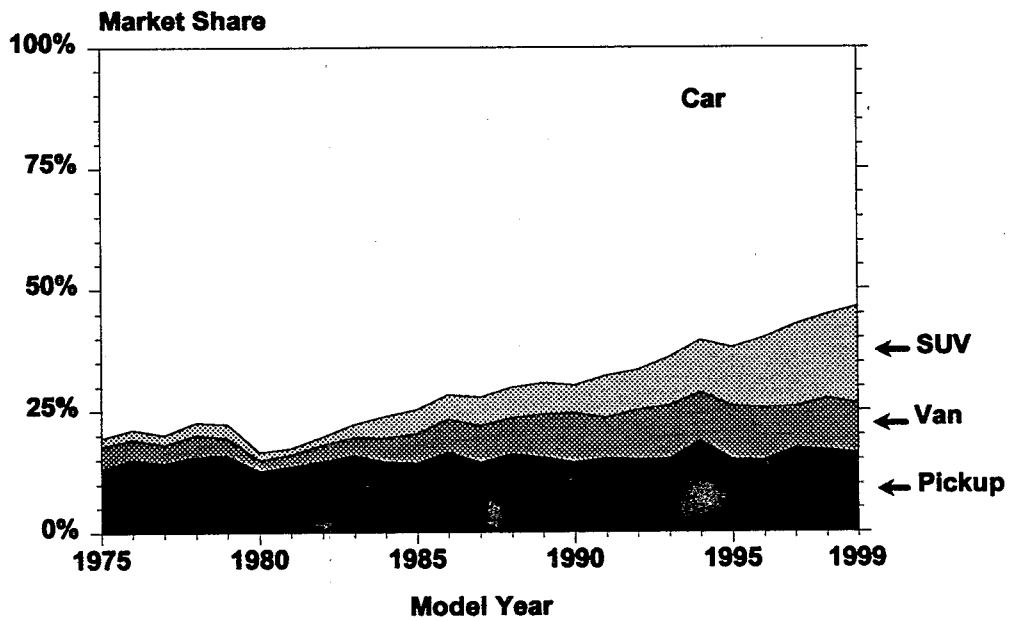


Highlight #2: Truck Sales Continue to Increase

Sales of light-duty trucks, which include sport utility vehicles (SUVs), minivans, and pickup trucks, have risen steadily for 20 years and now make up 46 percent of the U.S. market--more than twice their market share as recently as 1983.

Growth in the light-duty truck market has been led recently by the explosive popularity of SUVs, which rose in sales from less than 200,000 in 1975 (less than 2 percent of the overall new light vehicle market) to almost 3 million in 1999 (20 percent of the market). Over the same period, market share for minivans and full-size vans doubled from 5 to 10 percent, and for pickup trucks grew from 13 to 16 percent. Between 1975 and 1999, market share for new passenger cars and wagons has fallen from 81 to 54 percent. Based on lower average fuel economies and projected longer useful lives, EPA estimates that the new light-duty trucks sold in 1999 will consume, over their lifetimes, almost 60 percent of the fuel used by all of the new light vehicles sold in 1999.

Market Share by Vehicle Type

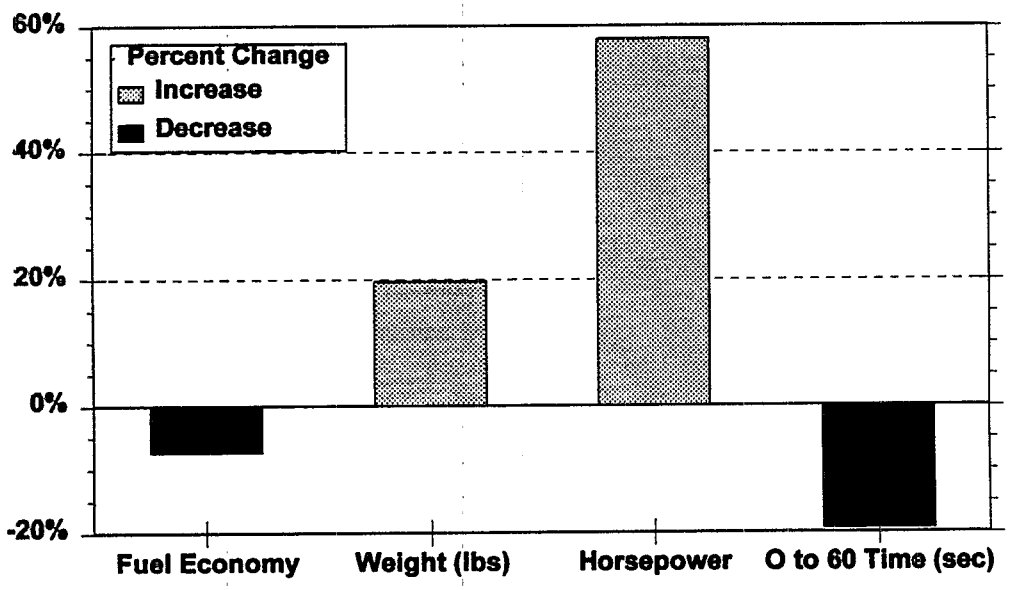


Highlight #3: MPG is Being Traded for Weight and Performance

More efficient technologies have continued to enter the new light vehicle fleet and are being used to increase light vehicle weight and performance rather than fuel economy. Based on accepted engineering relationships, had the new 1999 light vehicle fleet had the same average weight and performance as in 1986, it could have achieved 5 MPG higher fuel economy.

More efficient technologies--such as engines with more valves and more sophisticated fuel injection systems, and transmissions with extra gears--have continued to penetrate the new light vehicle fleet. The trend has clearly been to apply these new technologies to increase average new vehicle weight, power, and performance while maintaining fuel economy. This is reflected by heavier average vehicle weight (up 20 percent for new light vehicles since 1986), rising average horsepower (up 58 percent for new light vehicles since 1986), and lower 0 to 60 mile-per-hour acceleration time (19 percent faster for new light vehicles since 1986). During this same time, average new light vehicle fuel economy fell by 7 percent.

Percent Change Since 1986 in Light Vehicle Characteristics



I. Introduction

Light-duty automotive technology and fuel economy trends are examined herein, as in preceding papers in this series [1-26]*, using the latest and most complete EPA data available. The source database was frozen in March 1999.

Through model year 1997, the fuel economy and vehicle sales databases used for this report were formed from the most complete databases used for corporate average fuel economy standards (CAFE) and "gas guzzler" compliance purposes. For all practical purposes, these databases are stable and are not expected to change in the future. For model years 1998 and 1999, the fuel economy database used for this report was formed from the database used for the federal government's fuel economy public information programs: the *Fuel Economy Guide* and the MPG labels that are placed on new vehicles. The vehicle sales database for 1998 and 1999 used for this report was adjusted as necessary to take into account sales data available in trade publications at the time the database was frozen.

The MPG data in this series and this paper are unadjusted laboratory data, with no correction factors such as those used in both the *Fuel Economy Guide* and on vehicle labels for laboratory to on-road shortfall, for alternative fuels capability CAFÉ credits, or for "test procedure adjustment." Accordingly, the MPG values in this report are always slightly lower than those reported by the Department of Transportation and significantly higher than those in the *Fuel Economy Guide*. The laboratory fuel economy values are adjusted downward (the city value by 10 percent and the highway value by 22 percent) to obtain the real world projections used on new car labels and in the *Fuel Economy Guide*. These systematic differences do not influence the fuel economy and technology trends in this report.

Where only one MPG value is presented in this report, it is "55/45 combined MPG", i.e.,

$$MPG_{55/45} = 1 / (.55/ MPG_C + .45/MPG_H)$$

where MPG_C is the fuel economy on the EPA City Driving cycle and MPG_H is the fuel economy on the EPA Highway Driving cycle.

All vehicle weight data are based on inertia weight class (nominally curb weight plus 300 pounds). For vehicles with inertia weights up to 3000-pound inertia weight class, these

* Numbers in brackets denote references listed at the end of the text.

classes have 250-pound increments; for vehicles 3500 pounds and above, 500-pound increments are used. All interior volume data for cars built after model year 1977 are based on the metric used to classify cars for the DOE/EPA *Fuel Economy Guide*. The car interior volume data in this paper combine that of the passenger compartment and trunk/cargo space. In the *Fuel Economy Guide*, interior volume is undefined for the two-seater class; for this series of reports, all two-seater cars have been assigned an interior volume value of 50 cubic feet.

The light truck data used in this series of papers include vehicles classified as light trucks with gross vehicle weight ratings (GVWR) up to 8,500 pounds for all years shown. Vehicles with GVWR between 8,500 and 10,000 pounds are not classified as light trucks by EPA and have not been included in the database. Omitting these vehicles influences the overall averages for all light-truck variables studied in this paper. Currently, total sales of trucks with GVWR between 8,500 and 10,000 pounds represent only about six or seven percent of the total sales of trucks with GVWR less than 8,500. To the extent that trucks with GVWR between 8,500 and 10,000 have lower fuel economy than the average for the trucks reported in this paper, the average fuel economy of the 0 to 10,000-pound fleet will be lower (and the fuel consumption higher) than the values reported here.

In addition to MPG, some tables in this paper contain alternate measures of vehicle fuel efficiency as used in reference 17. "Ton-MPG" is defined as a vehicle's MPG multiplied by its inertia weight in tons. This metric provides an indication of a vehicle's ability to move weight (i.e., its own plus payload). Ton-MPG is a measure of powertrain/drive line efficiency. Just as an increase in vehicle MPG at constant weight can be considered an improvement in a vehicle's performance, an increase in a vehicle's weight-carrying capacity at constant MPG can be considered an "improvement."

"Cubic-feet-MPG" for cars is defined in this paper as the product of a car's MPG and its interior volume, including trunk space. This metric associates a relative measure of a vehicle's ability to transport both passengers and their cargo. An increase in vehicle volume at constant MPG could be considered an improvement just as an increase in MPG at constant volume can be.

"Cubic-feet-ton-MPG" is defined in this paper as a combination of the two previous metrics, i.e., a car's MPG multiplied by its weight in tons and also by its interior volume. It ascribes vehicle utility to the ability to move both weight and volume.

This paper also includes an estimate of 0-60 MPH acceleration time, calculated from engine rated horsepower and vehicle inertia weight, from the relationship:

$$t = F\ (HP/WT)^{-f}$$

where the values used for F and f coefficients are .892 and .775 respectively for vehicles with automatic transmissions and .967 and .775 respectively for those with manual transmissions [27]. Other authors [28, 29, and 30] have evaluated the relationships between weight, horsepower, and 0 to 60 acceleration time and have calculated and published slightly different values for the F and f coefficients.

The 0 to 60 estimate used in this paper is intended to provide a quantitative "index" of vehicle performance capability. It is the authors' engineering judgment that, given the differences in test methods for measuring 0 to 60 time and given the fact that inertia weight is calculated from inertia weight classes, use of these other published values for the F and f coefficients would not result in a significantly different 0 to 60 relative performance estimate. The results of a similar calculation of estimated "top speed" are also included in some tables in this report.

For cars, vehicle classification as to vehicle type, size class, and manufacturer/origin generally follows fuel economy label, *Fuel Economy Guide*, and fuel economy standards protocols; exceptions are listed in Appendix A. In many of the passenger car tables, large sedans and wagons are aggregated as "Large," midsize sedans and wagons are aggregated as "Midsize," and "Small" includes all other cars. In some of the car tables, an alternative classification system is used, namely: Large Cars, Large Wagons, Midsize Cars, Midsize Wagons, Small Cars, and Small Wagons with the EPA "Two-Seater, Mini-Compact, Subcompact, and Compact" car classes combined into the "Small Car" class.

The truck classification scheme used for all model years in this paper is slightly different from that in previous papers in this series because pickups, vans, and sports utility vehicles (SUVs) are sometimes each subdivided as "Small," "Midsize," and "Large." These truck size classifications are based primarily on published wheelbase data according to the following criteria:

	Pickup	Van	SUV
Small	Less than 105"	Less than 109"	Less than 100"
Midsize	105" to 115"	109" to 124"	100" to 110"
Large	More than 115"	More than 124"	More than 110"

This classification scheme is similar to that used in many trade and consumer publications. For those vehicle nameplates with a variety of wheelbases, the size classification was determined by considering only the smallest wheelbase produced.

Grouping all vehicles into classes and then constructing time trends of parameters of interest like MPG can provide interesting and useful results. The results, however, are a strong function of the class definitions. Nowhere is this more important than in the definition of "Domestic" and "Import" truck or "Domestic," "European," and "Asian" car used in this series of papers.

Classification of a vehicle as a "Domestic" or "Import" truck, or "Domestic," "European Import," or "Asian Import" car is based on the authors' engineering judgment of where the majority of the vehicle's powertrain and emissions control system development and certification work was done. It is meant to be a tracking system for technical parameters related primarily to engine and transmission development and is not intended to be a replacement for other domestic/import definitions such as those used for fuel economy or tariff compliance programs.

Classes based on other definitions are possible, and results from these other classifications may also be useful.

Appendix B lists the model year 1997, 1998, and 1999 nameplates by size class and their sales-weighted average 55/45 MPG as of the data freeze date. Appendix C lists the model year 1999 role models used in the best in weight class analysis, their 55/45 MPG, and some of their technical characteristics such as transmission, cubic-inch displacement, and drive type. Appendix D contains information about the fleet grouped into market segment classes which reflect Domestic, European, and Asian design sources for cars and Domestic and Imported design sources for trucks.

Appendix E contains a series of tables in which the fleet is grouped into classes based on the number of engine cylinders. Appendix F, G, H, and I contain data in which the fleet is stratified by the number of engine valves per cylinder, by transmission class, by vehicle size class, and by inertia weight class respectively.

II. General Car and Truck Trends

Tables 1 and 2 give characteristics of passenger cars, light trucks, and all light-duty vehicles (cars and light trucks) for model years 1975 to 1999. Figure 1 shows that over the past decade, the fuel economy of the combined car and light-truck fleet has gradually declined and is now about 2.1 MPG, or about eight percent, below its peak of 25.9 MPG attained in 1987 and 1988. Both car and light-truck MPG has been relatively stable during this period; since 1986 cars have been within 0.6 MPG of 28 and light trucks with 0.7 MPG of 21.

For MY99, average MPG of all cars and trucks combined is projected to be 23.8 -- the lowest this value has been since 1981. The decline in the overall combined car/truck average is primarily due to the increasing market share of light trucks which have lower average fuel economy than cars. The increase in the light-truck share of the market is the most important trend in the light vehicle fleet over recent years and one which has not yet leveled off. The estimated light-truck share of the market has now reached 46 percent, more than double what it was in any year between 1975 and 1983.

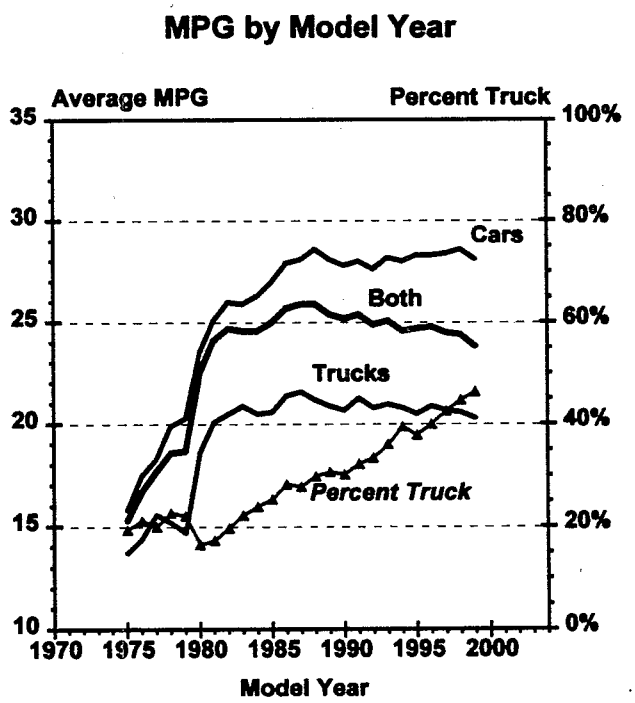


Figure 1

Table 1

FUEL ECONOMY CHARACTERISTICS OF
1975 TO 1999 LIGHT DUTY VEHICLES

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
Cars								
1975	8237	0.806	13.7	19.5	15.8	32.3		
1976	9722	0.788	15.2	21.3	17.5	35.5		
1977	11300	0.800	16.0	22.3	18.3	36.4	2091	4021
1978	11175	0.773	17.2	24.5	19.9	35.9	2240	3926
1979	10794	0.778	17.7	24.6	20.3	35.4	2258	3878
1980	9443	0.835	20.3	29.0	23.5	36.6	2507	3841
1981	8733	0.827	21.7	31.1	25.1	38.9	2744	4161
1982	7819	0.803	22.3	32.7	26.0	40.1	2836	4273
1983	8002	0.777	22.1	32.7	25.9	40.7	2904	4426
1984	10675	0.761	22.4	33.3	26.3	41.1	2910	4425
1985	10791	0.746	23.0	34.3	27.0	42.0	2990	4548
1986	11015	0.717	23.7	35.5	27.9	42.6	3057	4585
1987	10731	0.722	23.9	35.9	28.1	42.8	3051	4569
1988	10736	0.702	24.2	36.6	28.6	43.7	3119	4693
1989	10018	0.693	23.8	36.3	28.1	43.8	3080	4723
1990	8810	0.698	23.4	36.0	27.8	44.2	3014	4746
1991	8524	0.678	23.6	36.3	28.0	44.3	3040	4746
1992	8108	0.666	23.1	36.3	27.6	44.9	3040	4877
1993	8457	0.640	23.6	37.0	28.2	45.4	3107	4930
1994	8402	0.605	23.4	36.9	28.0	45.7	3085	4956
1995	9396	0.620	23.6	37.6	28.3	46.4	3130	5045
1996	7893	0.600	23.5	37.6	28.3	46.5	3125	5078
1997	8347	0.573	23.7	37.7	28.4	46.7	3128	5079
1998	8078	0.552	23.8	38.2	28.6	47.6	3156	5178
1999	7876	0.536	23.4	37.3	28.1	47.7	3122	5238
Trucks								
1975	1987	0.194	12.1	16.2	13.7	28.4		
1976	2612	0.212	12.8	16.9	14.4	30.5		
1977	2823	0.200	14.0	18.1	15.6	33.0		
1978	3273	0.227	13.8	17.5	15.2	32.4		
1979	3088	0.222	13.4	16.8	14.7	32.1		
1980	1863	0.165	16.5	21.9	18.6	36.3		
1981	1821	0.173	17.8	23.9	20.1	38.8		
1982	1914	0.197	18.1	24.4	20.5	39.7		
1983	2300	0.223	18.3	25.2	20.9	39.9		
1984	3345	0.239	17.9	24.8	20.5	39.3		
1985	3669	0.254	18.0	24.9	20.6	39.6		
1986	4350	0.283	18.8	25.9	21.4	40.4		
1987	4134	0.278	18.8	26.5	21.6	40.5		
1988	4559	0.298	18.3	26.2	21.2	40.9		
1989	4435	0.307	18.1	25.8	20.9	41.2		
1990	3805	0.302	17.8	25.9	20.7	41.8		
1991	4049	0.322	18.3	26.6	21.3	42.2		
1992	4064	0.334	17.8	26.2	20.8	42.4		
1993	4754	0.360	17.9	26.5	21.0	42.9		
1994	5481	0.395	17.8	26.1	20.8	43.2		
1995	5749	0.380	17.5	25.9	20.5	43.2		
1996	5254	0.400	17.7	26.5	20.8	44.3		
1997	6224	0.427	17.6	26.2	20.7	45.0		
1998	6555	0.448	17.5	26.2	20.6	44.6		
1999	6822	0.464	17.3	25.7	20.3	45.1		

Table 1 (Continued)

FUEL ECONOMY CHARACTERISTICS OF
1975 TO 1999 LIGHT DUTY VEHICLES

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	TON -MPG
Both						
1975	10224	1.000	13.4	18.7	15.3	31.6
1976	12334	1.000	14.6	20.2	16.7	34.4
1977	14123	1.000	15.6	21.3	17.7	35.7
1978	14448	1.000	16.3	22.5	18.6	35.1
1979	13882	1.000	16.5	22.3	18.7	34.7
1980	11306	1.000	19.6	27.5	22.5	36.6
1981	10554	1.000	20.9	29.5	24.1	38.9
1982	9732	1.000	21.3	30.7	24.7	40.0
1983	10302	1.000	21.2	30.6	24.6	40.5
1984	14020	1.000	21.2	30.8	24.6	40.7
1985	14460	1.000	21.5	31.3	25.0	41.4
1986	15365	1.000	22.1	32.2	25.7	42.0
1987	14865	1.000	22.2	32.6	25.9	42.1
1988	15295	1.000	22.1	32.7	25.9	42.9
1989	14453	1.000	21.7	32.3	25.4	43.0
1990	12615	1.000	21.4	32.2	25.2	43.5
1991	12573	1.000	21.6	32.5	25.4	43.6
1992	12172	1.000	21.0	32.1	24.9	44.1
1993	13211	1.000	21.2	32.4	25.1	44.5
1994	13883	1.000	20.8	31.7	24.6	44.7
1995	15145	1.000	20.8	32.1	24.7	45.2
1996	13147	1.000	20.8	32.2	24.8	45.7
1997	14571	1.000	20.6	31.8	24.5	45.9
1998	14633	1.000	20.5	31.7	24.4	46.3
1999	14699	1.000	20.1	30.9	23.8	46.5

Estimated Light Duty Truck Fuel Consumption Share

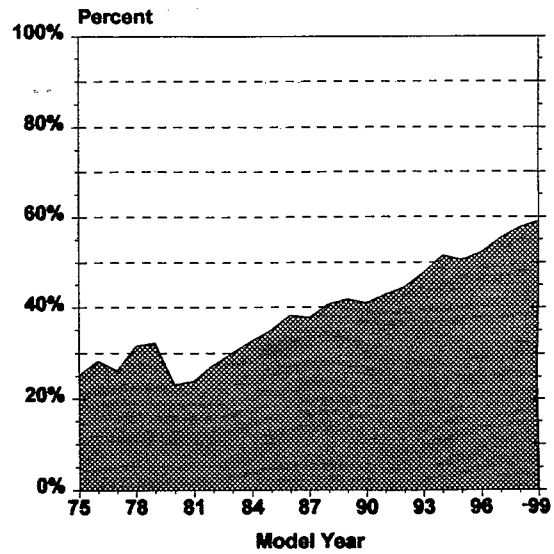


Figure 2

The trends in truck market share, car and truck MPG, and an estimate of vehicle travel can be combined to estimate the fraction of all light-vehicle fuel consumption that can be attributed to light trucks. The values plotted in Figure 2 represent the fuel-consumption fraction, by model year, associated with light trucks.

Considering the fuel used by both passenger cars and light trucks as 100 percent, Figure 2 shows that, on a model year basis, the estimated share of the fuel consumed by light trucks has exceeded 50 percent for the past five model years and is almost 60 percent. Note that this calculation uses the same useful life values that EPA considers for the purposes of emissions regulations, namely 100,000 miles for cars and 120,000 miles for trucks. The calculation also assumes that the relative city and highway driving fractions are the same for both cars and trucks.

Table 2 gives vehicle size and design characteristics of light-duty vehicles. Average interior volume of cars has changed very little since 1977. Between 1975 and 1984 (see Figure 3), average inertia weight for cars decreased nearly a thousand pounds; vehicle performance, as measured by estimated 0 to 60 time, was relatively constant; and average MPG increased from 15.8 to 26.3.

For the next five years, passenger car inertia weight remained relatively constant; 0 to 60 time decreased by about a second; and fuel economy reached a peak of 28.6 in 1988, then dropped to 28.1 the next year. With three minor exceptions, passenger car inertia weight has increased every year since 1989 and is now about 300 pounds higher than it was then. Similarly, estimated 0 to 60 time has decreased each year and is now two seconds less than it was a decade ago.

Table 2

VEHICLE SIZE AND DESIGN CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES

			<--------- MEASURED CHARACTERISTICS					---------->	<---------- PERCENT BY			---------->			
MODEL YEAR	SALES (000)	FRAC	55/45 MPG	VOL CU-FT	WGHT LB	0-60 TIME	TOP SPD	HP/ WT	VEHICLE SIZE SMALL	MID	LARGE	DESIGN DOM	EUR	ASIA	IMPORT
Cars															
1975	8237	.806	15.8		4057	14.2	111	.0331	55.4	23.3	21.3	81.6	8.2	10.3	18.4
1976	9722	.788	17.5		4058	14.4	110	.0324	55.4	25.2	19.4	84.9	5.4	9.7	15.1
1977	11300	.800	18.3	110	3943	14.0	111	.0334	51.9	24.5	23.5	82.2	5.5	12.2	17.8
1978	11175	.773	19.9	109	3587	13.7	111	.0342	44.7	34.4	21.0	80.2	6.3	13.5	19.8
1979	10794	.778	20.3	108	3484	13.8	110	.0338	43.7	34.2	22.1	80.4	5.6	14.0	19.6
1980	9443	.835	23.5	104	3101	14.3	107	.0321	54.4	34.4	11.3	71.2	8.4	20.4	28.8
1981	8733	.827	25.1	106	3075	14.4	106	.0319	51.5	36.4	12.2	71.7	6.0	22.3	28.3
1982	7819	.803	26.0	106	3054	14.4	106	.0320	56.5	31.0	12.5	70.4	6.3	23.3	29.6
1983	8002	.777	25.9	108	3111	14.0	108	.0330	53.1	31.8	15.1	71.0	5.5	23.5	29.0
1984	10675	.761	26.3	107	3098	13.8	109	.0338	57.4	29.4	13.2	75.9	6.0	18.1	24.1
1985	10791	.746	27.0	108	3092	13.3	111	.0354	55.7	28.9	15.4	72.3	6.2	21.6	27.7
1986	11015	.717	27.9	107	3040	13.2	111	.0359	59.5	27.9	12.6	68.2	6.6	25.1	31.8
1987	10731	.722	28.1	106	3030	13.0	112	.0365	63.5	24.3	12.2	61.6	6.9	31.5	38.4
1988	10736	.702	28.6	107	3046	12.8	113	.0374	64.8	22.3	12.8	61.2	6.3	32.5	38.8
1989	10018	.693	28.1	107	3099	12.5	115	.0386	58.3	28.2	13.5	61.9	5.5	32.6	38.1
1990	8810	.698	27.8	107	3175	12.1	117	.0401	58.6	28.7	12.8	56.8	5.0	38.2	43.2
1991	8524	.678	28.0	106	3153	11.8	118	.0413	61.5	26.2	12.3	56.2	4.6	39.2	43.8
1992	8108	.666	27.6	108	3239	11.5	120	.0427	56.5	27.8	15.6	58.3	4.1	37.7	41.7
1993	8457	.640	28.2	108	3207	11.6	120	.0425	57.2	29.5	13.3	60.4	3.4	36.2	39.6
1994	8402	.605	28.0	108	3251	11.4	121	.0432	58.5	26.1	15.4	55.8	4.0	40.2	44.2
1995	9396	.620	28.3	108	3262	10.9	125	.0460	57.3	28.6	14.0	58.5	5.4	36.1	41.5
1996	7893	.600	28.3	108	3281	10.8	125	.0463	54.3	32.0	13.6	57.8	5.1	37.0	42.2
1997	8347	.573	28.4	108	3274	10.7	126	.0469	55.0	30.7	14.3	55.0	6.5	38.5	45.0
1998	8078	.552	28.6	108	3306	10.6	127	.0477	48.3	40.8	11.0	56.1	7.7	36.2	43.9
1999	7876	.536	28.1	109	3382	10.5	128	.0483	45.3	39.7	15.0	54.4	9.2	36.4	45.6

Table 2 (continued)

VEHICLE SIZE AND DESIGN CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES

	<----- MEASURED CHARACTERISTICS ------->							<---------- PERCENT BY --------->				
MODEL YEAR	SALES (000)	FRAC	55/45 MPG	WGHT LB	0-60 TIME	TOP SPD	HP/ WT	VEHICLE SIZE SMALL	MID	LARGE	DESIGN DOM	IMPORT
Trucks												
1975	1987	.194	13.7	4072	13.6	114	.0347	10.9	24.2	64.9	88.7	11.3
1976	2612	.212	14.4	4154	13.8	113	.0338	9.0	20.3	70.7	90.9	9.1
1977	2823	.200	15.6	4135	13.3	115	.0354	11.1	20.3	68.5	88.5	11.5
1978	3273	.227	15.2	4151	13.4	114	.0349	10.9	22.7	66.3	89.1	10.9
1979	3088	.222	14.7	4251	14.3	111	.0324	15.2	19.5	65.3	84.7	15.3
1980	1863	.165	18.6	3868	14.5	108	.0311	28.4	17.6	54.0	69.4	30.6
1981	1821	.173	20.1	3805	14.6	108	.0309	23.2	19.1	57.7	72.0	28.0
1982	1914	.197	20.5	3805	14.5	109	.0315	21.1	31.0	47.9	76.3	23.7
1983	2300	.223	20.9	3763	14.5	108	.0311	16.6	45.9	37.6	78.5	21.5
1984	3345	.239	20.5	3782	14.7	108	.0309	19.5	46.4	34.1	78.0	22.0
1985	3669	.254	20.6	3795	14.1	110	.0325	19.2	48.5	32.3	80.1	19.9
1986	4350	.283	21.4	3737	14.0	110	.0329	23.5	48.5	28.0	70.3	29.7
1987	4134	.278	21.6	3712	13.3	113	.0350	19.9	59.6	20.6	72.3	27.7
1988	4559	.298	21.2	3841	12.9	115	.0365	15.0	57.2	27.8	81.1	18.9
1989	4435	.307	20.9	3921	12.8	116	.0371	13.9	58.9	27.2	81.9	18.1
1990	3805	.302	20.7	4005	12.6	117	.0376	13.4	59.0	27.6	80.3	19.7
1991	4049	.322	21.3	3948	12.6	117	.0379	11.4	67.2	21.4	79.7	20.3
1992	4064	.334	20.8	4055	12.5	118	.0381	10.4	64.0	25.6	82.2	17.8
1993	4754	.360	21.0	4073	12.1	120	.0398	8.8	65.3	25.9	82.6	17.4
1994	5481	.395	20.8	4133	12.0	121	.0401	9.7	62.3	28.0	82.9	17.1
1995	5749	.380	20.5	4184	12.0	121	.0401	8.6	63.5	27.9	80.8	19.2
1996	5254	.400	20.8	4224	11.5	124	.0422	6.5	67.1	26.4	84.7	15.3
1997	6224	.427	20.7	4331	11.4	125	.0428	10.0	53.4	36.7	83.3	16.7
1998	6555	.448	20.6	4319	11.2	127	.0438	7.5	58.3	34.2	82.6	17.4
1999	6822	.464	20.3	4433	11.1	127	.0440	7.8	55.5	36.7	81.3	18.7
Both												
1975	10224	1.000	15.3	4060	14.1	112	.0334	46.8	23.5	29.8	82.9	17.1
1976	12334	1.000	16.7	4079	14.3	111	.0327	45.6	24.2	30.3	86.2	13.8
1977	14123	1.000	17.7	3981	13.8	112	.0338	43.8	23.7	32.5	83.5	16.5
1978	14448	1.000	18.6	3715	13.6	112	.0343	37.0	31.7	31.2	82.2	17.8
1979	13882	1.000	18.7	3655	13.9	110	.0335	37.3	30.9	31.7	81.4	18.6
1980	11306	1.000	22.5	3227	14.3	107	.0319	50.1	31.6	18.3	70.9	29.1
1981	10554	1.000	24.1	3201	14.4	107	.0318	46.6	33.4	20.0	71.7	28.3
1982	9732	1.000	24.7	3201	14.4	107	.0319	49.6	31.0	19.5	71.6	28.4
1983	10302	1.000	24.6	3257	14.1	108	.0325	44.9	34.9	20.1	72.7	27.3
1984	14020	1.000	24.6	3261	14.0	109	.0331	48.4	33.4	18.2	76.4	23.6
1985	14460	1.000	25.0	3271	13.5	110	.0347	46.5	33.9	19.7	74.2	25.8
1986	15365	1.000	25.7	3237	13.4	111	.0351	49.3	33.7	17.0	68.8	31.2
1987	14865	1.000	25.9	3220	13.1	112	.0361	51.4	34.1	14.5	64.6	35.4
1988	15295	1.000	25.9	3283	12.8	114	.0372	50.0	32.7	17.3	67.1	32.9
1989	14453	1.000	25.4	3351	12.5	115	.0382	44.7	37.6	17.7	68.1	31.9
1990	12615	1.000	25.2	3426	12.2	117	.0393	44.9	37.8	17.2	63.9	36.1
1991	12573	1.000	25.4	3409	12.1	118	.0402	45.3	39.4	15.2	63.8	36.2
1992	12172	1.000	24.9	3512	11.8	120	.0412	41.1	39.9	19.0	66.3	33.7
1993	13211	1.000	25.1	3518	11.8	120	.0415	39.8	42.4	17.8	68.4	31.6
1994	13883	1.000	24.6	3599	11.7	121	.0420	39.2	40.4	20.4	66.5	33.5
1995	15145	1.000	24.7	3612	11.3	123	.0437	38.8	41.9	19.3	67.0	33.0
1996	13147	1.000	24.8	3658	11.1	125	.0447	35.2	46.0	18.7	68.6	31.4
1997	14571	1.000	24.5	3726	11.0	126	.0451	35.8	40.4	23.9	67.1	32.9
1998	14633	1.000	24.4	3760	10.8	127	.0459	30.0	48.6	21.4	68.0	32.0
1999	14699	1.000	23.8	3870	10.8	128	.0463	27.9	47.0	25.0	66.9	33.1

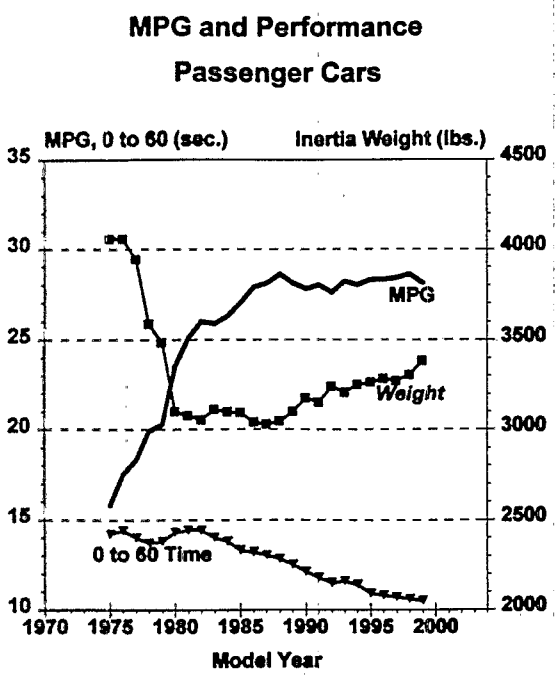


Figure 3

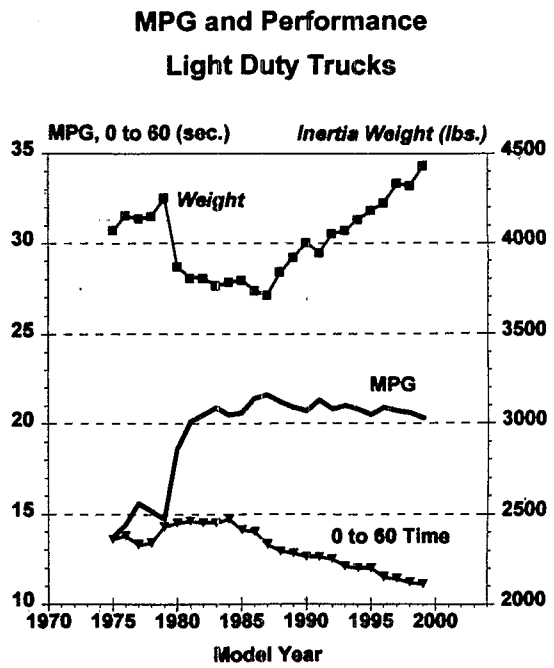


Figure 4

As indicated in Figure 4, average inertia weight for trucks reached a minimum value of 3737 pounds in 1985 and has increased nearly 700 pounds since then. Between 1975 and 1984, estimated 0 to 60 time for trucks increased from 13.6 to 14.7 seconds and has since decreased to 11.1 seconds. For model year 1999, light truck fuel economy is nearly 50 percent higher than it was in 1975, but most of this increase occurred between 1975 and 1981.

Figure 5 compares another estimated performance metric: top speed, which like estimated 0 to 60 time is calculated from the ratio of horsepower to weight. The trends for both cars and trucks are very similar and are difficult to distinguish. As with 0 to 60 time, estimated top speed for both cars and trucks remained relatively constant for a few years in the late 70's, then dropped slightly during the early 80's, and has since increased from a nominal 110 MPH in 1984 to over 125 MPH in 1999.

Figures 3 and 4 indicate that the weight increase that has occurred in recent years has not been accompanied by a substantial reduction in MPG. Cars and light trucks thus are getting more efficient at moving their weight around. Accounting for vehicle weight in a measure of vehicle efficiency can be accomplished by looking at ton-MPG which, as previously mentioned, is defined for the purpose of this paper as a

Estimated Top Speed by Model Year

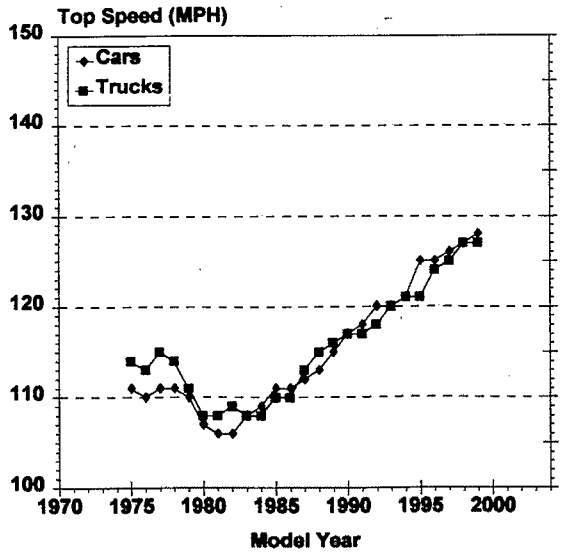


Figure 5

Ton-MPG by Model Year

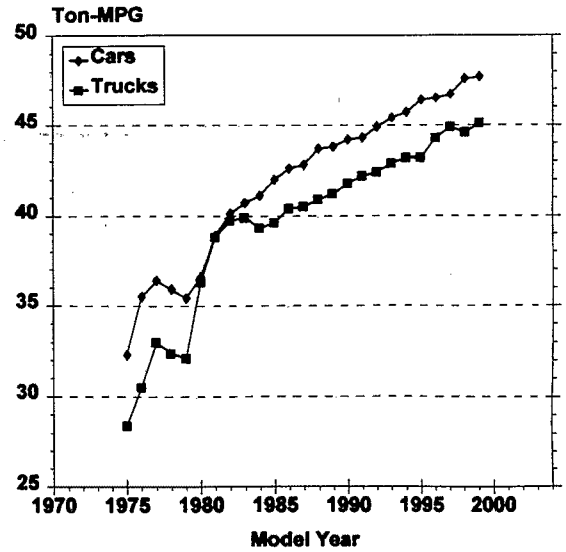


Figure 6

vehicle's weight in tons times its MPG. Figure 6 shows that since 1975 cars have improved in ton-MPG by about 48 percent; trucks by about 58 percent. On a ton-MPG basis, however, trucks lag behind the performance of cars by about a half dozen years, while on an MPG basis (see Figure 1), they are much farther behind.

Figures 7 and 8 show the cumulative distribution of MPG for model year 1999 passenger cars and trucks, respectively. About 80 percent of the 1999 cars get between 25 and 35 MPG; less than 2 percent get less than 22 MPG; and about 2 percent get more than 38 MPG. Similarly for trucks, about 80 percent get between 16 and 25 MPG; less than 5 percent get less than 16 MPG; and less than 3 percent get more than 28 MPG.

Figure 9 shows average weight and interior volume for model year 1999 cars by MPG band. EPA does not define interior volume for trucks, but similar weight data by MPG band for trucks is shown in Figure 10 and estimated 0 to 60 data by MPG band for 1999 and 1986 cars and trucks are shown in Figures 11 and 12, respectively. The results show that vehicles with high MPG have less performance, are lighter, and (for passenger cars) tend to have smaller interior volumes than vehicles with low MPG.

Cumulative Sales Fraction
1999 Passenger Cars

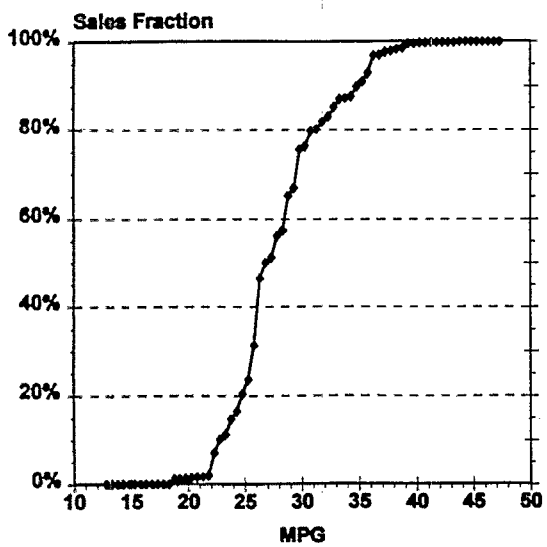


Figure 7

Cumulative Sales Fraction
1999 Light Duty Trucks

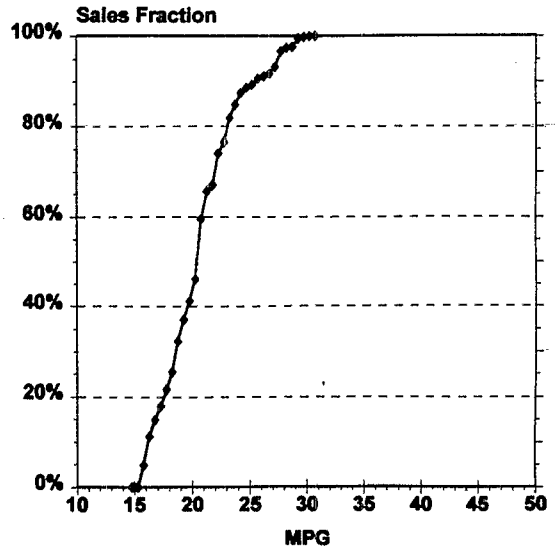


Figure 8

Inertia Weight and Interior Volume vs MPG
1999 Passenger Cars

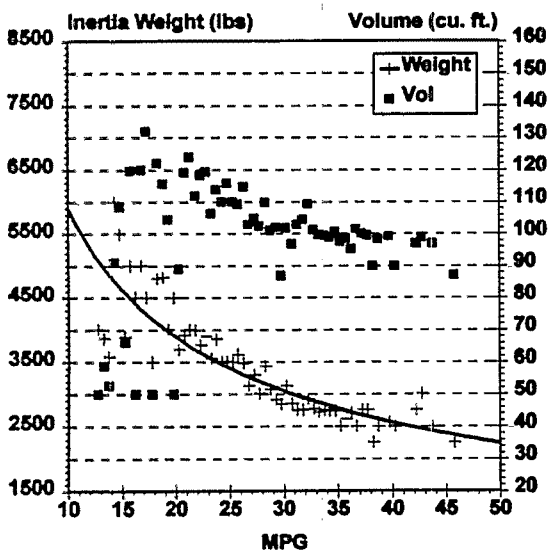


Figure 9

Inertia Weight vs MPG
1999 Light Duty Trucks

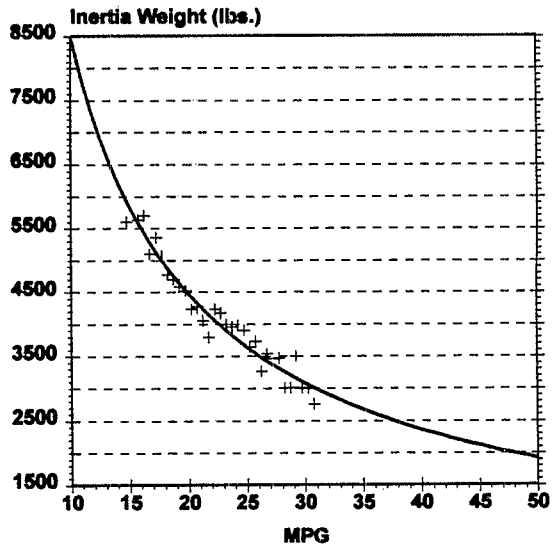


Figure 10

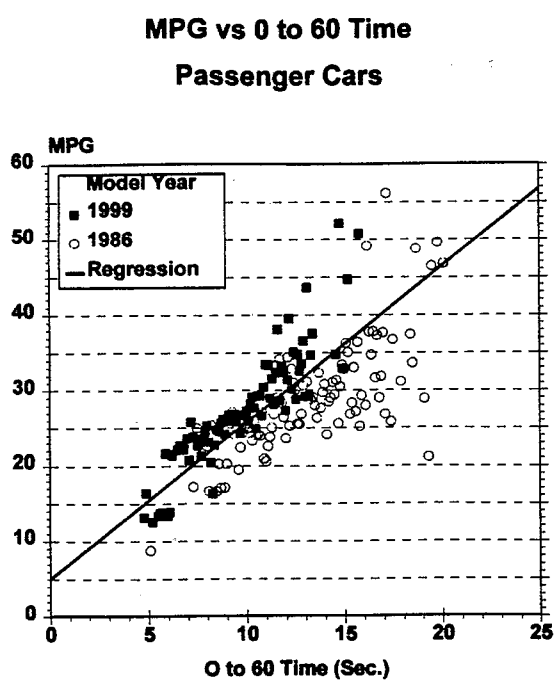


Figure 11

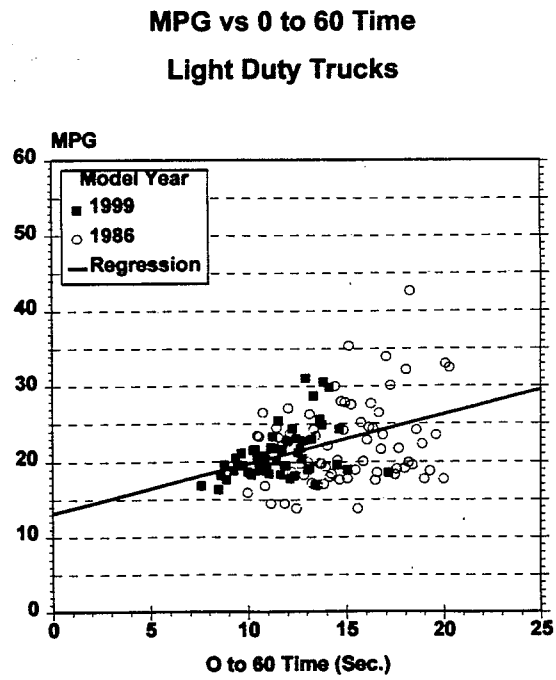


Figure 12

The MPG/performance interdependence was quantified by means of the regression lines shown in Figures 11 and 12. These regression lines indicate the sensitivity of MPG to estimated 0 to 60 time. Using these sensitivities, MPG data at one level can be adjusted to what it would have been at another 0 to 60 level.

Table 3 and Figures 13 and 14 provide estimates of what the MPG of the car and truck fleet would have been each model year if:

(1) the average acceleration time was kept at 13.2 seconds, the average value cars achieved in 1986 and about the value that trucks achieved the following year;

(2) the weight mix had been kept the same as in 1986; and

(3) both the 1986 weight distribution and average acceleration time were 13.2 seconds.

Had there not been a trade-off in weight and performance as measured by the 0 to 60 indicator, MY99 cars might have averaged 33 MPG, and MY99 trucks might have averaged 25 MPG. In both cases, these values are about five MPG higher than the actual MY99 values. Note that for passenger cars, all three scenarios give the same MPG results as the actual MPG values for MY86.

Table 3

Effect of Weight and 0 to 60 Time Changes
On 1975 to 1999 Light Duty Vehicles

Model Year	Actual 0 to 60 Time	Actual Inertia Weight	Actual 55/45 MPG	<-- Adjusted 55/45 MPG Using --> 13.2 Sec. 0 to 60	1986 Wt. Mix	Both 0 to 60 & 1986 Wt. Mix
Cars						
1975	14.2	4058	15.8	15.2	20.6	19.4
1976	14.4	4059	17.5	16.6	22.5	20.9
1977	14.0	3944	18.3	17.8	23.2	22.1
1978	13.7	3588	19.9	19.5	22.9	22.2
1979	13.8	3485	20.3	19.8	22.6	21.9
1980	14.3	3101	23.5	22.5	23.7	22.7
1981	14.4	3076	25.1	24.0	25.0	24.1
1982	14.4	3054	26.0	24.9	25.9	24.9
1983	14.0	3112	25.9	25.2	26.4	25.6
1984	13.8	3099	26.3	25.8	26.6	26.2
1985	13.3	3093	27.0	26.9	27.3	27.2
1986	13.2	3041	27.9	27.9	27.9	27.9
1987	13.0	3031	28.1	28.2	28.0	28.2
1988	12.8	3047	28.6	29.0	28.7	29.1
1989	12.5	3099	28.1	28.9	28.7	29.4
1990	12.1	3176	27.8	28.9	29.0	29.9
1991	11.8	3154	28.0	29.4	29.0	30.3
1992	11.5	3240	27.6	29.3	29.3	30.8
1993	11.6	3207	28.2	29.8	29.6	31.1
1994	11.4	3251	28.0	29.8	29.8	31.3
1995	10.9	3263	28.3	30.7	30.3	32.5
1996	10.8	3282	28.3	30.7	30.4	32.6
1997	10.7	3274	28.4	31.0	30.4	32.6
1998	10.6	3307	28.6	31.4	30.8	33.2
1999	10.5	3383	28.1	30.9	30.7	33.1
Trucks						
1975	13.6	4072	13.7	13.4	15.1	14.6
1976	13.8	4155	14.4	14.0	16.0	15.4
1977	13.3	4135	15.6	15.5	17.5	17.2
1978	13.4	4151	15.2	15.1	17.4	17.1
1979	14.3	4252	14.7	14.0	16.7	15.9
1980	14.5	3869	18.6	17.6	18.6	17.4
1981	14.6	3806	20.1	19.0	20.3	19.1
1982	14.5	3806	20.5	19.4	20.7	19.5
1983	14.5	3763	20.9	19.7	21.0	19.9
1984	14.7	3782	20.5	19.3	20.7	19.5
1985	14.1	3795	20.6	19.9	20.9	20.2
1986	14.0	3738	21.4	20.8	21.4	20.8
1987	13.3	3713	21.6	21.4	21.5	21.3
1988	12.9	3841	21.2	21.3	21.7	21.9
1989	12.8	3921	20.9	21.1	21.7	22.0
1990	12.6	4005	20.7	21.1	22.0	22.4
1991	12.6	3948	21.3	21.7	22.2	22.5
1992	12.5	4056	20.8	21.2	22.2	22.7
1993	12.1	4073	21.0	21.7	22.5	23.2
1994	12.0	4134	20.8	21.6	22.6	23.4
1995	12.0	4184	20.5	21.3	22.5	23.4
1996	11.5	4255	20.8	22.0	23.0	24.3
1997	11.2	4332	20.7	22.0	23.2	24.5
1998	11.2	4320	20.6	22.1	23.3	24.8
1999	11.1	4433	20.3	21.8	23.6	25.2

Effect of Weight and 0 to 60 Changes on Passenger Car MPG

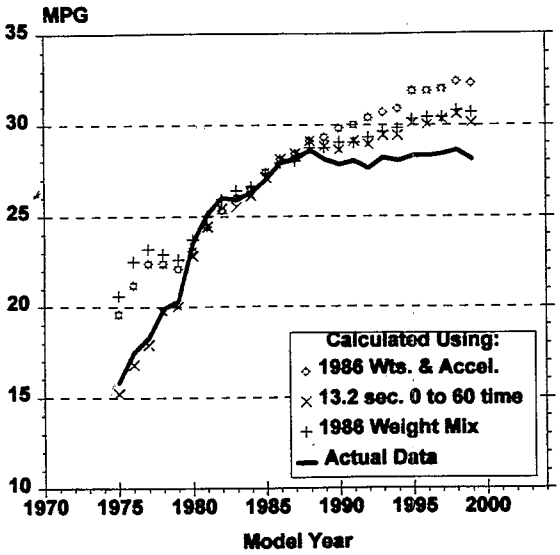


Figure 13

Effect of Weight and 0 to 60 Changes on Light Duty Truck MPG

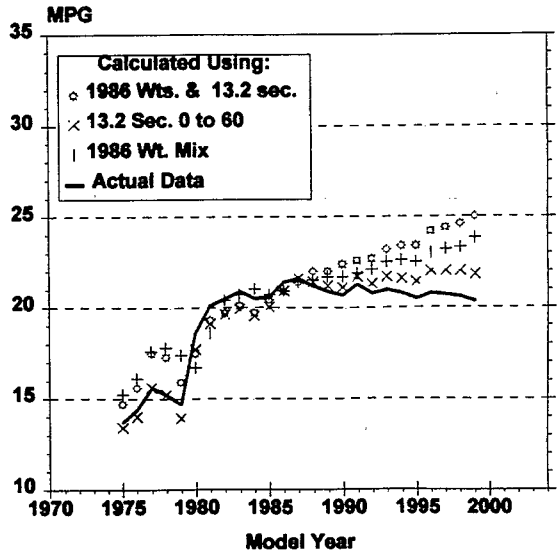


Figure 14

III. Technology Trends

Vehicle technologies studied in this report include engines, transmissions, and usage of front-, rear-, and four-wheel drive. Overall trends in these technologies are presented in Table 4. Additional data stratified by transmission type and number of gears, by number of engine cylinders, and by number of valves per cylinder are presented in Appendices E, F, and G, respectively.

Figures 15 and 16 compare the trends since 1975 for horsepower (HP), displacement (CID), and specific power or horsepower per cubic inch (HP/CID) for passenger cars and light trucks. In both cases, significant CID reductions occurred in the late 1970's and early 1980's. Since 1985, however, engine displacement has continued to decrease for cars, but not for light trucks. For both vehicle types, average horsepower has increased over 60 percent since 1981. Engines in both vehicle types, thus, have also improved in HP/CID, with engines used in passenger cars improving at a faster rate than truck engines. In fact, passenger car engines are projected to achieve 1.0 HP/CID this year, compared to .8 HP/CID for trucks. Current engine-related data are summarized in Table 5.

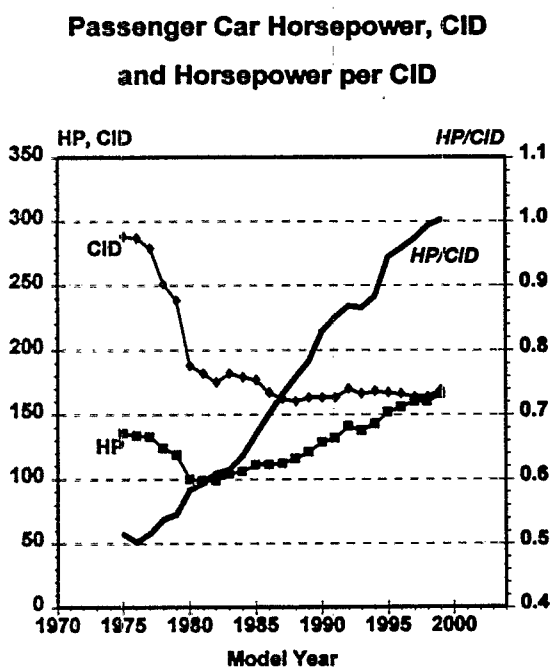


Figure 15

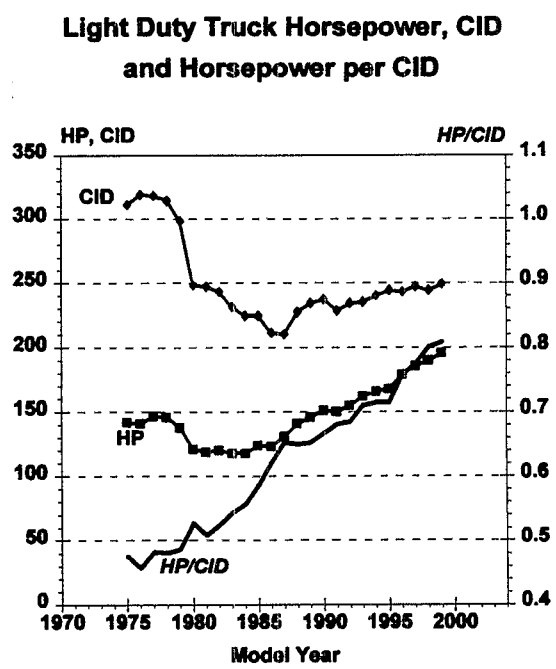


Figure 16

TABLE 4

VEHICLE SIZE AND DESIGN CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES

MODEL YEAR	SALES (000)	FRAC	55/45 MPG	ENGINE CID	ENGINE HP	HP/ CID	DRIVETRAIN FRONT	DRIVETRAIN 4WD	TRANSMISSION MANUAL	TRANSMISSION LOCK	FUEL METERING FI	FUEL METERING TBI	FUEL METERING PORT	CARB	DSL	FOUR VALVE
	<---- MEASURED CHARACTERISTICS->						<---------- PERCENT OF VEHICLES EQUIPPED WITH ---------->									
Cars																
1975	8237	.806	15.8	288	136	515	6.5		19.9		5.1		5.1	94.6	.2	
1976	9722	.788	17.5	287	134	.502	5.8		17.1		3.2		3.2	96.6	.3	
1977	11300	.800	18.3	279	133	.516	6.8		16.8		4.2		4.2	95.3	.5	
1978	11175	.773	19.9	251	124	.538	9.6		20.2	6.7	5.1		5.1	94.0	.9	
1979	10794	.778	20.3	238	119	.545	11.9	.3	22.3	8.0	4.7		4.7	93.2	2.1	
1980	9443	.835	23.5	188	100	.583	29.7	.9	31.9	16.5	6.9	.7	6.2	88.7	4.4	
1981	8733	.827	25.1	182	99	.594	37.0	.7	30.4	33.3	8.8	2.6	6.1	85.3	5.9	
1982	7819	.803	26.0	175	99	.609	45.6	.8	29.7	51.4	17.0	9.8	7.2	78.4	4.7	
1983	8002	.777	25.9	182	104	.615	47.3	3.1	27.4	56.7	28.3	18.9	9.5	69.6	2.1	
1984	10675	.761	26.3	179	106	.637	53.7	1.0	24.2	58.3	39.4	24.4	15.0	58.9	1.7	
1985	10791	.746	27.0	177	111	.671	61.6	2.1	23.6	58.7	53.5	32.0	21.4	45.6	.9	
1986	11015	.717	27.9	167	111	.701	71.1	1.1	24.8	58.0	65.1	28.4	36.7	34.5	.3	1.6
1987	10731	.722	28.1	162	112	.732	77.0	1.1	24.9	59.5	73.0	30.5	42.5	26.8	.3	5.6
1988	10736	.702	28.6	160	116	.759	81.7	.8	24.3	66.1	83.7	30.0	53.7	16.3		10.4
1989	10018	.693	28.1	163	121	.783	82.5	1.0	21.0	69.3	90.2	27.8	62.4	9.7		12.8
1990	8810	.698	27.8	163	129	.829	84.6	1.0	19.6	72.9	98.6	21.1	77.5	1.4		25.7
1991	8524	.678	28.0	163	132	.851	83.2	1.4	20.5	73.5	99.8	21.8	78.0		.1	28.2
1992	8108	.666	27.6	170	141	.868	80.8	1.1	17.3	76.4	99.9	10.4	89.5		.1	29.7
1993	8457	.640	28.2	166	138	.865	85.1	1.2	17.8	76.9	100.0	8.4	91.6			32.8
1994	8402	.605	28.0	168	143	.883	84.2	.7	16.0	79.4	100.0	5.0	95.0			39.0
1995	9396	.620	28.3	167	152	.945	82.0	1.2	16.2	81.9	99.9	1.2	98.8		.1	52.1
1996	7893	.600	28.3	165	154	.958	86.5	1.5	14.9	83.5	99.9	1.1	98.8		.1	56.2
1997	8347	.573	28.4	164	156	.975	86.5	1.7	13.5	85.9	99.9	.8	99.1		.1	57.5
1998	8078	.552	28.6	164	160	.993	87.3	2.1	13.8	83.7	99.7	.2	99.5		.3	58.8
1999	7876	.536	28.1	169	166	1.003	84.7	2.5	13.7	85.9	99.7		99.6		.3	60.3
Trucks																
1975	1987	.194	13.7	311	142	.476		17.1	37.0		.1			99.9		
1976	2612	.212	14.4	319	141	.457		22.9	34.8		.1			99.9		
1977	2823	.200	15.6	318	147	.482		23.6	32.0		.1			99.9		
1978	3273	.227	15.2	314	146	.481		29.0	32.4		.1			99.1	.8	
1979	3088	.222	14.7	298	138	.486		18.0	35.2	2.1	.3			97.9	1.8	
1980	1863	.165	18.6	248	121	.527	1.4	25.0	53.0	24.6	1.7			94.9	3.5	
1981	1821	.173	20.1	247	119	.508	1.9	20.1	51.6	31.1	1.1			93.3	5.6	
1982	1914	.197	20.5	243	120	.524	1.7	20.0	45.7	33.2	.7			90.0	9.3	
1983	2300	.223	20.9	231	118	.543	1.4	25.8	45.9	36.1	.6			94.7	4.7	
1984	3345	.239	20.5	224	118	.557	4.9	31.0	42.1	35.1	2.6			95.1	2.3	
1985	3669	.254	20.6	224	124	.586	7.1	30.6	37.1	42.2	12.3	.2		86.7	1.1	
1986	4350	.283	21.4	211	123	.620	5.9	30.3	42.7	42.0	40.5	18.7	21.8	58.7	.7	
1987	4134	.278	21.6	210	131	.653	7.4	31.5	39.9	44.8	66.9	33.6	33.3	32.9	.3	
1988	4559	.298	21.2	227	141	.650	9.0	33.3	35.5	53.1	87.7	44.4	43.3	12.1	.2	
1989	4435	.307	20.9	234	146	.653	9.9	32.0	32.7	56.8	93.5	47.6	45.9	6.3	.2	
1990	3805	.302	20.7	237	151	.667	15.5	31.3	28.1	67.4	96.0	40.8	55.2	3.9	.2	
1991	4049	.322	21.3	228	150	.681	9.7	35.3	31.0	67.4	98.2	43.2	55.0	1.6	.1	
1992	4064	.334	20.8	234	155	.685	13.6	31.4	27.3	71.5	98.4	32.5	65.9	1.5	.1	
1993	4754	.360	21.0	235	162	.710	15.1	29.5	23.3	75.7	99.0	25.7	73.4	1.0		.2
1994	5481	.395	20.8	240	166	.715	13.7	36.4	23.9	74.7	99.6	23.2	76.5	.4		2.8
1995	5749	.380	20.5	244	168	.715	17.7	40.7	20.5	78.6	100.0	20.2	79.8			8.1
1996	5254	.400	20.8	243	179	.757	20.1	37.1	15.6	83.5	99.9		99.9		.1	10.4
1997	6224	.427	20.7	246	186	.775	13.6	42.9	15.6	84.0	100.0		100.0			11.0
1998	6555	.448	20.6	244	190	.801	19.0	43.8	13.9	85.6	100.0		100.0			14.3
1999	6822	.464	20.3	249	196	.809	17.2	46.9	13.0	86.7	100.0		100.0			15.7

TABLE 4 (CONTINUED)

VEHICLE SIZE AND DESIGN CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES

MODEL YEAR	SALES (000)	FRAC	55/45 MPG	ENGINE CID	ENGINE HP	HP/ CID	DRIVETRAIN FRONT	DRIVETRAIN 4WD	TRANSMISSION MANUAL	TRANSMISSION LOCK	FUEL METERING FI	FUEL METERING TBI	FUEL METERING PORT	CARB	DSL	FOUR VALVE
	<----- MEASURED CHARACTERISTICS->						<---------- PERCENT OF VEHICLES EQUIPPED WITH ---------->									
Both																
1975	10224	1.000	15.3	293	137	.507	5.3	3.3	23.2		4.1		4.1	95.7	.2	
1976	12334	1.000	16.7	294	135	.493	4.6	4.8	20.9		2.5		2.5	97.3	.2	
1977	14123	1.000	17.7	287	136	.509	5.5	4.7	19.8		3.4		3.4	96.2	.4	
1978	14448	1.000	18.6	266	129	.525	7.4	6.6	23.0	5.2	3.9		3.9	95.2	.9	
1979	13882	1.000	18.7	252	124	.532	9.2	4.3	25.1	6.7	3.7		3.7	94.2	2.0	
1980	11306	1.000	22.5	198	104	.574	25.0	4.9	35.4	17.8	6.0	.6	5.2	89.7	4.3	
1981	10554	1.000	24.1	193	102	.579	31.0	4.0	34.1	33.0	7.5	2.2	5.1	86.7	5.9	
1982	9732	1.000	24.7	188	103	.593	37.0	4.6	32.8	47.8	13.8	7.9	5.8	80.6	5.6	
1983	10302	1.000	24.6	193	107	.599	37.0	8.1	31.5	52.1	22.1	14.7	7.3	75.2	2.7	
1984	14020	1.000	24.6	190	109	.618	42.1	8.2	28.5	52.8	30.6	18.6	11.4	67.6	1.8	
1985	14460	1.000	25.0	189	114	.649	47.8	9.3	27.0	54.5	43.0	23.9	16.0	56.1	.9	
1986	15365	1.000	25.7	180	114	.678	52.6	9.3	29.8	53.5	58.2	25.7	32.5	41.4	.4	1.1
1987	14865	1.000	25.9	175	118	.710	57.7	9.6	29.1	55.4	71.3	31.4	39.9	28.4	.3	4.0
1988	15295	1.000	25.9	180	123	.726	60.0	10.5	27.6	62.2	84.9	34.3	50.6	15.0	.1	7.3
1989	14453	1.000	25.4	185	129	.743	60.2	10.5	24.6	65.5	91.2	33.9	57.3	8.7	.1	8.9
1990	12615	1.000	25.2	185	135	.781	63.8	10.1	22.2	71.2	97.8	27.0	70.8	2.1	.1	17.9
1991	12573	1.000	25.4	184	138	.796	59.6	12.3	23.9	71.6	99.3	28.7	70.6	.6	.1	19.1
1992	12172	1.000	24.9	191	145	.807	58.4	11.2	20.6	74.8	99.4	17.8	81.6	.5	.1	19.8
1993	13211	1.000	25.1	191	147	.809	59.9	11.4	19.8	76.5	99.7	14.6	85.0	.3		21.1
1994	13883	1.000	24.6	196	152	.817	56.4	14.8	19.1	77.5	99.9	12.2	87.7	.1		24.7
1995	15145	1.000	24.7	196	158	.857	57.6	16.2	17.8	80.7	100.0	8.4	91.6			35.4
1996	13147	1.000	24.8	197	164	.878	60.0	15.7	15.2	83.5	99.9	.7	99.3		.1	37.9
1997	14571	1.000	24.5	199	169	.889	55.4	19.3	14.4	85.0	99.9	.5	99.5		.1	37.6
1998	14633	1.000	24.4	200	173	.907	56.7	20.8	13.8	84.6	99.8	.1	99.7		.2	38.9
1999	14699	1.000	23.8	206	180	.913	53.4	23.1	13.4	86.3	99.8		99.8		.2	39.6

Displacement by Number of Cylinders
Passenger Cars

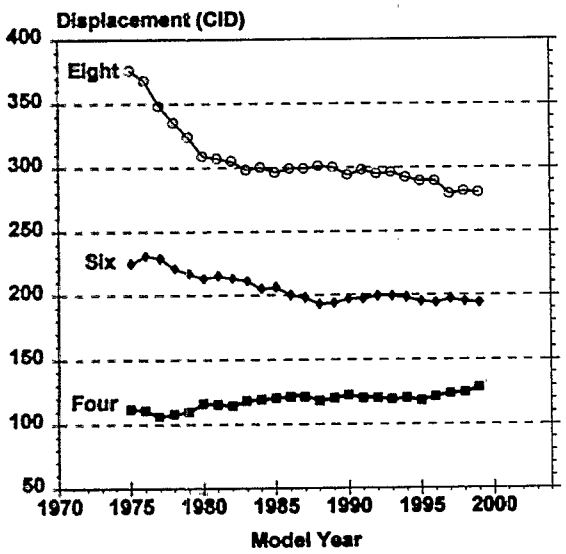


Figure 17

Displacement by Number of Cylinders
Light Duty Trucks

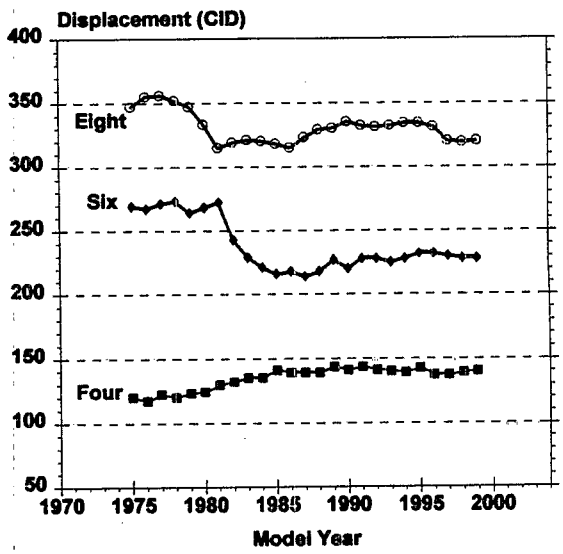


Figure 18

Table 5

Car and Light Truck Engine Characteristics - 1999			
Vehicle Type	**Horsepower (HP)**	**Displacement (CID)**	**HP/CID**
Passenger Car	166	169	1.00
Light Truck	196	249	0.81

Because of the differences in specific power, for model-year 1999, truck engines average about 18 percent more horsepower but nearly 50 percent greater displacement, compared to the average passenger car engine.

Figures 17 and 18 show cubic-inch displacement (CID) *by number of cylinders* for cars and light trucks; Figures 19 and 20 normalize this data and show CID *per cylinder* for both vehicle types. For both cars and light trucks, displacement of six- and-

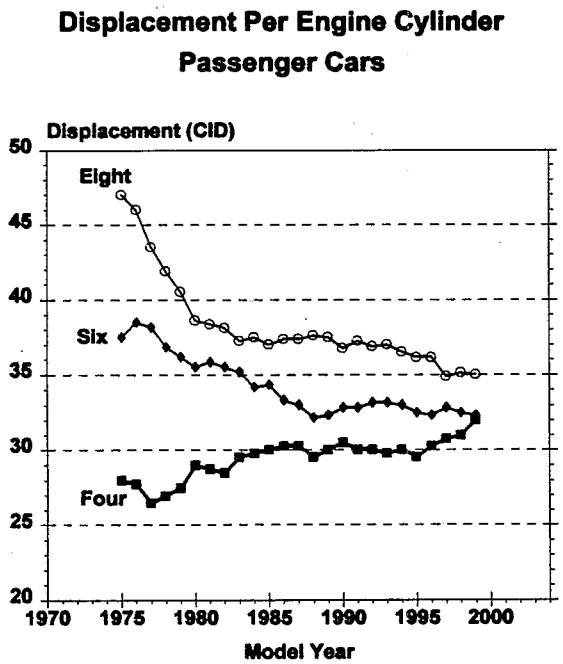


Figure 19

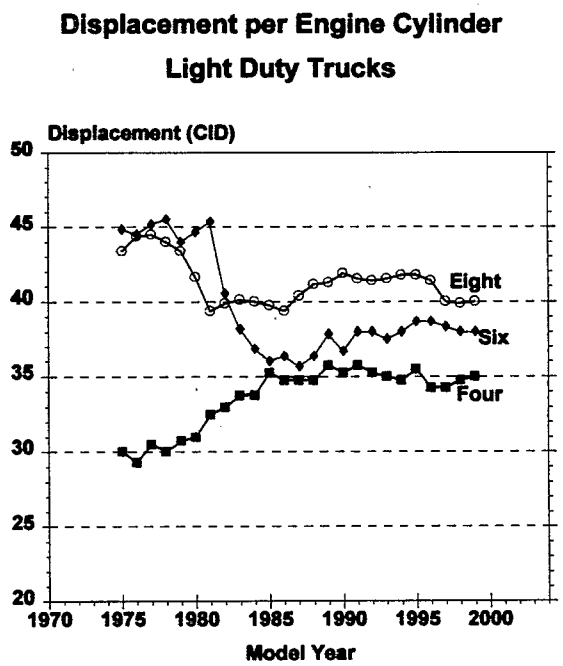


Figure 20

eight-cylinder engines has decreased, but displacement of four-cylinder engines has increased. Most of these changes occurred between 1975 and 1985 when, for example, eight-cylinder car engine CID decreased about 20 percent, i.e., from 376 to 296 CID. Similarly, six-cylinder car engines decreased from 225 CID in 1975 to 200 in 1986 and 194 this year. Conversely, four-cylinder passenger engine displacement increased from 112 CID in 1975 to 120 CID in 1985.

CID per cylinder, thus, has converged for cars from a range of about 27 to 47 CID per cylinder in 1975 to a range of about 32 to 35 CID per cylinder this year. Similarly, CID per cylinder for trucks remains somewhat higher than that for cars but has converged from a range of about 30 to 45 CID per cylinder to a range of 35 to 40.

Figures 21 and 22 indicate that horsepower has increased for four-, six-, and eight-cylinder engines for both vehicle types. Eight-cylinder car engines, for example, now attain 242 HP, compared to 167 HP in MY75. This represents an increase of nearly 45 percent. By comparison, six-cylinder engines have achieved at least 167 HP every year since MY95.

Horsepower by Number of Cylinders
Passenger Cars

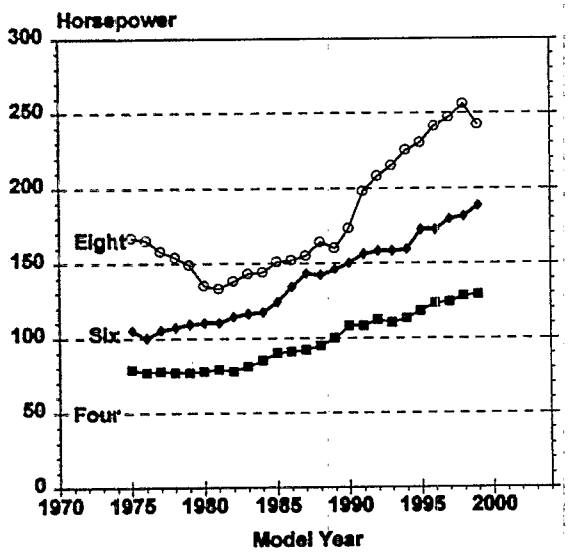


Figure 21

Horsepower by Number of Cylinders
Light Trucks

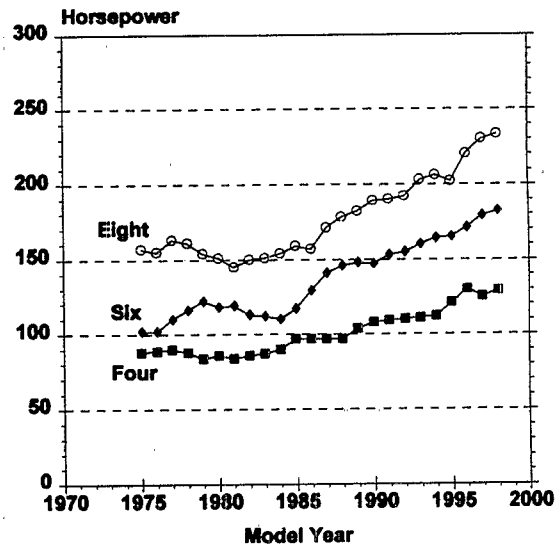


Figure 22

Horsepower Per Cylinder
Passenger Cars

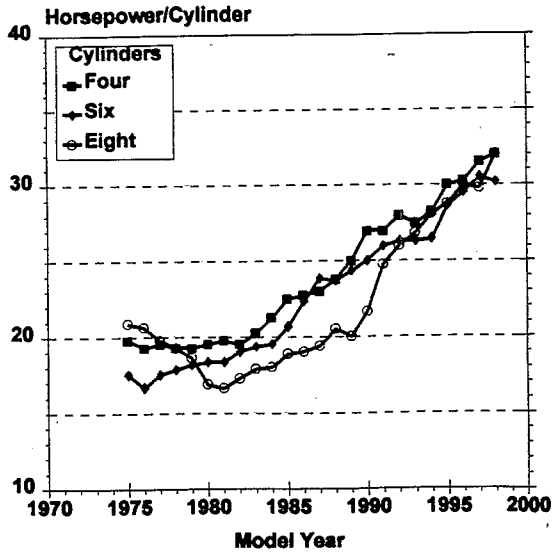


Figure 23

Horsepower Per Cylinder
Light Duty Trucks

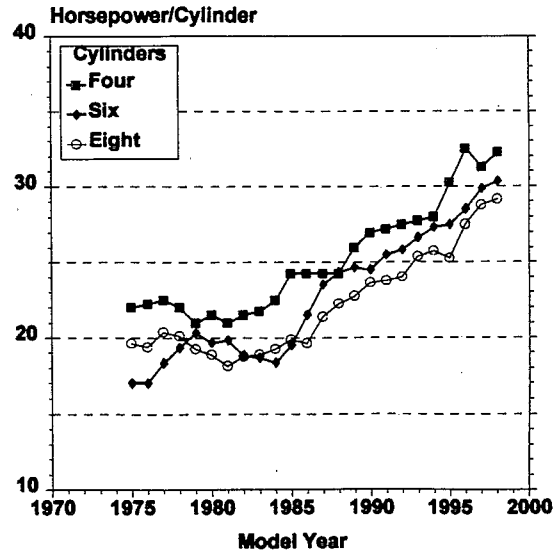


Figure 24

On a percentage basis, an even greater increase has occurred for six-cylinder engines which, for MY99, are expected to average 188 HP compared to 105 in MY75. Six-cylinder engines thus will achieve higher horsepower this year than eight-cylinder ones did every year from 1975 to 1990. Similarly, for MY99, four-cylinder car engines will average 129 HP, or more than the six-cylinder engines did for any year between 1975 and 1985.

As shown in Figures 23 and 24, horsepower-per-cylinder has changed at very similar rates for four-, six-, and eight-cylinder engines. Between 1975 and 1986, horsepower-per-cylinder for both cars and trucks at this level of stratification changed very little. Since then, for both vehicle types, it has increased considerably and is now a nominal 50 percent higher than it was a decade ago.

Specific power (HP/CID) has also changed at slightly different rates for the engine sizes and types presented in Figures 25 and 26. Since 1975, for both cars and trucks, four-cylinder engines achieved higher specific power values than their six- and eight-cylinder counterparts. For MY99, six- and eight-cylinder car engines achieved significantly higher specific power than four-cylinder car engines did a decade ago.

Specific power improvement for trucks has lagged that for cars and is currently behind by about four or five years. For example, four-cylinder truck engines currently have a specific power rating of .95 HP/CID, a value four-cylinder car engines surpassed in MY94 when they first averaged .96 HP/CID.

Figures 27 and 28 compare sales fractions by four-, six- and eight-cylinder engines for cars and light trucks. For purposes of this analysis, two-, three-, five-, ten- and twelve-cylinder car engines are combined into a category labeled 'other'. Even on a combined basis, these 'other' engines have accounted for a very small percentage of the cars built each year since 1975.

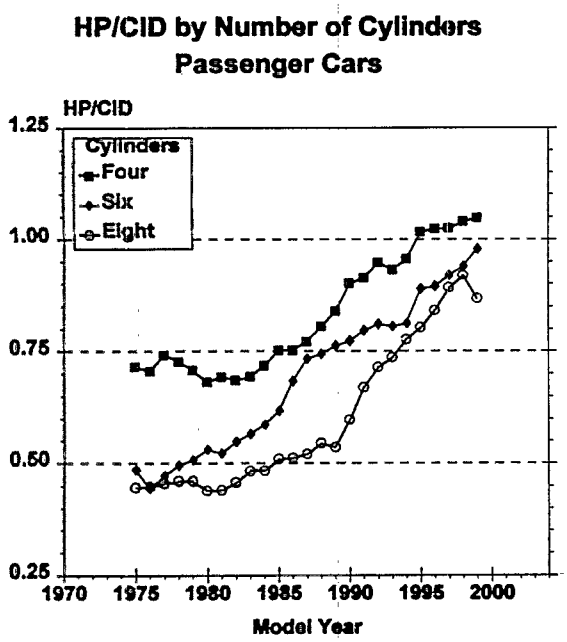


Figure 25

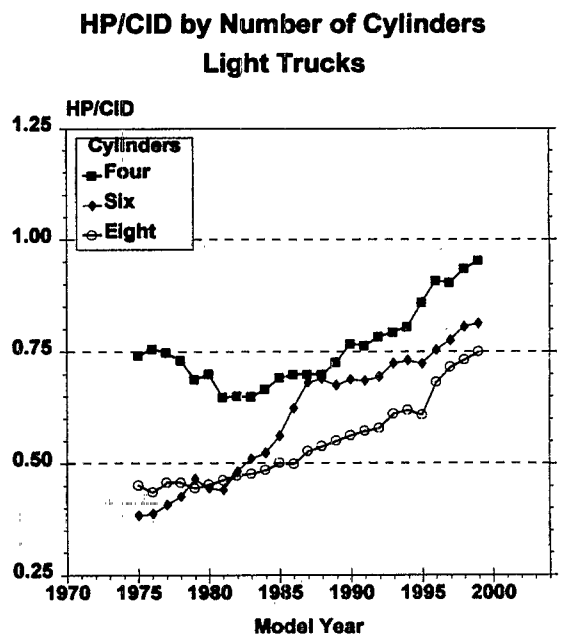


Figure 26

The sales fraction for eight-cylinder engines has dropped for cars from nearly 60 percent in 1975, to about 20 percent in 1981, to the 10-percent level in 1990 where it has remained. Most of this decrease occurred between 1975 and 1980. Similarly, the sales fraction for eight-cylinder truck engines dropped from 75 percent in 1975 to about 35 percent in 1983 and about 19 percent in 1991. Since then, however, the sales fraction of eight-cylinder engines has nearly doubled and is projected to be back at about 35 percent this year.

The sales fraction of six-cylinder car engines remained within a relatively narrow range (i.e., about 18, plus or minus two percent) between 1975 and 1979. Since then, their sales fraction has more than doubled and is projected to be about 40 percent this year. From 1975 to 1992, a similar trend occurred for six-cylinder truck engines. Their sales fraction increased from less than 15 percent in 1975 to over 60 percent in 1992 but since then has dropped back to the 50-percent level.

Four-cylinder engines now account for more than 50 percent of MY99 cars but less than 15 percent of 1999 trucks (See Figures 27 and 28).

Sales Fraction by Number of Cylinders

Passenger Cars

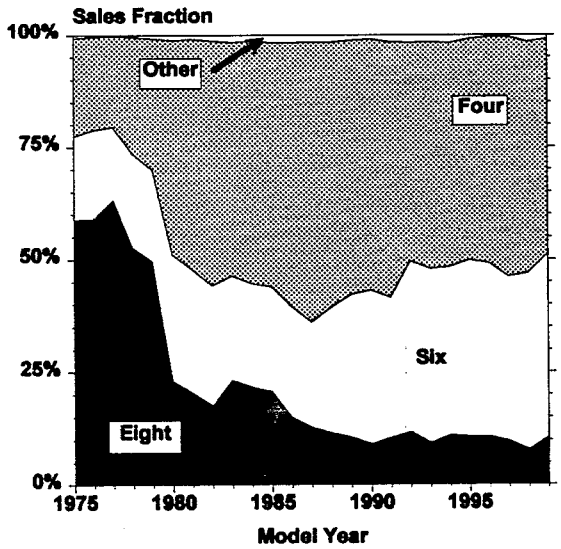


Figure 27

Sales Fraction by Number of Cylinders

Light Trucks

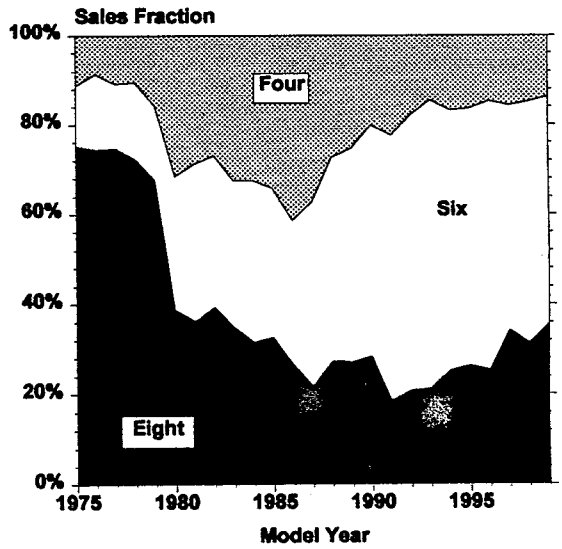


Figure 28

Passenger car engines have high values of HP per CID because not only HP per CID is improving, but also the fraction of the higher specific-power engines is increasing. Figures 29 and 30 show HP/CID for engines with 2-, 3-, and 4-valve-per-cylinder cylinder-head configurations for cars and trucks. Trucks with the same cylinder-head configuration have lower specific power than do the corresponding passenger car engines.

Figures 31 and 32 show the market share by number of valves per cylinder for cars and trucks. The introduction and use of four-valve engines for light trucks has trailed that of cars. Almost 85 percent of all truck engines still have two valves per cylinder, but the market share of 4-valve-per-cylinder passenger car engines is now over the 60-percent mark.

The use of four valves per cylinder in passenger car engines grew rapidly between 1987 and 1995, but its rate of growth has been much slower since then. The increased use of this engine technology belongs in the same category as successful technologies like port fuel injection, front-wheel drive, and the lockup 4-speed transmission (see Figure 33). In contrast, 3-valve-per-cylinder engines can be grouped with the less successful technologies like throttle body fuel injection (TBI) and lockup 3-speed (L3) transmissions (See Figure 34).

HP/CID by Number of Valves Per Cylinder

Passenger Cars

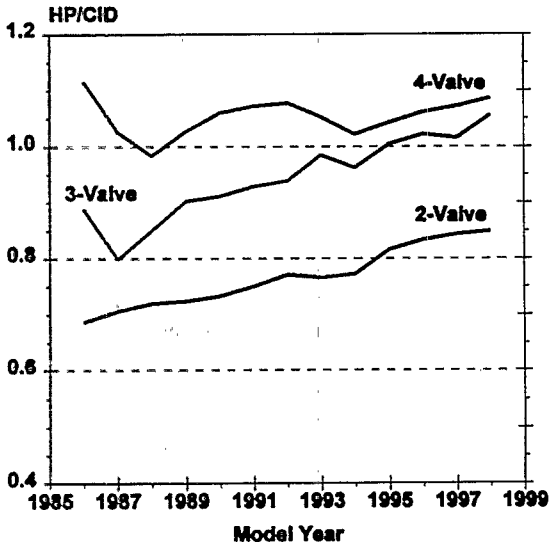


Figure 29

HP/CID by Number of Valves Per Cylinder

Light Duty Trucks

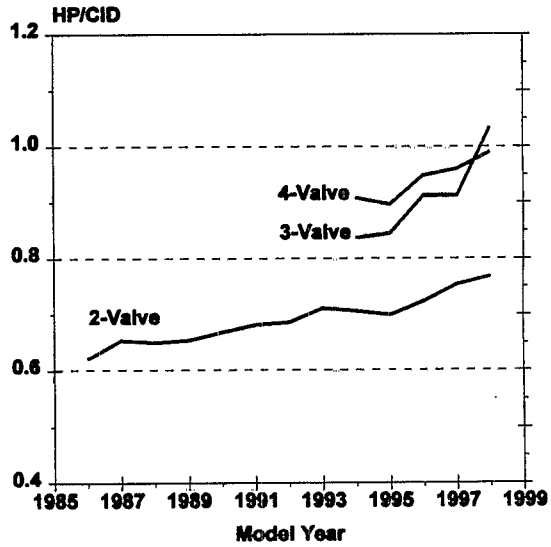


Figure 30

Number of Valves Per Cylinder
Passenger Cars

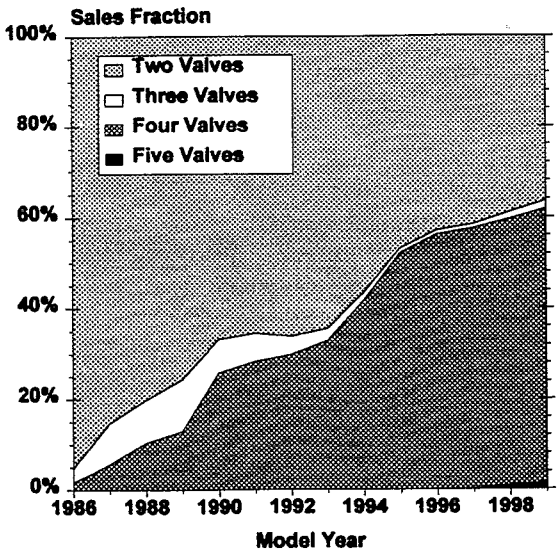


Figure 31

Number of Valves Per Cylinder
Light Duty Trucks

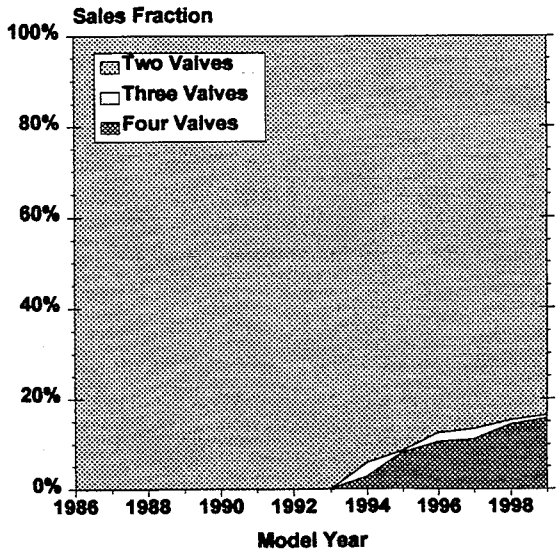


Figure 32

Passenger Car Technology Penetration
Years After First Significant Use

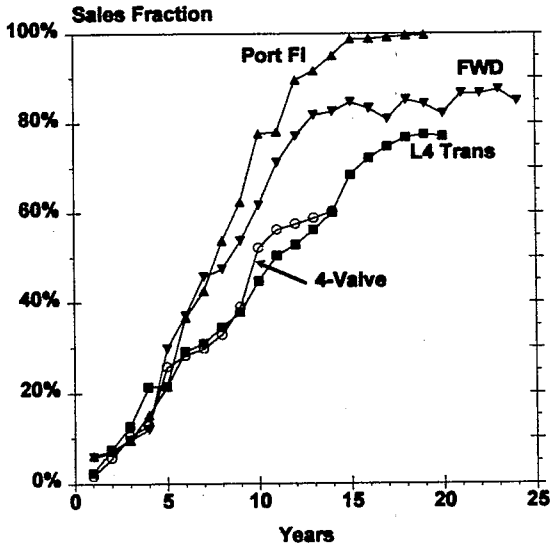


Figure 33

Passenger Car Technology Penetration
Years After First Significant Use

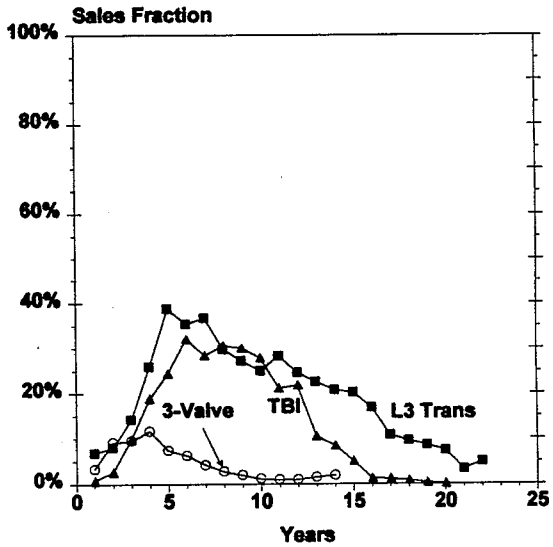


Figure 34

Figures 35 and 36 compare the sales fractions by transmission type and number of gears for cars and trucks, respectively. Manual transmission usage peaked slightly above 30 percent for cars in 1980 and has been below 15 percent since 1996. Similarly, it peaked at more than 50 percent that same year for trucks and has also dropped below 15 percent.

Two important changes have occurred for both vehicle types, the addition of a gear for both automatic and manual transmissions and, for the automatics, conversion to lockup torque converter transmissions. Both of these figures indicate that the L4 transmission is currently the predominant transmission type for both cars and trucks. Trucks have not lagged cars in the introduction of L4 transmissions. Where manual transmissions are used, the 5-speed (M5) transmission now predominates. The increasing trend in ton-MPG discussed earlier can be attributed to better vehicle design, including more efficient engines, better transmission design, and better matching of the engine and transmission.

Transmission Sales Fraction

Passenger Cars

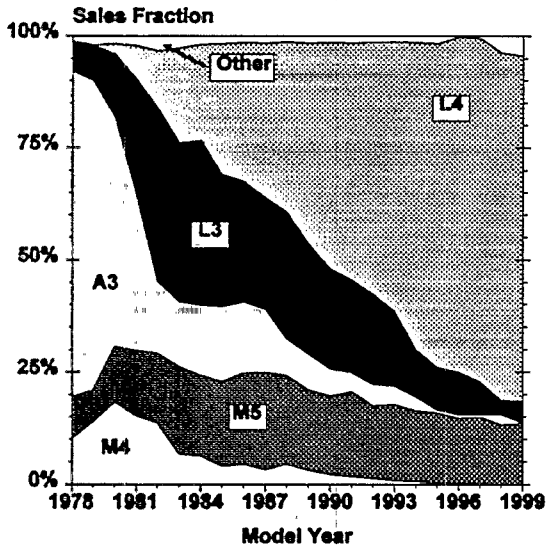


Figure 35

Transmission Sales Fraction

Light Duty Trucks

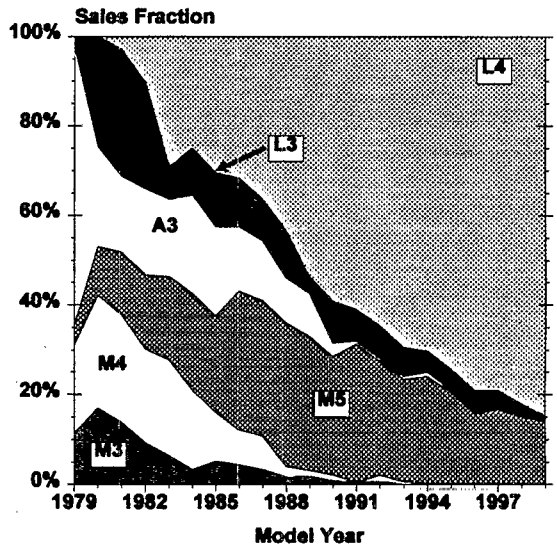


Figure 36

Passenger Car Ton-MPG

By Transmission and Number of Gears

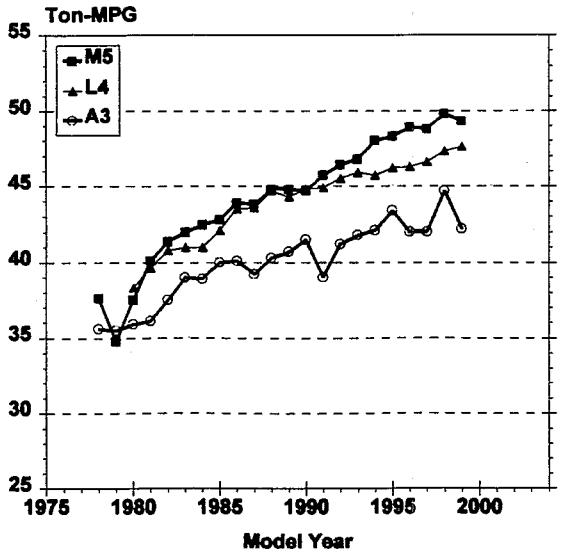


Figure 37

Light Truck Ton-MPG

By Transmission and Number of Gears

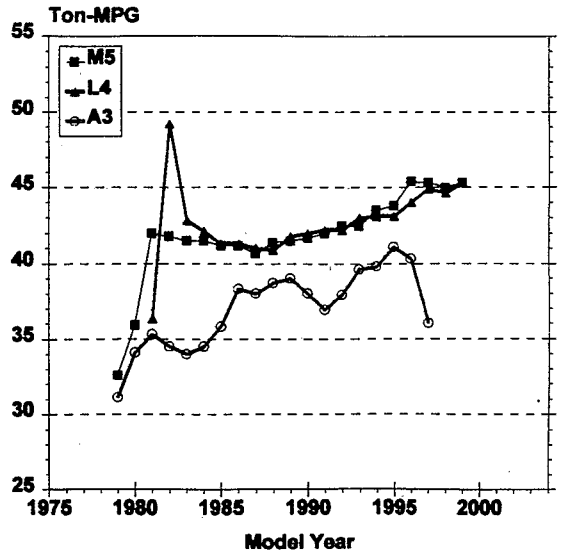


Figure 38

In recent years, trucks with L4 and M5 transmissions have achieved about the same ton-MPG; cars with M5 transmissions achieved about 2 ton-MPG more than their L4 counterparts.

Powertrains are matched to the load better when the engine operates closer to its best efficiency point more of the time. For many conventional engines, this point is approximately 2000 RPM and 2/3 of the maximum torque at that speed. One way to make the engine operate more closely to its best efficiency point is to increase the number of gears in the transmission and, for automatic transmissions, using a lockup torque converter.

Figures 37 and 38 indicate that ton-MPG improves when more transmission gears are added and lockup torque converters used. For both cars and light trucks, ton-MPG improves by about 10 percent with the addition of a gear and a lockup torque converter. It should be noted that between 1981 and 1982 there was a sharp increase in ton-MPG for light trucks with L4 converters. As the data in Appendix E indicates, diesel engines were used in about 44 percent of the 1982 trucks with this transmission type, compared to about ten percent the next year, and about five percent in 1984.

Front, Rear and Four Wheel Drive Usage

Passenger Cars

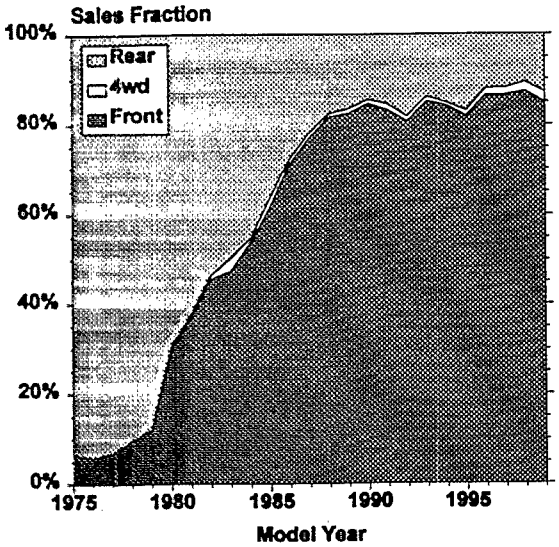


Figure 39

Front, Rear and Four Wheel Drive Usage

Light Duty Trucks

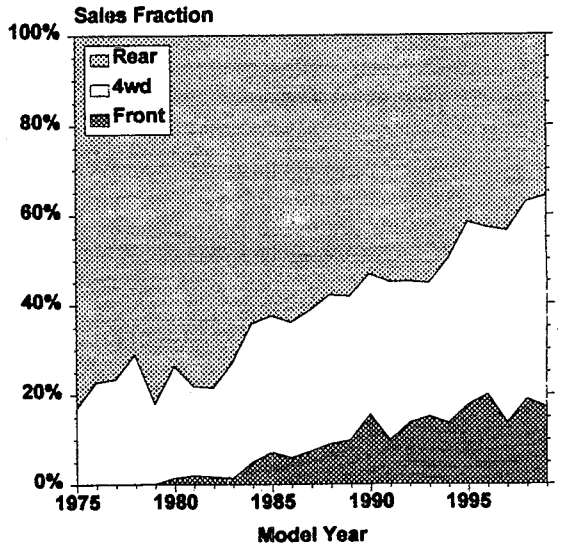


Figure 40

In Figures 39 and 40, the differences and changes in drivetrain configuration between cars and trucks are apparent. Prior to 1978, less than ten percent of cars used front-wheel drive with almost all of the remainder rear drive. For the past dozen years, more than 80 percent of the cars have used front-wheel drive. Rear-wheel drive accounted for nearly 95 percent of the 1975 cars; by 1984 its sales fraction dropped below 50 percent; and since 1988 it has stayed below 20 percent. For all of the years shown, four-wheel drive has been used in only a few percent of the cars.

Drivetrain usage for trucks has also changed substantially. Prior to 1994, over half of the trucks used rear-wheel drive, but only about a third of the 1999 trucks will. By comparison, five out of six 1975 trucks used rear-wheel drive. Four-wheel drive usage in trucks has grown from less than 18 percent in 1975 to almost half this year. Front-wheel drive in trucks remained below 5 percent through 1984, first exceeded 20 percent in 1996, but has dropped slightly since then. This technology is now used extensively in mid-sized vans, but not at all in pickups and relatively little in SUVs.

IV. Trends by Market Segment

Figures 41 and 42 show that domestic trucks and Asian cars have achieved the largest growth in both sales and sales fraction since 1975 with much of this growth coming at the expense of domestic cars. The market share of domestic cars has dropped from about 65 percent in 1975 to 31 percent this year. At the same time, the market share of Asian cars and domestic trucks has both doubled, from 8 to 19 and from 17 to 36 percent, respectively.

For the past three years, sales of domestic trucks have exceeded those of domestic cars. Total sales of domestic light-duty trucks are projected to be more than three times higher this year than they were in 1975, but domestic car production will be less than two-thirds of what it was in 1975. Similarly, sales of imported vehicles are projected to be almost three times higher in 1999 than they were in 1975. More than three times as many Asian cars will be sold in 1999 as in 1975, and imported truck sales are projected to be higher by a factor of more than five, but sales of European cars are projected to be about the same this year as they were in 1975.

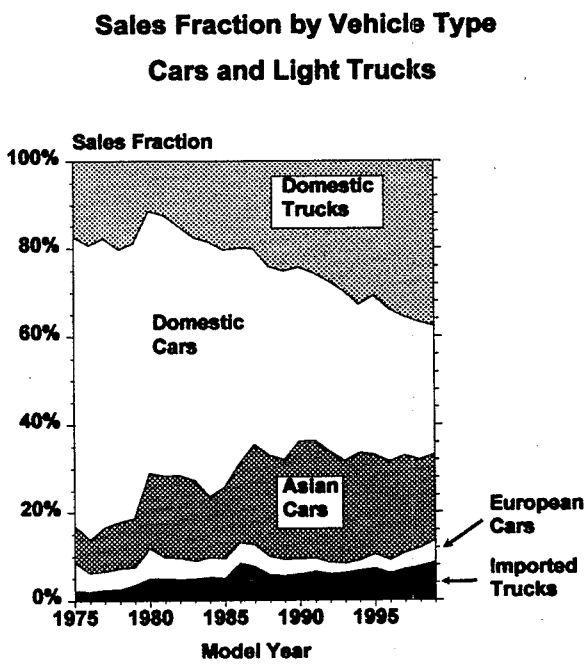


Figure 41

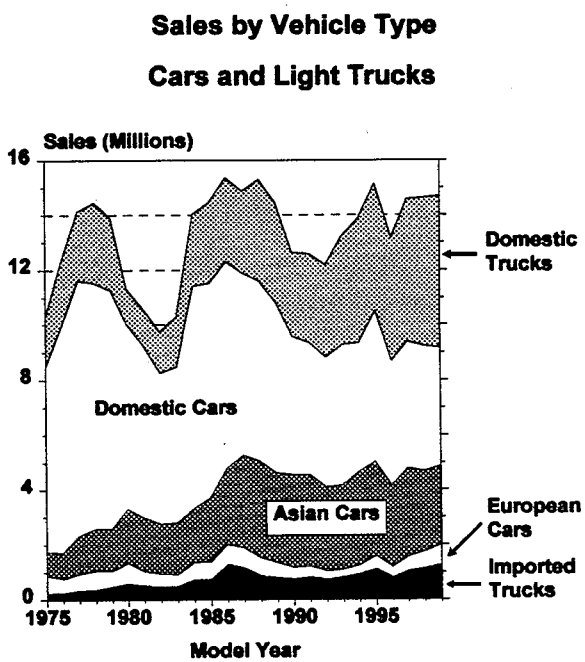


Figure 42

Figure 43 compares average MPG for domestic, European, and Asian cars. Similar data for domestic and imported trucks is shown in Figure 44. Asian cars have always had higher MPG than their domestic counterparts. Through 1985, European cars had higher MPG than domestic ones. Since 1986, however, domestics have achieved higher MPG than European cars.

Average car MPG for all three of these segments has changed very little since 1990, particularly when compared to the changes which occurred in the late 1970's and early 1980's. For example, domestic car MPG increased over 10 MPG between 1975 and 1985 but has stayed between 25.8 and 27.8 MPG since then.

The trend for domestic light trucks is similar. Their average MPG increased over 6 MPG or almost 50 percent between 1975 and 1985 but has been a nominal 20 MPG since then. Imported truck MPG peaked at 26.6 MPG in 1984 and has now declined to 23.2 MPG. As shown in Figure 45, the gap between imported and domestic combined car and truck MPG has remained at about 5 or 6 MPG for over a decade, compared to a much larger difference in 1975.

Passenger Car MPG

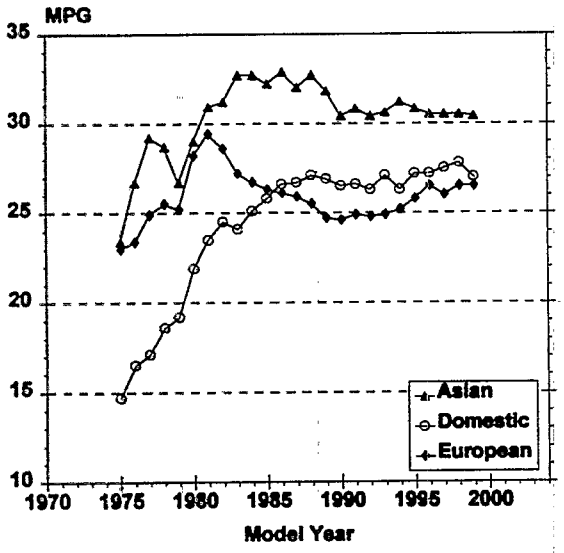


Figure 43

Light Truck MPG

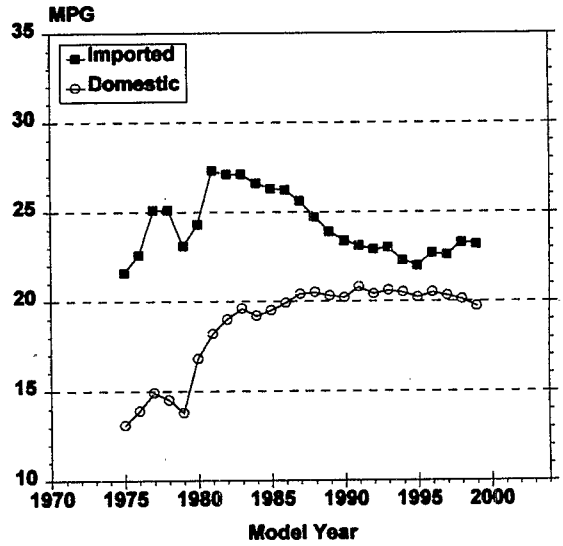


Figure 44

Car and Light Truck MPG

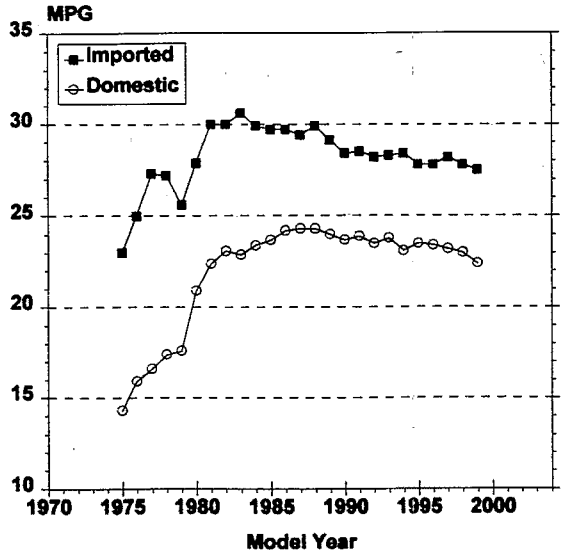


Figure 45

Passenger Car Interior Volume

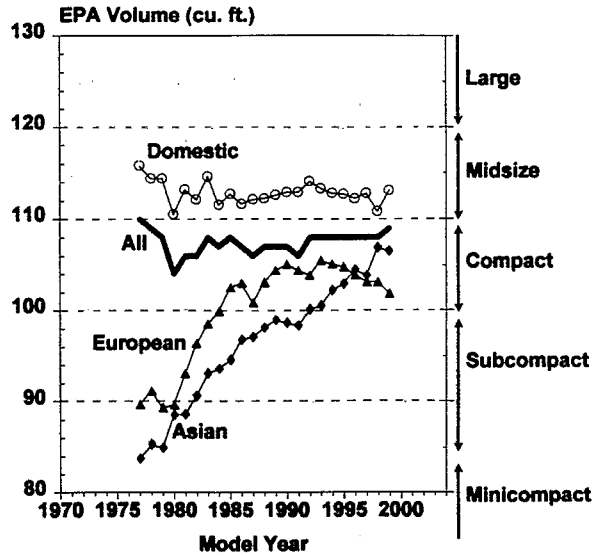


Figure 46

Figure 46 compares interior volume for domestic, European, and Asian cars. Through 1980, interior volume for European cars remained below 90 cu. ft.; between then and 1989, it increased over 16 percent to 105 cu. ft. and has since decreased to 102 cu. ft. Asian cars, with just a couple of minor exceptions, have increased their interior volume every year since 1978. By comparison, domestic car interior volume has been relatively stable, as has the overall average for all passenger cars.

Vehicle performance, as measured by estimated 0 to 60 acceleration time, has changed at remarkably consistent rates for domestic, European, and Asian cars and also for domestic and European trucks. European cars have typically achieved about one second faster 0 to 60 time than their domestic and Asian counterparts. Through 1984, estimated 0 to 60 time remained at a relatively constant 14 to 15 seconds for all of the market segments shown in Figure 47 and 48. During the past thirteen years, this performance metric has dropped by about four or five seconds for cars, and by about three or four seconds for trucks.

Passenger Car 0 to 60 Time

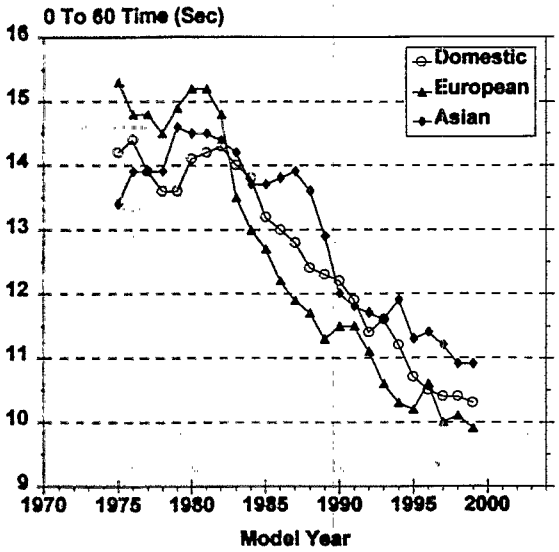


Figure 47

Light Truck 0 to 60 Time

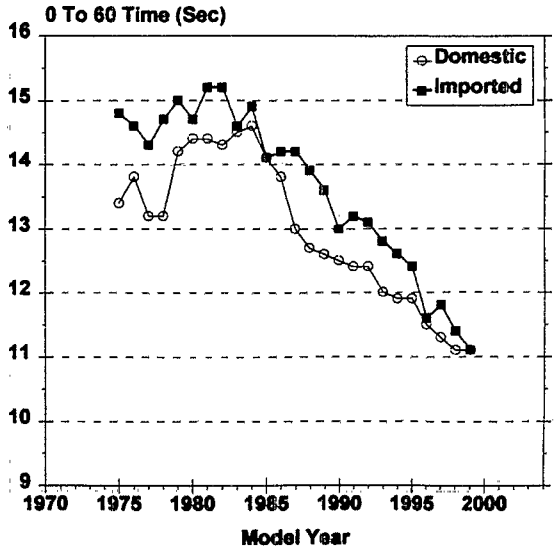


Figure 48

Passenger Car Inertia Weight

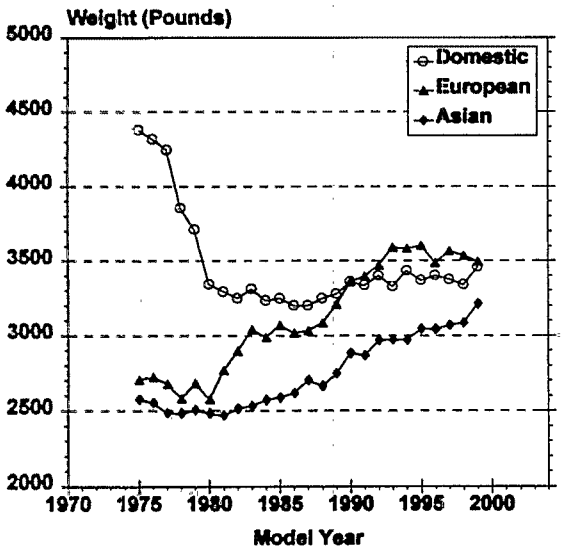


Figure 49

Light Duty Truck Inertia Weight

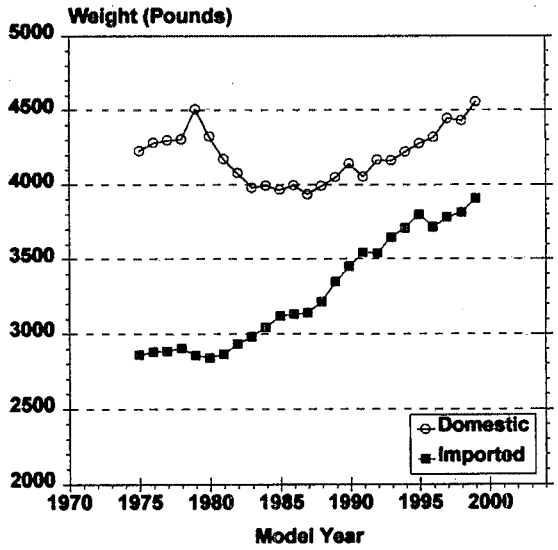


Figure 50

Passenger Car Ton-MPG

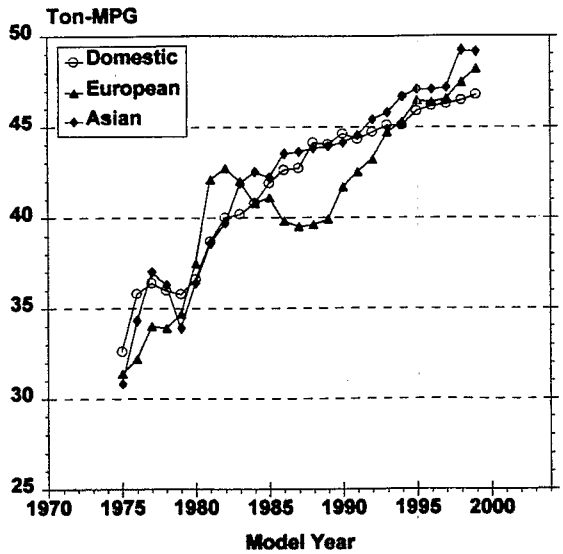


Figure 51

Light Duty Truck Ton-MPG

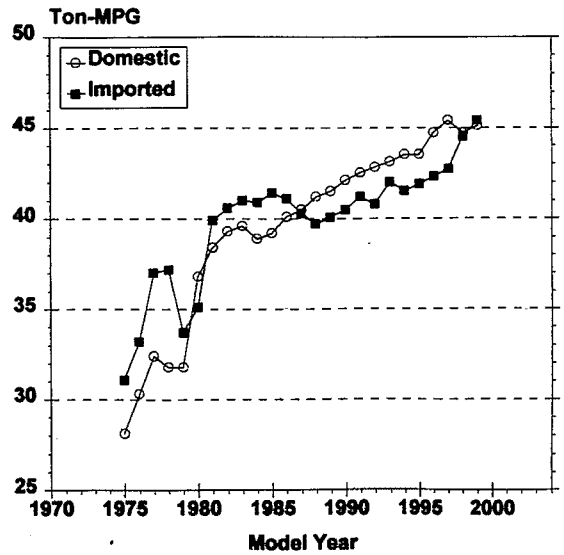


Figure 52

Figures 49 and 50 compare inertia weight for the same market segments as the preceding two figures. Inertia weight for domestic cars dropped over a thousand pounds between 1975 and 1984 but has increased about 200 pounds since then. Conversely, inertia weight of European cars increased by over 350 pounds (i.e., from about 2700 to 3070 pounds) between 1975 and 1985 and by over another 500 pounds since then. Between 1975 and 1985, inertia weight for Asian cars remained at a nominal 2500 pounds but has since increased to over 3200 pounds.

As indicated by Figure 50, there have been substantial increases in inertia weight for both domestic and imported trucks, particularly since the mid-1980's. Between 1984 and this year, domestic truck inertia weight has increased by over 400 pounds and imported truck inertia weight by over 800.

The trend toward increasing ton-MPG, discussed earlier, persists for the five market segments shown in Figures 51 and 52. Domestic, European, and Asian cars not only have had similar ton-MPG trends but also the same approximate ton-MPG values over a relatively long period of time. The same observations apply to domestic and imported light trucks.

Passenger Car Specific Power

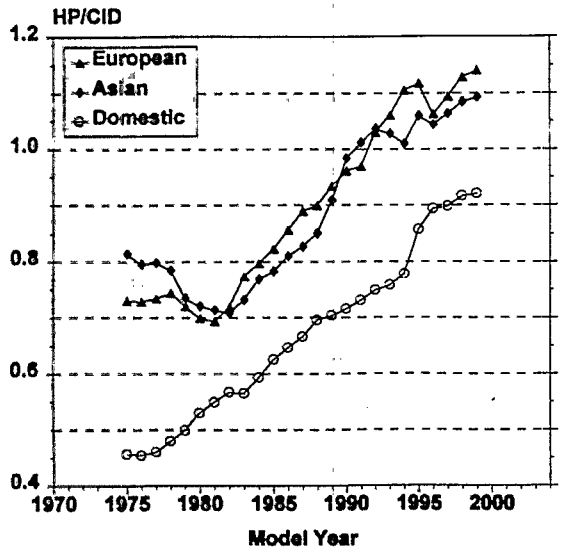


Figure 53

Light Duty Truck Specific Power

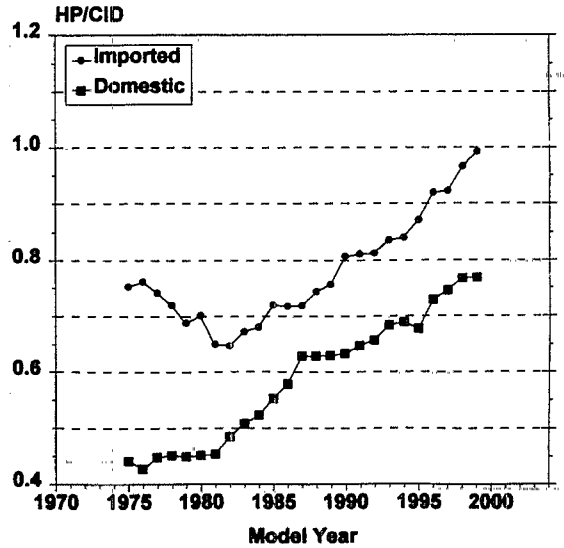


Figure 54

The trend toward higher specific power (HP/CID), also discussed earlier, persists for domestic, European, and Asian cars and domestic and imported trucks (see Figures 53 and 54). European and Asian cars now achieve about 1.1 HP/CID and the domestics slightly better than .9 HP/CID. Similarly, imported trucks will achieve about 1.0 HP/CID this year compared to less than .8 for domestic trucks. The improvement of specific power for domestic vehicles has always trailed that of their import counterparts by about a decade with the imported vehicles achieving at least .2 HP/CID more than the domestics.

Table 6 compares technology usage for MY99 for domestic, European, and Asian cars and domestic and imported trucks. The trend noted above towards higher specific power for European and Asian cars and imported trucks is consistent with their greater use of four valve per cylinder engines than the domestics. For MY99, drive train usage for domestic and imported trucks is remarkably consistent. A nominal 50 percent of both vehicle types are projected to use four-wheel drive and about 20 percent front-wheel drive. Conversely 94 percent of Asian cars will use front-wheel drive, compared to 85 percent of the domestics and less than half of the European cars. The percentage of domestic cars and trucks that are projected to have manual transmissions is significantly less than that of the their imported counterparts.

Table 6

MY99 Technology Usage
(Percent of Vehicles)

	Front Wheel Drive	Four Wheel Drive	Manual Trans-mission	Four Valves per Cylinder
Domestic Cars	85	0	9	37
European Cars	46	12	34	50
Asian Cars	94	4	16	98
Domestic Trucks	17	46	11	1
Imported Trucks	19	52	24	81

Figures 55 to 63 compare the sales and sales fractions of small, midsize, and large domestic, European, and Asian cars. In 1975, approximately one-fourth of the domestic cars were small; another fourth, large; and about half, midsize. Since then, the sales fractions of domestic small, midsize, and large cars have fluctuated five to ten percent. For example, large cars accounted for 26 percent of the domestics in 1975, 15 to 18 percent from 1979 to 1981, then increased their relative market share to 21 percent in 1985, dropped to around 20 percent for the next few years, but reached the 27 percent mark in 1994.

The changes which have occurred in the relative market shares of small, midsize, and large Asian and European cars are much more substantial than that of the domestics. In 1975, all of the Asian cars were classified as small, compared to about half this year. For MY99, the sales fraction of midsize Asian cars has increased to the point where they account for over 45 percent of the Asian cars, compared to about 25 percent in 1997, and less than 10 percent in 1991. The trend for European cars is very similar. The sales fraction of small European cars has dropped from nearly 95 percent in 1975 to about 60 percent this year, while the midsize car sales fraction has increased from 5 percent in 1975 to nearly 40 percent the past two years.

Domestic Car Sales Fraction by Vehicle Size

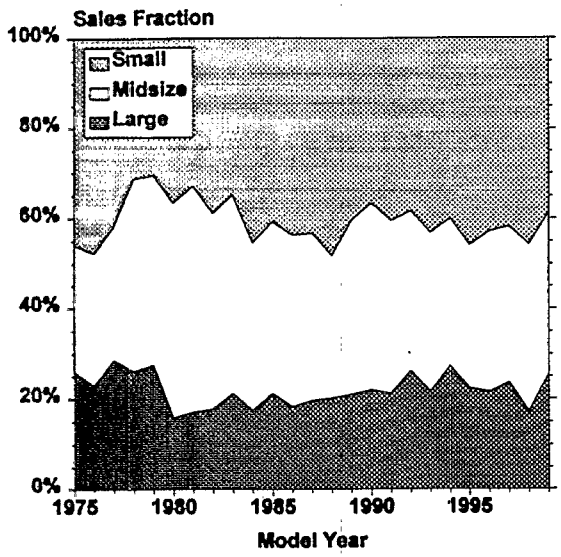


Figure 55

Domestic Car Sales by Vehicle Size

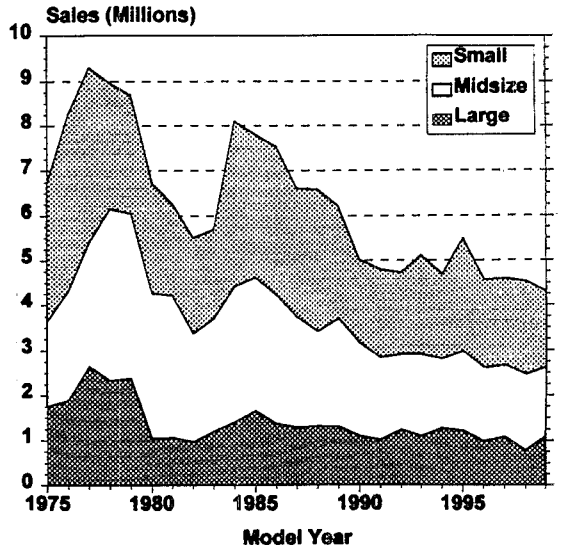


Figure 56

European Car Sales Fraction by Vehicle Size

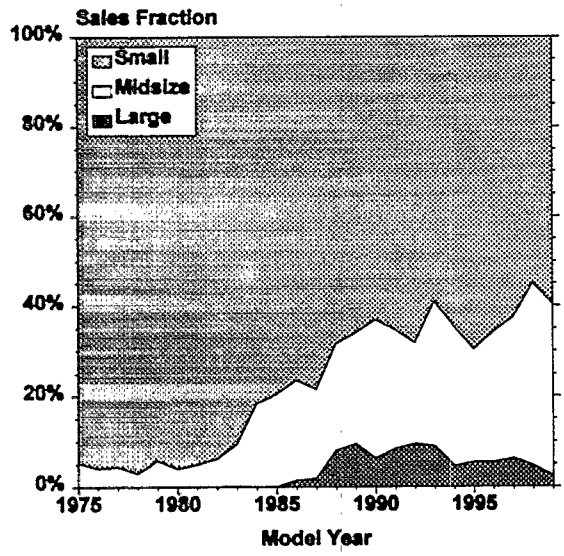


Figure 57

European Car Sales by Vehicle Size

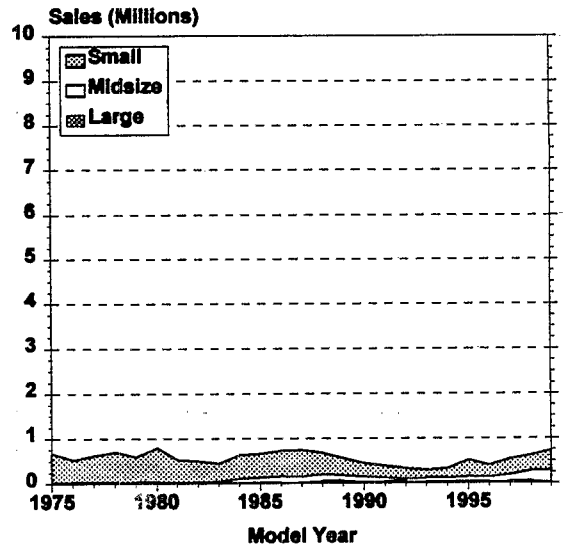


Figure 58

Asian Car Sales Fraction by Vehicle Size

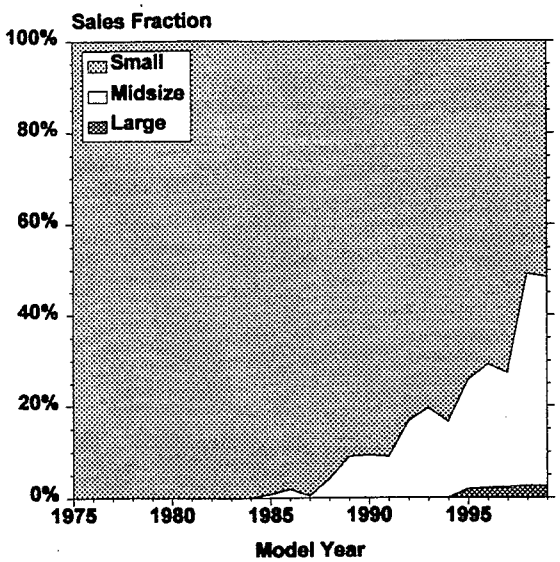


Figure 59

Asian Car Sales by Vehicle Size

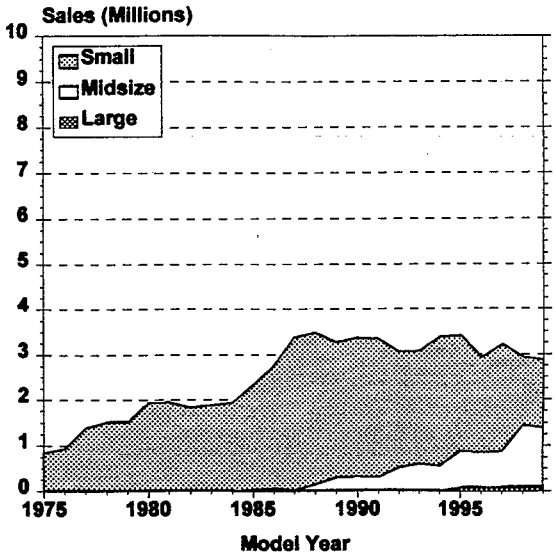


Figure 60

As shown in Figure 56, sales of large domestic cars reached the 2.7 million level, dropped to about a million in 1980, and have been relatively constant since then. Midsize domestic sales peaked at 3.8 million in 1978 and have been less than half that amount since 1991. Sales of small domestic cars almost reached the 4 million mark in 1977, then declined, and have not exceeded 2.5 million in nearly a decade.

Sales of European cars have been less than 750,000 per year for all of the years shown in Figure 58. Large cars have never accounted for more than 10 percent of the European cars; their annual sales reached a nominal 50,000 per year in 1988 and 1989. Sales of midsize European cars remained below 50,000 per year from 1975 to 1984, increased to over 100,000 in 1984, and have been over 250,000 per year for the past two years. Annual sales of small European cars exceeded 500,000 through 1987, but have not been that high since then.

Sales of small Asian cars (see Figure 60) increased from 1.5 million per year in 1975 to over a nominal 3 million per year from 1987 to 1991, but have since dropped to half that level the

Domestic Truck Sales Fraction by Vehicle Size

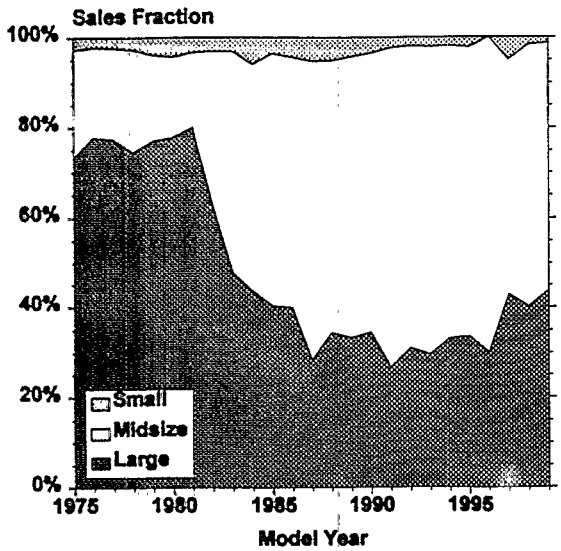


Figure 61

Domestic Truck Sales by Vehicle Size

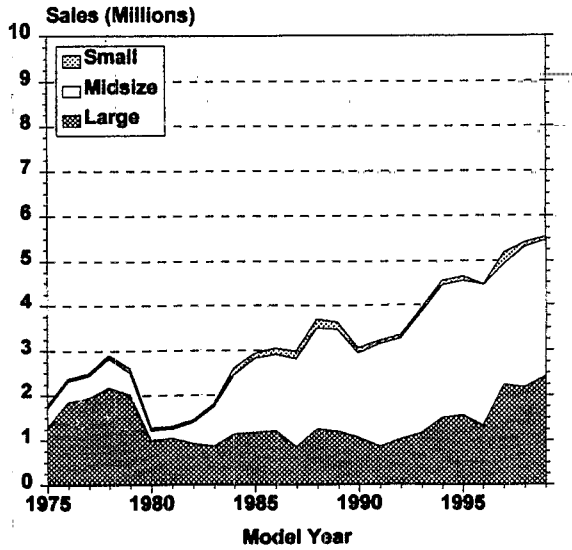


Figure 62

past two years. Annual sales of midsize Asian cars have increased by nearly two orders of magnitude, from 18,000 in 1975 to 500,000 in 1992 and have been over 1.3 million the past two years. Large Asian cars, first introduced in the mid-80's, have accounted for more than 60,000 vehicle sales per year since 1995.

Figures 61 and 62 make a similar comparison of sales fractions for small, midsize, and large domestic and imported trucks. From 1975 to 1981, large trucks accounted for nearly three-fourths or more of the domestic trucks, compared to about 43 percent this year. A corresponding change has occurred for midsize domestic trucks; their sales fraction has more than doubled and has increased from about 24 percent in 1975 to more than 50 percent every year since 1984. Small trucks, on the other hand, have never accounted for more than a few percent of the domestics.

Annual sales of large domestic trucks remained above 2 million from 1975 to 1979, dropped by half the following year, then remained constant through the mid-1990's, but have been above the 3 million level the past three years. Sales of midsize domestic trucks passed the 1 million per year level in 1984 and have been a nominal 3 million per year since 1994.

Imported Truck Sales Fraction by Vehicle Size

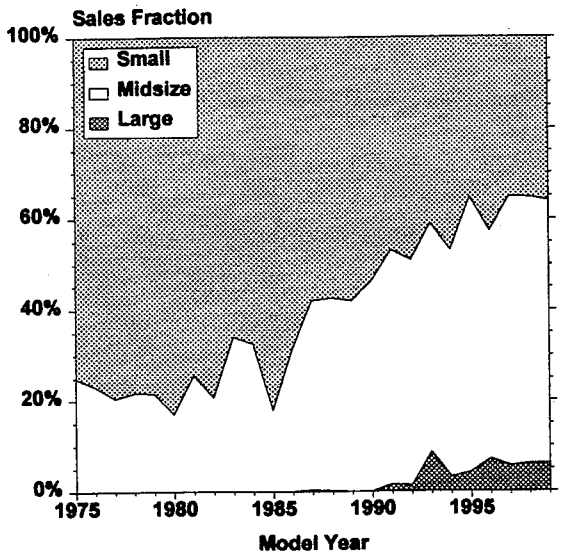


Figure 63

Imported Truck Sales by Vehicle Size

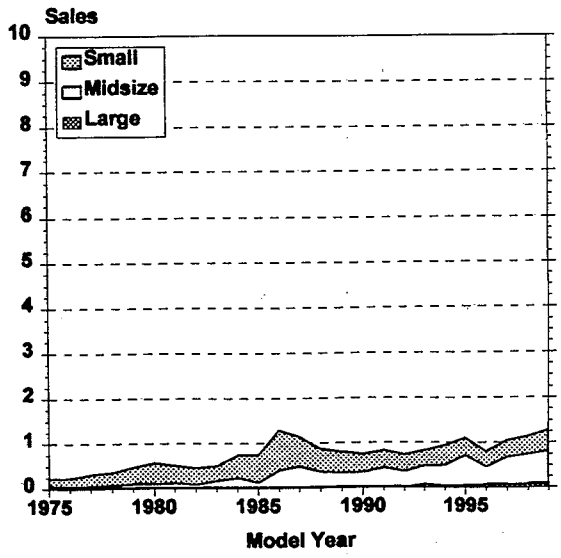


Figure 64

Significant change has occurred for imported trucks. Their sales fraction has changed from a mix of 75 percent small and 25 percent midsize in 1975, to about 36 percent small, 58 percent midsize, and 6 percent large in 1999.

Annual sales of small imported trucks increased from less than 200,000 in 1975 to almost 900,000 in 1986, but have not exceeded a half million in more than a decade. Conversely, annual sales of midsize imported trucks have increased relatively steadily, from 50,000 per year in 1975 and 1976 to over 100,000 in 1981, 500,000 in 1985, and nearly 750,000 this year. Large trucks have never accounted for more than 10 percent of the imported trucks, and while their sales are increasing, they have yet to reach the 100,000 per year level.

V. Trends by Vehicle Type and Size Class

Figure 1 showed that trucks are expected to account for over 45 percent of the light-duty vehicles produced during MY99. In Figures 65 and 66, cars and light trucks are classified into five vehicle types: cars (i.e. coupes, sedans, hatchbacks), (station) wagons, vans, sports utility vehicles (SUVs), and pickup trucks.

As shown in Table 7, large increases in market share have occurred for SUVs and vans at the expense of cars and wagons, with the market share for cars dropping from about 71 percent in 1975 to about 52 percent this year. Similarly, wagons have dropped from about 9.4 percent of the vehicles produced each year to a current value of less than 2 percent. The market shares for SUVs and vans have increased from about 2 to 20 and about 4 to 10 percent, respectively. By contrast, the market share of pickups has increased by 3 percent. The market share for MY99 SUVs is projected to exceed not only that of MY99 pickups and vans but also the *combined* market share of MY75 pickups, vans, and SUVs.

Table 7

Comparison of Sales Fraction of MY75 and MY99 Light-Duty Vehicles by Vehicle Type and Size

Vehicle Type	Sales Fractions 1975	1999	Change
Car	71.2%	51.8%	-19.4%
Wagon	9.4%	1.7%	-7.7%
Van	4.5%	10.3%	+5.8%
SUV	1.8%	19.9%	+18.1%
Pickup	13.1%	16.3%	+3.2%

Another way to compare sales fractions by vehicle type and size is to consider this data as a percentage of the total number of cars and trucks built each year. Table 8 and Figures 67 to 76 show the sales and sales fraction when the light-duty fleet is further divided into small, midsize, and large: cars, wagons, SUVs, vans, and pickups. Note that this classification method uses a total of fifteen vehicle-type/vehicle-size classes and that vehicles are not currently being produced for two of these classes, namely small vans and large wagons.

Sales Fraction by Vehicle Type

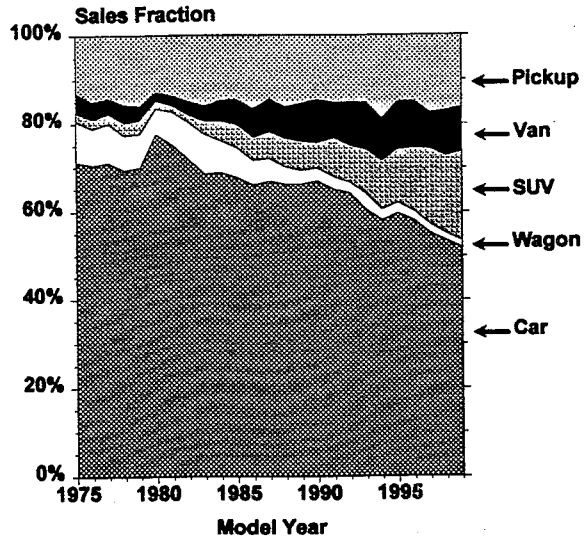


Figure 65

Sales by Vehicle Type

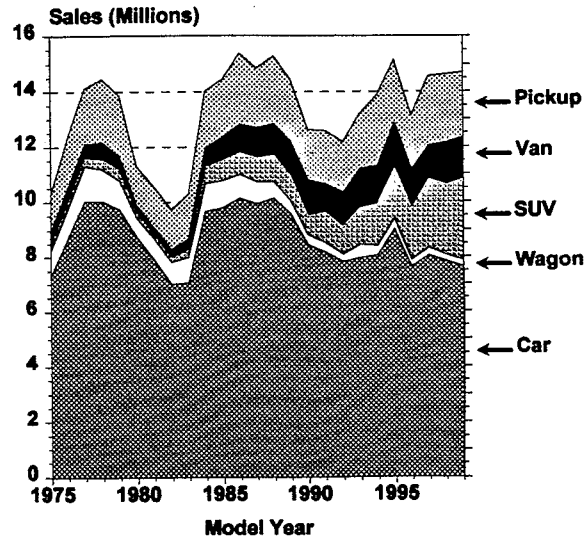


Figure 66

The largest increases in sales fraction on this basis have been for midsize SUVs and midsize vans. These two truck-size classes are expected to account for over 20 percent of the vehicles built this year, compared to a combined total in 1975 of about 4 percent. In 1975, large cars accounted for about 15 percent of total light-duty sales and ranked third. Their relative sales fraction is now about half of what it was then, and they now rank sixth. Midsize SUVs have taken over third place, and their relative sales fraction has increased by an order of magnitude from 1975 when they ranked eleventh.

In 1975, small cars accounted for 40 percent of all light-duty vehicles produced. While their sales fraction has remained the largest of the 15 vehicle sizes and types shown in Table 8, it has decreased to about 24 percent. Midsize cars have retained their number two ranking and have actually increased their sales fraction from 16 to 20 percent.

As indicated in Figure 67, the relative sales fractions of small, midsize, and large cars have been stable, particularly since 1980, and also when compared to the sales fractions of other vehicle types shown in Figures 69, 71, 73, and 75. Total

Table 8

Comparison of Sales Fraction of MY75 and MY99 Light-Duty Vehicles by Vehicle Type and Size

Vehicle Type	Vehicle Size	Sales Fractions 1975	1999	Change
Cars	Small	40.0%	23.6%	-16.4%
	Midsize	16.0%	20.2%	4.2%
	Large	15.2%	8.0%	-7.2%
Wagons	Small	4.7%	0.7%	-4.0%
	Midsize	2.8%	1.0%	-1.8%
	Large	1.9%	0.0%	-1.9%
Vans	Small	0.0%	0.0%	0.0%
	Midsize	3.0%	9.1%	6.1%
	Large	1.5%	1.2%	-0.3%
SUV	Small	0.5%	2.0%	1.5%
	Midsize	1.2%	11.7%	10.5%
	Large	0.1%	6.2%	6.1%
Pickup	Small	1.6%	1.6%	0.0%
	Midsize	0.5%	5.0%	4.5%
	Large	11.0%	9.7%	-1.3%

car sales (excluding wagons) have not exceeded 10 million vehicles per year in more than a decade. Currently, about 25 percent fewer cars are sold each year than in 1988. Most of this decline has come from small cars. In 1988 over 6.7 million small cars were sold, compared to 3.5 million this year.

Annual sales of midsize cars doubled between 1975 and 1978 when they increased from 1.6 million to over 3.3 million. Since then, they have not dropped below 2 million per year and for the past two years have been over 3 million per year. Annual sales of large cars peaked at 2.3 million in 1979 and have not been over 2 million per year since then. Since 1986, large cars sales have stayed in a relatively narrow range of 900 thousand to 1.3 million per year. Annual sales of wagons (see Figure 70) have not exceeded 1.5 million in 15 years, have been below 500 thousand per year for nearly a decade, and are more than 75 percent below what was achieved in the late 70's.

Car Sales Fraction by Vehicle Size

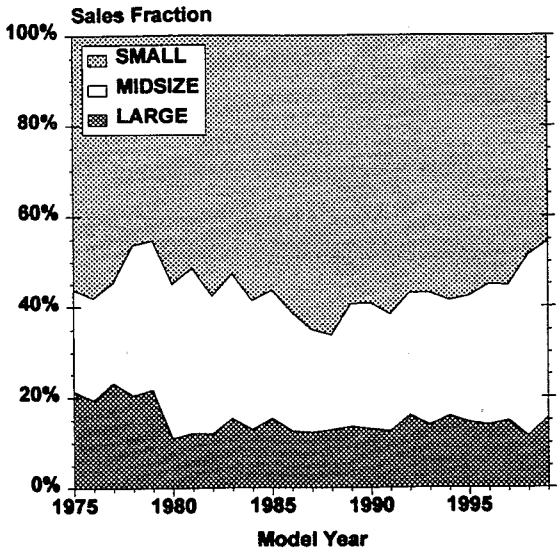


Figure 67

Car Sales by Vehicle Size

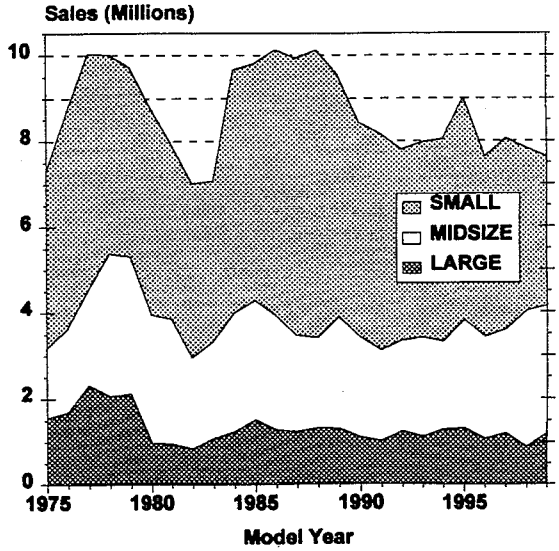


Figure 68

Wagon Sales Fraction by Vehicle Size

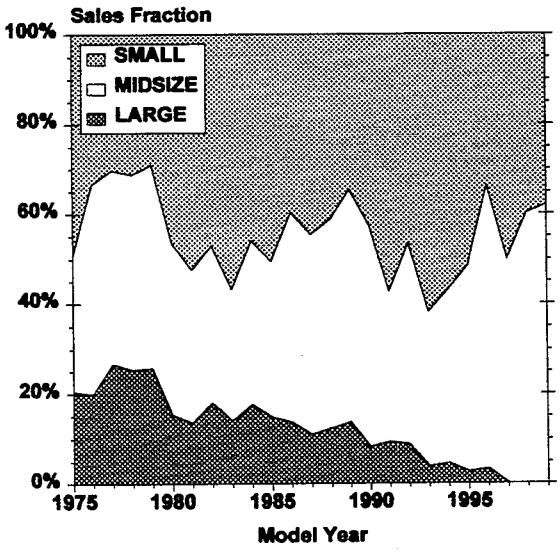


Figure 69

Wagon Sales by Vehicle Size

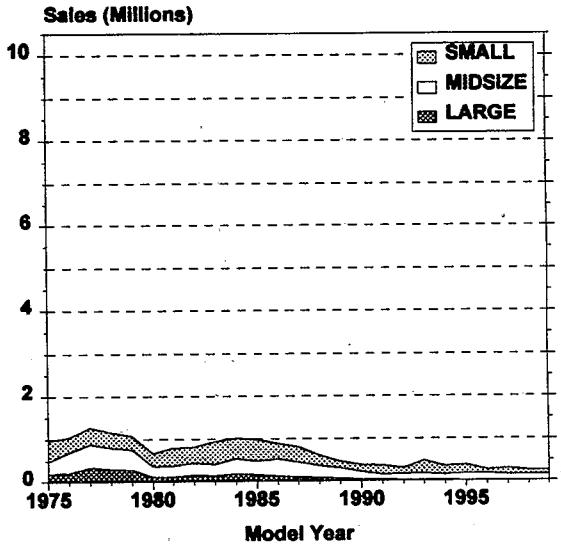


Figure 70

Van Sales Fraction by Vehicle Size

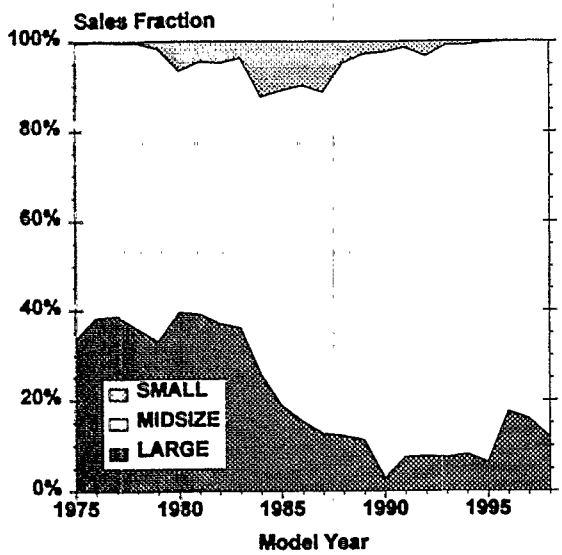


Figure 71

Van Sales by Vehicle Size

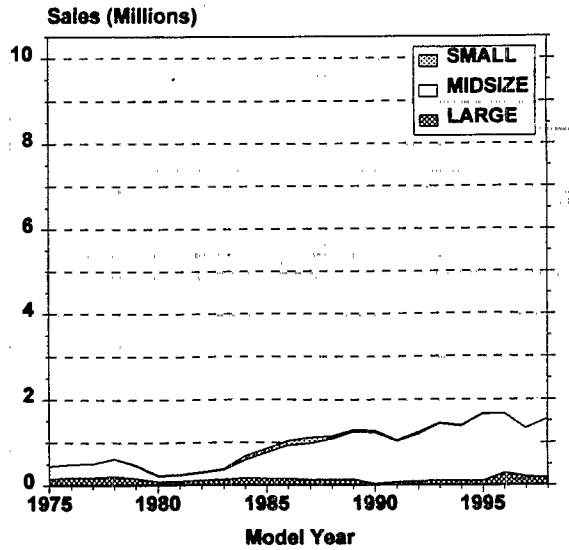


Figure 72

SUV Sales Fraction by Vehicle Size

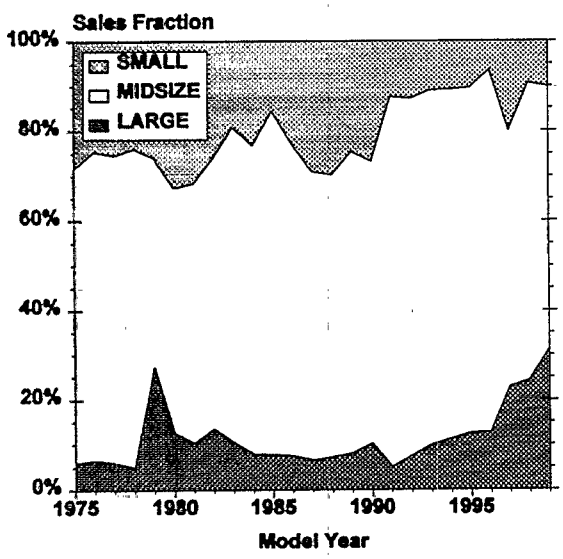


Figure 73

SUV Sales by Vehicle Size

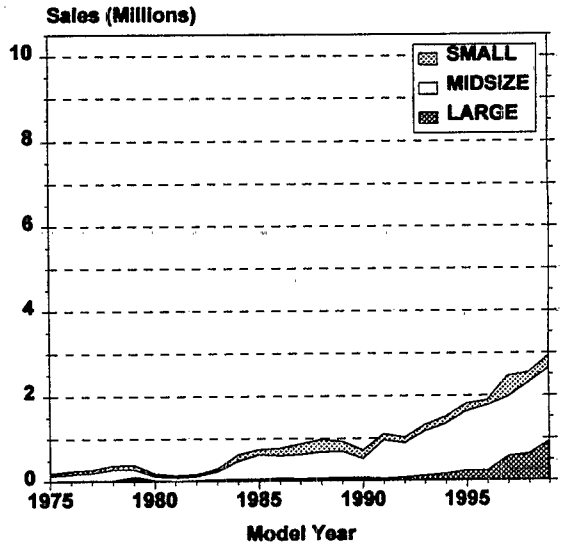


Figure 74

In 1975, approximately 8.2 million cars and wagons were produced, about the same as are projected to be produced this year (7.9 million). The 27-percent reduction in car and wagon sales fraction thus can be attributed to increasing sales of light trucks, particularly midsize vans and SUVs. In both cases, over a million more midsize SUVs and midsize vans are expected to be produced during MY99 than in MY75.

Between 1975 and 1986, annual sales of vans doubled from less than a half million per year to more than a million (see Figure 72). Since then, their sales have gone up by another half million vehicles per year and are now three times higher than they were in 1975 with almost all of this increase occurring in the midsize van segment. Sales of small vans, which are not currently being produced, have rarely exceeded 100,000 per year. Similarly, sales of large vans have stayed in a relatively narrow range of about 100,000 to 300,000 vehicles per year. For MY99, nearly 90 percent of all vans will be midsize.

From 1975 to 1983, sales of SUVs remained well below 500,000 per year. Since then, their sales have increased by a factor of more than 15, from less than 200,000 in 1975 to nearly 3 million this year. This increase has occurred in all three vehicle sizes shown in Figure 74 with small SUVs increasing from 50,000 to 300,000 vehicles per year, midsize SUVs increasing from 123,000 to 1.7 million per year, and large SUVs from 11,000 to about 900,000 per year.

As shown in Figure 73, the relative market share for large SUVs has increased from about 10 percent in 1975 to over 30 percent this year. Conversely, the relative share of small SUVs peaked at just over 30 percent in 1980 and 1981 and will be about 10 percent this year. On a percentage basis, midsize vehicles have always dominated this vehicle type.

Sales of pickups peaked at 2.6 million per year in 1994, about twice as many as were sold in 1975. Annual sales of small pickups have remained relatively stable, i.e., from about 250,000 to 500,000 and exceeded 500,000 only in 1986 when 743,000 were sold and dropped below 250,000 per year only in 1975 and 1976. Sales of midsize pickups remained below 100,000 per year through 1986, then increased to over a million in 1987 and 1988, and have remained between 600,000 and one million since then.

Annual sales for large pickups have also been relatively stable, increasing from 1.1 million in 1975 to nearly 2 million in 1978, then dropping to a nominal one million per year through 1993. For MY99, about 1.5 million large pickups will be sold.

Pickup Sales Fraction by Vehicle Size

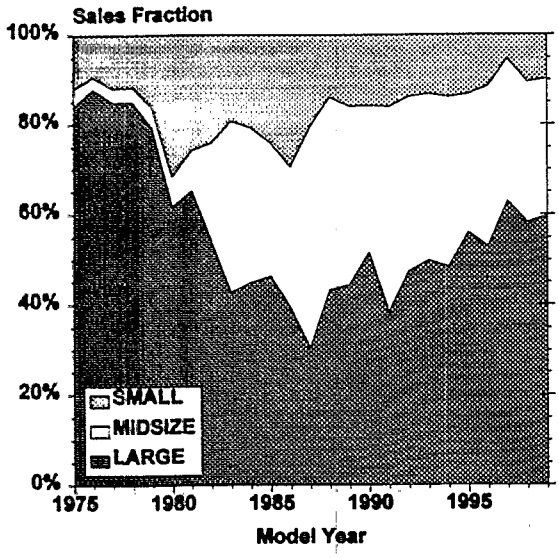


Figure 75

Pickup Sales by Vehicle Size

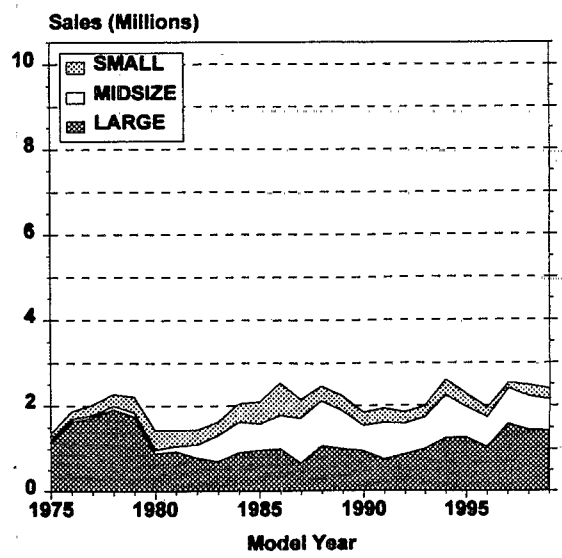


Figure 76

Table 9 compares the changes in fuel economy that have occurred by vehicle size and type. Average fuel economy for all vehicle size and type classes that are represented by MY99 vehicles is higher this year than it was in 1975. Four of these vehicle size/type classes have achieved double digit MPG increases; i.e., fuel economy of small cars, midsize cars, large cars, and midsize wagons has increased by ten or more MPG.

Fuel economy increases since 1975 for the nine truck vehicle size/types have all been less than 10 MPG with small and midsize pickups on both a percentage and absolute basis achieving the smallest improvement, namely about 2 MPG.

It should be noted that for MY99 large cars get higher fuel economy than all of the truck classes, with one minor exception, small pickups, which will achieve 24.5 MPG compared to 24.3. In addition, five of the truck size/type classes (midsize vans, small and midsize SUVs, and small and midsize pickups get higher MPG this year, than small, midsize, and large cars did in 1975. For example, midsize SUVs will achieve 20.8 MPG in 1999, compared to 18.3, 13.6, and 13.1 MPG for small, midsize, and large cars.

Table 9

Comparison of Fuel Economy of MY75 and MY99 Light-Duty Vehicles by Vehicle Type and Size

Vehicle Type	Vehicle Size	MPG 1975	MPG 1999	MPG Increase	Percent Increase
Cars	Small	18.3	30.6	12.3	67.2%
	Midsize	13.6	27.2	13.6	100.0%
	Large	13.1	24.3	11.2	85.5%
Wagons	Small	22.4	32.2	9.8	43.8%
	Midsize	13.2	26.1	12.9	97.7%
	Large	11.9	----	---	----
Vans	Small	20.6	----	---	----
	Midsize	13.3	22.7	9.4	70.7%
	Large	12.6	17.8	5.2	41.3%
SUV	Small	16.1	24.8	8.7	54.0%
	Midsize	12.1	20.8	8.7	71.9%
	Large	12.2	16.7	4.5	36.9%
Pickup	Small	22.5	24.5	2.0	8.9%
	Midsize	21.1	23.4	2.3	10.9%
	Large	13.1	18.3	5.2	39.7%

Figure 2 shows that, on a model year basis, estimated lifetime fuel consumption for light trucks has been higher than that of cars for the past five years. Table 10 makes a similar estimate of lifetime fuel consumption for the 15 vehicle type/size classes. Cars and wagons built in MY75 accounted for about 80 percent of that model year's vehicle life fuel consumption, with large pickups accounting for another 15 percent.

As relative sales fractions changed and vehicle fuel economy improved, changes in vehicle lifetime fuel consumption have occurred. Lifetime fuel consumption has decreased for all of the car and wagon size classes, and significant increases have occurred for midsize vans, midsize and large SUVs, and large pickups. These three classes now account for 30 percent of the lifetime fuel consumption compared to about 6 percent in 1975.

Table 10

Estimated Relative Vehicle Lifetime Fuel Consumption of MY75 and MY99 Light-Duty Vehicles by Vehicle Type/Size

Vehicle Type	Vehicle Size	Percent of Fuel Consumed 1975	1998	Change
Cars	Small	31.5%	16.6%	-14.9%
	Midsize	17.0%	15.9%	-1.1%
	Large	16.8%	7.1%	-9.7%
Wagons	Small	3.6%	0.5%	-3.1%
	Midsize	3.7%	1.1%	-2.6%
	Large	2.8%	----	-2.8%
Vans	Small	----	----	-----
	Midsize	3.9%	10.4%	6.5%
	Large	2.1%	1.7%	-0.4%
SUV	Small	0.6%	2.1%	1.6%
	Midsize	1.7%	14.5%	12.7%
	Large	0.2%	9.6%	9.4%
Pickup	Small	1.2%	1.7%	0.5%
	Midsize	0.5%	5.5%	5.0%
	Large	14.6%	13.5%	-1.1%

Figures 3, 4, and 6 compared MPG, inertia weight, 0 to 60 time, and ton-MPG for passenger cars and light trucks. Figures 77 to 96 make similar comparisons by vehicle size and type.

At this level of stratification, the trends observed earlier for passenger cars for inertia weight, MPG, and 0 to 60 time repeat. In the late 1970's, increases in MPG for these vehicles were accompanied by decreases in inertia weight and relatively constant 0 to 60 times. Since then, for all six car and wagon sizes shown in Figures 77 to 84, MPG has been relatively stagnant, but increases in inertia weight and decreases in 0 to 60 time have occurred. Small, midsize, and large cars can not be readily distinguished by their ton-MPG trend which has increased at a relatively consistent rate for cars. The same can be said of small and midsize wagons, but large wagons, which have not been produced since 1996, achieved significantly higher ton-MPG than their smaller counterparts between 1980 and 1996.

MPG and Performance
Small Cars

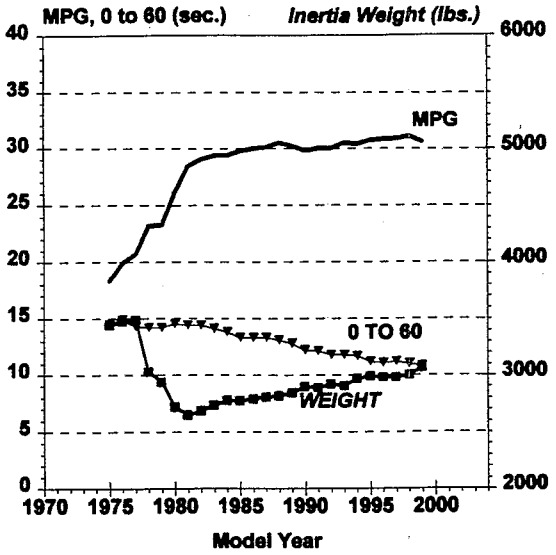


Figure 77

MPG and Performance
Midsize Cars

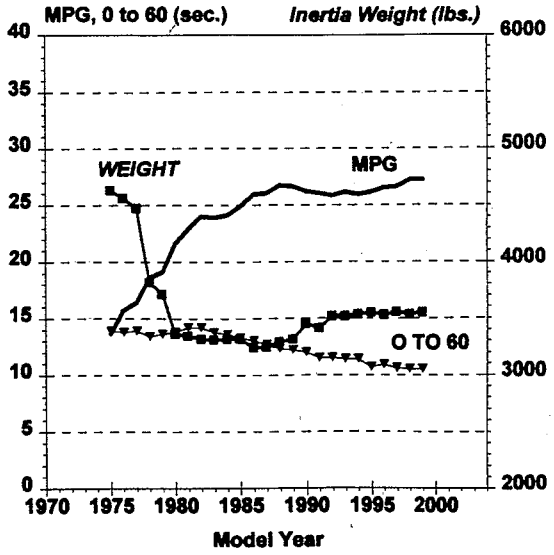


Figure 78

MPG and Performance
Large Cars

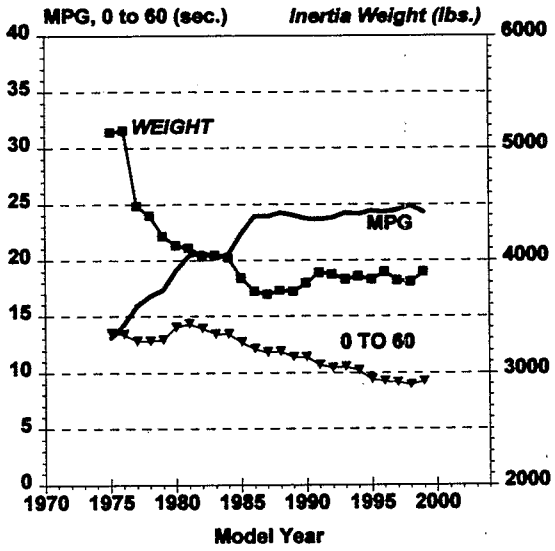


Figure 79

Ton-MPG
Cars

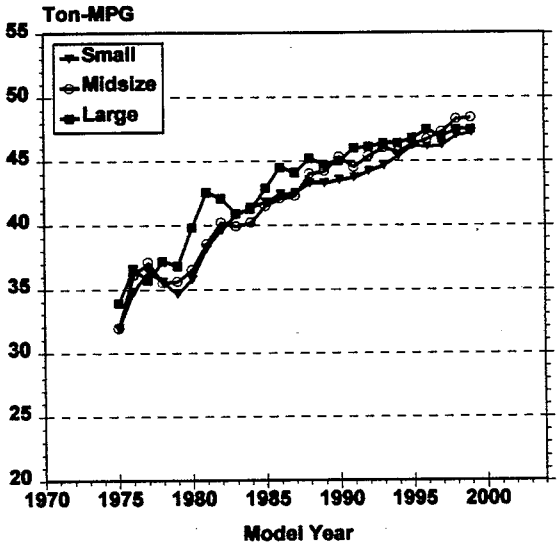


Figure 80

MPG and Performance
Small Wagons

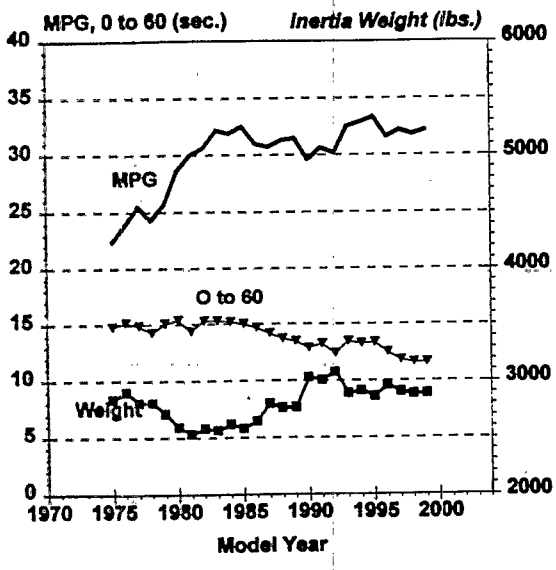


Figure 81

MPG and Performance
Midsize Wagons

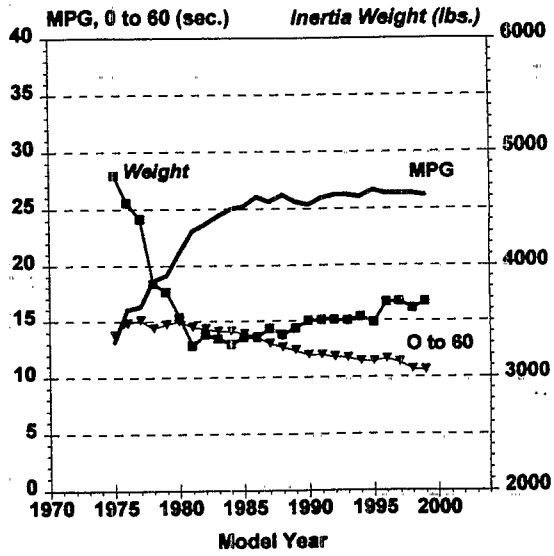


Figure 82

MPG and Performance
Large Wagons

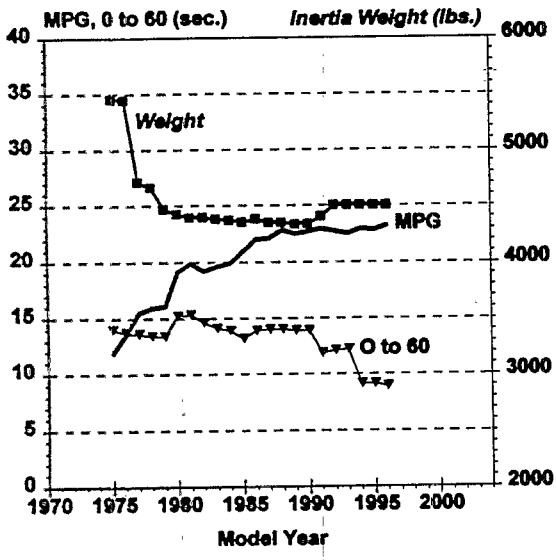


Figure 83

Ton-MPG
Wagons

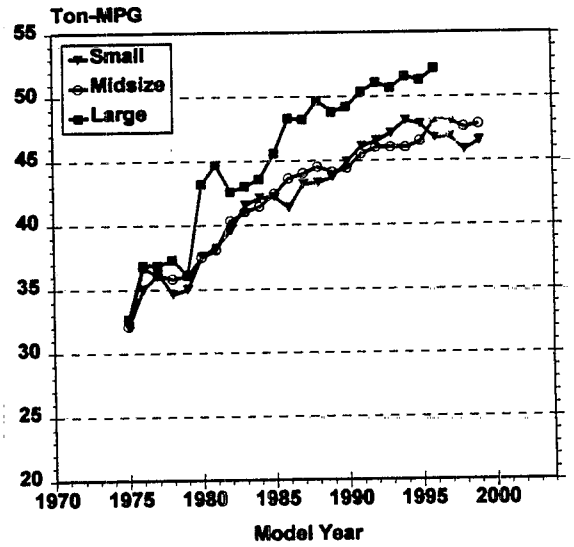


Figure 84

As shown in Figure 85, MPG for small vans increased over 25 percent between 1975 and 1996, the latest year in which any were built. During this time their weight remained relatively stable, but their 0 to 60 time dropped 7 seconds. Similarly, fuel economy for midsize vans (see Figure 86) increased by 6.5 MPG between 1975 and 1985 but less than 3 MPG since then. Their inertia weight dropped nearly 300 pounds between 1975 and 1985 but is now higher than it was in 1975. Estimated 0 to 60 time for this vehicle size/type remained at about 14 to 15 seconds through 1986 but has declined since then. Large vans show an increasing trend in inertia weight and are now over 1000 pounds heavier than they were in 1975. Their fuel economy increased from 12.6 MPG in 1975 to 16.8 in 1981 and has remained relatively constant for 17 years. Ton-MPG for all three sizes of vans has improved consistently (Figure 88).

Inertia weight for small SUVs has ranged from a low of about 2800 pounds in 1983 to a high of about 3500 pounds this year and also in 1997. Fuel economy for small SUVs peaked at 28.5 in 1996 when their weight dropped below 2900 pounds. Estimated 0 to 60 time for this class of vehicles increased to over 15 seconds in 1986 and has since dropped to 11.7 seconds. Between 1975 and 1985, midsize SUV weight decreased by over 700 pounds, their 0 to 60 time remained relatively constant, and their fuel economy improved from 12.1 to 19.7 MPG. Since 1985, their weight has gone up by about 200 pounds, their 0 to 60 time decreased by over 3 seconds, and their fuel economy has remained at 20 to 21 MPG.

Fuel economy for large SUVs increased from 12.2 MPG in 1975 to 18.9 MPG in 1982 when over half of them had diesel engines, their ton-MPG peaked at 52.7, and their 0 to 60 time exceeded 16 seconds. Since then, use of diesel engines in this vehicle class has declined substantially. For the past fifteen years, fuel economy for large SUVs has remained at about 16 or 17 MPG, but their inertia weight increased from 4728 pounds in 1975 to 5260 in 1979, and over 5500 this year. Large SUV inertia weight has not been below 5000 pounds in two decades.

Use of diesel engines also accounts for much of the MPG improvement of small pickups between 1981 and 1982 when they peaked at 28.2 MPG in 1981 when over 22 percent had diesel engines and had an average 0 to 60 time of about 15 seconds. Since 1975, inertia weight for small pickups has increased by over 700 pounds; it has not been below 3000 pounds since 1984. Inertia weight for midsize pickups remained at about 3000 pounds between 1975 and 1986 but has increased by 700 pounds since then. Their 0 to 60 time has dropped from over 17 to 18 seconds in the late 1970's to about 12 seconds in 1994 where it remains. In the last decade midsize pickup fuel economy has decreased by over 2 MPG.

MPG and Performance
Small Vans

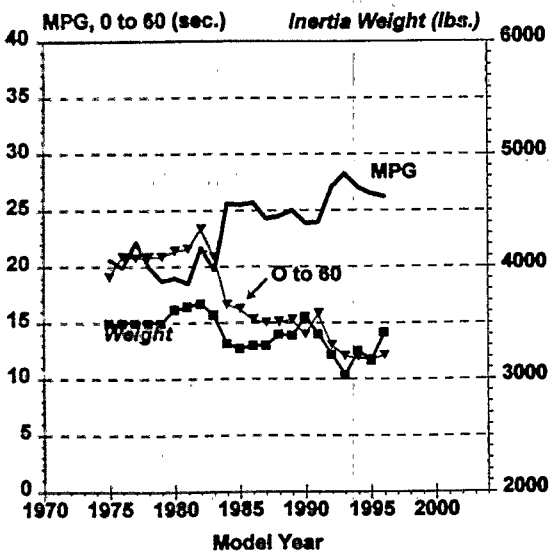


Figure 85

MPG and Performance
Midsize Vans

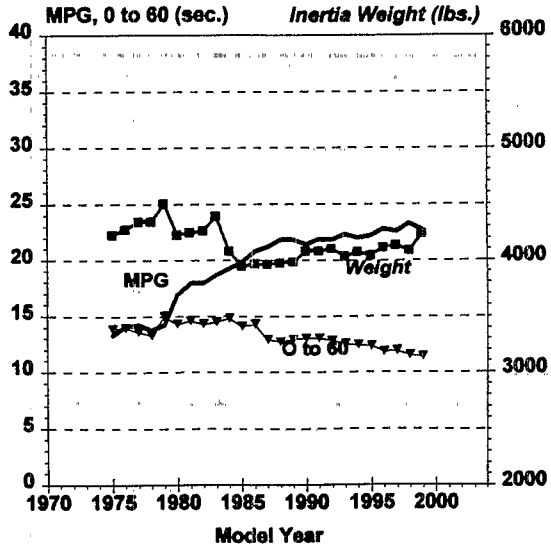


Figure 86

MPG and Performance
Large Vans

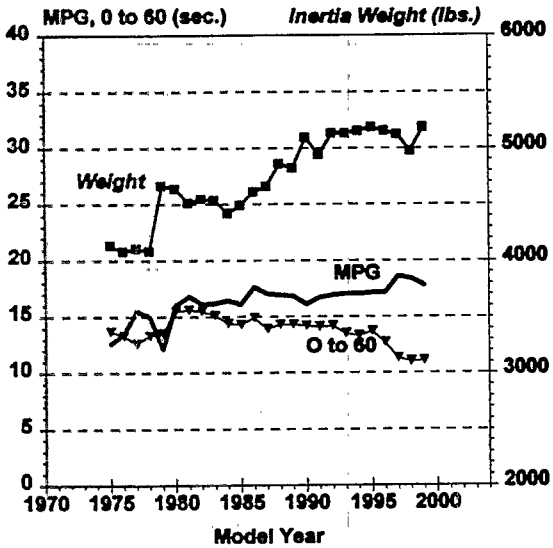


Figure 87

Ton-MPG
Vans

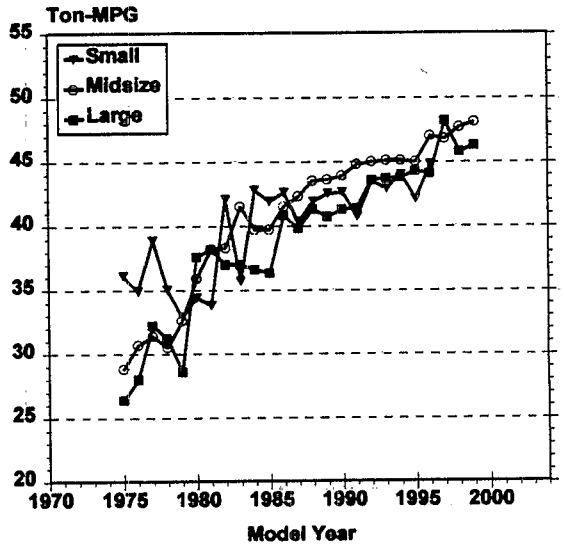


Figure 88

MPG and Performance
Small SUVs

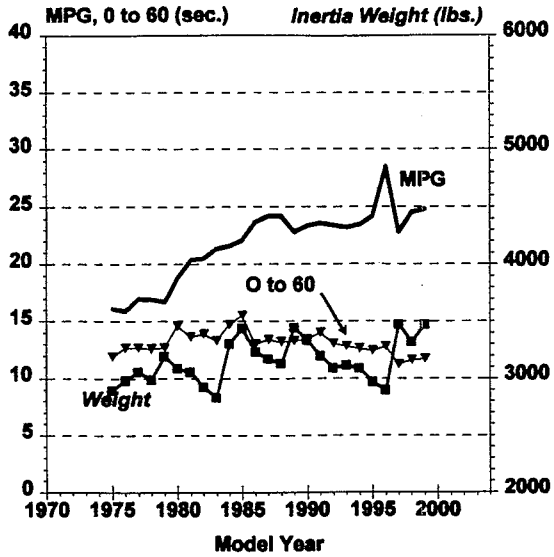


Figure 89

MPG and Performance
Midsize SUVs

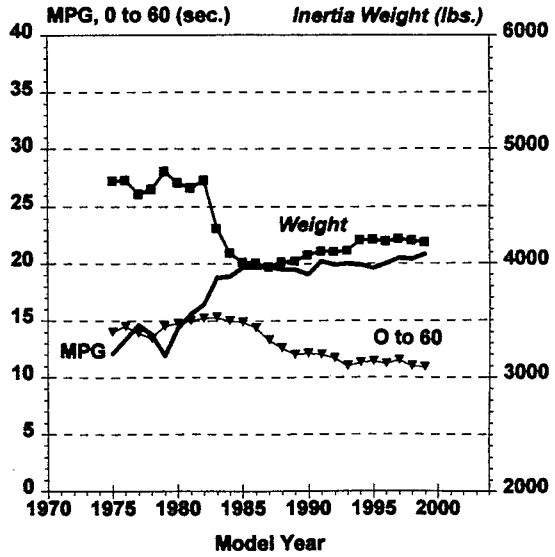


Figure 90

MPG and Performance
Large SUVs

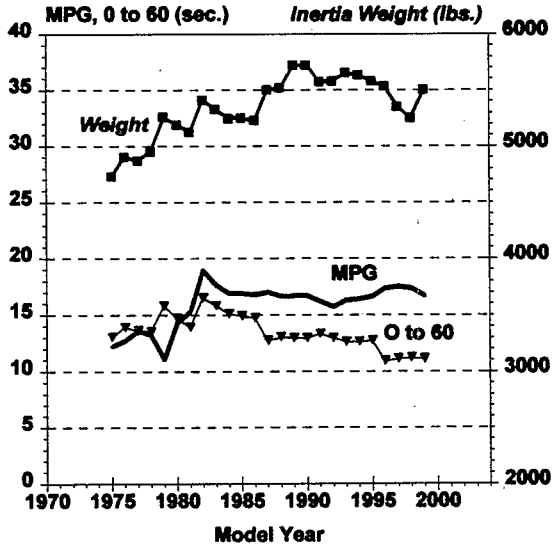


Figure 91

Ton-MPG
SUVs

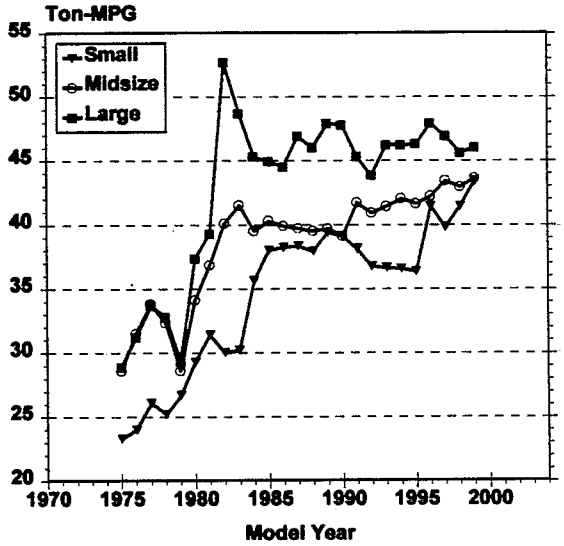


Figure 92

MPG and Performance
Small Pickups

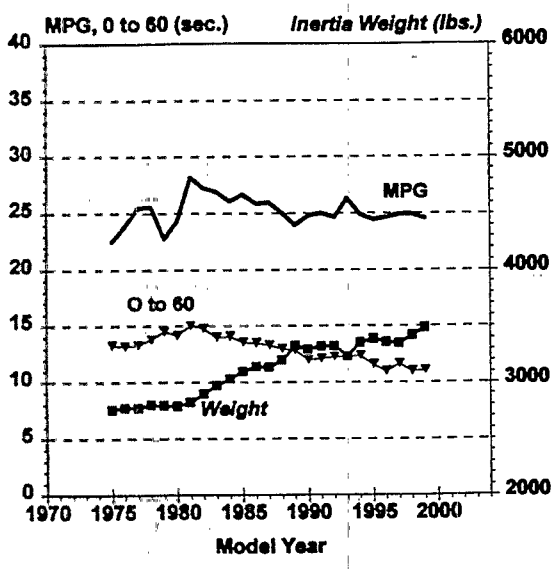


Figure 93

MPG and Performance
Midsize Pickups

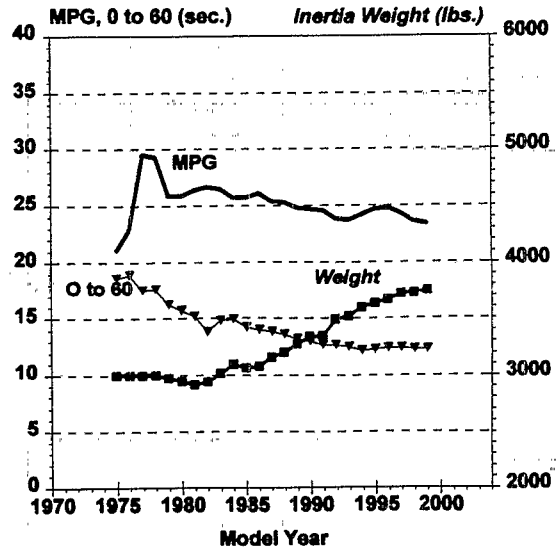


Figure 94

MPG and Performance
Large Pickups

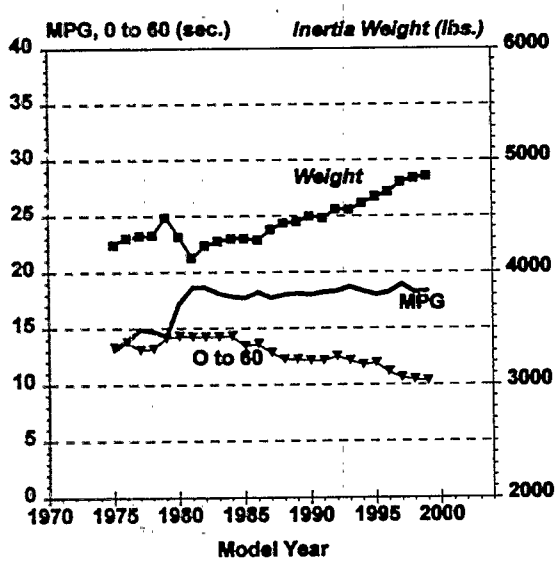


Figure 95

Ton-MPG
Pickups

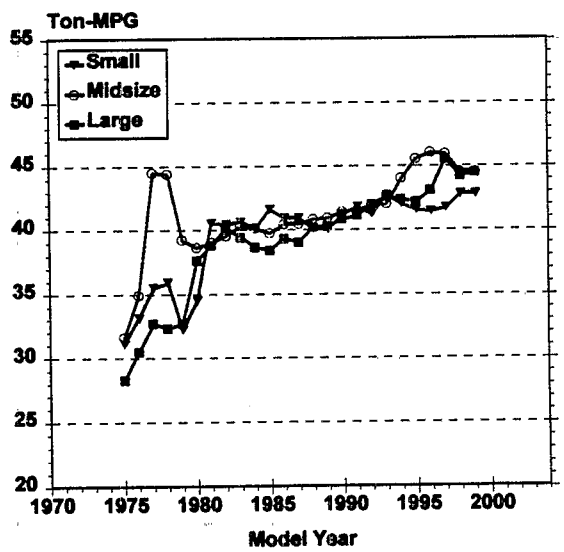


Figure 96

Large pickups show a trend toward increasing weight, decreasing 0 to 60 time, and relatively constant fuel economy of about 18 to 19 MPG since 1981, compared to 13.1 MPG in 1975.

Table 11 compares technology usage by vehicle type and size. Front-wheel drive dominates the car and wagon size classes shown except for midsize wagons which are only 40-percent front-wheel drive. Five out of six midsize vans now use front-wheel drive, but none of the large vans do. Four-wheel drive is used heavily in SUVs, pickups, and wagons, but very little use of it is made in vans and cars.

Large vehicles make greater use of automatic/lockup transmissions than their midsize or small counterparts. The opposite holds for usage of four-valve engines with small and midsize vehicles making greater use of this technology than large ones. Domestic vehicles dominate all the midsize and large vehicle types except midsize wagons; imports dominate all of the small vehicles except small wagons.

Table 11

MY99 Technology Usage by Vehicle Type and Size (Percent of Vehicle Type/Size Strata)

		Vehicle Type				
Technology	**Size**	**Cars**	**Wagons**	**Vans**	**SUVs**	**Pickups**
Front-Wheel Drive	Small	85.2	81.2	---	9.2	0.0
	Midsize	94.1	40.7	83.3	1.7	0.0
	Large	65.7	---	0.5	0.0	0.0
Four-Wheel Drive	Small	1.4	14.1	---	74.5	39.6
	Midsize	1.5	57.1	4.5	71.2	23.7
	Large	0.0	---	0.0	76.3	51.4
Manual Transmission	Small	26.1	26.1	---	42.9	67.6
	Midsize	4.3	14.3	0.0	6.1	50.7
	Large	0.0	---	0.0	0.0	8.7
Four Valves per Cylinder	Small	65.8	44.2	---	75.6	92.9
	Midsize	60.8	72.1	11.9	25.3	0.0
	Large	42.7	---	0.0	3.6	0.0
Domestic	Small	45.9	67.4	---	24.4	0.0
	Midsize	50.0	28.8	86.1	67.7	100.0
	Large	92.7	---	99.5	91.7	100.0

VI. Fuel Economy Improvement Potential

In references 20 and 24, MPG capability contained in the then current fleet was examined using a method called the "best-in-class" (BIC) analysis. In a BIC analysis, one divides the baseline fleet of vehicles into classes and then examines the MPG characteristics of each class. If one selects the MPG performance of the best cars in the class (hence the name), one can recompute a fleet average using the best cars' MPG and the same relative sales proportions of the fleet that existed in the baseline. This analysis technique was one of the methods used to investigate future fleet MPG capability when the original fuel economy standards were set.

The classes may be generated in any way, but the most common classes are those that are based on the car classes used for the EPA/DOE Gas Mileage Guide and the inertia weight classes used for EPA's emission certification program. We have chosen to use inertia weight classes, since if the sales proportions in each inertia weight class are held constant, the average weight of the fleet does not change. The MPG values of the best "dozen" vehicles in each class were averaged, and the resulting values were used to re-calculate the fleet MPG values using the same relative proportions in each of the weight classes that constitute the fleet.

Appendix C gives a listing of the MY99 vehicles used in the BIC analysis. It should be noted that some of the weight classes have less than a dozen representative vehicles. In addition, for cases where technically identical vehicles with different nameplates are used, such as the Oldsmobile 88/Buick LeSabre, the Plymouth Voyager/Dodge Caravan, or Geo Tracker/Suzuki Sidekick, only one representative vehicle was included.

The results of the analysis are summarized in Table 12, which shows almost a 13-percent increase in MPG for cars and a 9-percent increase for light trucks. The vehicles used for the BIC analysis have less powerful engines and are more likely to be equipped with manual transmissions, compared to the fleet as a whole. Usage of front- and four-wheel drive is about the same for cars in the BIC data set as in the entire fleet. For trucks, however, the BIC data set vehicles make less use of four-wheel drive and greater use of front-wheel drive (33 percent vs. 47 percent and 33 percent vs. 17 percent, respectively).

Despite the fact that over 60 percent of the cars in the BIC data set are classified as "Small" compared to 45 percent in the entire fleet, average interior volume for cars in the BIC

analysis is only slightly smaller than the overall average (109 vs. 103 cu. ft). In addition, the percentage of trucks that are classified as "Small", "Midsize," and "Large" is about the same for the two cases studied.

If the BIC MPG values for passenger cars and trucks are used to compute a total fleet MPG value, the result is 26.4 MPG compared to the actual 23.8 value found in Table 1, roughly an 11-percent increase.

Table 12

Best-in-Class (BIC) Results Model Year 1999				
	Passenger Cars		**Light Trucks**	
	BIC	**Average**	**BIC**	**Average**
55/45 MPG	31.7	28.1	22.1	20.3
Weight	3382	3382	4433	4433
Volume	103	109	---	---
CID	136	169	217	249
HP	154	166	184	190
0-60 Time	11.0	10.5	11.8	11.1
% FWD	88	85	33	17
% Four Wheel Drive	3	3	33	47
% Manual Trans.	60	14	22	13
% Four Valve	73	60	36	16
% Small	61	45	11	8
% Midsize	37	40	58	56
% Large	2	15	31	37
% Domestic	16	54	63	81

VII. Conclusions

1. Fuel economy of the overall light-duty fleet has declined 2.1 MPG (i.e., about eight percent) since reaching a maximum of 25.9 MPG in 1987 and is now the lowest it has been in nineteen years, although during the past decade fuel economy of both cars and light-duty trucks has been relatively stable.

2. Ton-MPG, for the combined fleet, as a measure of efficiency, has increased each year for the past 20 consecutive years.

3. The share of the market comprised by light trucks has been increasing for over 20 years and now exceeds 45 percent, more than double what it was in 1979. Much of this increase can be attributed to the increase in the sales fractions of midsize vans and SUVs.

4. On a model year basis, estimated lifetime light-truck fuel consumption has exceeded that of passenger cars for the past five years; for model year 1999, light trucks are projected to consume 59 percent of the total.

5. Both cars and light trucks have traded off fuel economy for increased weight and performance. Since 1986, vehicle inertia weight for cars and trucks has increased by eleven and nineteen percent, respectively. During the same time period, vehicle performance, as determined from estimated 0 to 60 acceleration time, has also improved. Had model year 1999 cars and light trucks had 13.2 second estimated 0 to 60 time and the same weight as they did in 1986, they would have been able to achieve five MPG more than they did.

6. Using a Best-in-Class methodology, the combined passenger car and light-truck fleet has the potential to attain at least 26.4 MPG -- eleven percent greater than the current value.

VIII. Acknowledgments

The authors wish to express their thanks and sincere appreciation to those who reviewed this report and to Lillian Johnson for word processing, editing, and report preparation. The authors would also like to take this opportunity to acknowledge the efforts and work of the team of EPA's Office of Mobile Sources, Vehicle Programs and Compliance Division (VPCD) programmers and analysts who designed, developed, and implemented the new Certification and Fuel Economy Information System (CFEIS). Without the efforts of Kassem Abbas, Steve Bliss, Ann Chiu, Karen Danzeisen, Dan Harrison, John Hendon, Seung Park, and Richard Parsons, the data base used in this report could not have been updated with Model Year 1996 and 1997 Final CAFÉ and Model Year 1998 and 1999 General Label data. Special thanks also go to the late Rick Zellin who did much of the CFEIS design work.

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Light-Duty Automotive Technology and Fuel Economy Trends Through 1999

Appendices

Advanced Technology Support Division
Office of Mobile Sources
U.S. Environmental Protection Agency

NOTICE

This technical report does not necessarily represent final EPA decisions or positions. It is intended to present technical analysis of issues using data which are currently available. The purpose in the release of such reports is to facilitate the exchange of technical information and to inform the public of technical developments which may form the basis for a final EPA decision, position, or regulatory action.

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Appendix A: Light Duty Vehicle Classification Convention

Manufacturer/Vehicles	Years	Are Classified As:
Chrysler Vehicles by Diamond Star	All	Asian Import
Chrysler Vehicles by Maserati	All	European Import
Chrysler Vehicles by Mitsubishi	All	Asian Import
Chrysler Colt 4wd Wagon	All	Small Wagon
Chrysler Colt Vista	All	Small Van
Chrysler Summit Wagon	All	Small Van
Mitsubishi Expo	All	Small Van
Mitsubishi Eclipse (2.0*L* Na Engine)	96	Domestic
Mitsubishi Space Wagon	All	Small Van
Dodge Monaco	75-77	Domestic
Dodge Monaco	90-93	European Import
Eagle Premier	90-93	European Import
Eagle 4wd Wagon	All	Passenger Car
Dodge Ramcharger	All	Passenger Car
Ford Vehicles by Mazda	All	Asian Import
Ford Festiva	All	Asian Import
Ford Merkur/Scorpio	All	European Import
Ford Probe	All	Asian Import
Mercury Aspire	All	Asian Import
Mercury Capri	75-86	Domestic
Mercury Capri	86-94	Asian Import
Ford Escort (All)	81-90	Domestic
Ford Escort (1.8*L*)	91-96	Asian Import
Ford Escort (1.9*L*)	91-96	Domestic
Mercury Tracer (1.8*L*)	91-96	Asian Import
Mercury Tracer (1.9*L*)	91-96	Domestic

Appendix A (Continued)

Manufacturer/Vehicles	Years	Are Classified As:
Ford Taurus SHO	All	Asian Import
Ford Pinto Van	All	Passenger Car
Mercury Villager	All	Asian Import
General Motors vehicles by Isuzu	All	Asian Import
General Motors vehicles by Nummi	All	Asian Import
General Motors vehicles by Suzuki	All	Asian Import
Pontiac LeMans	75-81	Domestic
Pontiac LeMans	91-93	Asian Import
Cadillac Allante	All	Domestic
Cadillac Catera	All	European Import
Mazda Vehicles by Ford	All	Domestic
Honda Odyssey	All	Midsize Van
Isuzu Oasis	All	Midsize Van
Sterling	All	Asian Import
Subaru 4wd Sedans/Wagons	All	Passenger Cars
Suzuki X-90	All	Small Utility

Note: Classification of a vehicle as Domestic, European Import, or Asian Import is based on the authors' judgment of where the majority of the engine and emission control system development work was done. It is meant to be a tracking system for technical parameters related to engine and emission control development and is not a replacement for Domestic/Import definitions used in implementing automotive standards legislation.

Appendix B
Nameplate MPG Listing

1997 TWO-SEATER	MPG
Honda Del Sol	37.0
Mazda MX-5 Miata	29.5
BMW Z3 Roadster	28.1
Porsche Boxster	24.8
General Motors Corvette	24.3
Mercedes-Benz SL320	23.7
Panoz Auto Roadster	23.6
Honda NSX	22.9
Chrysler Prowler	22.3
Lotus Esprit V8	21.2
Mercedes-Benz SL500	21.1
Mercedes-Benz SL600	18.4
Chrysler Viper Convertible	16.5
Chrysler Viper Coupe	16.5
Ferrari F355	13.8
Ferrari 550 Maranello	12.8
Lamborghini DB132-144 - Diablo	12.7

1997 MINICOMPACT	MPG
Toyota Paseo	35.3
Toyota Paseo Convertible	34.4
BMW 318i Convertible	29.7
Mitsubishi Eclipse Convertible	28.3
Toyota Celica Convertible	28.1
Nissan 240SX	27.9
BMW 328iC	26.1
Volkswagen Cabriolet	24.5
Toyota Supra	23.1
Porsche 911 Carrera 4-2	22.4
Aston Martin DB7 Coupe	19.0
Aston Martin DB7 Volante	18.9
Porsche 911 Turbo	17.4

1997 SUBCOMPACT	MPG
GM Imports Metro	40.3
Suzuki Swift	39.7
Ford Imports Aspire	37.8
Toyota Tercel	37.7
Honda Civic	37.7
Nissan Sentra-200SX	36.0
Suzuki Esteem	35.7
General Motors SC	34.6
Toyota Celica	33.6
Toyota Corolla	33.2
GM Imports Prizm	32.5
Honda Integra	32.1
Subaru Impreza Awd	30.2
Ford Imports Probe	30.1
Volkswagen Cabrio	29.9
BMW 318i/318is	29.9
Chrysler Imports Talon	29.4
Hyundai Tiburon(Coupe)	29.1
Mitsubishi Eclipse	28.6
Honda 2.2CL-3.0CL	28.3
Honda Prelude	28.0
Mazda MX-6	27.1
Saab 900 Convertible	26.8
BMW M3	26.5
BMW 328i /328iS	26.1
Ford Mustang	25.6
General Motors Camaro	25.4
General Motors Firebird-Formula	25.1
Mitsubishi 3000	24.4
Nissan J30	23.7
Toyota SC300-SC400	23.6
Subaru SVX Awd	23.4
BMW 840Ci	19.7
BMW 850Ci	18.6
Rolls-Royce Bentley Continental	14.9
Rolls-Royce Bentley Azure	14.9
Ferrari 456	12.8

1997 COMPACT	MPG
Mitsubishi Mirage	37.5
Hyundai Accent(SOHC)	36.0
General Motors SL	34.7
Ford Escort	34.5
Ford Tracer	34.2
Mazda Protege	34.0
Hyundai Accent(DOHC)	34.0
Subaru Legacy	31.6
Chrysler Neon	31.2
General Motors Cavalier	31.2
General Motors Sunfire	31.0
Kia Sephia	30.8
Hyundai Elantra	30.5
BMW 318ti	30.4
Mercedes-Benz C230	30.3
Volkswagen Golf-GTI	30.3
Volkswagen Jetta	30.2
Ford Contour	30.0
Ford Mystique	29.9
Honda Accord	29.9
General Motors Achieva	29.5
General Motors Grand Am	28.7
General Motors Skylark	28.6
Mitsubishi Galant	28.5
Subaru Legacy Awd	28.5
Nissan Stanza Altima	28.4
Volkswagen A4	27.6
Chrysler Imports Avenger	27.5
Chrysler Imports Sebring	26.4
Mercedes-Benz C280	26.3
Mazda Millenia	26.0
Volkswagen A4 Quattro	26.0
Volkswagen A6	25.2
Toyota ES300	25.1
Volkswagen GTI VR6	25.0
Chrysler Imports Sebring Convertible	24.9
Volkswagen Group GLX	24.8
Honda 2.5TL-3.2TL	24.7
BMW 528i	24.5
Volkswagen A6 Quattro	24.2
Volvo 960	24.1
Mercedes-Benz C36 AMG	24.0
Jaguar XJ6	23.0
BMW 540i	22.7
Mercedes-Benz S500 Coupe	20.1
Jaguar XJR	18.6
Mercedes-Benz S600 Coupe	17.4

1997 SMALL WAGON	MPG
Ford Escort	34.4
Ford Tracer	34.2
General Motors SW	33.5
Hyundai Elantra	30.4
Subaru Impreza Awd	29.9
Honda Accord	27.1
Volkswagen A6	25.0
Volkswagen A6 Quattro	24.2
Volvo 960	24.1

Appendix B (Continued)
Nameplate MPG Listing

1997 MIDSIZE CARS	MPG
Mercedes-Benz E300 Diesel	33.9
Mazda 626	30.4
Chrysler Breeze	29.4
Toyota Camry	28.6
Chrysler Stratus	28.4
Chrysler Cirrus	28.0
Volkswagen Passat	27.6
General Motors Malibu	27.5
Nissan I30	27.4
Nissan Maxima	27.3
Chrysler Imports Cirrus	27.1
General Motors Cutlass	27.0
General Motors Century	27.0
General Motors Cutlass Supreme	27.0
Chrysler Imports Stratus	26.9
General Motors Lumina-Monte Carlo	26.8
Volvo 850	26.4
General Motors Grand Prix	25.9
Saab 900	25.9
Hyundai Sonata	25.8
Ford Taurus	25.7
Mercedes-Benz E320	25.6
Ford Sable	25.5
General Motors Regal-Century	25.5
Toyota LS400	25.2
General Motors Riviera	24.8
Honda 3.5RL	24.5
Mitsubishi Diamante	24.5
GM Imports Catera	24.3
Ford Mark VIII	24.1
Mercedes-Benz E420	23.9
Ford Thunderbird	23.8
Ford Cougar	23.8
General Motors Aurora	23.7
Toyota GS300	23.5
Ford Imports Taurus	23.5
Volkswagen A8	23.3
Nissan Q45	23.3
General Motors Eldorado	23.2
General Motors Seville	23.2
Jaguar Vanden Plas	23.0
BMW 740i	22.6
Jaguar XJ6L	22.6
Rolls-Royce Silver Dawn	15.9
Rolls-Royce Silver Spur	15.0
Rolls-Royce Bentley Brooklands	15.0
Rolls-Royce Bentley Turbo	14.9

1997 MIDSIZE WAGON	MPG
Subaru Legacy	31.6
Subaru Legacy Awd	27.3
Volvo 850	26.3
Volkswagen Passat	25.1
Ford Sable	25.0
Ford Taurus	25.0

1997 LARGE CARS	MPG
Toyota Avalon	28.6
General Motors LeSabre	26.1
Saab 9000	26.0
General Motors Eighty Eight-Regency	25.9
General Motors Bonneville	25.7
General Motors Park Avenue	25.2
Chrysler Intrepid	24.5
Chrysler New Yorker-LHS	24.1
Chrysler Concorde	24.1
Chrysler Vision	24.0
General Motors DeVille	23.2
Ford Town Car	23.2
Ford Grand Marquis	23.2
Ford Crown Victoria	23.2
Mercedes-Benz S320	23.2
BMW 740iL	22.6
Ford Continental	22.4
Mercedes-Benz S420	21.0
Mercedes-Benz S500	20.1
General Motors Limousine	19.5
General Motors Funeral Coach-Hearse	19.5
BMW 750iL	19.3
Mercedes-Benz S600	17.4
Rolls-Royce Silver Spur Limousine	14.9

Appendix B (Continued)
Nameplate MPG Listing

1997 SMALL PICKUP	MPG
Nissan Truck 2wd	26.1
Nissan Truck 4wd	21.2

1997 MIDSIZE PICKUP	MPG
Isuzu Hombre 2wd	26.8
Ford Ranger 2wd	26.6
General Motors S10 2wd	26.0
Mazda B2300/B3000/B4000	25.3
General Motors Sonoma 2wd	25.2
Isuzu Hombre 2wd	26.8
Mazda B2300/B3000/B4000	21.0
General Motors S10 4wd	21.6
General Motors Sonoma 4wd	21.5
Ford Ranger 4wd	21.1
Chrysler Dakota 2wd	20.9
Chrysler Dakota 4wd	18.1

1997 LARGE PICKUP	MPG
Toyota T100 2wd	21.7
Ford F150 2wd	20.5
General Motors C1500 Pickup 2wd	20.1
General Motors C1500 Sierra 2wd	20.0
Toyota T100 4wd	19.5
General Motors C2500 Pickup 2wd	19.4
General Motors C2500 Sierra 2wd	19.3
Ford F150 4wd	18.6
Ford F250 2wd	18.5
General Motors K1500 Pickup 4wd	17.9
General Motors K1500 Sierra 4wd	17.9
Chrysler Ram 1500 2wd	17.6
Ford F250 4wd	17.1
Chrysler Ram 2500 4wd	16.4
Chrysler Ram 1500 4wd	16.2

1997 MIDSIZE VAN	MPG
Isuzu Oasis	24.9
Honda Odyssey	24.9
General Motors Trans Sport 2wd	24.2
General Motors Venture 2wd	24.2
Chrysler Voyager 2wd	23.9
Chrysler Caravan 2wd	23.7
Ford Windstar Fwd Van	23.2
Ford Imports Villager Fwd	22.8
Ford Windstar Fwd Wagon	22.7
Nissan Quest	22.6
Toyota Previa	22.6
Chrysler Town & Country 2wd	22.4
Ford Aerostar Awd	22.3
General Motors Safari 2wd (Cargo)	22.1
General Motors Astro 2wd (Cargo)	22.1
Ford Aerostar Wagon Rwd	21.7
Toyota Previa All-Trac	21.5
Mazda MPV	21.4
General Motors Safari Awd (Cargo)	21.3
General Motors Astro Awd (Cargo)	21.3
General Motors Safari 2wd (Passenger)	21.2
General Motors Astro 2wd (Passenger)	21.2
Chrysler Caravan 4wd	20.6
Chrysler Town & Country 4wd	20.6
General Motors Safari Awd (Passenger)	19.5
General Motors Astro Awd (Passenger)	19.5
Ford Aerostar Wagon Awd	19.4
Mazda MPV 4X4	19.1
Chrysler B1500-B2500 Van 2wd	18.0
Chrysler B1500-B2500 Wagon 2wd	17.7

1997 LARGE VAN	MPG
Volkswagen Group Eurovan	20.1
General Motors G1500-G2500	19.0
Ford E150 Econoline 2wd	19.0
Volkswagen Group Eurovan Camper	18.5
General Motors G1500-G2500 Chevy Exp.	18.4
General Motors G1500-G2500 Savana (Pass)	18.3
Ford E250 Econoline 2wd	17.6
Ford E150 Club Wagon	17.5
Chrysler B3500 Van 2wd	17.4
Chrysler B3500 Wagon 2wd	15.3

Appendix B (Continued)
Nameplate MPG Listing

1997 SMALL UTILITY	MPG
Suzuki X-90 2wd	30.0
Suzuki X-90 4wd	29.8
Toyota RAV4 4wd	29.7
Suzuki Sidekick 2Door 2wd	28.5
Suzuki Sidekick 2Door 4wd	28.5
GM Imports Tracker Van 2wd	28.5
GM Imports Tracker Convertible 4X4	28.1
Toyota RAV4 2wd	28.0
Suzuki Sidekick 4Door 2wd	28.0
GM Imports Tracker Van 4X4	27.9
GM Imports Tracker Convertible 2wd	27.9
Suzuki Sidekick 4Door 4wd	27.8
Suzuki Sidekick Sport 4wd	27.1
Suzuki Sidekick Sport 2wd	27.0
Toyota Tacoma 2wd	26.8
Toyota Tacoma 4wd	21.5
Chrysler Wrangler 4wd	21.4
Chrysler Grand Cherokee 4wd	19.8
Land Rover Defender 90	16.7

1997 MIDSIZE UTILITY	MPG
Mitsubishi Montero Sport 2wd	27.2
Honda CR-V	26.9
General Motors Silhouette 2wd	24.2
Kia Sportage 4wd	24.0
Kia Sportage 2wd	23.3
Toyota 4Runner 2wd	22.4
Mitsubishi Montero Sport 4wd	22.2
General Motors Jimmy 2wd	22.1
General Motors Blazer 2wd	22.1
General Motors Blazer 4wd	21.3
General Motors Jimmy 4wd	21.3
General Motors Jimmy Awd	21.3
General Motors Blazer Awd	21.3
General Motors Bravada Awd	21.3
Chrysler Cherokee 2wd	21.0
Isuzu Rodeo 2wd	20.6
Toyota 4Runner 4wd	20.6
Nissan Pathfinder 2wd	20.4
Ford Explorer 2wd	20.3
Chrysler Grand Cherokee 2wd	20.2
Mitsubishi Montero	20.0
Chrysler Cherokee 4wd	19.7
Nissan Pathfinder 4wd	19.5
Honda Passport 2wd	19.4
Ford Explorer 4wd	19.4
Isuzu Rodeo 4wd	19.4
Nissan QX4 4wd	19.3
Honda Passport 4wd	19.2
Isuzu Trooper	18.4
Isuzu SLX	18.3
Land Rover Discovery	17.6
Chrysler Grand Cherokee 4wd	17.6
Range Rover	16.5

1997 LARGE UTILITY	MPG
General Motors C1500 Yukon 2wd	19.1
General Motors C1500 Tahoe 2wd	19.1
Ford Mountaineer 2wd	18.5
General Motors C1500 Suburban 2wd	18.3
Ford Expedition 2wd	18.2
Ford Mountaineer 4wd	18.2
General Motors K1500 Yukon 4wd	17.6
General Motors K1500 Tahoe 4wd	17.6
Ford Expedition 4wd	16.9
Toyota LX450	16.7
Toyota Land Cruiser Wagon 4wd	16.7
General Motors K1500 Suburban 4wd	16.7

APPENDIX B (Continued)
NAMEPLATE MPG LISTING

1998 TWO-SEATER	MPG
Mercedes-Benz SLK230	29.2
BMW Z3 Roadster	27.4
BMW M Roadster	26.8
Chrysler Prowler	26.2
Porsche Boxster	24.8
General Motors Corvette	23.3
Honda NSX	23.2
Mercedes-Benz SL500	21.3
Lotus 98 ESPRIT V8	21.2
Ford Imports DB7 Volante	19.0
Ford Imports DB7 Coupe	18.9
Mercedes-Benz SL600	18.4
Chrysler Viper Convertible	16.9
Chrysler Viper Coupe	16.9
Ferrari F355-355 F1	13.6
Lamborghini DB132-144 Diable	13.1
Ferrari 550 Marabello	12.8

1998 MINICOMPACT	MPG
Toyota Paseo	36.0
Toyota Paseo Convertible	34.7
Toyota Celica Convertible	29.5
Mitsubishi Eclipse Convertible	28.2
Nissan 240SX	28.0
BMW 323I Convertible	26.5
BMW 328I Convertible	25.4
Volkswagen Cabriolet	24.5
BMW M3 Convertible	24.5
Toyota SUPRA	23.7
Ford Imports JAGUAR XK8 Convertible	22.8
Porsche 911 Carrera 4-2	22.5

1998 SUBCOMPACT	MPG
Honda Civic HX	44.9
Suzuki Swift	43.6
GM Imports Metro	43.6
Honda Civic	37.7
Toyota Tercel	37.5
Mitsubishi Mirage	36.8
Suzuki Esteem	36.1
Nissan Sentra-200SX	35.6
General Motors SC	34.4
Ford Escort ZX2	33.2
Honda Integra	32.0
General Motors Sunfire	30.5
General Motors Cavalier	30.5
BMW 318I,318IS	29.9
Volkswagen New Beetle	29.8
Volkswagen Cabrio	29.8
Subaru Impreza AWD	29.5
Hyundai Tiburon	29.5
Mitsubishi Eclipse	29.3
Chrysler Imports Eagle Talon	29.1
Toyota Celica	28.5
Honda Prelude	28.1
Mercedes-Benz CLK320	28.1
Honda 2.3CL,3.0CL	27.7
BMW M3	26.4
BMW 323IS	26.3
GM Imports SAAB 900 Convertible	26.2
General Motors Camaro	25.4
Ford Mustang	25.3
BMW 328I,328IS	25.3
General Motors Firebird,Formula	24.9
Toyota SC 300/SC 400	24.4
Mitsubishi 3000GT	24.1
Ford Imports Jaguar XK8	23.5
Mitsubishi 3000GT Spyder	23.1
Rolls-Royce Bentley Continental	15.0
Rolls-Royce Bentley Azure	14.9
Rolls-Royce Bentley Continental SC	14.9
Ferrari 456 GT-GTA	13.4

1998 COMPACT	MPG
Toyota Corolla	37.1
GM Imports Prizm	35.8
Hyundai Accent	35.6
Volkswagen Jetta	34.3
General Motors SL	34.3
Mazda Protege	34.2
Ford Escort	34.1
Ford Tracer	33.7
Chrysler Neon (Dodge)	32.6
Chrysler Neon (Plymouth)	32.5
Subaru Legacy	31.6
KIA Sephia	30.9
Ford Contour	30.6
Mercedes-Benz C230	30.4
Ford Mystique	30.3
BMW 318TI	30.3
Volkswagen Golf, GTI	30.1
Nissan Altima	30.0
Hyundai Elantra	29.9
General Motors Grand AM	28.9
General Motors Achieva	28.4
Subaru Legacy AWD	28.3
Mitsubishi Galant	28.2
Volkswagen A4	27.0
Mercedes-Benz C280	27.0
General Motors Skylark	26.9
Chrysler Imports Dodge Avenger	26.8
Chrysler Imports Sebring	26.4
Chrysler JX,JXI Limited Convertible	26.1
Mazda Millenia	26.0
Toyota ES 300	25.7
Volkswagen A4 Quartro	25.5
Volkswagen GTI VR6	25.3
Volkswagen Jetta GLX	25.0
BMW 528I	25.0
Honda 2.5TL-3.2TL	24.8
Volvo C70	24.2
Ford Imports Jaguar XJ8	23.1
BMW 540I	22.7
Mercedes-Benz E430	22.6
Ford Imports Jaguar XJR	21.4
Mercedes-Benz CL500	20.5
Mercedes-Benz CL600	17.5
Rolls-Royce Bentley Continental	15.0

1998 SMALL WAGON	MPG
Suzuki Esteem	35.0
Ford Escort	33.7
Ford Tracer	33.6
General Motors SW	33.4
Subaru Impreza AWD	29.9
Hyundai Elantra	29.5
Volkswagen A4 Avant	25.5
Volkswagen A4 Avant Quattro	24.9
Volvo V90	24.1
Volkswagen A6 Quattro	24.0

APPENDIX B (Continued)
NAMEPLATE MPG LISTING

1998 MIDSIZE CARS	MPG
Mercedes-Benz E300 Turbodiesel	34.5
Chrysler Breeze	30.0
Honda Accord	29.4
Toyota Camry	29.3
Volkswagen Passat	29.1
Mazda 626	28.6
Chrysler Stratus	28.6
Chrysler Cirrus	28.3
Nissan Maxima	27.8
Mercedes-Benz E320	27.6
General Motors Malibu	27.6
General Motors Cutlass	27.5
Nissan I30	27.2
General Motors Intrigue	26.8
General Motors Century	26.8
General Motors Lumina, Monte Carlo	26.8
GM Imports SAAB 900	26.5
Chrysler Imports Stratus	26.4
General Motors Grand Prix	26.3
General Motors Regal	25.9
Volvo S70	25.9
Chrysler Imports Cirrus	25.9
Ford Taurus	25.7
Ford Sable	25.6
Hyundai Sonata	25.5
General Motors Riveria	24.6
Toyota LS 400	24.5
Honda 3.5RL	24.5
Toyota GS 300-GS 400	24.4
Volkswagen A6	24.4
Volvo S70 Police	24.1
Volvo S90	24.1
Volkswagen Passat Syncro	23.7
Mitsubishi Diamante Sedan	23.7
General Motors Aurora	23.6
Ford Mark VIII	23.6
GM Imports Catera	23.4
General Motors Eldorado	23.4
General Motors Seville	23.4
Volkswagen A6 Quattro	23.4
Nissan Q45	23.2
Volkswagen A8	23.0
Ford Imports Taurus	22.7
Ford Imports Jaguar Vanden Plas	22.7
Ford Imports Jaguar XJ8L	22.7
BMW 740I	22.6
Rolls-Royce Bentley Turbo RT	15.0
Rolls-Royce Bentley Brooklands	15.0
Rolls-Royce Silver Spur	15.0

1998 MIDSIZE WAGON	MPG
Volkswagen Passat	34.1
Subaru Legacy	31.6
Subaru Legacy AWD	27.5
Mercedes-Benz E320	25.9
Volvo V70	25.4
Volvo V70 AWD	24.9
Ford Sable	24.5
Ford Taurus	24.5
Volkswagen Passat Syncro	23.7

1998 LARGE CARS	MPG
Toyota Avalon	28.4
Chrysler Intrepid	27.2
General Motors LeSabre	26.8
Chrysler Concorde	26.8
General Motors Eighty Eight	26.4
General Motors Bonneville	25.5
General Motors Park Avenue	25.3
GM Imports SAAB 9000	25.0
General Motors Deville	23.4
Mercedes-Benz S320	23.0
Ford Continental	22.8
Ford Town Car	22.8
Ford Grand Marquis	22.8
BMW 740IL	22.6
Ford Crown Victoria	22.0
Mercedes-Benz S420	20.7
Mercedes-Benz S500	20.0
BMW 750IL	19.3
General Motors Funeral Coach/Hearse	19.1
General Motors Limousine	19.1
Mercedes-Benz S600	17.1
Rolls-Royce Bentley Brooklands Limo	13.7
Rolls-Royce Silver Spur Park Ward	13.7

APPENDIX B (Continued)
NAMEPLATE MPG LISTING

1998 SMALL PICKUP	MPG
Nissan Frontier Truck 2WD	27.4
Toyota Tacoma 2WD	27.0
Nissan Frontier Truck 4WD	22.3
Toyota Tacoma 4WD	21.6

1998 MIDSIZE PICKUP	MPG
Isuzu Hombre 2WD	26.4
GM S10 2WD	25.6
Mazda B2000 2WD	25.6
Ford Ranger 2WD	24.8
GM Sonoma 2WD	24.6
Chrysler Dakota 2WD	21.7
GM Sonoma 4WD	21.1
GM S10 4WD	21.1
Isuzu Hombre 4WD	21.0
Ford Ranger 4WD	20.7
Mazda B3000 4WD	20.5
Chrysler Dakota 4WD	18.0

1998 LARGE PICKUP	MPG
Toyota T100 2WD	22.0
Ford F150 2WD	20.0
GM C1500 Sierra 2WD	19.8
Toyota T100 4WD	19.7
GM C1500 2WD	19.7
GM C2500 2WD	18.7
GM C2500 Sierra 2WD	18.5
Chrysler Ram 1500 2WD	18.1
Ford F250 2WD	17.8
Ford F150 4WD	17.7
GM K1500 Sierra 4WD	17.3
GM K1500 4WD	17.3
Ford F250 4WD	16.5
Chrysler Ram 1500 4WD	16.1

1998 MIDSIZE VAN	MPG
Isuzu Oasis	27.2
Honda Odyssey	27.2
GM Silhouette FWD	24.2
GM Trans Sport FWD	24.2
Toyota Sienna	24.2
GM Venture FWD	24.2
Chrysler Voyager 2WD	24.1
Ford Windstar FWD Van	24.1
Chrysler Caravan 2WD	24.0
Ford Windstar FWD Wagon	23.4
Ford Imports Villager FWD Van	23.0
Ford Imports Villager FWD Wagon	23.0
Nissan Quest	22.9
Chrysler Town & Country 2WD	22.8
Chrysler Caravan AWD	21.6
Chrysler Town & Country AWD	21.6
Mazda MPV	21.5
GM Safari 2WD (Cargo)	21.1
GM Astro 2WD (Cargo)	21.1
GM Safari AWD (Cargo)	20.3
GM Astro AWD (Cargo)	20.3
GM Safari 2WD (Passenger)	20.2
GM Astro 2WD (Passenger)	20.2
GM Astro AWD (Passenger)	19.9
GM Safari AWD (Passenger)	19.9
Mazda MPV 4X4	19.1

1998 LARGE VAN	MPG
GM G1500-G2500 Chevy Van 2WD	18.8
Ford E150 Econoline 2WD	18.7
GM G1500-G2500 Savana 2WD Cargo	18.7
Chrysler B1500 Wagon 2WD	18.2
Chrysler B1500 Van 2WD	18.2
GM G1500-G2500 Chevy Express 2W	18.0
GM G1500-G2500 Savana 2WD Pass.	18.0
Ford E250 Econoline 2WD	17.8
Ford E150 Club Wagon	17.3
Chrysler B2500 Van 2WD	17.2
Chrysler B2500 Wagon 2WD	17.1

APPENDIX B (Continued)
NAMEPLATE MPG LISTING

1998 SMALL UTILITY	MPG
Toyota RAV4 Soft Top 2WD	30.5
Toyota RAV4 2WD	30.3
Suzuki X-90 4WD	30.0
Suzuki X-90 RWD	29.6
Suzuki Sidekick 2Door RWD	28.5
Suzuki Sidekick 2Door 4WD	28.5
GM Imports Tracker 2WD Convertible	28.5
GM Imports Tracker 4X4 Convertible	28.4
Toyota RAV4 Soft Top 4WD	28.2
Suzuki Sidekick 4Door 4WD	27.9
Suzuki Sidekick 4Door RWD	27.9
Toyota RAV4 4WD	27.9
GM Imports Tracker 2WD Hardtop	27.8
GM Imports Tracker 4X4 Hardtop	27.8
Suzuki Sidekick Sport RWD	27.1
Suzuki Sidekick Sport 4WD	27.1
Subaru Forester AWD	26.8
Isuzu Amigo 2WD	25.9
Isuzu Amigo 4WD	23.7
Chrysler Wrangler 4WD	20.5

1998 MIDSIZE UTILITY	MPG
Honda CR-V	26.8
Kia Sportage	24.4
Mitsubishi Montero Sport 2WD	24.4
Toyota 4Runner 2WD	22.9
Mitsubishi Montero Sport 4WD	22.2
Isuzu Rodeo 2WD	22.1
Isuzu Rodeo 4WD	21.3
Honda Passport 2WD	21.3
Honda Passport 4WD	21.2
GM Jimmy 2WD	21.1
GM Blazer 2WD	21.1
Chrysler Cherokee 2WD	21.0
Toyota 4Runner 4WD	21.0
Chrysler Grand Cherokee 2WD	20.5
Nissan Pathfinder 2WD	20.4
Mitsubishi Montero	20.4
GM Blazer 4WD	20.3
GM Jimmy 4WD	20.3
GM Jimmy AWD	20.3
GM Blazer AWD	20.3
GM Bravada AWD	20.3
Chrysler Cherokee 4WD	20.1
Ford Explorer 2WD	20.0
Isuzu Trooper	19.5
Nissan Pathfinder 4WD	19.4
Honda SLX	19.4
Nissan QX4 4WD	19.3
Ford Explorer 4WD	19.2
Chrysler Grand Cherokee 4WD	19.0
Rover Land Rover Discovery	17.4
Rover Range Rover	16.5

1998 LARGE UTILITY	MPG
Mercedes-Benz ML320	21.6
Ford Mountaineer 2WD	19.3
Ford Mountaineer 4WD	19.0
GM C1500 Yukon 2WD	18.0
GM C1500 Suburban 2WD	17.9
GM C1500 Tahoe 2WD	17.8
Ford Expedition 2WD	17.8
Toyota Land Cruiser Wagon 4WD	17.4
Toyota LX 470	17.1
Ford Navigator 2WD	17.0
Chrysler Durango 4WD	16.9
GM K1500 Yukon 4WD	16.7
GM K1500 Tahoe 4WD	16.6
Ford Expedition 4WD	16.5
Ford Navigator 4WD	15.9

APPENDIX B (Continued)
NAMEPLATE MPG LISTING

1999 TWO-SEATER	MPG
Mazda MX-5 Miata	31.1
Mercedes-Benz SLK230 Kompressor	28.8
BMW M Coupe	25.6
BMW M Roadster	25.6
BMW Z3 Roadster	25.3
BMW Z3 Coupe	25.2
Porsche Boxster	24.8
General Motors Corvette	23.3
Honda NSX	23.1
Chrysler Prowler	22.6
Mercedes-Benz SL500	21.7
Lotus Esprit V8	19.6
Mercedes-Benz SL600	17.6
Chrysler Viper Coupe	16.4
Chrysler Viper Convertible	16.4
Ferrari F355-355 F1	13.6
Lamborghini DB132-144 Diablo	13.1
Ferrari 550 Maranello	12.5

1999 MINICOMPACT	MPG
Toyota Paseo Convertible	37.8
Toyota Paseo	36.5
Toyota Celica Convertible	29.4
Mitsubishi Eclipse Convert.	28.3
BMW 323I Convertible	26.9
BMW 328I Convertible	26.6
Mercedes-Benz CLK320 Cabriolet	26.2
BMW M3 Convertible	24.0
Porsche 911 Carrera	22.9
Jaguar XK8 Convertible	22.5

1999 SUBCOMPACT	MPG
Honda Civic HX	43.5
Suzuki Swift	41.9
GM Imports Metro	40.4
Toyota Tercel	37.9
Mitsubishi Mirage	37.0
Honda Civic	36.5
Suzuki Esteem	35.6
Nissan Sentra-200SX	35.5
Hyundai Accent	35.4
General Motors SC	35.0
Ford Escort ZX2	32.9
Honda Integra	32.1
Volkswagen New Beetle	31.8
General Motors Cavalier	30.0
General Motors Sunfire	29.9
Volkswagen Cabrio	29.5
Hyundai Tiburon	29.4
Subaru Impreze Awd	29.2
Mitsubishi Eclipse	29.1
Toyota Celica	28.6
Honda 2.3CL - 3.0CL	27.8
Honda Prelude	27.6
Mercedes-Benz CLK320	27.5
BMW 323IS	26.7
BMW 328IS	26.7
Saab 9-3 Convertible	25.6
BMW M3	25.6
Volvo C70 Convertible	25.5
General Motors Camaro	25.4
General Motors Firebird-Trans AM	25.3
Ford Mustang	24.9
Toyota SC 300-SC 400	24.3
Mercedes-Benz CLK430	24.2
Mitsubishi 3000GT	24.1
Jaguar XK8	23.0
Rolls-Royce Bentley Continental	15.0
Rolls-Royce Bentley Azure	14.9
Rolls-Royce Bentley Continental SC	14.9
Ferrari 456 MGT-MGTA	13.4

1999 COMPACT	MPG
Toyota Corolla	37.1
GM Imports Prizm	36.3
General Motors SL	35.0
Ford Escort	34.3
Mazda Protege	34.3
Ford Tracer	34.1
Volkswagen New Golf	33.7
Chrysler Neon (Dodge)	32.6
Daewoo Lanos	32.6
Volkswagen Jetta	32.5
Chrysler Neon (Plymouth)	32.2
Volkswagen New Jetta	32.0
BMW 318TI	30.7
Kia Sephia	30.6
Volkswagen Golf	30.4
Hyundai Elantra Sedan	30.0
Ford Cougar	29.9
Nissan Altima	29.7
Daewoo Nubira	29.6
Ford Mystique	29.6
Ford Contour	29.5
Nissan G20	28.7
Volkswagen New GTI	28.5
Chrysler Sebring Convertible	28.3
Mercedes-Benz C230 Kompressor	28.3
General Motors Alero	28.0
General Motors Grand Am	28.0
Toyota Camry Solara	27.4
Subaru Legacy Awd	27.4
Mercedes-Benz C280	27.3
Volkswagen GTI	27.0
Chrysler Imports Dodge Avenger	27.0
Volkswagen A4	26.5
BMW 323I	26.4
Volvo C70	26.4
Chrysler Imports Chrysler Sebring	26.3
BMW 328I	26.3
Mazda Millenia	26.0
Chrysler Imports Sebring Convertible	25.5
Volkswagen A4 Quattro	25.2
Toyota ES 300	25.0
BMW 528I	24.8
Mercedes-Benz C43 AMG	23.1
Jaguar XJ8	22.6
BMW 540I	22.5
Jaguar XJR	21.4
Mercedes-Benz CL500	20.5
Mercedes-Benz CL600	17.5
Rolls-Royce Bentley Continental	15.0

1999 SMALL WAGON	MPG
Suzuki Esteem	34.7
General Motors SW	34.4
Ford Escort	34.2
Ford Tracer	34.1
Daewoo Nunira	29.6
Subaru Impreza Awd	29.4
Hyundai Elantra	29.2
Volkswagen A4 Avant Quattro	25.8
BMW 528I Touring	24.5
BMW 540I Touring	20.5

APPENDIX B (Continued)
NAMEPLATE MPG LISTING

1999 MIDSIZE SEDAN	MPG
Mercedes-Benz E300 Turbodiesel	34.9
Toyota Camry	29.5
Chrysler Breeze	29.4
Honda Accord	29.4
Mazda 626	29.1
Chrysler Stratus	28.7
Mercedes-Benz E320	27.9
Volkswagen Passat	27.7
Hyundai Sonata	27.6
General Motors Malibu	27.5
Mitsubishi Galant	27.5
Nissan Maxima	27.4
Nissan I30	27.2
General Motors Century	26.9
General Motors Cutlass	26.9
Mercedes-Benz E320 4Matic	26.9
General Motors Lumina-Monte Carlo	26.8
Saab 9-5	26.8
Daewoo Legranza	26.7
Volvo S70	26.6
General Motors Grand Priz	26.4
General Motors Regal	26.0
General Motors Intrigue	26.0
Ford Taurus	25.7
Ford Sable	25.7
Saab 9-3	25.6
Volvo S80	25.6
Chrysler Imports Stratus	25.5
Chrysler Imports Cirrus	25.5
Honda 3.2TL	25.4
Toyota GS 300-GS 400	25.0
General Motors Riviera	24.8
Mercedes-Benz E430	24.8
Toyota LS 400	24.4
Volvo S70 Awd	24.3
Volkswagen A6	24.3
GM Imports Catera	23.8
Mitsubishi Diamante Sedan	23.7
Volkswagen Passat Syncro	23.7
General Motors Aurora	23.6
Honda 3.5RL	23.5
Volkswagen A8	23.4
General Motors Eldorado	23.4
General Motors Seville	23.4
Volkswagen A6 Quattro	23.3
Nissan Q45	23.1
Volkswagen A8 Quattro	22.9
Ford Imports Taurus	22.7
Jaguar XJ8L	22.6
Jaguar Vanden Plas	22.5
BMW 740I	22.2
Mercedes-Benz E55 AMG	22.0
Jaguar Vanden Plas S.C.	21.3
Rolls-Royce Silver Seraph	16.2
Rolls-Royce Bentley Arnage	16.0
Rolls-Royce Bentley Turbo RT	15.0
Rolls-Royce Silver Spur	15.0

1999 MIDSIZE WAGON	MPG
Subaru Legacy Awd	27.3
Volkswagen Passat	27.2
Mercedes-Benz E320	26.8
Volvo V70	26.6
Mercedes-Benz E320 4Matic	25.8
Ford Sable	25.2
Ford Taurus	24.6
Volvo V70 Awd	24.3
Volkswagen Passat Syncr	23.7
Volkswagen A6 Avant Quattro	23.3

1999 LARGE SEDAN	MPG
Toyota Avalon	28.1
Chrysler Intrepid	27.3
Chrysler Concorde	26.9
General Motors LeSabre	26.8
General Motors Eighty Eight-Regency	26.3
General Motors Bonneville	25.6
General Motors Park Avenue	25.5
Chrysler 300 M	24.7
Chrysler LHS	24.6
General Motors Limousine	23.4
General Motors Funeral Coach-Hearse	23.4
General Motors DeVille	23.4
Ford Continental	23.3
Mercedes-Benz S320	23.0
BMW 740IL	22.7
Ford Town Car	22.6
Ford Grand Marquis	22.6
Ford Crown Victoria	20.8
Mercedes-Benz S420	20.7
Mercedes-Benz S500	20.0
BMW 750IL	18.1
Mercedes-Benz S600	17.1
Rolls-Royce Bentley Brooklands	13.8
Rolls-Royce Silver Spur Park Ward	13.8

APPENDIX B (Continued)
NAMEPLATE MPG LISTING

1999 SMALL UTILITY	MPG
Toyota RAV4 Soft Top 2wd	30.7
Toyota RAV4 2wd	30.6
GM Imports Tracker 2wd Convertible	29.1
GM Imports Tracker 2wd Hardtop	28.8
Suzuki Vitaro 2-Door 2wd	28.6
GM Imports Tracker 4x4 Convertible	28.5
Suzuki Vitara 2-Door 4wd	28.5
Toyota RAV4 Soft Top 4wd	28.2
GM Imports Tracker 4x4 Hardtop	27.7
Toyota RAV4 4wd	27.7
Suzuki Vitara 4-Door 2wd	27.5
Suzuki Vitara 4-Door 4wd	27.5
Subaru Forester Awd	26.9
Isuzu Amigo 2wd	25.0
Kia Sportage	24.4
Suzuki Grand Vitara 4-Door 2wd	23.6
Suzuki Grand Vitara 4-Door 4wd	22.9
Isuzu Amigo 4wd	22.5
Chrysler Wrangler 4wd	20.4
Isuzu Vehicross	19.2

1999 MIDSIZE UTILITY	MPG
Honda CR-V(2wd)	27.7
Honda CR-V(4wd)	27.3
Toyota RX 300	24.4
Toyota RX 300 4wd	23.4
Mitsubishi Montero Sport 2wd	23.2
Toyota 4Runner 2wd	23.0
Isuzu Rodeo 2wd	22.2
Mitsubishi Montero Sport 4wd	22.2
Chrysler Cherokee 2wd	21.7
Honda Passport	21.3
Isuzu Rodeo 4wd	21.3
Toyota 4Runner 4wd	21.1
General Motors Jimmy 2wd	21.1
General Motors Blazer 2wd	21.1
Chrysler Grand Cherokee 2wd	20.9
Chrysler Cherokee 4wd	20.7
General Motors Bravada Awd	20.7
General Motors Jimmy 4wd	20.6
General Motors Blazer 4wd	20.6
Ford Explorer 2wd	20.6
Mitsubishi Montero	20.2
Nissan Pathfinder 2wd	20.2
Chrysler Grand Cherokee 4wd	19.7
Isuzu Trooper	19.5
Ford Explorer 4wd	19.5
Honda SLX	19.4
Nissan Pathfinder 4wd	19.4
Nissan QX4 4wd	19.2
Land Rover Discovery	17.7
Land Rover Discovery Series	16.7
Land Rover Range Rover	16.5

1999 LARGE UTILITY	MPG
Mercedes-Benz ML320	21.4
Ford Mountaineer 2wd	19.3
Mercedes-Benz ML430	19.3
Ford Mountaineer 4wd	18.8
Chrysler Durango 2wd	18.0
General Motors C1500 Suburban 2wd	17.9
General Motors C1500 Yukon 2wd	17.6
General Motors C1500 Tahoe 2wd	17.5
Ford Expedition 2wd	17.2
Toyota LX 470	17.1
Toyota Land Cruiser Wagon 4wd	17.1
Ford Navigator 2wd	17.0
Chrysler Durango 4wd	16.4
General Motors K1500 Yukon 4wd	16.2
General Motors K1500 Tahoe 4wd	16.2
General Motors Escalade 4wd	16.2
Ford Navigator 4wd	15.9
Ford Expedition 4wd	15.6

APPENDIX B (Continued)
NAMEPLATE MPG LISTING

1999 SMALL PICKUP	MPG
Nissan Frontier 2wd	27.0
Toyota Tacoma 2wd	26.9
Nissan Frontier 4wd	22.4
Toyota Tacoma 4wd	21.8
Nissan Frontier V6-4wd	19.9

1999 MIDSIZE PICKUP	MPG
Isuzu Hombre 2wd	27.2
Mazda B2500	27.0
General Motors S10 2wd	26.3
Ford Ranger 2wd	26.2
General Motors Sonoma 2wd	26.0
Mazda B3000 FFV - 2wd	22.2
Ford Ranger FFV - 2wd	22.0
Mazda B4000	21.8
General Motors S10 4wd	21.3
General Motors Sonoma 4wd	21.1
Chrysler Dakota 2wd	21.1
Isuzu Hombre 4wd	21.0
Mazda B3000 FFV - 4wd	21.0
Ford Ranger FFV - 4wd	20.9
Mazda B4000	20.8
Ford Ranger 4wd	20.7
Chrysler Dakota 4wd	17.7

1999 LARGE PICKUP	MPG
General Motors C1500 Silverado 2wd	20.7
General Motors C1500 Sierra 2wd	20.2
Ford F150 2wd	19.6
General Motors K1500 Silverado 4wd	18.9
General Motors K1500 Sierra 4wd	18.5
General Motors C1500 Pickup 2wd	18.4
Chrysler RAM 1500 2wd	17.8
Ford F250 2wd	17.5
General Motors K1500 4wd	17.4
General Motors C2500 Silverado 2wd	17.3
Ford F150 4wd	17.3
General Motors C2500 Sierra 2wd	17.2
Ford Navigator 4wd	16.1
Chrysler Ram 1500 4wd	15.9
Ford F250 4wd	15.9

1999 MIDSIZE VAN	MPG
Isuzu Oasis	26.9
Honda Odyssey	24.1
Toyota Sienna	24.1
Chrysler Voyager 2wd	24.0
General Motors Silhouette Fwd	23.7
General Motors Trans Sport Fwd	23.7
General Motors Venture Fwd	23.7
Chrysler Caravan 2wd	23.7
Nissan Quest	23.1
Ford Imports Villager Fwd Wagon	22.9
Ford Windstar Fwd Van	22.8
Chrysler Town & Country 2wd	22.8
Ford Windstar Fwd Wagon	22.3
Chrysler Town & Country Awd	21.6
Chrysler Caravan Awd	21.6
General Motors Safari 2wd (Cargo)	21.1
General Motors Astro 2wd (Cargo)	21.1
General Motors Safari 2wd (Passenger)	20.7
General Motors Astro 2wd (Passenger)	20.7
General Motors Safari Awd (Cargo)	20.7
General Motors Astro Awd (Cargo)	20.7
General Motors Safari Awd (Passenger)	19.8
General Motors Astro Awd (Passenger)	19.8
Volkswagen Group Eurovan	19.5
Chrysler B1500 Van 2wd	18.3
Chrysler B1500 Wagon 2wd	18.0

1999 LARGE VAN	MPG
Volkswagen Group Eurovan Camper	18.5
General Motors G1500-G2500 Chevy	18.5
General Motors G1500-G2500 Savana Cargo	18.2
General Motors G1500-G2500 Chevy Express	18.1
General Motors G1500-G2500 Savana Pass.	18.0
Ford E150 Econoline	17.9
Chrysler B2500 Van	17.9
Chrysler B2500 Wagon	17.3
Ford E250 Econoline	17.2
Ford E150 Club Wagon	17.1

Table C1 (Continued) **MY99 Best in Class Role Models** Cars

Weight	Rank	Manufacturer	Model Name	Drive	CID	Cyl.	HP	Trans	Size Class	MPG
4000	1	Mercedes-Benz	E300 Turbodiesel	Rear	183	6	174	L5	Midsize Car	34.9
4000	2	GM Imports	SAAB 9-5	Front	141	4	170	M5	Midsize Car	28.4
4000	3	Mercedes-Benz	E320	Rear	195	6	221	L5	Midsize Car	27.9
4000	4	Mercedes-Benz	E320 4Matic	4wd	195	6	221	L5	Midsize Car	26.9
4000	5	Mercedes-Benz	E320	Rear	195	6	221	L5	Midsize Wagon	26.8
4000	6	General Motors	Camaro	Rear	231	6	200	L4	Subcompact	26.3
4000	7	Volvo	C70 Convertible	Front	142	5	236	M5	Subcompact	26.2
4000	8	Mercedes-Benz	CLK320 Cabriolet	Rear	195	6	215	L5	Minicompact	26.2
4000	9	General Motors	Camaro	Rear	231	6	200	M5	Subcompact	26.1
4000	10	Chrysler Corp.	Concord	Front	195	6	225	L4	Large Car	25.9
4000	11	Mercedes-Benz	E320 4Matic	4wd	195	6	221	L5	Midsize Wagon	25.8
4000	12	Volvo	S80	Front	178	6	201	L4	Midsize Car	25.8
4500	1	Mercedes-Benz	S320	Rear	303	6	228	L5	Large Car	23.0
4500	2	BMW	740I	Rear	268	8	282	L5	Midsize Car	22.7
4500	3	BMW	540I	Rear	268	8	282	L5	Compact	22.7
4500	4	Mercedes-Benz	SL500	Rear	303	8	302	L5	Two Seater	21.7
4500	5	Ford Imports	Jaguar Vanderplas	Rear	244	8	370	L5	Midsize Car	21.3
4500	6	BMW	740I	Rear	268	8	282	L5	Midsize Car	20.2
4500	7	Ford Motor Co.	Crown Victoria	Rear	281	8	175	L4	Large Car	19.3
4500	8	Mercedes-Benz	SL600	Rear	365	12	390	L5	Two Seater	17.6
4500	9	Ferrari	456	Rear	334	12	436	M6	Subcompact	13.8
4500	10	Ferrari	456	Rear	334	12	436	L4	Subcompact	13.3
5000	1	Mercedes-Benz	S420	Rear	256	8	275	L5	Large Car	20.7
5000	2	Mercedes-Benz	CL500	Rear	303	8	315	L5	Compact	20.5
5000	3	Mercedes-Benz	S500	Rear	303	8	315	L5	Large Car	20.0
5000	4	BMW	750IL	Rear	328	12	326	L5	Large Car	18.1
5000	5	Mercedes-Benz	CL600	Rear	365	12	389	L5	Compact	17.5
5000	6	Mercedes-Benz	S600	Rear	365	12	389	L5	Large Car	17.1
5000	7	Rolls-Royce	Silver Seraph	Rear	328	12	322	L5	Midsize Car	16.2
5000	8	Rolls-Royce	Bentley Arnage	Rear	268	8	350	L5	Midsize Car	16.0
5500	1	Rolls-Royce	Bentley Continental	Rear	412	8	350	L4	Subcompact	15.0
5500	2	Rolls-Royce	Silver Spur	Rear	412	8	350	L4	Midsize Car	15.0
6000	1	Rolls-Royce	Bentley Azure	Rear	412	8	350	L4	Subcompact	14.9
6500	1	Rolls-Royce	Silver Spur	Rear	412	8	300	L4	Large Car	13.8

Appendix C

Table C1 **MY99 Best in Class Role Models** Cars

Weight	Rank	Manufacturer	Model Name	Drive	CID	Cyl.	HP	Trans	Size Class	MPG
2000	1	GM Imports	Metro	Front	61	3	55	M5	Subcompact	50.8
2250	1	GM Imports	Metro	Front	79	4	79	M5	Subcompact	47.8
2250	2	Toyota	Tercel	Front	91	4	93	M5	Subcompact	40.3
2250	3	GM Imports	Metro	Front	79	4	79	A3	Subcompact	37.5
2500	1	Honda	Civic HX	Front	97	4	115	M5	Subcompact	45.8
2500	2	Toyota	Paseo Convertible	Front	91	4	93	M5	Minicompact	42.1
2500	3	Toyota	Tercel	Front	91	4	93	M5	Subcompact	42.1
2500	4	Mitsubishi	Mirage	Front	90	4	92	M5	Subcompact	41.9
2500	5	Honda	Civic	Front	97	4	106	M5	Subcompact	40.7
2500	6	General Motors	SW	Front	116	4	100	M5	Small Wagon	38.6
2500	7	General Motors	SL	Front	116	4	100	M5	Compact	38.6
2500	8	General Motors	SC	Front	116	4	100	M5	Subcompact	38.6
2500	9	Suzuki	Esteem	Front	97	4	98	M5	Subcompact	38.6
2500	10	Nissan	Sentra	Front	98	4	115	M5	Subcompact	38.4
2500	11	Toyota	Tercel	Front	91	4	93	L4	Subcompact	38.2
2500	12	Mitsubishi	Mirage	Front	112	4	113	M5	Subcompact	37.1
2750	1	Honda	Civic HX	Front	97	4	115	M5	Subcompact	44.2
2750	2	Honda	Civic HX	Front	97	4	115	AV	Subcompact	41.8
2750	3	Toyota	Corolla	Front	108	4	120	M5	Compact	39.5
2750	4	Honda	Civic	Front	97	4	106	M5	Subcompact	39.5
2750	5	GM Imports	Prizm	Front	108	4	120	M5	Compact	39.3
2750	6	Nissan	Sentra	Front	98	4	115	M5	Subcompact	38.5
2750	7	Suzuki	Esteem Wagon	Front	97	4	98	M5	Small Wagon	37.9
2750	8	Chrysler Corp.	Neon	Front	122	4	132	M5	Subcompact	37.7
2750	8	Honda	Civic	Front	97	4	127	M5	Subcompact	37.0
2750	10	Ford Motor Co.	Escort Wagon	Front	121	4	104	M5	Subcompact	36.9
2750	11	Ford Motor Co.	Escort	Front	121	4	104	M5	Compact	36.9
2750	12	Toyota	Corolla	Front	108	4	120	L4	Compact	36.8
3000	1	Volkswagen	New Beetle	Front	116	4	90	M5	Subcompact	52.6
3000	2	Volkswagen	New Jetta	Front	116	4	90	M5	Compact	52.6
3000	3	Volkswagen	Jetta	Front	116	4	90	M5	Compact	50.9
3000	4	Volkswagen	New Beetle	Front	116	4	90	L4	Subcompact	44.7
3000	5	Volkswagen	New Jetta	Front	116	4	90	L4	Compact	44.7
3000	6	Chrysler Corp.	Breeze	Front	122	4	132	M5	Midsize Car	35.4
3000	7	Mazda	626	Front	122	4	125	M5	Midsize Car	34.1
3000	8	Ford Motor Co.	Cougar	Front	121	4	125	M5	Compact	32.6
3000	9	Ford Motor Co.	Contour	Front	121	4	125	M5	Compact	32.6
3000	10	Honda	Integra	Front	112	4	140	M5	Subcompact	32.4
3000	11	Honda	Integra	Front	110	4	170	M5	Subcompact	32.4
3000	12	Volkswagen	New Beetle	Front	109	4	148	M5	Subcompact	32.3
3500	1	Honda	Accord	Front	138	4	150	M5	Midsize Car	32.2
3500	2	Honda	2.3CL-3.0CL	Front	138	4	150	M5	Subcompact	31.7
3500	3	Toyota	Camry	Front	132	4	133	M5	Midsize Car	31.0
3500	4	Volkswagen	Passat Wagon	Front	109	4	150	M5	Midsize Wagon	31.0
3500	5	Volkswagen	Passat	Front	109	4	150	M5	Midsize Car	31.0
3500	6	Mitsubishi	Eclipse	Front	122	4	210	M5	Subcompact	30.7
3500	7	Mitsubishi	Eclipse Convertible	Front	122	4	210	M5	Mincompact	30.5
3500	8	Toyota	Camry	Front	132	4	130	L4	Midsize Car	30.2
3500	9	Toyota	Celica Convertible	Front	132	4	130	L4	Mincompact	30.2
3500	10	Honda	Accord	Front	138	4	150	L4	Midsize Car	30.0
3500	11	Nissan	Altima	Front	146	4	150	L4	Compact	29.5
3500	12	General Motors	Cavalier	Front	146	4	150	L4	Subcompact	29.4

Table C2 (Continued) **MY99 Best in Class Role Models** Trucks

Weight	Rank	Manufacturer	Model Name	Drive	CID	Cyl.	HP	Trans	Size Class	MPG
5000	1	Mercedes-Benz	ML320	4wd	195	6	215	L5	Large Utility	21.4
5000	2	General Motors	C1500 Sierra 2wd	Rear	293	8	240	L4	Large Pickup	20.1
5000	3	General Motors	Astro Awd	4wd	262	6	190	L4	Midsize Van	19.8
5000	4	General Motors	C2500 Sierra 2wd	Rear	325	8	265	L4	Large Pickup	19.7
5000	5	General Motors	C1500 Sierra 2wd	Rear	325	8	265	L4	Large Pickup	19.7
5000	6	General Motors	C1500 Sierra 2wd	Rear	293	8	240	M5	Large Pickup	19.6
5000	7	General Motors	G1500-G2500 Chevy	Rear	262	6	195	L4	Large Van	19.3
5000	8	Mercedes-Benz	ML430	4wd	262	8	268	L5	Large Utility	19.3
5000	9	General Motors	K1500 Sierra 4wd	4wd	293	8	240	L4	Large Pickup	19.0
5000	10	General Motors	G1500-G2500 Chevy	Rear	305	8	220	L4	Large Van	18.7
5000	11	General Motors	K1500 Sierra 4wd	4wd	325	8	265	L4	Large Pickup	18.6
5000	12	General Motors	C1500 Sierra 2wd	Rear	350	8	255	L4	Large Pickup	18.4
5500	1	General Motors	G1500-G2500 Chevy	Rear	262	6	195	L4	Large Van	19.1
5500	2	Volkswagen	Eurovan Camper	Front	170	6	140	L4	Large Van	18.5
5500	3	General Motors	G1500-G2500 Chevy	Rear	305	8	220	L4	Large Van	17.9
5500	4	General Motors	C1500 Suburban 2wd	Rear	350	8	255	L4	Large Utility	17.9
5500	5	General Motors	G1500-G2500 Chevy	Rear	350	8	255	L4	Large Van	17.9
5500	6	Ford Motor Co.	E150 Club Wagon	Rear	256	6	205	L4	Large Van	17.8
5500	7	Chrysler Corp.	Ram 1500 2wd	Rear	318	8	220	L4	Large Pickup	17.6
5500	8	Ford Motor Co.	E150 Club Wagon	Rear	280	8	215	L4	Large Van	17.5
5500	9	General Motors	K1500 4wd	4wd	350	8	250	L4	Large Pickup	17.4
5500	10	Ford Motor Co.	Navigator 2wd	Rear	330	8	300	L4	Large Utility	17.1
5500	11	Ford Motor Co.	Expedition 2wd	Rear	330	8	260	L4	Large Utility	16.9
5500	12	Ford Motor Co.	E250 Econoline 2wd	Rear	330	8	260	L4	Large Van	16.9
6000	1	General Motors	K1500 Tahoe 4wd	4wd	395	8	180	L4	Large Utility	18.9
6000	2	Toyota	Land Cruiser Wagon	4wd	287	8	230	L4	Large Utility	17.1
6000	3	Chrysler Corp.	Ram 1500 4wd	4wd	318	8	220	L4	Large Pickup	16.3
6000	4	General Motors	K1500 Yukon 4wd	4wd	350	8	255	L4	Large Utility	16.2
6000	5	Ford Motor Co.	E150 Club Wagon	Rear	330	8	235	L4	Large Van	16.2
6000	6	General Motors	Escalade 4wd	4wd	350	8	255	L4	Large Utility	16.2
6000	7	Ford Motor Co.	Expedition 4wd	4wd	280	8	215	L4	Large Utility	16.2
6000	8	Chrysler Corp.	Ram 1500 4wd	4wd	360	8	235	L4	Large Pickup	16.1
6000	9	Ford Motor Co.	Navigator 4wd	4wd	330	8	300	L4	Large Pickup	16.1
6000	10	Ford Motor Co.	Expedition 4wd	4wd	330	8	230	L4	Large Utility	15.5
6000	11	Ford Motor Co.	Navigator 4wd	4wd	330	8	230	L4	Large Utility	15.5
6000	12	Ford Motor Co.	E250 Econoline 2wd	Rear	330	8	235	L4	Large Van	14.9

Appendix C

Table C2 — **MY99 Best in Class Role Models** — Trucks

Weight	Rank	Manufacturer	Model Name	Drive	CID	Cyl.	HP	Trans.	Size Class	MPG
2750	1	Suzuki	Vitara 2-Door 2wd	Rear	97	4	97	M5	Small Utility	31.1
2750	2	GM Imports	Tracker 2wd Conv.	Rear	97	4	97	M5	Small Utility	31.1
2750	3	Toyota	RAV4 2wd	Front	122	4	127	M5	Small Utility	30.9
3000	1	Toyota	RAV4 2wd	Front	122	4	127	M5	Small Utility	30.9
3000	2	Suzuki	Vitara 2-Door 4wd	4wd	97	4	97	M5	Small Utility	30.7
3000	3	GM Imports	Tracker 4X4 Conv.	4wd	97	4	97	M5	Small Utility	30.6
3000	4	Toyota	RAV4 2wd	Front	122	4	127	L4	Small Utility	30.5
3000	5	Suzuki	Vitara 2-Door 2wd	Rear	97	4	97	L4	Small Utility	30.3
3000	6	Suzuki	Vitara 2-Door 4wd	4wd	97	4	97	L4	Small Utility	29.5
3000	7	GM Imports	Tracker 2wd Hardtop	Rear	122	4	127	L4	Small Utility	29.0
3000	8	Nissan	Frontier 2wd	Rear	146	4	142	M5	Small Pickup	28.8
3000	9	GM Imports	Tracker 2wd Conv.	Rear	122	4	127	L4	Small Utility	28.5
3000	10	Toyota	RAV4 Soft Top 4wd	4wd	122	4	125	L4	Small Utility	28.3
3000	11	GM Imports	Tracker 2wd Conv.	Rear	122	4	127	M5	Small Utility	28.2
3000	12	GM Imports	Tracker 2wd Hardtop	Rear	122	4	127	M5	Small Utility	28.1
3500	1	General Motors	S10 2wd	Rear	134	4	118	M5	Midsize Pickup	29.6
3500	2	Nissan	Frontier 2wd	Rear	146	4	142	M5	Small Pickup	28.0
3500	3	Toyota	RAV4 4wd	4wd	122	4	127	L4	Small Utility	27.9
3500	4	GM Imports	Tracker 4X4 Hardtop	4wd	122	4	127	L4	Small Utility	27.8
3500	5	Subaru	Forester Awd	4wd	150	4	165	M5	Small Utility	27.8
3500	6	Suzuki	Vitara 4-Door 4wd	4wd	122	4	127	L4	Small Utility	27.7
3500	7	Honda	CR-V(2wd)	Front	120	4	146	L4	Midsize Utility	27.7
3500	8	Ford Motor Co.	Ranger 2wd	Rear	153	4	118	M5	Midsize Pickup	27.6
3500	9	Mazda	B2500	Rear	153	4	118	M5	Midsize Pickup	27.6
3500	10	Honda	CR-V (4wd)	4wd	120	4	146	L4	Midsize Utility	27.3
3500	11	Honda	CR-V (4wd)	4wd	120	4	146	M5	Midsize Utility	27.2
3500	12	Toyota	RAV4 4wd	4wd	122	4	125	M5	Small Utility	27.1
4000	1	Mitsubishi	Montero Sport 2wd	Rear	143	4	132	M5	Midsize Utility	26.6
4000	2	Chrysler Corp.	Caravan 2wd	Front	148	4	150	L3	Midsize Van	25.9
4000	3	Toyota	4 Runner 2wd	Rear	164	4	150	L4	Midsize Utility	25.3
4000	4	Isuzu	Amigo 4wd	4wd	134	4	130	M5	Small Utility	24.9
4000	5	Chrysler Corp.	Caravan 2wd	Front	181	6	150	L4	Midsize Van	24.9
4000	6	Toyota	RX 300	Front	183	6	220	L4	Midsize Utility	24.4
4000	7	Chrysler Corp.	Dakota 2wd	Rear	150	4	120	M5	Midsize Pickup	24.3
4000	8	Toyota	Sienna	Front	183	6	190	L4	Midsize Van	24.1
4000	9	Toyota	4 Runner 2wd	Rear	164	4	150	M5	Midsize Utility	23.8
4000	10	General Motors	Venture Fwd	Front	204	6	185	L4	Midsize Van	23.7
4000	11	Chrysler Corp.	Caravan 2wd	Front	201	6	158	L4	Midsize Van	23.5
4000	12	Chrysler Corp.	Caravan 2wd	Front	201	6	162	L4	Midsize Van	23.5
4500	1	Honda	Odyssey	Front	212	6	205	L4	Midsize Van	24.1
4500	2	Chrysler Corp.	Caravan 2wd	Front	201	6	158	L4	Midsize Van	23.5
4500	3	Chrysler Corp.	Caravan 2wd	Front	201	6	158	L4	Midsize Van	23.5
4500	4	Chrysler Corp.	Caravan 2wd	Front	232	6	180	L4	Midsize Van	22.7
4500	5	Chrysler Corp.	Caravan 2wd	Front	232	6	180	L4	Midsize Van	22.4
4500	6	Ford Motor Co.	Windstar Fwd Wagon	Front	232	6	200	L4	Midsize Van	22.3
4500	7	Mitsubishi	Montero Sport 4wd	4wd	181	6	173	L4	Midsize Utility	22.3
4500	8	Chrysler Corp.	Caravan Awd	4wd	232	6	180	L4	Midsize Van	21.6
4500	9	Ford Motor Co.	F150 2wd	Rear	256	6	205	M5	Large Pickup	21.3
4500	10	Chrysler Corp.	Caravan Awd	4wd	232	6	180	L4	Midsize Van	21.2
4500	11	General Motors	C1500 Silverado 2wd	Rear	293	8	240	L4	Large Pickup	21.0
4500	12	Mitsubishi	Montero	4wd	181	6	177	L4	Midsize Utility	20.8

Appendix D

Table D-1 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** DOMESTIC CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	6718	.816	12.8	18.1	14.7	4380		328	147	14.2	113	.456	.0331	32.6		
1976	8253	.849	14.4	20.1	16.5	4317		318	142	14.4	111	.454	.0324	35.8		
1977	9293	.822	14.9	20.7	17.1	4246	115.8	316	144	13.9	113	.460	.0336	36.4	2005	4220
1978	8958	.802	16.1	23.0	18.6	3853	114.4	287	134	13.6	113	.480	.0345	36.0	2170	4129
1979	8682	.804	16.8	23.3	19.2	3711	114.4	270	129	13.6	112	.499	.0345	35.8	2230	4100
1980	6728	.712	18.9	27.1	21.9	3341	110.5	220	110	14.1	108	.530	.0327	36.6	2446	4067
1981	6261	.717	20.2	29.4	23.5	3291	113.2	209	106	14.2	108	.549	.0323	38.7	2706	4408
1982	5506	.704	20.8	31.3	24.5	3247	112.1	200	105	14.3	107	.567	.0322	40.0	2800	4504
1983	5683	.710	20.5	30.9	24.1	3310	114.6	208	111	14.0	109	.565	.0331	40.2	2828	4611
1984	8102	.759	21.3	32.1	25.1	3233	111.5	197	109	13.8	109	.593	.0336	40.8	2857	4553
1985	7797	.723	21.8	33.2	25.8	3246	112.7	199	117	13.2	112	.625	.0357	41.9	2950	4734
1986	7517	.682	22.4	34.5	26.6	3199	111.6	190	117	13.0	112	.646	.0363	42.6	2998	4767
1987	6608	.616	22.4	34.8	26.7	3200	112.1	189	120	12.8	114	.666	.0374	42.7	3017	4801
1988	6574	.612	22.7	35.7	27.1	3247	112.2	189	126	12.4	115	.695	.0386	44.1	3069	4963
1989	6204	.619	22.4	35.6	26.9	3276	112.6	190	128	12.3	116	.703	.0391	44.0	3047	4972
1990	5007	.568	22.0	35.5	26.5	3359	112.9	193	134	12.2	117	.715	.0397	44.6	3014	5045
1991	4793	.562	22.0	35.5	26.6	3335	112.9	194	139	11.9	119	.730	.0412	44.3	3028	5029
1992	4724	.583	21.7	35.5	26.3	3399	114.1	201	147	11.4	122	.748	.0430	44.7	3016	5120
1993	5106	.604	22.4	36.4	27.1	3327	113.3	192	143	11.6	121	.757	.0425	45.1	3102	5135
1994	4685	.558	21.7	35.5	26.3	3431	112.8	201	154	11.2	124	.777	.0444	45.1	2980	5105
1995	5495	.585	22.4	37.1	27.2	3368	112.7	192	161	10.7	127	.858	.0471	45.9	3104	5182
1996	4564	.578	22.3	37.0	27.2	3400	112.2	189	166	10.5	128	.894	.0482	46.2	3073	5198
1997	4593	.550	22.6	37.3	27.5	3373	112.8	187	166	10.4	128	.898	.0484	46.3	3120	5231
1998	4531	.561	22.9	38.0	27.8	3338	110.8	182	164	10.4	128	.916	.0487	46.5	3110	5163
1999	4282	.544	22.2	36.6	27.0	3456	113.1	191	173	10.3	130	.920	.0494	46.8	3081	5294

PERCENT OF DOMESTIC CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE
1975	1.3		8.2		.6		.6	99.4			45.9	28.1	26.1
1976	1.4		8.1		.9		.9	99.1			47.7	29.4	22.9
1977	1.4		4.4		.7		.7	99.3			41.8	29.6	28.6
1978	3.3		6.9	8.4	1.1		1.1	98.5	.4		31.2	42.7	26.1
1979	5.4		9.1	10.0	1.2		1.2	97.3	1.6		30.4	42.1	27.5
1980	22.3	.6	15.7	23.2	1.2	1.0	.2	95.6	3.2		36.4	47.7	15.8
1981	32.4	.3	15.3	45.3	3.7	3.7		91.3	5.0		32.7	50.3	17.0
1982	42.9	.4	15.4	70.5	13.9	13.9		82.4	3.7		38.8	43.4	17.8
1983	42.4	.6	12.3	72.8	27.3	26.6	.7	71.5	1.2		34.7	44.1	21.3
1984	51.3	.3	13.6	69.1	38.3	32.0	6.3	60.7	.9		45.3	37.2	17.4
1985	60.0		11.0	69.6	57.5	44.2	13.3	42.3	.2		40.7	38.0	21.3
1986	68.2	.1	11.7	70.6	70.7	41.0	29.6	29.2	.1		43.6	38.1	18.3
1987	74.3	.1	10.8	70.6	84.8	45.2	39.6	15.1	.1		43.3	37.1	19.6
1988	78.8		10.0	80.3	95.5	36.1	59.4	4.5		1.8	48.1	31.8	20.1
1989	80.7	.3	8.5	81.8	98.4	34.6	63.8	1.6		2.8	40.4	38.7	21.0
1990	84.7	.1	6.2	85.4	99.3	27.4	71.9	.7		2.4	36.6	41.5	21.9
1991	82.4		7.1	87.9	100.0	26.9	73.1			1.1	40.6	38.3	21.1
1992	82.3		6.2	88.2	100.0	11.2	88.8			3.6	38.3	35.5	26.2
1993	84.1		8.2	86.7	100.0	9.0	91.0			4.1	43.1	35.4	21.5
1994	80.1		6.8	89.3	100.0	6.9	93.1			10.1	40.0	32.7	27.3
1995	83.2		9.4	90.6	100.0	.5	99.5			26.0	45.8	31.9	22.3
1996	84.4		8.6	91.4	100.0		100.0			32.5	42.9	35.5	21.6
1997	86.4		7.8	92.2	100.0		100.0			30.8	41.8	34.5	23.7
1998	89.0		8.7	87.5	100.0		100.0			34.2	45.6	37.0	17.4
1999	85.3		8.7	91.3	100.0		100.0			36.9	38.8	35.7	25.5

Table D-2 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** EUROPEAN CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG
1975	673	.082	19.6	29.1	23.0	2704		114	83	15.3	103	.729	.0298	31.4		
1976	527	.054	20.1	29.3	23.4	2720		119	85	14.8	104	.728	.0309	32.2		
1977	623	.055	21.3	31.4	24.9	2676	89.6	115	84	14.8	104	.734	.0309	34.0	2368	3093
1978	707	.063	21.9	32.0	25.5	2579	91.1	112	83	14.5	104	.743	.0317	33.9	2505	3120
1979	599	.056	21.7	31.4	25.2	2680	89.3	118	84	14.9	104	.720	.0310	34.7	2415	3145
1980	791	.084	24.3	35.1	28.2	2574	89.6	112	78	15.2	102	.699	.0302	37.5	2690	3397
1981	525	.060	25.5	36.0	29.4	2765	93.1	121	84	15.2	103	.693	.0300	42.1	2928	3939
1982	494	.063	25.1	34.3	28.6	2895	96.4	128	92	14.8	105	.718	.0312	42.7	2923	4143
1983	440	.055	23.7	33.0	27.2	3041	98.5	140	107	13.5	110	.773	.0349	42.0	2785	4181
1984	640	.060	23.2	32.8	26.7	2987	99.9	139	110	13.0	112	.797	.0364	40.8	2772	4086
1985	665	.062	22.8	32.3	26.3	3070	102.5	145	117	12.7	114	.823	.0378	41.1	2818	4231
1986	732	.066	22.6	32.2	26.1	3016	103.0	146	123	12.2	116	.857	.0400	39.8	2793	4128
1987	743	.069	22.5	31.8	25.9	3032	100.8	145	128	11.9	118	.890	.0412	39.5	2699	4017
1988	675	.063	21.9	31.9	25.5	3084	103.1	149	133	11.7	119	.899	.0421	39.6	2707	4102
1989	550	.055	21.1	31.1	24.7	3209	104.4	156	144	11.3	122	.933	.0440	39.9	2653	4185
1990	437	.050	21.0	31.2	24.6	3360	105.1	155	148	11.5	122	.961	.0431	41.7	2657	4393
1991	390	.046	21.1	31.8	24.9	3393	104.4	156	150	11.5	122	.969	.0432	42.5	2677	4455
1992	331	.041	20.9	32.2	24.8	3467	103.9	156	161	11.1	125	1.029	.0453	43.2	2639	4505
1993	290	.034	20.9	32.5	24.9	3590	105.5	164	174	10.6	129	1.060	.0475	44.7	2656	4725
1994	338	.040	21.0	33.2	25.2	3584	105.1	164	181	10.3	131	1.103	.0495	45.2	2686	4761
1995	507	.054	21.5	33.9	25.8	3604	104.8	165	185	10.2	132	1.117	.0503	46.5	2744	4889
1996	406	.051	22.1	35.1	26.5	3485	103.9	158	168	10.6	128	1.062	.0475	46.4	2796	4843
1997	544	.065	21.6	34.6	26.0	3566	103.1	169	185	10.0	133	1.093	.0511	46.6	2719	4828
1998	621	.077	22.1	35.1	26.5	3534	103.1	163	184	10.1	133	1.128	.0511	47.5	2799	4918
1999	727	.092	22.1	35.1	26.5	3594	101.8	167	190	9.9	134	1.140	.0520	48.2	2765	4935

PERCENT OF EUROPEAN CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE
1975	46.1		68.5		38.8		38.8	58.3	2.9		94.8	5.2	.0
1976	46.3		65.5		33.7		33.7	61.6	4.7		95.8	4.2	.0
1977	55.0		73.1		52.4		52.4	38.9	8.6		95.6	4.4	.0
1978	61.9		74.2		53.9		53.9	36.7	9.5		96.9	3.1	.0
1979	54.0		73.2		47.6		47.6	37.1	15.3		94.2	5.8	.0
1980	69.3		78.0		48.9		48.9	25.3	25.8		96.0	4.0	.0
1981	61.1		68.7		61.4		61.4	2.2	36.4		95.0	5.0	.0
1982	54.8		61.2	.1	65.6		65.6	6.3	28.1		93.8	6.2	.0
1983	42.0	.1	53.6	.3	77.1		77.1	3.5	19.4		90.5	9.3	.1
1984	45.4	.5	51.0	.6	84.2		84.2	2.2	13.6		81.6	18.4	.0
1985	45.0	.6	46.4	7.1	88.8		88.8	.3	10.9		79.5	20.5	.0
1986	47.1	1.2	47.1	11.9	91.4		91.4	5.3	3.3	6.7	76.4	22.1	1.5
1987	45.7	1.4	49.3	11.2	90.3		90.3	6.6	3.1	9.2	78.5	19.7	1.9
1988	50.7	1.0	41.1	25.4	94.2	2.4	91.8	5.7	.1	12.4	68.4	23.6	8.0
1989	44.4	.9	31.5	29.5	98.7	.1	98.7	.5	.8	13.8	66.0	24.6	9.4
1990	42.9	1.0	29.2	32.7	99.2		99.2		.8	18.8	63.0	30.7	6.2
1991	43.1	1.1	29.7	31.5	97.0		97.0	.2	2.8	27.0	65.3	26.3	8.4
1992	36.8	1.2	29.5	34.7	98.5		98.5		1.5	36.9	68.2	22.4	9.4
1993	34.6	2.9	24.8	45.5	100.0	6.8	93.2			61.1	59.0	32.1	8.9
1994	38.8	2.4	22.8	56.6	100.0		100.0			68.4	64.6	30.9	4.5
1995	44.3	1.5	27.3	50.8	99.0		99.0		1.0	68.5	69.8	24.8	5.4
1996	56.1	4.5	32.7	54.3	98.1		98.1		1.9	56.4	65.7	28.9	5.4
1997	43.7	4.4	29.7	69.9	98.9		98.9		1.1	68.9	62.6	31.2	6.2
1998	44.9	7.9	25.5	74.0	95.7		95.7		4.3	58.2	55.0	40.5	4.5
1999	45.6	11.6	34.4	65.1	96.5		96.5		3.5	50.2	59.5	38.1	2.4

Table D-3 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** ASIAN CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	846	.103	20.1	29.3	23.4	2575		113	93	13.4	109	.814	.0354	30.8	686	
1976	942	.097	23.0	33.3	26.7	2550		108	86	13.9	106	.795	.0333	34.3	829	
1977	1383	.122	25.4	35.8	29.2	2485	83.7	104	84	13.9	106	.798	.0332	37.0	2543	3105
1978	1510	.135	25.3	34.3	28.7	2482	85.3	106	83	13.9	105	.784	.0332	36.3	2531	3097
1979	1513	.140	23.4	32.4	26.7	2506	84.9	107	78	14.6	103	.734	.0309	33.9	2356	2895
1980	1924	.204	25.5	34.7	29.0	2482	88.5	107	77	14.5	103	.720	.0308	36.4	2647	3232
1981	1948	.223	27.5	36.5	30.9	2469	88.6	109	78	14.5	103	.713	.0313	38.6	2815	3426
1982	1819	.233	27.6	37.2	31.2	2512	90.6	113	80	14.4	104	.707	.0314	39.7	2924	3611
1983	1879	.235	28.7	39.4	32.7	2528	93.1	112	82	14.2	105	.731	.0322	41.9	3159	3924
1984	1933	.181	28.5	39.9	32.7	2569	93.6	114	88	13.7	107	.768	.0339	42.5	3174	4004
1985	2328	.216	28.1	39.2	32.2	2585	94.6	113	89	13.7	107	.782	.0338	42.2	3175	4013
1986	2765	.251	28.8	40.0	32.9	2616	96.8	110	90	13.8	107	.810	.0337	43.5	3287	4211
1987	3380	.315	27.9	39.2	32.0	2700	97.1	111	93	13.9	107	.827	.0338	43.6	3194	4236
1988	3487	.325	28.6	39.6	32.7	2662	98.1	108	93	13.6	108	.851	.0343	43.8	3291	4299
1989	3264	.326	27.6	38.9	31.8	2745	98.9	112	103	12.9	111	.908	.0368	43.9	3216	4341
1990	3365	.382	26.4	37.5	30.4	2879	98.6	119	118	12.0	116	.983	.0402	44.1	3060	4347
1991	3341	.392	26.7	38.1	30.8	2865	98.3	119	120	11.8	117	1.011	.0412	44.5	3101	4374
1992	3052	.377	26.1	38.0	30.4	2968	100.1	123	127	11.7	118	1.036	.0421	45.4	3120	4541
1993	3060	.362	26.3	38.5	30.6	2971	100.5	123	127	11.6	118	1.027	.0419	45.8	3159	4608
1994	3379	.402	26.7	39.5	31.2	2968	102.2	122	123	11.9	117	1.009	.0409	46.7	3269	4770
1995	3394	.361	26.2	39.2	30.8	3041	102.9	127	134	11.3	120	1.059	.0435	47.1	3229	4845
1996	2923	.370	26.0	38.9	30.5	3068	104.5	129	134	11.4	120	1.043	.0432	47.1	3252	4923
1997	3210	.385	25.9	39.0	30.5	3084	103.8	129	137	11.2	121	1.063	.0440	47.2	3210	4904
1998	2926	.362	25.8	39.1	30.5	3210	106.9	136	147	10.9	124	1.084	.0454	49.2	3304	5254
1999	2867	.364	25.7	39.0	30.4	3219	106.5	136	149	10.9	124	1.092	.0458	49.1	3275	5232

PERCENT OF ASIAN CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE
1975	17.0		74.0		14.4		14.4	85.6			100.0		
1976	21.2		69.2		6.0		6.0	94.0			100.0		
1977	22.0		74.4		6.3		6.3	93.7			100.0		
1978	22.8		74.1		5.9		5.9	94.1			100.0		
1979	32.4	2.5	77.8		8.1		8.1	91.9			100.0		
1980	39.2	2.4	69.7		9.4		9.4	90.6			100.0		
1981	45.5	2.1	68.7	3.7	11.0		11.0	88.2	.8		100.0		
1982	51.3	2.2	64.4	7.4	13.1		13.1	85.6	1.3		100.0		
1983	63.2	11.3	67.1	21.4	20.2		20.2	79.3	.5		100.0		
1984	66.8	4.2	59.4	32.3	29.1	.5	28.6	70.1	.8		100.0		
1985	71.8	9.4	59.0	36.6	29.9	.4	29.5	69.9	.2		99.2	.8	
1986	85.3	3.6	54.4	36.1	43.2	1.7	41.4	56.8	.1	4.6	98.1	1.9	
1987	89.3	3.0	47.1	48.3	46.1	8.5	37.6	53.9		15.8	99.6	.4	
1988	93.0	2.3	47.9	47.3	59.6	23.9	35.7	40.4		26.2	95.8	4.2	
1989	92.4	2.3	42.9	52.2	73.2	19.6	53.6	26.8		31.6	91.0	9.0	
1990	89.9	2.3	38.3	59.5	97.4	14.4	82.9	2.6		61.3	90.7	9.3	
1991	89.1	3.4	38.7	57.9	99.9	17.2	82.7	.1		67.3	91.0	9.0	
1992	83.3	2.8	33.1	62.6	100.0	10.2	89.8			69.4	83.4	16.6	
1993	91.5	3.0	33.3	63.6	100.0	7.6	92.4			78.0	80.5	19.5	
1994	94.4	1.4	28.0	67.8	100.0	2.9	97.1			76.1	83.5	16.5	
1995	85.6	3.0	25.5	72.5	100.0	2.4	97.6			91.8	74.3	24.0	1.8
1996	94.2	3.4	22.2	75.3	100.0	3.0	97.0			93.1	70.7	27.1	2.3
1997	94.0	3.8	18.8	79.5	100.0	2.1	97.9			93.9	72.6	25.1	2.3
1998	93.6	4.1	19.1	80.0	100.0	.6	99.4			97.1	50.9	46.7	2.5
1999	93.7	3.9	16.0	83.1	100.0	.1	99.9			97.9	51.5	46.1	2.4

Table D-4 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** DOMESTIC TRUCKS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	1763	.887	11.6	15.4	13.1	4227		335	149	13.4	115	.441	.0351	28.1
1976	2374	.909	12.4	16.3	13.9	4282		339	146	13.8	113	.427	.0340	30.3
1977	2499	.885	13.4	17.2	14.9	4298		343	154	13.2	116	.448	.0358	32.4
1978	2915	.891	13.2	16.7	14.5	4304		337	152	13.2	115	.451	.0354	31.8
1979	2615	.847	12.7	15.7	13.8	4504		330	148	14.2	113	.449	.0329	31.8
1980	1292	.694	14.9	19.8	16.8	4323		303	136	14.4	110	.451	.0313	36.8
1981	1310	.720	16.1	21.7	18.2	4173		293	132	14.4	110	.453	.0315	38.4
1982	1459	.763	16.8	22.7	19.0	4077		277	130	14.3	110	.485	.0321	39.3
1983	1806	.785	17.2	23.8	19.6	3977		256	125	14.5	109	.508	.0312	39.6
1984	2608	.780	16.8	23.4	19.2	3991		250	125	14.6	109	.523	.0312	38.9
1985	2939	.801	17.0	23.7	19.5	3963		245	130	14.1	110	.553	.0326	39.2
1986	3057	.703	17.4	24.2	19.9	3994		242	134	13.8	112	.579	.0334	40.1
1987	2989	.723	17.7	25.2	20.4	3932		237	143	13.0	115	.629	.0363	40.5
1988	3695	.811	17.7	25.5	20.5	3989		247	150	12.7	117	.629	.0374	41.2
1989	3634	.819	17.5	25.3	20.3	4048		253	153	12.6	118	.630	.0379	41.5
1990	3055	.803	17.3	25.4	20.2	4142		257	158	12.5	118	.633	.0381	42.1
1991	3227	.797	17.8	26.2	20.8	4051		247	156	12.4	119	.648	.0385	42.5
1992	3342	.822	17.4	25.8	20.4	4167		251	161	12.4	119	.657	.0387	42.8
1993	3929	.826	17.5	26.2	20.6	4163		251	168	12.0	121	.683	.0404	43.1
1994	4543	.829	17.5	25.9	20.5	4221		255	171	11.9	122	.689	.0407	43.5
1995	4646	.808	17.2	25.7	20.2	4276		262	173	11.9	122	.677	.0405	43.5
1996	4450	.847	17.4	26.3	20.5	4317		256	183	11.5	125	.728	.0424	44.7
1997	5187	.833	17.3	26.0	20.3	4442		262	192	11.3	126	.745	.0432	45.4
1998	5413	.826	17.0	25.8	20.1	4427		259	196	11.1	128	.766	.0441	44.7
1999	5546	.813	16.8	25.2	19.7	4554		265	201	11.1	128	.767	.0441	45.1

PERCENT OF DOMESTIC TRUCKS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE
1975		19.3	31.1					100.0			2.7	24.1	73.2
1976		25.2	30.1					100.0			2.2	20.0	77.8
1977		26.7	25.3					100.0			2.3	20.3	77.5
1978		31.7	25.5					99.1	.9		2.7	22.8	74.5
1979		17.6	25.6	2.4				97.9	2.1		3.8	19.1	77.1
1980		27.1	36.8	35.4				95.9	4.1		4.3	17.8	77.9
1981	.1	19.0	35.6	43.2				98.4	1.6		3.3	16.6	80.1
1982		18.2	31.2	43.6				93.3	6.7		3.0	34.2	62.8
1983		26.1	33.8	45.8				95.9	4.1		3.0	49.1	47.8
1984	5.7	33.0	30.1	43.0				98.1	1.9		5.9	50.4	43.7
1985	8.2	30.7	26.5	49.7	9.5	.2		89.6	.9		3.6	56.1	40.3
1986	7.6	29.9	25.4	55.5	44.6	19.8	24.8	54.8	.6		4.4	55.7	39.9
1987	9.4	29.8	26.0	56.2	79.2	38.6	40.6	20.6	.3		5.2	66.4	28.3
1988	10.8	30.0	25.9	61.7	96.0	50.7	45.3	3.8	.2		5.1	60.6	34.3
1989	11.8	29.8	24.2	64.2	98.5	52.8	45.7	1.3	.2		4.2	62.6	33.2
1990	18.8	26.8	19.0	76.1	98.7	48.6	50.1	1.1	.2		3.5	62.1	34.4
1991	12.0	32.6	24.0	74.6	99.7	51.0	48.7	.1	.2		2.4	71.1	26.5
1992	15.6	29.5	20.6	78.5	99.9	36.8	63.1		.1		2.0	67.1	30.9
1993	14.6	28.3	17.7	81.5	100.0	30.1	69.9				2.1	68.4	29.6
1994	13.9	33.4	18.5	80.3	100.0	26.8	73.2				2.0	64.8	33.2
1995	17.9	38.4	16.5	82.9	100.0	24.1	75.9				2.2	64.2	33.6
1996	20.5	36.5	12.6	86.9	99.9		99.9		.1	.7		70.1	29.9
1997	13.1	41.9	13.3	86.5	100.0		100.0			.7	4.9	52.2	42.9
1998	19.0	42.8	10.4	89.6	100.0		100.0			.7	1.7	58.2	40.1
1999	16.8	45.6	10.5	89.5	100.0		100.0			.7	1.3	54.9	43.7

Table D-5 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** IMPORTED TRUCKS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	224	.113	18.6	26.9	21.6	2857		120	89	14.8	105	.752	.0313	31.1
1976	238	.091	19.3	28.4	22.6	2879		122	91	14.6	105	.761	.0318	33.2
1977	325	.115	21.8	30.9	25.1	2884		128	92	14.3	106	.741	.0323	37.0
1978	358	.109	22.2	29.9	25.1	2903		126	89	14.7	104	.719	.0309	37.2
1979	472	.153	20.3	28.0	23.1	2854		124	84	15.0	103	.688	.0297	33.7
1980	570	.306	21.5	29.0	24.3	2839		124	86	14.7	104	.701	.0306	35.1
1981	510	.280	24.2	32.5	27.3	2862		130	84	15.2	103	.650	.0294	39.9
1982	454	.237	24.1	32.0	27.1	2932		134	87	15.2	103	.647	.0298	40.6
1983	495	.215	24.1	32.1	27.1	2982		137	92	14.6	105	.672	.0307	41.0
1984	736	.220	23.7	31.2	26.6	3043		134	91	14.9	104	.680	.0299	40.9
1985	730	.199	23.5	30.9	26.3	3119		139	100	14.1	107	.719	.0321	41.4
1986	1293	.297	23.1	31.2	26.2	3132		138	99	14.2	106	.717	.0317	41.1
1987	1145	.277	22.5	30.6	25.6	3139		139	99	14.2	106	.718	.0317	40.3
1988	864	.189	21.9	29.3	24.7	3211		142	105	13.9	108	.743	.0327	39.7
1989	801	.181	21.1	28.4	23.9	3347		149	113	13.6	110	.756	.0337	40.1
1990	750	.197	20.6	28.0	23.4	3448		153	123	13.0	113	.807	.0359	40.5
1991	822	.203	20.3	27.9	23.1	3545		154	125	13.2	112	.811	.0353	41.2
1992	723	.178	20.1	27.7	22.9	3540		154	125	13.1	112	.813	.0353	40.8
1993	825	.174	20.1	27.9	23.0	3647		160	134	12.8	114	.836	.0366	42.0
1994	938	.171	19.5	27.0	22.3	3708		165	139	12.6	116	.841	.0373	41.5
1995	1103	.192	19.2	26.7	22.0	3798		168	146	12.4	117	.871	.0384	41.9
1996	804	.153	19.9	27.6	22.7	3715		170	154	11.6	121	.919	.0415	42.3
1997	1037	.167	19.8	27.3	22.6	3779		170	155	11.8	120	.922	.0409	42.7
1998	1142	.174	20.3	28.4	23.3	3813		170	162	11.4	123	.966	.0425	44.5
1999	1276	.187	20.2	28.3	23.2	3906		175	171	11.1	125	.992	.0437	45.4

PERCENT OF IMPORTED TRUCKS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE
1975			83.5		.5			99.5			75.0	25.0	
1976			82.1		.7			99.3			77.0	23.0	
1977			83.2		.7			99.3			79.5	20.5	
1978		6.5	88.6		.8			99.2			78.3	21.7	
1979		20.1	88.1		1.8			98.2			78.5	21.5	
1980	4.6	20.3	89.8		5.4			92.6	2.0		82.9	17.1	
1981	6.5	22.8	92.8		4.0			80.1	15.9		74.4	25.6	
1982	7.1	26.1	92.2		2.8			79.5	17.7		79.3	20.7	
1983	6.2	24.6	90.2	.9	3.0			90.3	6.8		66.0	34.0	
1984	2.0	23.9	84.6	7.4	11.7			84.6	3.8		67.4	32.6	
1985	2.4	30.0	79.8	12.0	23.5			75.0	1.6		82.0	18.0	
1986	1.8	31.2	83.5	10.2	31.0	16.2	14.8	68.1	.9		68.7	31.3	
1987	2.3	35.9	76.3	15.0	34.8	20.5	14.4	64.9	.2		58.0	41.6	.4
1988	1.4	47.2	76.5	16.3	52.4	17.7	34.7	47.6			57.5	42.4	.1
1989	1.2	42.2	71.1	23.2	70.9	24.3	46.6	29.1			58.0	41.9	
1990	2.3	49.6	65.3	31.9	84.9	9.0	75.8	15.1			53.7	46.2	
1991	.8	45.8	58.5	39.0	92.4	12.5	79.9	7.6			46.7	51.8	1.4
1992	4.7	40.1	58.4	39.5	91.3	12.8	78.5	8.7			49.0	49.8	1.2
1993	17.3	35.2	49.8	48.2	94.5	4.5	90.0	5.5		1.0	40.9	50.6	8.5
1994	12.9	51.0	49.7	47.6	97.8	5.8	92.0	2.2		16.2	46.8	50.1	3.1
1995	17.1	50.5	37.6	60.6	100.0	3.6	96.4			42.4	35.3	60.5	4.2
1996	18.1	40.3	32.4	64.3	100.0		100.0			63.9	42.6	50.3	7.0
1997	16.3	47.8	26.8	71.1	100.0		100.0			62.2	35.2	59.4	5.5
1998	19.0	48.5	30.1	67.0	100.0		100.0			79.0	35.2	58.7	6.1
1999	19.1	52.5	23.8	74.6	100.0		100.0			80.6	36.0	58.0	6.0

Appendix E

Table E-1 **CHARACTERISTICS OF 1978 TO 1999 CARS** M-3 TRANS.

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1978	47	.004	19.2	27.7	22.3	3441	113.5	219	100	15.0	104	.459	.0291	38.3	2549	4350
1979	23	.002	19.3	26.8	22.1	3584	111.7	224	102	15.2	104	.457	.0282	39.7	2493	4446
1980	17	.002	18.8	25.0	21.1	3526	109.1	228	111	14.2	107	.484	.0312	37.4	2310	4074
1981	9	.001	18.8	25.9	21.4	3500	103.7	229	115	13.7	109	.501	.0323	37.5	2223	3890

PERCENT OF M-3:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1978			100.0					100.0			39.4	60.6		100.0		
1979			100.0					100.0			42.9	57.1		100.0		
1980			100.0					100.0			40.2	59.8		100.0		
1981			100.0					100.0			67.3	32.7		100.0		

Table E-2 **CHARACTERISTICS OF 1978 TO 1999 CARS** M-4 TRANS.

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1978	1129	.101	23.9	34.4	27.7	2567	88.4	123	82	14.4	104	.701	.0315	36.3	2591	3231
1979	1509	.140	23.0	33.6	26.8	2606	89.9	123	83	14.5	104	.696	.0312	35.4	2502	3194
1980	1733	.183	23.9	35.4	28.0	2582	93.9	123	80	14.7	103	.659	.0306	36.6	2706	3452
1981	1335	.153	26.8	39.2	31.2	2499	99.0	116	78	14.4	103	.691	.0312	39.5	3162	3903
1982	1074	.137	26.6	39.8	31.3	2556	94.7	117	77	14.9	102	.675	.0298	40.5	3042	3834
1983	542	.068	29.0	41.9	33.7	2494	98.6	112	75	14.9	102	.682	.0297	42.6	3417	4198
1984	668	.063	30.2	43.8	35.1	2505	93.6	112	77	14.7	103	.695	.0305	44.5	3405	4186
1985	444	.041	31.3	45.4	36.4	2508	98.5	110	80	14.2	104	.733	.0318	46.1	3694	4559
1986	489	.044	30.1	43.2	34.9	2535	95.5	114	83	14.1	105	.737	.0323	45.0	3470	4333
1987	344	.032	31.6	43.0	35.9	2417	94.4	100	77	14.4	103	.769	.0313	44.1	3493	4183
1988	487	.045	32.9	44.0	37.1	2354	96.4	97	74	14.4	103	.761	.0311	44.1	3661	4272
1989	315	.031	33.4	45.9	38.1	2380	98.0	96	79	13.7	105	.824	.0330	45.7	3793	4483
1990	194	.022	33.1	45.1	37.6	2462	97.1	97	86	13.0	107	.892	.0349	46.5	3680	4528
1991	143	.017	34.5	45.8	38.8	2417	97.2	91	89	12.5	109	.975	.0369	47.0	3786	4572
1992	107	.013	33.9	46.0	38.5	2376	96.4	91	88	12.5	109	.963	.0371	45.7	3715	4409
1993	78	.009	34.3	45.7	38.6	2308	96.2	89	81	12.9	107	.911	.0354	44.5	3714	4285
1994	52	.006	34.7	46.7	39.2	2250	95.0	89	82	12.8	108	.921	.0364	44.1	3728	4194
1995	18	.002	37.3	51.1	42.5	2250	90.0	91	93	11.4	113	1.022	.0413	47.8	3824	4302
1996	20	.003	37.4	51.2	42.6	2250	90.0	91	93	11.4	113	1.022	.0413	47.9	3830	4309

PERCENT OF M-4:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1978	44.2		100.0		21.2		21.2	75.1	3.7		95.3	4.7		42.4	41.4	16.2
1979	32.0	2.5	100.0		9.8		9.8	87.5	2.7		95.1	4.9		50.1	21.9	28.0
1980	47.2	2.6	100.0		8.3		8.3	83.9	7.7		86.1	13.9		59.6	25.1	15.3
1981	62.3	3.4	100.0		4.3		4.3	88.8	6.9		85.5	14.5		69.5	12.0	18.5
1982	69.6	3.7	100.0		8.0	3.6	4.4	88.5	3.5		94.1	5.9		76.1	10.7	13.1
1983	65.4	7.8	100.0		20.5	13.0	7.5	76.0	3.5		93.8	6.2		62.9	11.9	25.2
1984	61.2	5.5	100.0		34.5	28.8	5.7	61.8	3.7		95.7	4.3		71.9	8.3	19.8
1985	74.5	.8	100.0		27.5	18.4	9.0	72.1	.4		94.9	5.1		76.4	5.1	18.6
1986	74.2	.9	100.0		23.6	9.1	14.4	76.4	.1	.2	97.4	2.6		61.9	11.3	26.8
1987	92.0	1.0	100.0		45.3	31.2	14.2	54.7		1.5	98.8	1.2		36.4	25.6	37.9
1988	97.9	.6	100.0		55.6	36.1	19.5	44.4		4.4	99.6	.4		12.5	23.4	64.1
1989	99.3	.3	100.0		65.6	44.7	20.9	34.4		7.6	99.6	.4		9.7	11.8	78.5
1990	99.6		100.0		90.3	58.4	31.9	9.7		17.6	99.6	.4		7.8	12.1	80.1
1991	100.0		100.0		99.6	30.1	69.5	.4		41.2	100.0				3.7	96.3
1992	100.0		100.0		100.0	2.5	97.5			20.0	100.0				1.3	98.7
1993	100.0		100.0		100.0	4.2	95.8				100.0					100.0
1994	100.0		100.0		100.0		100.0				100.0					100.0
1995	100.0		100.0		100.0		100.0			100.0	100.0					100.0
1996	100.0		100.0		100.0		100.0			100.0	100.0					100.0

Table E-3 **CHARACTERISTICS OF 1978 TO 1999 CARS** M-5 TRANS.

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG
1978	1037	.093	24.8	35.7	28.7	2564	86.2	114	84	14.1	105	.753	.0326	37.6	2586	3247
1979	742	.069	22.0	33.0	25.9	2633	82.6	117	85	14.3	105	.724	.0317	34.8	2258	2896
1980	1173	.124	24.9	36.6	29.1	2541	86.7	110	80	14.4	104	.726	.0313	37.5	2627	3274
1981	1263	.145	27.6	39.3	31.8	2488	87.2	110	79	14.4	103	.710	.0313	40.1	2870	3513
1982	1210	.155	27.9	40.0	32.3	2519	89.8	113	81	14.3	104	.710	.0317	41.4	3025	3744
1983	1543	.193	27.3	40.3	31.9	2583	93.3	120	87	13.9	106	.732	.0330	42.0	3131	3957
1984	1908	.179	26.9	39.8	31.5	2646	94.3	125	94	13.4	108	.757	.0348	42.5	3106	4032
1985	2019	.187	27.3	40.7	32.1	2629	93.7	121	95	13.1	109	.791	.0357	42.8	3136	4033
1986	2239	.203	27.6	40.6	32.2	2684	96.0	122	97	13.2	109	.805	.0356	43.9	3213	4218
1987	2328	.217	27.2	40.3	31.9	2719	95.5	121	99	13.2	110	.821	.0357	43.8	3146	4193
1988	2116	.197	27.6	40.8	32.3	2738	96.8	122	103	12.8	111	.852	.0369	44.8	3240	4341
1989	1784	.178	27.1	40.4	31.8	2786	98.0	125	108	12.4	113	.883	.0381	44.8	3218	4396
1990	1528	.173	26.7	39.4	31.2	2834	95.9	125	118	11.8	116	.967	.0409	44.7	3083	4294
1991	1599	.188	27.6	40.6	32.3	2796	95.7	121	117	11.9	116	.974	.0407	45.7	3200	4384
1992	1299	.160	27.7	41.2	32.5	2813	96.7	121	121	11.6	118	1.009	.0422	46.4	3268	4496
1993	1416	.167	28.4	42.1	33.3	2771	97.1	120	117	11.8	117	.978	.0414	46.8	3357	4557
1994	1322	.157	28.4	42.5	33.4	2835	97.7	123	119	11.7	117	.986	.0413	48.0	3387	4709
1995	1476	.157	28.1	42.7	33.2	2869	99.2	125	126	11.3	119	1.026	.0432	48.3	3407	4798
1996	1127	.143	28.1	42.8	33.2	2912	100.1	128	130	11.1	120	1.029	.0440	48.9	3425	4906
1997	1096	.131	28.2	42.9	33.3	2897	98.7	125	129	11.1	120	1.049	.0441	48.8	3380	4832
1998	1090	.135	28.0	42.6	33.1	2970	100.9	130	134	11.0	121	1.046	.0445	49.8	3431	5033
1999	1054	.134	27.3	41.6	32.3	3012	99.9	132	139	10.8	123	1.065	.0456	49.3	3319	4942

PERCENT OF M-5:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1978	20.5		100.0		5.8		5.8	94.2			99.8	.2		8.7	5.5	85.8
1979	33.8		100.0		16.3		16.3	81.7	2.0		99.9	.1		1.4	14.6	84.0
1980	39.2		100.0		19.5		19.5	78.1	2.4		99.3	.7		.5	15.6	83.9
1981	49.8		100.0		20.2		20.2	74.5	5.3		100.0			1.8	15.9	82.3
1982	56.1	.2	100.0		20.2		20.2	74.9	4.9		100.0			2.4	15.5	82.1
1983	66.4	6.1	100.0		32.0	7.0	25.0	67.3	.8		99.3	.7		23.1	11.1	65.8
1984	69.6	1.4	100.0		39.9	8.9	31.0	56.9	3.2		99.2	.8		32.8	14.0	53.2
1985	70.3	5.8	100.0		42.4	9.3	33.2	55.6	2.0		98.4	1.6		25.9	14.2	60.0
1986	78.6	3.6	100.0		57.7	12.0	45.7	41.2	1.1	5.6	96.4	3.2	.4	25.8	12.9	61.3
1987	79.2	3.4	100.0		61.9	16.3	45.6	37.9	.2	11.0	97.8	1.9	.3	25.4	11.8	62.8
1988	83.0	3.1	100.0		74.0	25.3	48.7	26.0		19.1	95.5	4.2	.3	28.1	7.7	64.2
1989	83.2	3.2	100.0		83.3	24.3	59.0	16.4	.2	22.9	92.1	7.7	.2	27.6	7.6	64.7
1990	83.5	2.6	100.0		97.9	20.9	77.0	2.0	.1	47.5	93.7	6.1	.1	19.0	6.8	74.2
1991	84.3	3.1	100.0		99.5	23.6	75.9	.2	.3	51.6	94.7	5.0	.3	20.9	6.9	72.2
1992	85.1	3.4	100.0		99.9	13.5	86.4	.1	.1	55.0	95.0	4.7	.3	22.0	7.3	70.6
1993	89.3	2.3	100.0		100.0	13.7	86.3			53.0	95.7	4.0	.3	28.7	5.0	66.3
1994	88.3	1.4	100.0		100.0	9.4	90.6			59.6	96.6	3.2	.2	22.5	5.7	71.8
1995	86.1	2.2	100.0		100.0	2.9	97.1			66.5	93.9	5.9	.2	33.5	9.2	57.2
1996	86.6	3.1	100.0		99.6	3.3	96.3		.4	66.6	89.0	10.9	.1	33.0	11.2	55.8
1997	86.3	3.5	100.0		99.7	1.6	98.1		.3	66.2	92.3	7.3	.4	31.2	13.9	54.8
1998	86.3	3.9	100.0		98.3	1.5	96.8		1.7	68.3	83.9	16.1		34.6	14.2	51.2
1999	84.5	3.8	100.0		98.2	.3	97.9		1.8	64.5	85.8	14.2		33.7	22.8	43.5

Table E-4 **CHARACTERISTICS OF 1978 TO 1999 CARS** M-6 TRANS.

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1989	4	.000	18.2	32.6	22.7	3500	50.0	350	240	7.7	154	.685	.0685	39.8	1136	1988
1990	7	.001	17.9	31.6	22.3	3503	50.0	350	302	6.6	177	.864	.0861	39.0	1113	1949
1991	6	.001	17.6	31.3	21.9	3583	53.3	346	296	6.8	173	.856	.0826	39.3	1158	2088
1992	6	.001	18.3	31.8	22.7	3531	52.8	338	303	6.5	177	.914	.0856	40.1	1195	2115
1993	14	.002	18.5	31.8	22.8	3540	73.4	332	284	6.9	169	.896	.0800	40.4	1685	2989
1994	27	.003	18.5	32.7	23.0	3607	79.5	324	276	7.2	165	.932	.0763	41.6	1846	3344
1995	35	.004	18.2	32.4	22.6	3637	79.2	310	269	7.3	162	.933	.0737	41.4	1814	3306
1996	27	.003	17.5	31.7	21.9	3623	73.2	323	291	6.9	170	.954	.0805	40.1	1632	2989
1997	27	.003	17.9	31.8	22.3	3683	79.5	308	320	6.5	179	1.096	.0870	42.0	1835	3415
1998	23	.003	18.1	32.5	22.6	3641	72.2	338	332	6.3	185	1.012	.0914	41.9	1677	3091
1999	28	.004	19.2	33.2	23.7	3632	77.1	300	305	6.7	175	1.067	.0837	43.7	1863	3431

PERCENT OF M-6:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1989			100.0		100.0		100.0				100.0			100.0		
1990			100.0		100.0		100.0			37.2	100.0			100.0		
1991			100.0		100.0		100.0			30.8	100.0			92.1	7.9	
1992			100.0		100.0		100.0			16.2	100.0			87.8	12.2	
1993	6.4		100.0		100.0		100.0			11.4	100.0			83.1	5.5	11.4
1994	12.1		100.0		100.0		100.0			20.3	100.0			76.8	4.5	18.7
1995	6.0	1.5	100.0		100.0		100.0			15.9	100.0			67.0	24.0	9.0
1996		13.3	100.0		100.0		100.0			2.6	100.0			73.1	24.2	2.6
1997	.9	10.5	100.0		100.0		100.0			17.6	100.0			59.8	32.5	7.7
1998		4.3	100.0		100.0		100.0			11.0	100.0			79.5	16.5	4.0
1999		8.2	100.0		100.0		100.0			37.5	100.0			61.4	33.0	5.6

Table E-5 **CHARACTERISTICS OF 1978 TO 1999 CARS** A-3 TRANS.

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG
1978	8125	.727	16.2	22.9	18.6	3818	114.4	283	133	13.6	113	.493	.0347	35.6	2166	4097
1979	7462	.691	16.7	22.8	19.0	3729	115.0	269	129	13.7	112	.501	.0342	35.5	2212	4098
1980	4814	.510	19.5	27.1	22.3	3215	107.8	203	106	14.1	108	.562	.0327	35.9	2437	3893
1981	3027	.347	21.4	29.4	24.4	2958	106.5	165	95	14.4	106	.621	.0321	36.1	2629	3851
1982	1251	.160	24.7	33.1	27.9	2679	101.1	124	84	14.8	104	.684	.0310	37.5	2862	3809
1983	1158	.145	25.1	33.2	28.2	2749	106.1	130	85	14.8	104	.670	.0308	39.0	3045	4144
1984	1667	.156	24.9	34.0	28.3	2741	106.0	128	88	14.4	105	.691	.0320	38.9	3030	4124
1985	1798	.167	25.4	34.5	28.8	2764	105.3	129	99	13.3	109	.769	.0355	40.0	3072	4211
1986	1742	.158	25.3	34.5	28.8	2778	105.5	129	97	13.6	109	.756	.0347	40.1	3078	4231
1987	1498	.140	24.7	34.3	28.2	2763	105.1	130	97	13.6	109	.752	.0349	39.2	3006	4118
1988	892	.083	25.2	34.7	28.7	2792	103.4	125	98	13.5	109	.795	.0350	40.3	3022	4165
1989	815	.081	25.3	34.6	28.8	2818	102.8	126	97	13.7	108	.774	.0341	40.7	3019	4183
1990	535	.061	25.4	34.6	28.8	2869	101.6	128	98	13.7	108	.774	.0340	41.5	2977	4221
1991	368	.043	23.9	33.0	27.3	2834	99.5	124	96	13.9	107	.784	.0333	39.0	2788	3872
1992	394	.049	25.6	35.7	29.3	2799	99.2	126	98	13.7	108	.797	.0345	41.2	2969	4084
1993	351	.042	25.8	35.9	29.5	2819	100.6	128	96	13.8	108	.767	.0338	41.8	3017	4202
1994	262	.031	26.6	37.1	30.5	2745	100.3	121	91	14.0	106	.781	.0331	42.1	3137	4219
1995	67	.007	32.8	43.1	36.8	2358	99.8	84	79	13.8	105	.945	.0335	43.4	3675	4328
1996	71	.009	32.7	43.1	36.7	2322	99.9	94	77	14.0	104	.818	.0329	42.6	3666	4253
1997	49	.006	33.2	43.7	37.2	2250	90.5	79	70	14.6	102	.886	.0311	41.8	3367	3787
1998	196	.024	26.5	38.2	30.7	2911	98.6	127	115	12.1	114	.902	.0392	44.7	3040	4410
1999	14	.002	33.4	44.1	37.5	2250	87.8	79	79	13.2	106	1.000	.0351	42.2	3294-	3706

PERCENT OF A-3:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1978	3.9				3.2		3.2	96.3	.5		31.2	40.6	28.2	93.4	1.9	4.6
1979	5.6				3.0		3.0	95.1	1.9		31.4	38.5	30.2	94.1	1.7	4.2
1980	29.3	.8			4.8	.9	3.9	92.9	2.3		43.9	43.9	12.2	85.5	2.9	11.7
1981	56.9				11.0	5.1	5.9	87.1	1.8		51.2	45.6	3.2	81.3	3.8	14.8
1982	76.5				9.0	.1	8.9	89.3	1.8		67.8	32.2	.1	57.7	8.6	33.8
1983	76.1	5.6			14.1	7.1	7.0	84.9	1.0		54.9	45.0	.1	73.4	7.2	19.5
1984	94.0	.4			25.3	12.2	13.1	74.3	.4		66.7	33.2	.1	84.1	9.0	6.9
1985	92.8	1.1			52.9	34.9	18.0	47.0	.1		65.1	34.9		83.7	8.2	8.1
1986	92.0	1.8			65.3	42.7	22.6	34.7		.4	65.6	34.3	.1	76.4	8.7	14.9
1987	96.0	2.4			79.0	56.9	22.2	21.0		.6	70.9	29.1		81.9	7.8	10.4
1988	96.9	1.7			91.6	37.3	54.3	8.4		1.1	90.7	9.3		71.8	10.3	17.9
1989	95.9	2.8			95.1	30.3	64.8	4.9		2.3	91.6	8.4		73.8	9.0	17.3
1990	97.9	1.0			100.0	26.4	73.6			1.1	96.6	3.4		78.4	10.3	11.3
1991	97.8	1.2			100.0	20.4	79.6			1.9	99.6	.4		65.6	9.7	24.7
1992	97.8	1.6			100.0	22.6	77.4			9.3	100.0			67.2	6.2	26.6
1993	99.4	.6			100.0	14.6	85.4			1.3	100.0			73.9	1.7	24.4
1994	99.7	.3			100.0	17.2	82.8			.8	100.0			69.3	.8	30.0
1995	100.0				100.0	56.6	43.4				100.0					100.0
1996	100.0				100.0	69.2	30.8				100.0					100.0
1997	100.0				100.0	100.0					100.0					100.0
1998	100.0				100.0		100.0			11.8	100.0			88.2		11.8
1999	100.0				100.0		100.0			100.0	100.0					100.0

Table E-6 **CHARACTERISTICS OF 1978 TO 1999 CARS** A-4 TRANS.

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG
1978	42	.004	19.6	25.6	22.0	3589	102.4	167	105	15.8	105	.632	.0296	40.5	2306	4140
1979	57	.005	20.5	26.5	22.8	3567	100.6	168	102	16.2	104	.609	.0290	42.0	2361	4278
1980	57	.006	22.5	27.6	24.5	3477	101.0	169	95	16.6	103	.568	.0278	43.4	2511	4438
1981	135	.016	23.2	30.6	26.0	3277	94.6	165	105	14.6	107	.635	.0321	43.1	2514	4124
1982	230	.029	21.3	29.6	24.4	3456	107.6	194	114	14.0	109	.623	.0331	42.7	2650	4596
1983	183	.023	24.1	31.8	27.1	3325	99.1	156	112	13.9	109	.723	.0337	45.6	2743	4556
1984	206	.019	22.4	30.5	25.4	3376	99.5	166	127	12.8	115	.775	.0376	43.6	2592	4368
1985	200	.019	22.0	29.2	24.7	3408	100.5	168	129	12.6	115	.790	.0379	42.7	2547	4308
1986	154	.014	20.0	27.1	22.6	3514	105.6	191	158	11.3	124	.852	.0442	40.3	2484	4304
1987	181	.017	20.3	27.7	23.1	3519	105.9	190	161	11.0	125	.871	.0452	41.3	2538	4422
1988	142	.013	19.7	27.2	22.5	3504	104.6	188	161	11.0	125	.886	.0454	39.7	2422	4184
1989	147	.015	19.5	27.4	22.4	3546	106.6	184	163	10.9	125	.912	.0454	40.0	2441	4287
1990	117	.013	19.7	27.9	22.7	3652	110.1	175	160	11.5	123	.926	.0433	41.6	2533	4583
1991	131	.015	19.9	28.7	23.1	3662	106.2	177	167	11.1	126	.970	.0451	42.6	2502	4533
1992	100	.012	19.6	28.8	22.9	3757	107.3	182	181	10.9	129	.985	.0471	43.3	2514	4654
1993	83	.010	20.2	29.7	23.6	3853	109.5	186	186	10.9	130	.990	.0472	45.6	2620	4996
1994	64	.008	20.1	30.2	23.7	3934	105.9	200	219	9.4	140	1.102	.0548	46.7	2546	4951
1995	91	.010	21.0	31.6	24.7	3995	103.8	202	217	9.7	138	1.079	.0536	50.0	2639	5210
1996	44	.006	22.8	35.0	27.1	3720	104.4	171	172	10.9	127	1.007	.0459	50.9	2861	5332
1997	1	.000	18.6	30.5	22.6	3500	59.9	220	270	7.0	165	1.226	.0766	39.5	1351	2364
1998	1	.000	19.0	31.7	23.2	3500	94.8	176	237	7.9	153	1.361	.0673	40.7	2229	3900
1999	7	.001	24.3	40.1	29.6	3006	105.5	114	119	12.1	115	1.042	.0394	44.3	3123	4684

PERCENT OF A-4:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1978					15.1		15.1	36.6	48.3		100.0				64.7	35.3
1979					23.5		23.5	20.3	56.1		95.6	4.4			62.6	37.4
1980					39.8		39.8		60.2		94.4	5.6			63.6	36.4
1981					32.1		32.1	41.4	26.5		96.9	3.1			35.8	64.2
1982					57.1	24.5	32.7	23.5	19.4		70.1	5.4	24.5	24.5	36.6	38.9
1983	10.1	4.2			59.5		59.5	13.0	27.5		85.6	14.4			65.7	34.3
1984					80.0		80.0		20.0		82.5	17.5			79.7	20.3
1985					82.3		82.3		17.7		70.5	29.5			80.9	19.1
1986					95.8		95.8		4.2	.5	57.3	42.7		1.6	96.3	2.0
1987					87.1		87.1		12.9	1.1	57.3	42.7			99.9	.1
1988	5.9				99.5		99.5		.5	.8	64.2	35.8			94.1	5.9
1989	4.0				99.8		99.8		.2	3.1	64.0	36.0			96.0	4.0
1990	7.5	.4			98.3		98.3		1.7	4.5	55.4	44.6			92.5	7.5
1991	11.3	5.1			95.4		95.4		4.6	13.8	60.1	39.9			84.5	15.5
1992	10.4	5.0			96.0		96.0		4.0	12.6	62.8	26.8	10.4		86.8	13.2
1993	10.8	.9			100.0		100.0			62.8	59.4	27.6	12.9		89.1	10.9
1994	2.3				100.0		100.0			83.8	70.3	19.5	10.2		97.7	2.3
1995					94.3		94.3		5.7	98.8	81.4	8.1	10.5		100.0	
1996					94.0		94.0		6.0	98.2	56.8	43.2			100.0	
1997					100.0		100.0				100.0				100.0	
1998	54.5				100.0		100.0			54.5	45.5		54.5		100.0	
1999	100.0				100.0		100.0			96.1	78.2	21.8				100.0

Table E-7 **CHARACTERISTICS OF 1978 TO 1999 CARS** A-5 TRANS.

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1990	2	.000	18.1	28.1	21.5	4000	50.0	181	228	9.0	143	1.259	.0569	43.1	1077	2154
1991	3	.000	18.2	29.2	21.9	4000	50.0	181	228	9.0	143	1.260	.0567	43.8	1094	2188
1992	6	.001	17.0	25.9	20.1	4372	104.8	191	228	9.6	138	1.192	.0522	43.9	2078	4605
1993	6	.001	16.7	25.2	19.7	4941	114.6	193	228	10.6	133	1.180	.0460	48.6	2240	5568
1994	5	.001	18.8	30.9	22.8	4853	102.1	195	217	10.9	130	1.112	.0446	55.3	2320	5715
1995	13	.001	19.1	31.2	23.1	4500	109.6	195	217	10.2	134	1.113	.0481	52.0	2535	5703
1996	9	.001	19.1	31.2	23.1	4500	105.4	195	217	10.2	134	1.113	.0480	52.1	2437	5484
1997	1	.000	18.4	30.6	22.4	3000	50.0	151	201	7.9	148	1.331	.0669	33.6	1121	1681
1998	1	.000	18.4	30.6	22.4	3000	50.0	151	201	7.9	148	1.331	.0667	33.6	1121	1681
1999	3	.000	18.3	31.1	22.5	3211	60.6	175	241	7.3	159	1.373	.0742	36.1	1362	2223

PERCENT OF A-5:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1990					100.0		100.0			100.0	100.0				100.0	
1991					100.0		100.0			100.0	100.0				100.0	
1992					100.0		100.0			100.0	25.6		74.4		100.0	
1993					100.0		100.0			100.0	11.8		88.2		100.0	
1994					100.0		100.0			100.0	29.3		70.7		100.0	
1995					100.0		100.0			100.0	21.0		79.0		100.0	
1996					100.0		100.0			100.0	27.2		72.8		100.0	
1997					100.0		100.0			100.0	100.0				100.0	
1998					100.0		100.0			100.0	100.0				100.0	
1999		13.9			100.0		100.0			100.0	100.0				100.0	

Table E-8 **CHARACTERISTICS OF 1978 TO 1999 CARS** A-6 TRANS.

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1998	0	.000	11.0	18.0	13.3	3500	50.0	213	375	5.4	203	1.755	.1032	23.3	666	1166
1999	0	.000	11.0	18.0	13.3	3500	50.0	213	375	5.4	203	1.759	.1045	23.3	666	1166

PERCENT OF A-6:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1998					100.0		100.0				100.0				100.0	
1999					100.0		100.0				100.0				100.0	

Table E-9 **CHARACTERISTICS OF 1978 TO 1999 CARS** L-3 TRANS.

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1978	749	.067	14.7	21.6	17.2	4133	114.8	311	146	13.3	114	.471	.0352	35.6	1994	4088
1979	869	.080	16.0	22.9	18.5	3821	116.0	301	142	12.8	116	.472	.0373	35.5	2161	4115
1980	1339	.142	17.1	24.9	19.9	3759	117.5	270	120	14.5	109	.449	.0321	37.8	2369	4487
1981	2261	.259	19.3	27.9	22.4	3641	115.3	253	115	14.6	108	.466	.0316	41.2	2621	4790
1982	3031	.388	20.8	30.8	24.4	3265	111.6	204	105	14.4	107	.549	.0322	40.1	2764	4497
1983	2832	.354	20.9	30.8	24.4	3235	112.1	202	108	14.0	108	.563	.0331	39.7	2780	4457
1984	3927	.368	21.8	32.1	25.5	3184	111.1	190	106	14.0	108	.594	.0332	40.7	2868	4522
1985	3203	.297	22.9	33.9	26.8	3104	109.6	179	104	13.9	108	.611	.0333	41.7	2983	4585
1986	2990	.271	23.7	34.9	27.7	3022	107.5	167	100	14.0	108	.633	.0330	41.9	3015	4518
1987	2679	.250	25.0	36.4	29.1	2925	107.0	151	99	13.9	108	.684	.0335	42.6	3143	4568
1988	3027	.282	25.6	37.3	29.8	2866	105.8	140	101	13.5	109	.736	.0350	42.8	3179	4538
1989	2467	.246	25.7	37.7	30.0	2865	104.8	138	105	13.1	111	.775	.0365	43.0	3155	4511
1990	1980	.225	25.4	37.6	29.7	2913	104.1	139	111	12.7	113	.814	.0378	43.3	3102	4512
1991	1765	.207	24.8	37.1	29.1	2918	104.1	144	114	12.4	114	.806	.0388	42.6	3041	4431
1992	1634	.202	24.1	36.7	28.5	3003	104.0	151	123	11.9	117	.833	.0408	42.8	2976	4458
1993	1421	.168	24.0	36.8	28.4	3020	105.0	158	125	11.8	118	.808	.0414	43.0	2997	4517
1994	899	.107	25.8	38.0	30.2	2901	102.2	132	110	12.5	113	.852	.0380	43.8	3094	4482
1995	893	.095	26.8	39.4	31.3	2843	103.1	124	121	11.5	118	.982	.0426	44.5	3233	4592
1996	671	.085	27.3	39.4	31.6	2826	101.6	120	122	11.5	119	1.020	.0431	44.7	3221	4546
1997	611	.073	27.2	38.5	31.3	2817	99.8	116	114	12.0	115	.988	.0405	44.1	3127	4403
1998	255	.032	27.5	41.8	32.5	2743	101.4	117	129	10.5	123	1.100	.0469	44.7	3306	4534
1999	380	.048	26.6	39.0	31.0	2860	100.4	124	123	11.2	119	1.001	.0432	44.5	3130	4464

PERCENT OF L-3:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1978				100.0				100.0			32.3	60.9	6.8	100.0		
1979				100.0				100.0				84.3	15.7	100.0		
1980	2.0			100.0				91.7	8.3		16.0	59.7	24.3	100.0		
1981		.7		100.0	.3	.3		87.8	11.9		15.6	67.6	16.9	96.8		3.2
1982	33.0	.7		100.0	17.7	15.7	2.0	77.1	5.2		36.5	56.7	6.8	96.3		3.7
1983	41.4	1.3		100.0	22.8	21.8	1.0	75.8	1.4		33.9	57.7	8.4	93.1		6.9
1984	51.2	1.0		100.0	37.5	31.0	6.5	61.8	.7		38.4	53.8	7.8	93.2		6.8
1985	59.5	1.3		100.0	56.2	49.2	7.0	43.7	.1		44.4	54.2	1.3	88.8		11.2
1986	72.1			100.0	71.5	61.8	9.7	28.5			56.7	42.1	1.2	87.4		12.6
1987	88.4			100.0	70.6	56.2	14.4	29.4		1.0	56.3	43.0	.8	76.8		23.2
1988	97.7			100.0	84.1	58.8	25.3	15.9		6.4	71.4	28.6		77.5		22.5
1989	99.2	.1		100.0	88.1	60.3	27.8	11.9		11.5	69.1	30.9		78.8		21.2
1990	99.9	.1		100.0	98.1	56.0	42.1	1.9		19.4	69.6	30.4		74.6		25.4
1991	100.0			100.0	100.0	56.8	43.2			14.1	66.6	33.4		79.6		20.4
1992	100.0			100.0	100.0	20.8	79.2			16.9	71.7	28.3		80.0		20.0
1993	100.0			100.0	100.0	19.6	80.4			6.9	72.4	27.6		89.8		10.2
1994	100.0			100.0	100.0	21.7	78.3			13.3	83.5	16.5		79.9		20.1
1995	100.0			100.0	100.0	3.1	96.9			59.3	92.6	7.4		80.4		19.6
1996	100.0			100.0	100.0		100.0			52.9	98.2	1.8		72.5		27.5
1997	100.0			100.0	100.0		100.0			60.8	100.0			62.6		37.4
1998	100.0			100.0	100.0		100.0			100.0	100.0			69.6		30.4
1999	100.0			100.0	100.0		100.0			53.9	100.0			77.5		22.5

Table E-10 **CHARACTERISTICS OF 1978 TO 1999 CARS** L-4 TRANS.

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG
1980	219	.023	16.1	25.6	19.3	3975	128.1	321	140	13.1	114	.438	.0355	38.3	2472	4934
1981	650	.074	16.4	26.3	19.8	4001	132.8	297	140	13.3	114	.471	.0350	39.6	2626	5269
1982	986	.126	16.8	26.8	20.2	4016	128.3	288	141	13.4	114	.495	.0352	40.8	2602	5255
1983	1708	.213	17.8	28.3	21.4	3823	123.3	267	134	13.3	113	.523	.0352	41.0	2654	5067
1984	2295	.215	18.3	28.9	21.9	3736	118.3	261	134	13.1	114	.542	.0359	41.0	2614	4881
1985	3127	.290	19.3	30.7	23.1	3633	119.4	247	137	12.7	116	.583	.0377	42.1	2785	5049
1986	3400	.309	20.7	33.5	25.0	3478	117.2	223	138	12.2	117	.652	.0395	43.5	2946	5116
1987	3702	.345	21.0	33.7	25.3	3445	115.1	212	138	12.1	118	.693	.0399	43.6	2927	5032
1988	4069	.379	21.4	34.4	25.8	3464	115.4	210	141	11.9	119	.714	.0405	44.7	2991	5176
1989	4475	.447	21.3	34.4	25.7	3442	114.9	202	141	11.9	119	.741	.0410	44.3	2966	5105
1990	4441	.504	21.4	34.5	25.8	3466	113.4	193	144	11.7	120	.790	.0416	44.8	2943	5090
1991	4503	.528	21.9	35.0	26.4	3407	112.9	189	148	11.4	122	.823	.0430	44.9	3000	5088
1992	4559	.562	21.5	35.0	26.1	34[illegible]	114.5	195	156	11.2	124	.84[illegible]	.0442	45.5	3004	5226
1993	5077	.600	22.4	35.9	26.9	3[illegible]	113.3	184	150	11.3	122	.8[illegible]	.0436	45.9	3079	5214
1994	5748	.684	22.1	35.7	26.7	3[illegible]	112.2	185	154	11.1	124	.8[illegible]	.0446	45.7	3020	5136
1995	6772	.721	22.4	36.5	27.2	3[illegible]	111.9	181	161	10.7	126	.91[illegible]	.0468	46.2	3066	5171
1996	5896	.747	22.5	36.5	27.2	3408	111.9	178	162	10.6	127	.937	.0471	46.3	3061	5191
1997	6405	.767	22.8	37.0	27.6	3372	111.5	174	163	10.6	127	.957	.0477	46.6	3099	5197
1998	6250	.774	23.1	37.6	28.0	3374	111.1	171	163	10.5	128	.976	.0478	47.3	3132	5260
1999	6066	.770	22.8	36.8	27.5	3453	112.4	176	168	10.5	129	.982	.0483	47.6	3119	5355

PERCENT OF L-4:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1980				100.0	8.9	8.9		91.1				31.7	68.3	100.0		
1981				100.0	10.4	10.4		89.6				10.1	89.9	100.0		
1982	14.8			100.0	22.0	19.7	2.3	73.4	4.6		4.8	22.6	72.5	97.7		2.3
1983	17.5			100.0	43.6	37.0	6.6	54.5	1.9		24.6	18.6	56.8	87.7	.1	12.2
1984	18.2			100.0	50.2	35.8	14.5	49.0	.8		35.0	16.8	48.2	84.3	.2	15.5
1985	42.4	1.3		100.0	59.9	31.5	28.5	39.6	.5		27.9	20.5	51.6	82.7	1.5	15.8
1986	57.3			100.0	69.0	6.7	62.3	30.9	.1	1.2	29.1	31.4	39.5	79.2	2.6	18.3
1987	62.2			100.0	81.2	11.6	69.6	18.8		8.2	41.2	24.2	34.5	70.4	2.2	27.3
1988	66.4	.1		100.0	89.6	9.7	79.9	10.4		12.0	34.2	32.1	33.7	72.1	4.2	23.7
1989	72.0	.3		100.0	95.0	10.8	84.2	5.0		12.2	29.5	40.4	30.1	70.0	3.6	26.4
1990	78.2	.8		100.0	99.2	4.0	95.2	.8		24.8	35.1	39.7	25.3	63.0	3.2	33.8
1991	76.9	1.2		100.0	100.0	8.1	91.9			27.6	43.3	33.6	23.1	62.3	2.7	34.9
1992	72.5	.7		100.0	100.0	5.2	94.8			29.4	35.2	37.4	27.4	62.7	2.5	34.8
1993	80.2	1.3		100.0	100.0	3.7	96.3			36.5	38.6	39.7	21.7	62.1	2.4	35.5
1994	81.6	.6		100.0	100.0	1.0	99.0			39.6	43.3	34.5	22.3	60.3	2.9	36.7
1995	80.5	1.1		100.0	100.0		100.0			47.6	43.8	37.1	19.1	62.9	3.4	33.8
1996	86.3	1.3		100.0	100.0		100.0			54.9	41.9	40.2	17.9	62.5	3.3	34.2
1997	87.5	1.5		100.0	100.0		100.0			55.5	44.1	37.7	18.2	60.1	3.6	36.3
1998	90.1	1.6		100.0	99.9		99.9		.1	56.9	38.5	47.7	13.8	60.6	4.1	35.4
1999	88.2	1.7		100.0	100.0		100.0			60.4	34.6	46.2	19.1	59.6	3.3	37.1

Table E-11

CHARACTERISTICS OF 1978 TO 1999 CARS

L-5 TRANS.

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1993	9	.001	17.0	28.2	20.7	4249	116.2	243	280	8.0	156	1.152	.0660	43.9	2402	5105
1994	22	.003	17.8	30.2	21.8	4011	110.0	222	258	8.2	152	1.164	.0642	43.8	2400	4810
1995	29	.003	18.4	31.0	22.5	4301	110.8	233	271	8.3	152	1.167	.0629	48.5	2496	5378
1996	26	.003	18.1	30.0	22.1	4309	106.7	245	258	8.8	148	1.054	.0590	47.5	2370	5090
1997	150	.018	20.3	32.9	24.5	4027	107.3	217	236	9.0	144	1.097	.0581	49.5	2659	5327
1998	259	.032	20.9	33.3	25.1	3925	105.5	204	234	8.9	145	1.159	.0591	49.5	2671	5230
1999	319	.040	20.4	33.2	24.7	3944	106.0	205	239	8.7	147	1.182	.0603	48.9	2639	5192

PERCENT OF L-5:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1993				100.0	100.0		100.0			100.0		100.0			100.0	
1994				100.0	100.0		100.0			100.0	56.8	43.2			100.0	
1995				100.0	100.0		100.0			98.0	38.5	61.5			100.0	
1996	16.2	11.4		100.0	100.0		100.0			67.8	43.7	9.6	46.7		90.4	9.6
1997	2.0	5.4		100.0	98.2		98.2		1.8	93.7	38.4	42.7	19.0		99.9	.1
1998	8.4	10.0		100.0	98.7		98.7		1.3	64.8	38.4	51.3	10.3		79.3	20.7
1999	7.8	16.4		100.0	98.7		98.7		1.3	50.8	40.6	54.0	5.4		85.2	14.8

Table E-12 **CHARACTERISTICS OF 1978 TO 1999 CARS** OTHER TRANS.

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1978	45	.004	26.4	32.1	28.7	2151	85.7	92	64	14.7	100	.698	.0298	31.0	2474	2681
1979	131	.012	26.7	33.2	29.3	2251	86.0	96	68	14.6	101	.715	.0303	33.7	2599	2912
1980	91	.010	31.0	39.1	34.2	2132	88.4	93	73	13.2	105	.789	.0343	36.8	3040	3248
1981	51	.006	31.0	41.0	34.9	2250	87.8	96	78	13.1	106	.816	.0348	39.2	3062	3445
1982	37	.005	32.6	43.0	36.6	2200	87.8	91	67	14.4	101	.740	.0305	40.3	3217	3534
1983	36	.005	31.5	41.9	35.4	2277	89.2	94	70	14.3	102	.747	.0306	40.5	3183	3608
1984	3	.000	29.4	39.2	33.1	2545	93.5	117	88	13.4	107	.756	.0338	42.1	3109	3942
1986	0	.000	19.4	29.9	23.0	2750	50.0	170	160	8.8	136	.937	.0567	31.7	1151	1583
1989	12	.001	36.7	43.9	39.6	2250	88.6	73	66	15.3	100	.904	.0293	44.5	3508	3947
1990	4	.000	30.1	37.4	33.0	2515	83.6	99	104	13.1	113	1.022	.0381	42.2	2970	3550
1991	5	.001	27.7	35.8	30.8	2621	80.8	113	121	12.4	118	1.034	.0422	41.1	2747	3354
1992	1	.000	20.8	33.1	25.0	3210	68.8	164	199	9.3	142	1.184	.0565	40.5	1895	2817
1993	1	.000	26.4	35.8	29.9	2718	78.7	117	133	12.0	121	1.080	.0420	41.2	2603	3267
1996	1	.000	36.4	46.6	40.4	2750	97.1	97	115	11.5	117	1.185	.0417	55.5	3920	5390
1997	7	.001	37.8	48.4	41.9	2750	99.5	97	115	11.5	117	1.185	.0418	57.7	4172	5737
1998	2	.000	38.0	49.4	42.4	2750	97.1	97	115	11.5	117	1.185	.0415	58.3	4120	5665
1999	3	.000	37.5	48.8	41.8	2750	97.1	97	115	11.5	117	1.185	.0416	57.5	4062	5586

PERCENT OF OTHER:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1978	100.0							100.0			100.0					100.0
1979	100.0							100.0			100.0					100.0
1980	100.0							100.0			100.0					100.0
1981	100.0							100.0			100.0					100.0
1982	100.0							100.0			100.0					100.0
1983	100.0							100.0			100.0					100.0
1984	100.0				10.9		10.9	89.1			100.0					100.0
1986					100.0		100.0				100.0				100.0	
1989	100.0							100.0			100.0					100.0
1990	25.3	56.8			100.0		100.0				100.0				17.9	82.1
1991		72.6			100.0		100.0				100.0				27.4	72.6
1992	13.1	10.9			100.0		100.0			55.8	100.0				76.0	24.0
1993		64.7			100.0		100.0			14.8	100.0				35.3	64.7
1996	100.0				100.0		100.0			100.0	100.0					100.0
1997	100.0				100.0		100.0			100.0	100.0					100.0
1998	100.0				100.0		100.0			100.0	100.0					100.0
1999	100.0				100.0		100.0			100.0	100.0					100.0

Table E-13 **CHARACTERISTICS OF 1978 TO 1999 TRUCKS** M-3 TRANS.

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1979	353	.114	15.8	19.9	17.4	3975	272	125	14.1	109	.464	.0318	34.9
1980	316	.169	15.5	20.7	17.5	4303	292	135	14.3	110	.463	.0311	37.9
1981	250	.138	17.0	22.6	19.1	4150	285	127	14.5	108	.450	.0304	39.9
1982	172	.090	16.7	21.9	18.7	4176	289	128	14.5	108	.444	.0304	39.3
1983	144	.063	16.8	22.2	18.9	4290	295	129	14.7	108	.437	.0298	40.7
1984	104	.031	17.3	23.4	19.6	4266	289	128	14.7	108	.444	.0298	42.0
1985	184	.050	16.3	21.3	18.2	4369	302	142	13.9	111	.470	.0322	40.2
1986	184	.042	16.5	21.5	18.4	4350	299	137	14.2	110	.460	.0314	40.3
1987	127	.031	15.9	20.5	17.7	4482	303	156	13.2	115	.513	.0345	39.7
1988	70	.015	15.9	20.8	17.8	4489	312	165	12.6	118	.528	.0363	40.1
1989	75	.017	15.8	20.4	17.6	4581	308	158	13.3	115	.512	.0340	40.7
1990	28	.007	14.6	19.7	16.6	4690	317	170	12.8	118	.534	.0349	39.4
1991	15	.004	14.9	19.8	16.8	4657	315	172	12.6	119	.544	.0346	39.6
1992	23	.006	18.0	24.6	20.5	3713	254	182	10.1	131	.727	.0497	37.9
1993	3	.001	17.0	21.4	18.7	4555	300	159	13.1	115	.527	.0327	42.8

PERCENT OF M-3:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1979		29.3	100.0					100.0			21.5	11.7	66.8	100.0	
1980		32.4	100.0					99.9	.1			10.6	89.4	100.0	
1981		25.5	100.0					100.0				7.9	92.1	100.0	
1982		33.8	100.0					100.0				8.7	91.3	100.0	
1983		41.9	100.0					100.0				8.9	91.1	100.0	
1984		22.9	100.0					98.9	1.1			7.3	92.7	100.0	
1985		55.3	100.0		5.6			93.9	.6			7.8	92.2	100.0	
1986		52.2	100.0		18.3		18.3	81.4	.3			6.3	93.7	100.0	
1987		56.7	100.0		93.4	23.6	69.8	6.4	.2			5.6	94.4	100.0	
1988		51.5	100.0		97.4	44.2	53.2	1.6	1.0			3.9	96.1	100.0	
1989		57.6	100.0		99.4	26.0	73.4		.6			3.6	96.4	100.0	
1990		68.6	100.0		98.8	58.2	40.6		1.2			2.9	97.1	100.0	
1991		63.5	100.0		98.3	55.8	42.5		1.7			3.6	96.4	100.0	
1992		91.0	100.0		100.0		100.0				79.9		20.1	100.0	
1993		56.4	100.0		100.0		100.0						100.0	100.0	

Table E-14 **CHARACTERISTICS OF 1978 TO 1999 TRUCKS** M-4 TRANS.

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1979	608	.197	15.4	20.2	17.1	3818	231	121	14.4	108	.577	.0312	33.3
1980	472	.253	19.6	26.6	22.2	3173	168	93	15.1	103	.608	.0292	35.8
1981	436	.239	20.6	28.4	23.5	3319	198	99	14.9	105	.547	.0296	39.4
1982	392	.205	21.4	29.7	24.5	3271	188	101	14.6	106	.578	.0309	40.4
1983	491	.213	22.1	30.5	25.2	3135	168	94	14.8	104	.590	.0299	39.9
1984	592	.177	19.7	27.0	22.4	3469	194	101	15.1	105	.562	.0293	39.3
1985	405	.110	22.1	30.8	25.3	3238	177	101	14.4	106	.609	.0311	41.4
1986	338	.078	22.6	31.3	25.8	3268	182	105	14.0	107	.615	.0322	42.6
1987	307	.074	22.1	30.8	25.3	3300	183	110	13.7	109	.628	.0331	42.3
1988	114	.025	23.4	30.2	26.0	2977	147	106	12.8	111	.722	.0357	38.8
1989	60	.013	22.8	29.5	25.4	3002	157	107	12.8	111	.696	.0359	37.9
1990	54	.014	22.9	30.2	25.7	3053	155	109	12.9	111	.719	.0361	39.1
1991	5	.001	17.6	24.6	20.2	4273	242	140	14.0	112	.610	.0312	42.8
1992	61	.015	16.7	25.0	19.7	4097	268	168	11.7	122	.630	.0410	40.3
1993	24	.005	15.2	22.0	17.7	4813	313	190	12.0	123	.605	.0382	42.9
1994	17	.003	15.1	21.4	17.4	4946	326	198	11.8	124	.608	.0390	43.4
1995	11	.002	15.1	22.0	17.6	4961	331	199	11.7	124	.603	.0391	43.9

PERCENT OF M-4:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1979		30.5	100.0		1.1			98.7	.2		40.5	13.5	46.0	51.9	48.1
1980	4.4	36.0	100.0		5.3			91.9	2.8		67.7	12.5	19.8	33.9	66.1
1981	4.1	29.2	100.0		3.2			92.8	4.0		45.3	18.4	36.3	49.6	50.4
1982	4.0	20.3	100.0		2.3			90.9	6.8		34.6	40.0	25.4	63.4	36.6
1983	.9	22.9	100.0		2.2			94.8	3.0		20.5	65.9	13.6	74.3	25.7
1984	1.8	34.4	100.0		2.7			95.8	1.5		21.9	49.6	28.5	75.8	24.2
1985	.8	20.5	100.0		21.6			77.8	.6		27.5	50.4	22.1	61.6	38.4
1986	.3	14.6	100.0		37.7	31.7	6.0	61.8	.4		42.7	32.3	25.1	58.6	41.4
1987		11.3	100.0		65.3	41.8	23.5	34.5	.2		25.8	51.6	22.6	65.0	35.0
1988		1.6	100.0		43.9	39.0	4.9	56.0			87.2	11.7	1.1	12.4	87.6
1989		6.3	100.0		22.7	13.5	9.2	77.3	.1		81.7	10.8	7.5	16.5	83.5
1990		5.5	100.0		42.3	4.6	37.7	57.7			88.6	4.2	7.3	9.6	90.4
1991		62.0	100.0		83.5	15.6	68.0	16.3	.1		6.0	33.3	60.7	77.7	22.3
1992		51.7	100.0		99.4	31.1	68.3		.6			61.5	38.5	100.0	
1993		67.6	100.0		100.0	80.3	19.7						100.0	100.0	
1994		74.7	100.0		100.0	88.6	11.4						100.0	100.0	
1995		68.9	100.0		100.0	88.7	11.3						100.0	100.0	

Table E-15 **CHARACTERISTICS OF 1978 TO 1999 TRUCKS** M-5 TRANS.

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1979	124	.040	19.5	28.4	22.7	2810	132	89	14.2	105	.675	.0318	32.6
1980	200	.107	22.2	31.1	25.5	2788	129	91	13.9	106	.704	.0326	35.9
1981	254	.139	25.3	34.5	28.7	2867	134	85	15.2	103	.632	.0297	42.0
1982	309	.161	24.3	33.1	27.6	2959	143	89	15.1	104	.627	.0300	41.8
1983	421	.183	23.0	32.2	26.4	3098	149	96	14.5	105	.650	.0309	41.5
1984	712	.213	22.8	32.0	26.2	3141	145	94	14.8	104	.651	.0299	41.5
1985	773	.211	22.3	31.3	25.6	3200	149	100	14.2	106	.678	.0315	41.2
1986	1333	.306	22.4	31.2	25.7	3198	144	102	14.1	107	.709	.0320	41.2
1987	1214	.294	22.3	31.2	25.6	3176	149	105	13.9	108	.707	.0329	40.7
1988	1434	.315	21.2	30.0	24.4	3374	176	115	13.6	110	.678	.0338	41.4
1989	1314	.296	20.4	28.8	23.5	3517	187	123	13.2	112	.686	.0348	41.5
1990	991	.260	20.4	28.7	23.5	3532	188	129	12.8	114	.718	.0363	41.7
1991	1236	.305	20.8	29.4	23.9	3500	185	129	12.7	114	.719	.0367	42.0
1992	1026	.253	20.3	29.0	23.5	3603	189	130	12.8	114	.720	.0362	42.5
1993	1081	.227	20.5	29.3	23.7	3569	187	134	12.5	115	.741	.0375	42.5
1994	1291	.235	20.6	29.1	23.7	3640	185	136	12.6	115	.759	.0373	43.5
1995	1169	.203	20.2	28.6	23.3	3723	191	140	12.5	116	.773	.0376	43.8
1996	819	.156	21.0	30.0	24.2	3713	185	142	12.3	117	.808	.0383	45.4
1997	970	.156	21.1	29.9	24.3	3693	183	147	12.0	119	.824	.0397	45.3
1998	909	.139	20.7	29.4	23.9	3734	181	152	11.8	120	.862	.0405	45.0
1999	885	.130	20.8	29.5	24.0	3738	182	151	11.8	120	.852	.0402	45.3

PERCENT OF M-5:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1979			100.0					100.0			71.4	28.6			100.0
1980	2.1	3.8	100.0		.8			97.9	1.3		79.8	20.2			100.0
1981	6.5	19.5	100.0		1.7			73.3	25.0		78.8	21.2			100.0
1982	2.9	29.6	100.0		.6			77.8	21.6		73.0	26.8	.2	10.8	89.2
1983	3.1	36.3	100.0		.1			93.1	6.8		54.9	45.0	.1	24.0	76.0
1984	5.0	36.7	100.0		3.8			92.8	3.4		48.0	52.0		32.7	67.3
1985	3.8	43.9	100.0		19.6			78.8	1.6		53.3	46.7		44.8	55.2
1986	1.6	41.2	100.0		41.1	19.8	21.3	57.7	1.1		47.4	51.1	1.5	29.5	70.5
1987	1.4	44.8	100.0		46.6	20.0	26.6	53.1	.3		39.6	60.0	.3	37.1	62.9
1988	.9	42.8	100.0		71.4	24.6	46.8	28.6			27.4	57.4	15.2	60.9	39.1
1989	.9	38.5	100.0		85.8	36.0	49.9	14.2			29.1	51.6	19.3	60.5	39.5
1990	1.1	40.0	100.0		90.6	25.2	65.4	9.4			32.2	47.2	20.6	55.2	44.8
1991	.1	33.0	100.0		95.5	35.8	59.7	4.5			27.2	57.9	14.9	61.2	38.8
1992	1.3	31.5	100.0		94.2	30.2	64.0	5.8			27.4	52.5	20.1	58.8	41.2
1993	1.0	33.7	100.0		96.1	20.2	75.9	3.9		.1	28.5	53.3	18.2	62.0	38.0
1994	.7	34.5	100.0		98.4	10.2	88.2	1.6		3.3	30.2	55.8	14.0	63.9	36.1
1995	.1	36.4	100.0		100.0	13.5	86.5			11.0	30.2	48.1	21.7	64.6	35.4
1996	.5	28.0	100.0		100.0		100.0			21.1	24.5	56.5	19.0	68.2	31.8
1997	.9	34.2	100.0		100.0		100.0			15.9	31.7	51.1	17.2	71.4	28.6
1998	2.5	35.8	100.0		100.0		100.0			35.6	31.6	53.3	15.1	62.1	37.9
1999	.9	38.0	100.0		100.0		100.0			32.1	32.3	53.7	14.0	65.7	34.3

Table E-16 **CHARACTERISTICS OF 1978 TO 1999 TRUCKS** A-3 TRANS.

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1979	1939	.628	12.3	15.2	13.5	4534	334	149	14.3	113	.450	.0329	31.1
1980	418	.224	14.6	18.8	16.3	4162	292	132	14.5	110	.472	.0316	34.1
1981	309	.170	15.1	19.6	16.9	4165	296	128	14.8	109	.446	.0306	35.3
1982	361	.189	14.8	18.9	16.4	4186	298	131	14.5	110	.451	.0313	34.5
1983	396	.172	15.3	19.8	17.0	3946	270	122	14.7	108	.477	.0308	34.0
1984	734	.219	15.3	20.2	17.2	3961	259	128	14.4	110	.522	.0321	34.5
1985	721	.197	15.6	20.3	17.4	4039	265	139	13.8	113	.549	.0339	35.8
1986	618	.142	16.9	22.2	18.9	3982	248	130	14.3	110	.555	.0324	38.3
1987	545	.132	15.8	20.8	17.7	4233	272	146	13.7	113	.553	.0341	38.0
1988	460	.101	15.6	20.6	17.5	4352	285	155	13.4	115	.551	.0351	38.7
1989	423	.095	16.4	21.6	18.4	4143	252	145	13.7	114	.610	.0345	39.0
1990	115	.030	15.6	20.0	17.3	4283	294	161	12.8	118	.570	.0375	38.0
1991	30	.007	15.3	19.5	17.0	4335	279	151	13.6	115	.562	.0356	36.9
1992	29	.007	14.8	18.7	16.3	4605	293	177	12.6	122	.610	.0396	37.9
1993	32	.007	15.3	19.5	17.0	4681	287	167	13.3	118	.591	.0373	39.6
1994	55	.010	16.8	21.4	18.6	4286	227	149	13.6	114	.712	.0348	39.8
1995	27	.005	14.7	18.8	16.3	5030	305	168	14.1	115	.549	.0338	41.1
1996	23	.004	14.2	18.6	15.9	5066	305	170	14.1	116	.554	.0342	40.3
1997	5	.001	14.2	18.9	16.0	4500	318	215	10.3	133	.676	.0477	36.0

PERCENT OF A-3:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1979		13.7			.1			97.1	2.8		3.1	21.0	75.9	97.1	2.9
1980	.4	23.9			1.0			99.0			11.8	17.4	70.8	86.1	13.9
1981		14.9			.7			99.3			5.0	14.1	80.9	90.0	10.0
1982	2.0	16.8			.5			99.5			7.6	17.1	75.3	93.2	6.8
1983	3.5	19.8			.8			99.1	.2		7.9	37.4	54.7	91.2	8.8
1984	14.7	34.4			.7			98.9	.4		12.7	46.8	40.5	95.5	4.5
1985	29.9	18.2			1.6			98.3	.1		1.3	53.8	44.9	97.0	3.0
1986	35.2	15.5			3.9		3.9	96.1			2.5	53.2	44.3	94.4	5.6
1987	22.7	19.4			47.2	20.8	26.3	52.8			2.3	50.4	47.3	97.8	2.2
1988	16.5	26.2			92.8	55.3	37.5	7.2			2.2	40.9	57.0	99.6	.4
1989	40.1	22.4			94.6	47.0	47.6	5.4			2.8	57.4	39.8	99.6	.4
1990	7.6	20.5			87.7	54.0	33.8	12.3			9.4	41.5	49.0	96.9	3.1
1991		35.8			87.6		87.6	12.4			32.3	12.4	55.3	91.2	8.8
1992		20.9			100.0		100.0				20.9	29.0	50.2	100.0	
1993		25.8			100.0		100.0				25.0	11.2	63.8	100.0	
1994					100.0		100.0				46.0	20.8	33.2	100.0	
1995					100.0		100.0					27.8	72.2	100.0	
1996					100.0		100.0					28.4	71.6	100.0	
1997					100.0		100.0					100.0		100.0	

Table E-17 **CHARACTERISTICS OF 1978 TO 1999 TRUCKS** A-4 TRANS.

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1981	6	.003	23.8	30.6	26.5	2750	144	98	13.1	109	.681	.0355	36.4
1982	42	.022	16.9	24.6	19.6	3715	262	131	13.2	113	.525	.0352	36.4
1983	9	.004	24.5	29.7	26.6	2788	144	99	13.1	109	.685	.0353	37.0
1984	27	.008	22.9	27.0	24.6	2809	144	100	13.1	110	.694	.0355	34.6
1985	38	.010	23.3	27.8	25.1	3018	144	107	13.2	110	.741	.0352	38.1
1986	47	.011	21.9	25.5	23.4	3133	144	107	13.4	110	.745	.0346	37.0
1987	87	.021	22.9	28.4	25.1	3120	144	104	13.8	108	.721	.0334	39.5
1988	60	.013	22.1	26.8	24.0	3160	144	109	13.5	110	.757	.0345	38.3
1989	44	.010	22.7	28.4	25.0	3229	149	116	13.0	112	.777	.0360	40.6
1990	51	.014	14.7	20.0	16.7	4299	283	161	12.6	118	.603	.0371	36.7
1991	35	.009	16.7	21.9	18.7	3908	238	144	12.7	116	.652	.0363	37.2
1992	17	.004	20.7	26.4	22.9	3277	176	126	12.4	115	.746	.0374	38.3
1993	16	.003	23.5	30.7	26.3	3000	144	112	12.6	113	.778	.0373	39.4
1994	25	.005	23.5	30.7	26.3	3000	144	112	12.6	113	.778	.0373	39.4
1995	20	.004	23.6	30.5	26.3	3000	147	132	11.1	121	.897	.0441	39.4
1996	26	.005	23.1	30.3	25.9	3000	149	142	10.4	125	.953	.0473	38.8
1997	22	.004	23.1	30.4	25.9	3000	149	142	10.4	125	.953	.0473	38.9
1998	32	.005	23.7	31.1	26.5	3000	149	142	10.4	125	.953	.0473	39.8
1999	21	.003	23.7	30.7	26.4	3000	149	142	10.4	125	.953	.0473	39.6

PERCENT OF A-4:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1981								100.0			100.0				100.0
1982								100.0			25.4		74.6	74.6	25.4
1983								100.0			100.0				100.0
1984					17.1			82.9			100.0				100.0
1985					28.4			71.6			98.0	2.0			100.0
1986					33.5		33.5	66.5			93.2	6.8			100.0
1987		21.7			8.0		8.0	92.0			61.6	38.3	.1		100.0
1988		18.7			47.6		47.6	52.4			58.6	41.4			100.0
1989		24.8			69.9		69.9	30.1			69.9	30.1			100.0
1990		37.4			100.0	74.0	26.0				23.6	35.0	41.4	74.0	26.0
1991		29.9			100.0	50.9	49.1				48.1	20.6	31.3	50.9	49.1
1992		5.7			100.0	13.1	86.9				84.9	7.4	7.7	15.1	84.9
1993					100.0		100.0				100.0				100.0
1994					100.0		100.0				100.0				100.0
1995					100.0		100.0			68.2	100.0				100.0
1996					100.0		100.0			100.0	100.0				100.0
1997					100.0		100.0			100.0	100.0				100.0
1998					100.0		100.0			100.0	100.0				100.0
1999					100.0		100.0			100.0	100.0				100.0

Table E-18 **CHARACTERISTICS OF 1978 TO 1999 TRUCKS** L-3 TRANS.

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1979	64	.021	13.8	17.5	15.2	4141	297	135	14.3	111	.452	.0324	31.8
1980	457	.246	14.7	19.7	16.6	4491	313	144	14.4	111	.462	.0319	37.9
1981	513	.282	15.8	21.2	17.9	4288	292	140	14.1	112	.481	.0325	38.5
1982	443	.231	16.9	22.9	19.2	3973	262	134	13.8	112	.522	.0337	38.0
1983	171	.074	16.3	22.1	18.5	4112	277	132	14.7	110	.477	.0318	38.3
1984	346	.103	16.6	22.3	18.8	4058	258	130	14.4	110	.516	.0319	38.0
1985	447	.122	16.0	21.0	17.9	4151	265	142	13.7	113	.548	.0340	37.2
1986	472	.109	16.2	21.2	18.1	4129	264	141	13.7	113	.552	.0340	37.5
1987	386	.093	18.4	25.2	21.0	3786	223	133	13.3	113	.633	.0354	40.0
1988	471	.103	18.9	27.2	21.9	3854	206	139	13.0	115	.705	.0362	42.5
1989	168	.038	18.7	25.3	21.2	3721	207	127	13.7	112	.662	.0342	39.5
1990	346	.091	20.1	28.1	23.1	3756	187	124	14.1	110	.675	.0329	43.7
1991	285	.070	20.3	27.3	22.9	3810	180	120	14.6	108	.679	.0313	44.1
1992	296	.073	20.8	28.4	23.6	3817	174	124	14.2	110	.719	.0325	45.5
1993	315	.066	21.1	29.4	24.2	3579	174	127	13.3	113	.736	.0356	43.4
1994	265	.048	20.8	28.8	23.8	3612	175	132	13.1	114	.757	.0364	43.1
1995	271	.047	21.3	29.5	24.3	3518	175	132	12.7	115	.763	.0376	43.0
1996	261	.050	20.8	29.4	24.0	3953	176	149	12.5	117	.854	.0376	47.5
1997	241	.039	19.9	28.3	23.0	3937	183	148	12.6	117	.820	.0377	45.7
1998	177	.027	19.8	28.4	22.9	3900	183	153	12.2	119	.855	.0394	45.5
1999	84	.012	19.0	26.5	21.8	4130	190	161	12.2	119	.877	.0390	45.9

PERCENT OF L-3:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1979				100.0				100.0				54.7	45.3	100.0	
1980		19.0		100.0				89.5	10.5			26.8	73.2	100.0	
1981		15.4		100.0				95.8	4.2		.8	29.3	69.9	100.0	
1982		9.2		100.0				100.0			.9	57.6	41.6	100.0	
1983		17.2		100.0	.1			99.5	.4		5.1	28.5	66.5	97.3	2.7
1984	2.4	15.5		100.0	.1			99.9			7.7	40.6	51.7	93.8	6.2
1985	2.5	13.5		100.0	1.3	1.3		98.7			8.3	45.2	46.6	91.7	8.3
1986	3.2	16.5		100.0	3.9	3.9		96.1			6.8	53.1	40.1	93.2	6.8
1987	43.0	12.2		100.0	46.8	6.5	40.3	53.2			5.8	82.7	11.5	88.8	11.2
1988	68.4	2.8		100.0	100.0	31.6	68.4				1.8	89.8	8.4	98.2	1.8
1989	41.9	10.3		100.0	100.0	58.1	41.9				14.9	71.9	13.2	85.1	14.9
1990	80.2	4.1		100.0	100.0	72.8	27.2				4.4	90.9	4.7	95.6	4.4
1991	71.9	5.3		100.0	100.0	69.1	30.9				18.0	77.3	4.7	92.8	7.2
1992	81.7	3.3		100.0	100.0	43.7	56.3				11.5	86.9	1.6	95.1	4.9
1993	84.2	3.0		100.0	100.0	35.0	65.0				11.9	86.9	1.2	95.1	4.9
1994	76.6	11.4		100.0	100.0	33.7	66.3			1.2	15.0	85.0		89.5	10.5
1995	76.1	13.6		100.0	100.0	28.5	71.5				16.6	83.4		89.7	10.3
1996	84.0	4.2		100.0	100.0		100.0			18.8	6.9	93.1		93.1	6.9
1997	73.1	14.2		100.0	100.0		100.0			18.5	15.4	84.6		97.0	3.0
1998	68.7	20.0		100.0	100.0		100.0			26.1	21.6	69.0	9.4	95.5	4.5
1999	49.1	22.7		100.0	100.0		100.0			49.1	22.7	77.3		100.0	

Table E-19 **CHARACTERISTICS OF 1978 TO 1999 TRUCKS** L-4 TRANS.

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1981	53	.029	15.3	23.1	18.0	4030	302	142	13.2	114	.470	.0352	36.3
1982	193	.101	17.3	24.5	20.0	4841	327	148	15.0	111	.459	.0310	49.2
1983	660	.287	16.9	24.2	19.5	4343	280	141	14.2	111	.519	.0324	42.8
1984	829	.248	16.9	24.7	19.7	4253	263	134	14.6	110	.532	.0314	42.1
1985	1100	.300	17.4	25.8	20.4	4044	238	130	14.3	110	.567	.0321	41.3
1986	1357	.312	17.4	25.4	20.2	4075	240	138	13.7	113	.606	.0340	41.3
1987	1465	.354	17.5	26.0	20.5	3999	235	151	12.7	117	.665	.0376	41.0
1988	1949	.428	17.0	25.2	19.9	4110	260	160	12.3	119	.637	.0390	40.9
1989	2351	.530	17.2	25.3	20.1	4136	260	162	12.3	120	.643	.0393	41.8
1990	2219	.583	16.8	25.0	19.7	4249	263	165	12.3	120	.651	.0391	42.0
1991	2443	.603	17.1	25.5	20.1	4182	254	164	12.2	120	.665	.0393	42.2
1992	2610	.642	16.8	25.1	19.7	4262	257	167	12.2	120	.669	.0394	42.2
1993	3284	.691	17.0	25.6	20.0	4280	257	174	11.8	123	.699	.0410	43.0
1994	3827	.698	16.9	25.1	19.8	4338	264	179	11.7	123	.697	.0414	43.1
1995	4250	.739	16.7	25.1	19.7	4352	263	177	11.8	123	.696	.0409	43.1
1996	4124	.785	17.1	25.8	20.1	4347	259	188	11.3	126	.741	.0433	44.0
1997	4601	.739	17.0	25.5	20.0	4490	264	199	11.1	128	.771	.0442	44.9
1998	4997	.762	17.0	25.7	20.0	4438	258	198	11.0	128	.786	.0446	44.6
1999	5339	.783	16.8	25.2	19.8	4569	261	205	11.0	129	.804	.0449	45.3

PERCENT OF L-4:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1981				100.0				100.0					100.0	100.0	
1982		27.4		100.0				55.7	44.3			11.2	88.8	100.0	
1983		23.4		100.0				90.4	9.6			50.2	49.8	100.0	
1984		29.1		100.0	4.0			91.1	4.9		4.0	48.0	48.0	96.0	4.0
1985		37.0		100.0	15.6			82.3	2.1		8.9	55.4	35.7	95.4	4.6
1986		33.1		100.0	73.4	31.2	42.1	25.6	1.1		11.4	53.4	35.2	92.6	7.4
1987		32.6		100.0	97.8	57.9	39.9	1.7	.5		11.6	64.2	24.2	91.2	8.8
1988		37.0		100.0	99.1	61.3	37.8	.5	.4		7.0	58.0	34.9	93.2	6.8
1989	8.0	31.6		100.0	99.2	56.0	43.2	.5	.3		5.1	65.8	29.1	93.2	6.8
1990	13.2	32.2		100.0	99.3	42.0	57.4	.4	.3		4.6	62.8	32.6	89.9	10.1
1991	7.7	39.8		100.0	99.5	44.4	55.2	.3	.2		1.9	72.5	25.6	87.7	12.3
1992	11.4	33.8		100.0	99.8	33.0	66.8	.1	.1		2.5	67.4	30.1	89.6	10.4
1993	13.5	30.5		100.0	99.9	26.6	73.3	.1		.2	1.5	68.5	30.0	88.4	11.6
1994	14.0	39.4		100.0	100.0	27.0	73.0			2.8	1.3	64.2	34.5	89.1	10.9
1995	19.1	44.0		100.0	100.0	21.6	78.4			7.7	1.8	67.1	31.1	84.9	15.1
1996	20.2	41.4		100.0	99.9		99.9		.1	7.2	2.4	68.2	29.4	87.9	12.1
1997	14.4	45.1		100.0	100.0		100.0			10.0	5.5	48.5	46.0	84.1	15.9
1998	22.1	44.5		100.0	100.0		100.0			10.8	2.7	57.2	40.1	85.7	14.3
1999	21.1	47.1		100.0	100.0		100.0			13.5	3.9	52.7	43.4	83.0	17.0

Table E-20 **CHARACTERISTICS OF 1978 TO 1999 TRUCKS** L-5 TRANS.

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1997	384	.062	17.3	25.9	20.3	4366	244	160	12.8	117	.656	.0367	44.3
1998	440	.067	17.1	25.3	20.0	4458	239	194	11.2	127	.818	.0436	44.7
1999	493	.072	17.2	25.4	20.1	4320	242	184	11.4	125	.762	.0423	43.5

PERCENT OF L-5:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1997		59.8		100.0	100.0		100.0				100.0			100.0	
1998		65.6		100.0	100.0		100.0				81.8	18.2		90.2	9.8
1999		65.9		100.0	100.0		100.0				87.7	12.3		91.4	8.6

Table E-21 **CHARACTERISTICS OF 1978 TO 1999 TRUCKS** OTHER TRANS.

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1983	7	.003	13.4	18.4	15.3	4561	284	135	15.7	108	.469	.0285	35.3
1984	0	.000	28.8	38.5	32.4	2750	122	88	14.3	105	.667	.0000	44.6
1987	2	.001	17.3	19.9	18.4	4000	129	90	18.3	97	.698	.0224	36.8
1989	0	.000	17.4	20.2	18.6	4500	129	90	20.4	95	.696	.0157	41.7
1990	0	.000	17.4	20.0	18.5	4500	129	90	20.8	95	.697	.0168	41.6
1996	1	.000	13.2	19.6	15.5	5385	346	227	11.3	129	.653	.0390	41.6

PERCENT OF OTHER:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1983		64.2						100.0				12.6	87.4	100.0	
1984	100.0							100.0			100.0				100.0
1987		100.0			100.0		100.0				100.0				100.0
1989		100.0			100.0		100.0				100.0				100.0
1990					100.0		100.0				100.0				100.0
1996		77.0			100.0		100.0						100.0	100.0	

Appendix F

Table F-1 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** FOUR CYLINDER CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	1805	.219	20.8	30.6	24.3	2651		112	79	15.1	102	.716	.0297	32.4		
1976	2017	.207	22.8	33.1	26.5	2613		111	77	15.2	102	.706	.0295	34.8		
1977	2287	.202	24.8	35.3	28.7	2523	86.8	106	78	14.6	103	.742	.0307	36.6	2556	3191
1978	2926	.262	24.7	34.3	28.3	2511	88.9	108	77	14.7	103	.727	.0307	36.0	2580	3208
1979	3157	.292	23.6	33.0	27.1	2564	90.1	110	77	14.9	102	.707	.0299	35.0	2491	3165
1980	4511	.478	24.4	34.3	28.1	2573	93.0	116	78	14.8	102	.681	.0302	36.4	2662	3394
1981	4469	.512	26.0	36.2	29.8	2555	97.7	115	79	14.6	103	.693	.0308	38.4	2953	3747
1982	4251	.544	26.7	38.2	30.9	2595	97.8	114	78	14.9	102	.686	.0299	40.3	3061	3951
1983	4158	.520	27.1	38.2	31.2	2622	101.2	118	81	14.7	103	.694	.0307	41.3	3213	4174
1984	5744	.538	27.1	38.7	31.4	2655	100.3	119	85	14.3	105	.718	.0319	42.0	3192	4208
1985	5865	.543	27.3	38.9	31.5	2671	101.7	120	90	13.8	107	.752	.0335	42.4	3251	4317
1986	6462	.587	27.1	38.6	31.3	2719	102.5	121	91	13.9	106	.753	.0332	42.8	3244	4389
1987	6679	.622	26.9	38.4	31.1	2732	102.1	121	92	13.8	107	.772	.0336	42.8	3207	4365
1988	6333	.590	27.5	39.0	31.7	2739	101.8	118	95	13.6	108	.805	.0343	43.7	3268	4448
1989	5671	.566	26.9	38.6	31.1	2794	101.5	120	100	13.1	110	.839	.0357	43.7	3196	4434
1990	4925	.559	26.4	38.1	30.7	2857	100.8	122	108	12.6	112	.901	.0377	44.0	3120	4437
1991	4843	.568	26.5	38.5	30.8	2846	100.9	120	108	12.5	113	.913	.0379	44.1	3150	4457
1992	3946	.487	26.5	38.9	30.9	2885	100.7	120	112	12.3	114	.947	.0388	44.8	3153	4518
1993	4267	.505	27.0	39.9	31.6	2866	101.9	119	110	12.4	113	.930	.0382	45.5	3257	4639
1994	4179	.497	26.9	40.2	31.6	2901	102.0	120	113	12.3	114	.955	.0390	46.0	3257	4699
1995	4620	.492	27.3	41.1	32.2	2889	102.7	118	120	11.7	117	1.016	.0413	46.7	3340	4795
1996	3984	.505	26.8	40.6	31.6	2936	102.8	121	123	11.6	118	1.023	.0419	46.6	3285	4793
1997	4482	.537	26.9	40.8	31.8	2947	102.4	121	124	11.5	118	1.024	.0420	47.0	3280	4812
1998	4149	.514	27.1	41.3	32.0	3019	103.7	123	128	11.4	119	1.039	.0423	48.5	3348	5037
1999	3764	.478	26.9	40.9	31.8	3064	103.9	123	129	11.5	119	1.048	.0420	48.9	3334	5087

PERCENT OF FOUR CYLINDER CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1975	25.2		68.9		14.4		14.4	84.8	.8		98.7	1.3		29.5	32.1	38.4
1976	22.0		63.9		6.7		6.7	92.7	.6		99.4	.6		36.3	22.1	41.5
1977	28.3		69.5		11.9		11.9	86.3	1.8		99.3	.7		19.9	24.1	56.0
1978	31.8		67.4		10.4		10.4	87.8	1.7		97.6	2.4		31.1	20.9	48.0
1979	33.5	1.2	65.9		7.0		7.0	90.9	2.1		95.8	4.2		42.0	16.0	42.0
1980	44.8	1.0	60.3		9.1		9.1	87.3	3.6		89.5	10.5		45.5	14.9	39.6
1981	60.6	.9	55.2	1.7	7.5		7.5	88.5	4.0		82.7	17.3		50.9	9.5	39.7
1982	72.1	.9	49.5	21.4	18.7	11.2	7.5	78.7	2.6		83.8	16.2		54.1	8.7	37.2
1983	76.2	5.1	46.8	26.2	32.7	21.0	11.7	66.3	1.0		79.3	20.7		53.5	7.2	39.3
1984	81.3	1.4	40.0	30.4	43.7	28.3	15.4	54.7	1.6		85.0	15.0		63.4	7.2	29.4
1985	84.0	3.7	38.1	31.8	52.3	33.6	18.7	46.9	.8		81.6	18.4		58.5	7.4	34.1
1986	89.5	1.5	36.5	37.0	63.3	38.9	24.4	36.3	.4	2.2	79.3	20.6	.2	55.3	7.3	37.5
1987	92.0	1.5	34.4	43.0	68.1	43.2	24.9	31.8	.1	7.4	81.3	18.5	.2	49.6	7.0	43.3
1988	94.1	1.0	35.2	50.3	78.5	45.9	32.7	21.5		15.1	87.2	12.6	.2	45.0	6.6	48.4
1989	93.2	1.5	31.8	53.5	84.9	41.3	43.7	15.0	.1	19.2	86.3	13.5	.2	44.2	5.3	50.5
1990	93.2	1.5	30.6	57.9	98.2	35.3	62.9	1.7		39.6	88.9	11.0	.1	36.0	5.1	58.8
1991	92.5	2.1	31.2	60.9	99.9	31.0	68.9		.1	42.9	90.8	9.0	.2	36.9	4.6	58.5
1992	88.5	1.2	30.1	61.4	100.0	13.4	86.6			49.0	89.1	10.7	.2	34.4	4.2	61.4
1993	94.1	2.0	29.3	62.9	100.0	11.9	88.1			46.5	89.4	10.4	.2	40.9	2.5	56.6
1994	96.7	1.1	25.9	67.3	100.0	7.7	92.3			56.9	89.1	10.8	.1	29.8	3.0	67.2
1995	90.2	2.2	27.4	70.7	100.0	1.7	98.3			73.2	88.9	11.0	.1	38.7	3.9	57.4
1996	95.9	2.5	24.1	73.8	99.9	1.5	98.3		.1	76.3	84.7	15.2	.1	39.4	4.5	56.1
1997	95.7	2.8	21.5	77.3	99.9	1.2	98.7		.1	74.1	84.7	15.2	.1	39.5	4.9	55.6
1998	95.6	2.9	22.1	73.1	99.4		99.4		.6	77.3	74.0	26.0		44.0	5.5	50.6
1999	95.9	3.2	23.2	76.1	99.4		99.4		.6	78.1	72.4	27.6		37.9	6.6	55.6

Table F-2 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** FIVE CYLINDER CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	5	.001	23.9	31.4	26.8	3500		183	77	19.3	95	.420	.0220	46.8		
1976	12	.001	22.2	27.8	24.4	4000		183	77	21.5	93	.421	.0192	48.8		
1977	12	.001	23.0	27.7	24.9	4000	105.0	183	77	21.5	93	.421	.0192	49.8	2613	5227
1978	39	.003	18.4	25.1	20.9	3411	103.6	152	102	15.1	106	.690	.0305	37.0	2202	3821
1979	43	.004	20.5	26.5	22.8	3596	106.0	162	100	16.1	104	.636	.0283	42.3	2462	4499
1980	66	.007	20.8	29.0	23.8	3357	105.3	152	92	16.3	102	.630	.0280	41.6	2593	4399
1981	59	.007	22.4	30.5	25.4	3358	105.3	155	98	15.6	104	.650	.0296	44.0	2739	4671
1982	58	.007	23.9	31.7	26.9	3601	105.8	163	114	14.3	108	.705	.0318	49.9	2896	5300
1983	64	.008	24.5	32.2	27.4	3660	106.1	165	114	14.5	108	.696	.0312	51.4	2949	5462
1984	116	.011	21.5	29.9	24.6	3326	110.3	148	109	13.9	109	.748	.0329	42.1	2742	4619
1985	99	.009	21.0	29.2	24.0	3360	110.2	151	117	13.3	111	.788	.0351	41.1	2661	4509
1986	71	.006	20.0	29.2	23.3	3035	111.0	136	116	12.3	114	.854	.0381	35.6	2595	3949
1987	44	.004	20.5	29.8	23.9	3095	110.7	139	127	11.7	117	.914	.0406	37.4	2661	4132
1988	18	.002	20.7	30.7	24.3	3047	104.6	140	129	11.4	119	.919	.0418	37.3	2552	3894
1989	15	.002	20.5	29.6	23.8	3415	108.5	140	135	12.0	117	.968	.0391	40.7	2585	4430
1990	18	.002	20.6	29.8	23.9	3407	105.1	141	138	11.8	118	.980	.0401	41.1	2536	4331
1991	15	.002	20.8	31.5	24.5	3460	106.7	142	141	11.9	119	1.001	.0403	43.2	2665	4626
1992	27	.003	22.3	33.1	26.1	3497	100.9	150	170	10.3	129	1.135	.0485	46.0	2656	4645
1993	41	.005	22.7	35.4	27.1	3509	108.2	149	169	10.3	128	1.133	.0480	47.6	2938	5152
1994	54	.006	21.8	34.3	26.1	3504	114.7	147	184	9.7	134	1.252	.0523	45.8	2998	5252
1995	60	.006	22.0	35.4	26.5	3512	118.6	146	185	9.6	134	1.271	.0527	46.6	3146	5521
1996	84	.011	21.9	34.7	26.3	3500	115.6	148	180	9.8	133	1.221	.0514	46.0	3043	5325
1997	51	.006	21.8	34.8	26.2	3500	117.1	148	181	9.7	133	1.223	.0517	45.9	3074	5379
1998	107	.013	21.2	34.4	25.6	3500	118.3	145	189	9.5	136	1.301	.0539	44.9	3029	5300
1999	75	.010	21.7	34.0	25.9	3647	118.5	148	193	9.6	135	1.309	.0530	47.2	3073	5592

PERCENT OF FIVE CYLINDER CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1975									100.0		100.0				100.0	
1976									100.0		100.0				100.0	
1977									100.0		100.0				100.0	
1978	58.9		8.1		58.9		58.9		41.1		100.0				100.0	
1979	40.4		8.9		38.0		38.0		62.0		94.1	5.9			100.0	
1980	56.6		18.5		41.9		41.9		58.1		95.2	4.8			100.0	
1981	51.0		21.5		40.8		40.8		59.2		96.0	4.0			100.0	
1982	37.1		11.0		35.3		35.3		64.7		94.7	5.3			100.0	
1983	32.2	.8	11.7		29.0		29.0		71.0		95.9	4.1			100.0	
1984	65.8	2.6	18.2		68.4		68.4		31.6		47.5	52.5			100.0	
1985	63.1	4.1	15.6		67.3		67.3		32.7		45.3	54.7			100.0	
1986	84.9	12.6	28.4		97.5		97.5		2.5		30.2	69.8			100.0	
1987	70.4	24.0	36.5		94.4		94.4		5.6		36.6	63.4			100.0	
1988	60.5	36.0	56.1		96.5		96.5		3.5		57.4	42.6			100.0	
1989	86.8	10.9	29.2		97.7		97.7		2.3		21.4	78.6			100.0	
1990	74.5	19.0	30.8		93.5		93.5		6.5	13.1	39.6	60.4			100.0	
1991	69.0	16.4	24.5	55.2	85.4		85.4		14.6	13.8	38.9	61.1			100.0	
1992	88.6	1.1	17.1	72.5	89.7		89.7		10.3	86.6	98.9	1.1			13.4	86.6
1993	93.3	1.8	15.7	79.4	100.0		100.0			100.0	32.9	67.1			73.9	26.1
1994	99.1	.9	9.8	90.2	100.0		100.0			100.0	18.6	81.4			82.2	17.8
1995	97.6	2.4	8.7	91.3	100.0		100.0			100.0	3.1	96.9			99.3	.7
1996	100.0		4.8	95.2	100.0		100.0			100.0	27.6	72.4			72.4	27.6
1997	100.0		3.2	96.8	100.0		100.0			100.0	16.8	83.2			83.2	16.8
1998	90.6	9.4	4.7	95.3	100.0		100.0			100.0	10.0	90.0			91.9	8.1
1999	72.7	27.3	5.7	94.3	100.0		100.0			100.0	5.7	94.3			100.0	

Table F-3 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** SIX CYLINDER CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	1533	.186	16.2	22.1	18.4	3625		225	105	15.7	105	.485	.0295	33.5		
1976	1935	.199	17.1	23.0	19.3	3715		231	100	16.7	103	.445	.0272	36.0		
1977	1851	.164	17.3	23.3	19.6	3753	106.6	229	105	16.1	104	.471	.0284	36.9	2095	3955
1978	2325	.208	17.7	24.6	20.2	3482	108.6	221	107	14.8	107	.495	.0310	35.3	2206	3844
1979	2187	.203	17.9	24.6	20.4	3421	108.8	217	109	14.4	108	.507	.0319	34.9	2224	3814
1980	2644	.280	18.8	26.5	21.6	3332	111.0	213	110	13.9	109	.530	.0333	36.0	2407	4004
1981	2394	.274	19.6	27.8	22.6	3382	111.6	215	110	14.1	108	.522	.0328	38.3	2527	4283
1982	2080	.266	19.7	28.9	23.0	3404	112.9	213	114	13.8	110	.548	.0337	39.3	2614	4457
1983	1858	.232	20.3	30.1	23.8	3373	111.0	211	116	13.6	111	.565	.0345	40.2	2654	4481
1984	2455	.230	20.5	30.5	24.1	3364	111.3	205	117	13.4	111	.586	.0350	40.5	2684	4515
1985	2498	.232	20.3	31.2	24.1	3387	111.8	206	124	12.9	114	.617	.0367	40.8	2697	4566
1986	2694	.245	20.8	32.8	24.9	3377	112.0	200	134	12.1	117	.683	.0398	42.2	2805	4745
1987	2489	.232	20.8	33.7	25.1	3414	112.9	198	143	11.6	120	.733	.0418	42.9	2847	4862
1988	2985	.278	21.4	34.8	25.9	3397	113.6	193	142	11.5	120	.744	.0418	44.0	2952	5017
1989	3157	.315	21.2	34.6	25.7	3423	114.8	194	146	11.4	121	.762	.0428	44.0	2956	5059
1990	2989	.339	20.9	34.5	25.4	3504	114.0	197	150	11.4	122	.773	.0430	44.6	2911	5099
1991	2635	.309	20.9	34.2	25.3	3490	113.6	197	156	11.0	124	.796	.0448	44.2	2887	5040
1992	3067	.378	20.8	34.6	25.4	3500	114.3	199	158	10.9	125	.810	.0453	44.4	2908	5091
1993	3255	.385	21.3	34.8	25.8	3488	113.9	199	158	10.9	125	.805	.0454	45.0	2946	5139
1994	3126	.372	21.1	34.6	25.6	3533	113.2	198	159	10.9	125	.812	.0450	45.2	2901	5126
1995	3667	.390	21.4	35.6	26.0	3532	113.1	195	172	10.3	129	.888	.0487	46.0	2952	5210
1996	3020	.383	21.4	35.6	26.1	3552	113.6	194	172	10.3	129	.894	.0485	46.3	2966	5270
1997	3016	.361	21.2	35.4	25.9	3574	114.5	197	179	10.1	131	.918	.0502	46.4	2973	5317
1998	3161	.391	21.6	36.2	26.4	3549	113.5	195	181	9.9	132	.938	.0509	46.8	2996	5322
1999	3198	.406	21.5	35.8	26.2	3583	113.4	194	188	9.7	134	.977	.0524	47.1	2983	5350

PERCENT OF SIX CYLINDER CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1975			19.3		8.3		8.3	91.7			92.4	6.9	.7	89.1	4.2	6.7
1976			15.2		4.7		4.7	95.3			84.0	15.2	.8	93.3	2.7	4.0
1977			11.9		6.7		6.7	93.3			74.8	22.9	2.3	93.1	2.3	4.7
1978			9.1	8.3	5.3		5.3	94.7			54.0	43.9	2.1	94.0	1.5	4.5
1979	.5		9.1	8.2	6.9		6.9	93.1			40.5	57.8	1.7	92.5	1.4	6.1
1980	22.0	1.5	8.2	25.7	4.3		4.3	95.5	.2		29.0	66.6	4.4	95.5	1.2	3.3
1981	14.2	.8	5.4	58.8	6.8		6.8	92.9	.3		23.1	70.5	6.4	92.9	1.2	5.9
1982	19.5	1.1	5.3	89.3	17.8	8.0	9.8	79.6	2.6		25.0	65.1	10.0	88.8	2.3	8.9
1983	22.4	1.7	6.6	90.1	12.3		12.3	85.7	2.0		31.7	64.0	4.3	87.1	3.0	9.9
1984	31.5	.9	6.1	91.9	29.8	8.8	21.0	68.8	1.4		29.9	67.0	3.1	88.3	3.3	8.3
1985	48.6		6.3	92.7	62.7	21.6	41.1	36.7	.6		30.1	56.0	13.9	86.9	3.7	9.3
1986	63.4	.3	6.9	91.1	80.1	15.4	64.7	19.6	.3	1.1	35.0	43.6	21.4	86.8	5.3	7.9
1987	73.0	.2	7.9	89.2	96.7	7.9	88.8	2.5	.8	4.1	38.1	37.9	24.0	78.4	7.2	14.4
1988	83.8	.2	5.8	92.5	99.9	2.3	97.6	.1		5.3	33.1	46.1	20.8	84.0	6.7	9.3
1989	84.1	.3	5.0	93.0	100.0	.2	99.8			6.1	19.1	61.2	19.7	84.1	6.1	9.8
1990	86.3	.1	3.9	94.3	100.0	.1	99.8			8.3	19.4	61.1	19.5	83.4	4.7	11.9
1991	87.8	.4	4.3	93.6	99.9		99.9		.1	9.9	20.4	62.3	17.3	82.7	4.7	12.6
1992	88.6	1.3	3.8	93.1	100.0	.1	99.9			12.2	25.6	55.3	19.2	81.5	4.4	14.0
1993	88.2	.3	4.3	93.8	100.0		100.0			19.0	24.5	57.5	18.0	81.0	3.8	15.2
1994	86.4	.2	4.3	94.2	100.0		100.0			20.4	28.7	46.7	24.6	82.8	3.9	13.3
1995	87.4	.2	4.2	93.9	99.9		99.9		.1	29.8	28.9	50.4	20.8	76.0	5.8	18.3
1996	88.9	.7	4.4	94.3	99.9		99.9		.1	34.1	24.9	56.6	18.4	74.9	4.9	20.1
1997	87.8	.6	3.5	96.5	99.9		99.9		.1	35.9	22.4	53.1	24.5	71.4	6.9	21.7
1998	87.2	1.1	4.0	96.0	99.9		99.9		.1	34.6	20.8	62.5	16.8	68.8	7.1	24.1
1999	87.1	1.7	4.5	95.3	99.9		99.9		.1	44.1	21.3	58.5	20.2	67.3	9.8	22.9

Table F-4 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** EIGHT CYLINDER CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	4840	.588	11.6	16.6	13.4	4732		376	167	13.4	117	.446	.0354	32.0		
1976	5728	.589	13.2	18.5	15.1	4689		368	165	13.4	116	.448	.0351	35.6		
1977	7132	.631	14.1	19.7	16.2	4450	119.0	348	158	13.2	116	.455	.0356	36.1	1939	4305
1978	5882	.526	14.9	21.4	17.2	4166	119.2	335	154	12.8	117	.460	.0371	36.1	2085	4317
1979	5354	.496	15.4	21.4	17.6	4060	120.6	324	149	12.9	116	.460	.0368	35.9	2145	4344
1980	2169	.230	16.4	24.0	19.1	3920	120.6	309	135	13.6	113	.439	.0345	37.9	2343	4616
1981	1778	.204	17.1	26.0	20.2	3973	123.0	307	133	14.0	112	.440	.0337	40.9	2538	5071
1982	1377	.176	17.0	26.5	20.3	3940	123.4	305	138	13.5	114	.457	.0354	40.5	2537	5054
1983	1859	.232	16.8	26.4	20.1	3946	125.0	298	143	12.9	115	.482	.0364	39.8	2519	4999
1984	2316	.217	17.0	26.8	20.3	3913	122.3	300	144	12.8	116	.483	.0371	39.8	2491	4915
1985	2229	.207	18.1	28.8	21.7	3895	122.8	296	151	12.4	118	.509	.0389	42.3	2670	5227
1986	1651	.150	18.6	30.1	22.5	3813	120.2	299	152	12.0	120	.511	.0402	42.9	2712	5201
1987	1387	.129	18.4	29.6	22.2	3846	120.2	299	155	12.0	120	.520	.0407	42.7	2676	5177
1988	1247	.116	18.7	30.4	22.6	3854	121.5	301	164	11.6	123	.544	.0430	43.6	2754	5349
1989	1070	.107	18.7	30.7	22.7	3831	121.5	300	160	11.6	122	.535	.0423	43.5	2765	5339
1990	812	.092	18.4	30.4	22.3	3947	121.4	294	173	11.3	125	.597	.0441	44.2	2720	5404
1991	905	.106	18.7	31.1	22.8	3947	122.0	298	198	10.0	134	.669	.0504	45.0	2788	5540
1992	951	.117	18.8	31.3	22.9	4006	124.1	295	208	9.8	136	.714	.0522	46.1	2862	5765
1993	791	.094	18.6	31.5	22.8	4010	123.8	296	215	9.6	139	.736	.0542	45.8	2835	5720
1994	933	.111	18.7	31.4	22.9	3989	121.2	292	225	9.2	142	.776	.0566	45.7	2783	5588
1995	1013	.108	18.6	31.7	22.9	4005	120.3	289	230	9.0	143	.803	.0575	45.9	2759	5553
1996	775	.098	18.9	32.3	23.3	4018	122.3	289	241	8.7	147	.841	.0602	46.9	2857	5763
1997	780	.093	19.0	31.9	23.2	4001	122.2	279	247	8.5	149	.891	.0620	46.4	2837	5682
1998	639	.079	18.8	31.4	23.0	3972	117.4	281	256	8.3	153	.918	.0648	45.7	2699	5383
1999	831	.106	18.4	30.5	22.4	4033	120.5	280	242	8.8	147	.867	.0606	45.3	2708	5474

PERCENT OF EIGHT CYLINDER CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1975	1.7		1.6		.7		.7	99.3			27.0	37.0	36.0	99.6	.4	
1976	2.0		1.2		1.4		1.4	98.6			29.9	37.4	32.7	99.8	.2	
1977	1.8		1.0		1.1		1.1	98.9			30.6	32.7	36.7	99.8	.2	
1978	2.1		1.2	9.5	1.9		1.9	97.5	.6		14.2	46.8	39.0	99.7	.3	
1979	3.7		1.4	12.9	2.2		2.2	95.3	2.6		13.3	42.8	43.9	99.6	.4	
1980	7.6		.8	40.5	4.4	3.0	1.4	85.8	9.8		9.9	46.4	43.7	99.2	.8	
1981	8.8		1.1	80.4	13.8	13.0	.8	69.5	16.8		8.8	39.9	51.3	99.2	.8	
1982	5.5		3.9	90.8	10.4	9.1	1.3	77.9	11.7		16.7	27.3	55.9	98.7	1.3	
1983	9.6		3.5	95.5	35.4	34.4	1.0	62.4	2.2		12.7	26.6	60.7	99.0	1.0	
1984	9.3		3.2	95.8	37.6	32.5	5.2	61.7	.7		17.7	24.6	57.7	98.9	1.1	
1985	18.2		2.5	96.0	47.4	42.4	5.1	52.5	.1		14.9	26.4	58.8	98.4	1.6	
1986	12.2		4.3	93.2	48.4	12.2	36.2	51.6		.2	19.8	31.7	48.4	97.4	2.6	
1987	14.2		4.4	92.4	55.9	13.9	42.0	44.1		.2	20.8	29.1	50.1	96.7	3.3	
1988	16.4		6.2	91.5	76.2	19.8	56.4	23.8		.2	23.3	17.1	59.6	97.5	2.5	
1989	21.2		7.2	90.3	90.9	36.9	54.0	9.1		.2	22.2	10.6	67.2	97.4	2.6	
1990	28.4		6.7	91.4	96.0	10.1	85.9	4.0		7.8	16.4	17.6	66.0	91.1	2.3	6.6
1991	20.5	.1	5.1	92.7	100.0	29.1	70.9			7.4	19.5	16.2	64.3	91.3	2.4	6.4
1992	21.9		3.7	94.3	100.0	21.4	78.6			8.1	15.1	14.6	70.3	91.0	2.1	6.9
1993	23.2		5.3	92.8	100.0	15.3	84.7			16.6	14.2	19.5	66.3	91.5	3.1	5.4
1994	19.3		6.1	92.3	100.0		100.0			21.9	18.6	25.7	55.6	91.2	4.3	4.6
1995	24.1		6.5	91.4	100.0		100.0			35.3	18.6	27.4	54.1	90.8	5.2	4.0
1996	27.9		6.7	93.3	100.0		100.0			36.2	14.1	19.4	66.4	93.9	2.0	4.1
1997	28.3	.3	5.2	94.8	100.0		100.0			44.6	12.4	29.8	57.8	85.6	9.0	5.4
1998	33.6	.3	7.5	92.5	100.0		100.0			53.3	22.1	22.4	55.5	83.1	10.7	6.3
1999	26.1	.3	6.3	93.6	100.0		100.0			38.7	18.4	17.5	64.1	84.9	10.6	4.6

Table F-5 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** FOUR CYLINDER TRUCKS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	221	.112	18.7	27.1	21.7	2856	120	88	14.8	104	.740	.0311	31.2
1976	225	.086	20.4	29.6	23.7	2831	117	89	14.7	105	.756	.0316	33.7
1977	306	.108	22.9	32.4	26.4	2824	122	90	14.3	106	.747	.0322	37.6
1978	342	.105	23.3	31.1	26.2	2849	120	88	14.7	104	.730	.0309	37.7
1979	481	.156	20.3	27.9	23.1	2850	123	84	15.0	103	.687	.0296	33.6
1980	584	.314	21.5	28.9	24.3	2842	124	86	14.7	104	.699	.0305	35.1
1981	522	.287	24.2	32.5	27.3	2861	130	84	15.2	103	.648	.0294	39.9
1982	517	.270	24.4	32.3	27.4	2897	132	86	15.1	103	.651	.0298	40.4
1983	744	.324	24.1	32.3	27.2	2924	135	87	14.9	103	.649	.0298	40.4
1984	1083	.324	23.4	31.3	26.4	3064	135	90	15.1	103	.666	.0294	40.8
1985	1253	.342	23.2	30.9	26.1	3157	141	97	14.6	105	.691	.0309	41.5
1986	1802	.414	23.2	31.4	26.3	3159	139	97	14.5	105	.698	.0309	41.7
1987	1539	.372	23.2	31.6	26.4	3122	139	97	14.5	105	.698	.0310	41.3
1988	1247	.274	23.4	31.7	26.6	3123	139	97	14.5	105	.698	.0310	41.6
1989	1121	.253	23.0	31.1	26.0	3184	143	104	13.9	108	.725	.0326	41.6
1990	770	.202	23.5	31.6	26.5	3155	141	108	13.4	110	.767	.0344	42.1
1991	907	.224	23.2	31.2	26.2	3242	143	109	13.7	109	.763	.0336	42.6
1992	726	.179	23.1	31.4	26.2	3246	141	110	13.5	110	.783	.0340	42.7
1993	693	.146	23.2	31.5	26.3	3240	140	111	13.4	110	.793	.0344	42.9
1994	921	.168	23.4	31.9	26.6	3309	139	112	13.5	110	.805	.0340	44.2
1995	936	.163	23.0	31.4	26.2	3356	142	121	12.9	113	.859	.0363	44.3
1996	772	.147	23.4	32.9	26.9	3378	137	124	12.7	114	.906	.0368	45.7
1997	978	.157	23.4	32.2	26.7	3418	137	124	12.8	113	.903	.0363	45.8
1998	979	.149	23.1	32.3	26.5	3447	139	129	12.5	115	.934	.0376	45.9
1999	943	.138	23.3	32.3	26.7	3473	140	132	12.4	116	.952	.0382	46.5

PERCENT OF FOUR CYLINDER TRUCKS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1975			83.7		.5			99.5			74.7	25.3			100.0
1976			81.4		.7			99.3			75.8	24.2			100.0
1977			82.3		.7			99.3			78.5	21.5			100.0
1978		6.8	88.1		.8			99.2			78.0	22.0			100.0
1979		20.5	86.4		1.8			98.2			78.2	21.8		2.7	97.3
1980	4.5	22.2	90.0		5.3			92.8	1.9		83.1	16.9		2.7	97.3
1981	6.4	24.5	92.9		3.9			80.6	15.5		75.0	25.0		2.6	97.4
1982	6.2	23.3	88.9	2.1	2.4			82.0	15.6		72.0	28.0		12.9	87.1
1983	4.2	19.2	84.8	1.4	2.0			92.5	5.6		46.1	53.9		34.1	65.9
1984	15.1	21.3	75.9	7.3	7.9			88.8	3.3		48.0	52.0		32.5	67.5
1985	20.7	21.7	65.9	12.1	27.7			71.1	1.2		48.1	51.9		42.2	57.8
1986	14.1	24.7	72.6	10.8	34.8	18.5	16.3	64.4	.8		47.1	51.7	1.2	30.7	69.3
1987	10.4	26.4	73.4	12.1	38.9	23.0	15.9	60.8	.2		42.3	57.5	.3	29.7	70.3
1988	7.8	26.8	76.9	12.0	60.4	30.7	29.8	39.6			37.4	62.5		38.6	61.4
1989	16.8	21.7	68.5	13.2	79.2	41.6	37.7	20.8			33.9	66.0		45.0	55.0
1990	10.6	23.8	75.3	20.9	85.2	24.0	61.3	14.8			44.3	55.6		34.8	65.2
1991	5.5	19.0	69.7	28.1	93.1	29.7	63.4	6.9			41.1	58.8		39.2	60.8
1992	12.0	18.8	69.2	28.8	91.4	22.2	69.1	8.6			47.1	52.8		36.3	63.7
1993	8.0	20.5	72.4	25.3	93.5	17.5	75.9	6.5		1.2	53.5	46.5		38.3	61.7
1994	5.0	18.9	75.7	18.8	97.8	10.1	87.6	2.2		3.1	46.9	52.9	.2	52.1	47.9
1995	6.7	28.5	71.0	26.8	100.0	9.2	90.8			19.2	45.2	51.0	3.8	48.5	51.5
1996	9.8	18.8	64.0	32.5	100.0		100.0			40.2	40.0	58.9	1.0	51.8	48.2
1997	9.4	29.0	59.3	38.4	100.0		100.0			39.6	40.5	59.3	.2	50.0	50.0
1998	10.6	27.2	57.1	39.6	100.0		100.0			57.8	40.3	59.6	.1	46.1	53.9
1999	9.3	32.1	55.7	42.1	100.0		100.0			60.7	44.0	56.0		43.6	56.4

Table F-6 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** FIVE CYLINDER TRUCKS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1993	11	.002	18.6	25.1	21.0	4157	150	109	16.6	103	.726	.0260	43.7
1994	0	.000	17.5	24.6	20.1	4260	150	109	16.8	102	.722	.0238	42.8
1995	2	.000	17.3	23.3	19.6	5000	150	109	19.1	98	.726	.0215	48.9

PERCENT OF FIVE CYLINDER TRUCKS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1993	100.0		35.7	64.3	100.0		100.0					100.0			100.0
1994	100.0		48.0	52.0	100.0		100.0					100.0			100.0
1995	100.0		43.8	56.2	100.0		100.0						100.0		100.0

Table F-7 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** SIX CYLINDER TRUCKS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	272	.137	14.9	19.7	16.8	3960	269	102	16.9	102	.383	.0257	33.5
1976	445	.170	16.1	21.2	18.1	3936	267	102	16.7	102	.387	.0260	36.0
1977	410	.145	16.6	21.4	18.4	3956	271	110	15.9	104	.407	.0278	36.9
1978	558	.171	16.1	20.7	17.9	3973	273	116	15.2	106	.426	.0291	35.9
1979	515	.167	15.7	19.6	17.2	4066	264	122	14.8	108	.465	.0301	35.4
1980	555	.298	16.7	22.3	18.8	4016	268	118	15.1	106	.445	.0294	38.0
1981	636	.350	17.5	23.4	19.7	3956	272	119	14.8	107	.441	.0302	39.2
1982	642	.336	18.4	25.2	20.9	3693	243	113	14.6	107	.481	.0309	38.7
1983	751	.327	18.3	25.8	21.1	3754	229	112	15.0	106	.510	.0300	39.7
1984	1200	.359	18.0	25.5	20.8	3729	221	110	15.1	106	.523	.0297	38.9
1985	1217	.332	18.5	26.7	21.5	3704	216	117	14.4	108	.561	.0316	39.9
1986	1379	.317	18.2	25.7	20.9	3793	218	129	13.6	112	.623	.0343	39.7
1987	1689	.409	18.5	26.8	21.5	3756	214	141	12.6	116	.680	.0378	40.5
1988	2063	.453	18.5	27.1	21.6	3779	218	146	12.2	118	.689	.0389	40.9
1989	2104	.474	18.4	26.6	21.4	3887	227	148	12.4	118	.674	.0383	41.8
1990	1951	.513	18.4	26.9	21.4	3952	220	147	12.6	117	.687	.0375	42.5
1991	2386	.589	18.3	26.9	21.4	3989	228	153	12.3	118	.684	.0385	42.7
1992	2488	.612	18.0	26.6	21.1	4049	228	155	12.4	118	.693	.0385	42.9
1993	3041	.640	18.2	27.2	21.4	4027	225	160	12.0	120	.723	.0401	43.2
1994	3167	.578	18.1	26.8	21.2	4090	228	164	11.9	121	.730	.0404	43.5
1995	3296	.573	17.9	26.8	21.1	4123	232	165	12.0	121	.722	.0402	43.6
1996	3144	.598	18.1	27.3	21.4	4156	232	172	11.6	123	.753	.0418	44.6
1997	3120	.501	18.1	27.1	21.3	4172	230	177	11.4	124	.775	.0426	44.6
1998	3521	.537	18.2	27.3	21.4	4169	228	182	11.1	126	.805	.0438	44.8
1999	3459	.507	18.2	27.2	21.4	4205	228	183	11.2	126	.812	.0436	45.0

PERCENT OF SIX CYLINDER TRUCKS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1975		5.1	18.8					100.0			3.0	22.4	74.6	100.0	
1976		10.7	35.5					100.0			8.3	15.6	76.1	98.1	1.9
1977		14.2	32.4					100.0			10.4	11.1	78.5	96.1	3.9
1978		14.6	32.0					99.8	.2		9.4	12.9	77.7	97.2	2.8
1979		19.5	61.0	3.4				99.3	.7		10.9	13.4	75.8	99.2	.8
1980		18.3	61.9	20.8				99.1	.9		6.4	14.8	78.8	99.7	.3
1981		14.5	57.3	24.3				100.0			4.6	12.5	82.9	99.7	.3
1982		12.8	52.5	31.2				100.0			4.8	39.1	56.2	99.5	.5
1983		32.4	48.5	36.3				100.0			5.1	53.4	41.5	99.5	.5
1984		41.2	41.4	36.1				100.0			11.0	52.6	36.4	99.6	.4
1985		43.0	37.7	51.9	.5	.5		99.5			8.4	62.7	28.8	99.5	.5
1986		37.8	33.3	54.4	58.3	34.7	23.5	41.6	.1		12.6	61.0	26.4	96.8	3.2
1987	8.7	36.2	26.7	66.3	89.8	36.5	53.2	10.2			10.1	75.3	14.6	96.4	3.6
1988	15.2	35.5	26.5	67.5	98.5	38.2	60.3	1.5			10.5	74.5	15.0	95.5	4.5
1989	11.9	35.0	25.6	69.5	98.3	39.2	59.1	1.7			11.3	73.8	14.9	91.4	8.6
1990	26.1	31.8	20.1	76.9	98.6	32.0	66.6	1.4			8.6	77.5	13.9	87.5	12.5
1991	14.5	41.6	23.3	75.7	100.0	40.5	59.5				3.7	84.6	11.7	88.8	11.2
1992	18.8	33.6	21.5	77.6	100.0	27.8	72.2				3.2	82.2	14.6	89.7	10.3
1993	21.4	29.1	18.1	81.0	100.0	18.5	81.5				1.6	83.0	15.4	87.4	12.6
1994	22.2	37.0	17.4	82.0	100.0	14.9	85.1			3.9	3.0	83.0	13.9	84.6	15.4
1995	29.0	39.4	12.8	86.6	100.0	8.5	91.5			8.7	2.1	86.4	11.5	81.8	18.2
1996	31.2	35.0	8.9	90.6	100.0		100.0			7.5	1.1	88.5	10.5	87.1	12.9
1997	24.3	37.6	10.6	89.4	100.0		100.0			9.5	7.1	79.3	13.6	83.2	16.8
1998	32.5	37.3	8.2	91.8	100.0		100.0			10.2	2.8	85.5	11.7	83.7	16.3
1999	31.4	39.3	8.9	91.1	100.0		100.0			13.4	3.4	86.6	10.1	80.5	19.5

Table F-8 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** EIGHT CYLINDER TRUCKS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	1490	.750	11.2	14.9	12.6	4275	347	157	12.8	117	.451	.0369	27.1
1976	1938	.742	11.8	15.5	13.2	4361	355	155	13.1	116	.436	.0358	28.9
1977	2105	.745	12.9	16.6	14.4	4362	356	163	12.7	118	.457	.0374	31.5
1978	2372	.725	12.6	15.9	13.9	4381	352	161	12.7	118	.457	.0369	30.8
1979	2092	.677	12.1	14.9	13.2	4620	347	154	14.0	114	.445	.0336	30.9
1980	723	.388	13.7	18.2	15.4	4585	333	151	13.9	113	.453	.0328	35.9
1981	662	.364	14.9	20.1	16.9	4405	315	145	13.9	112	.462	.0328	37.6
1982	754	.394	15.2	20.4	17.2	4526	319	150	13.9	113	.473	.0332	39.9
1983	804	.350	15.0	20.5	17.0	4547	321	151	13.8	114	.476	.0334	39.7
1984	1062	.317	14.4	19.9	16.5	4573	320	154	13.7	114	.485	.0338	38.3
1985	1198	.327	14.3	19.6	16.3	4555	318	159	13.3	116	.501	.0350	37.5
1986	1169	.269	14.9	20.6	17.1	4563	315	157	13.5	115	.498	.0344	39.2
1987	906	.219	14.6	20.4	16.7	4637	323	171	12.9	118	.527	.0368	39.0
1988	1249	.274	14.9	21.3	17.2	4662	329	178	12.5	120	.538	.0381	40.2
1989	1210	.273	14.7	21.3	17.1	4664	330	182	12.3	122	.550	.0392	40.0
1990	1084	.285	14.6	21.6	17.1	4704	335	189	12.0	123	.562	.0402	40.3
1991	756	.187	14.6	21.7	17.1	4667	332	190	11.8	124	.572	.0408	40.0
1992	851	.209	14.6	21.9	17.2	4765	331	192	12.0	124	.578	.0405	40.9
1993	1009	.212	14.8	22.4	17.5	4783	332	203	11.4	127	.611	.0427	41.8
1994	1393	.254	14.8	22.1	17.4	4779	334	206	11.2	128	.619	.0435	41.6
1995	1515	.264	14.7	21.9	17.2	4828	334	202	11.5	126	.608	.0422	41.6
1996	1338	.255	14.9	22.5	17.6	4876	331	225	10.7	132	.681	.0464	42.8
1997	2126	.342	15.3	23.2	18.0	4987	320	228	10.7	132	.715	.0460	45.1
1998	2054	.313	14.8	22.6	17.6	4994	319	233	10.5	134	.731	.0469	43.8
1999	2420	.355	14.8	22.3	17.4	5133	320	239	10.6	134	.749	.0470	44.8

PERCENT OF EIGHT CYLINDER TRUCKS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1975		21.8	33.4					100.0			2.6	24.4	73.0	100.0	
1976		28.4	29.2					100.0			1.2	21.0	77.9	100.0	
1977		28.9	24.5					100.0			1.4	21.9	76.7	100.0	
1978		35.5	24.4					98.9	1.1		1.6	25.1	73.2	100.0	
1979		17.0	17.0	2.2				97.5	2.5		1.8	20.4	77.7	100.0	
1980		32.5	16.3	47.3				93.4	6.6		1.0	20.3	78.6	100.0	
1981	.1	22.0	13.6	62.1				96.8	3.2		.3	20.8	78.9	100.0	
1982		24.0	10.2	56.3				87.0	13.0			26.2	73.8	100.0	
1983		25.6	7.4	68.2				91.7	8.3			31.4	68.6	100.0	
1984		29.3	8.5	62.4				96.0	4.0			33.8	66.2	100.0	
1985		27.4	6.5	63.8	8.1			89.9	2.0			30.5	69.5	100.0	
1986		29.9	7.6	75.7	28.5		28.4	70.2	1.3			28.7	71.3	100.0	
1987		31.3	7.8	60.1	71.7	46.1	25.7	27.5	.8			33.7	66.3	99.8	.2
1988		36.1	9.0	70.2	97.2	68.5	28.8	2.1	.7			23.2	76.8	99.7	.3
1989		36.3	11.8	75.1	98.4	68.0	30.4	1.0	.6			26.3	73.7	99.6	.4
1990		35.6	9.2	83.3	98.8	68.5	30.3	.6	.6			27.9	72.1	99.6	.4
1991		35.0	8.9	88.3	98.8	68.0	30.9	.5	.7			22.3	77.7	99.5	.5
1992		35.9	8.6	90.1	99.6	54.9	44.7		.4			20.6	79.4	99.6	.4
1993		37.1	5.1	94.6	100.0	53.0	47.0					24.3	75.7	99.6	.4
1994		46.7	4.3	94.9	100.0	50.5	49.5				.1	21.4	78.5	99.4	.6
1995		51.0	6.1	93.4	100.0	52.5	47.5				.1	21.3	78.6	98.6	1.4
1996		52.6	3.4	96.2	99.7		99.7		.3			21.5	78.5	98.2	1.8
1997		57.0	2.8	97.0	99.9		99.9		.1		.1	12.6	87.3	98.9	1.1
1998		62.9	2.9	97.1	99.9		99.9		.1	.6		11.1	88.9	98.1	1.9
1999		63.4	2.1	97.9	100.0		100.0			1.4		10.9	89.1	97.1	2.9

Appendix G

Table G-1 **CHARACTERISTICS OF 1986 TO 1999 LIGHT-DUTY VEHICLES** TWO VALVE CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1986	10490	.952	23.6	35.4	27.8	3053	108.0	170	111	13.2	111	.687	.0357	42.6	3064	4612
1987	9155	.853	23.2	35.3	27.4	3085	108.5	171	115	13.0	112	.706	.0366	42.5	3034	4625
1988	8601	.801	23.6	36.1	27.9	3109	109.2	171	118	12.8	113	.719	.0374	43.6	3111	4776
1989	7575	.756	23.0	35.8	27.4	3180	110.5	177	123	12.6	115	.723	.0382	43.7	3077	4843
1990	5906	.670	22.4	35.5	26.9	3292	111.2	182	129	12.4	116	.732	.0389	44.4	3031	4948
1991	5593	.656	22.5	35.8	27.0	3271	111.2	184	134	12.1	118	.749	.0404	44.4	3058	4951
1992	5367	.662	22.2	35.8	26.8	3333	112.4	190	142	11.7	120	.770	.0421	44.7	3054	5050
1993	5458	.645	23.0	36.8	27.6	3259	111.7	183	137	11.8	119	.765	.0414	45.1	3134	5064
1994	4964	.591	22.6	36.5	27.3	3325	111.7	188	141	11.7	120	.764	.0418	45.5	3097	5094
1995	4402	.468	22.5	37.1	27.3	3364	112.9	194	155	11.1	124	.808	.0453	46.1	3144	5220
1996	3384	.429	22.5	36.9	27.3	3394	112.1	193	157	11.0	125	.823	.0457	46.4	3105	5219
1997	3464	.415	22.8	37.3	27.6	3358	112.5	188	157	10.9	125	.842	.0460	46.5	3143	5235
1998	3148	.390	22.5	37.3	27.4	3383	111.4	192	162	10.7	127	.848	.0473	46.4	3084	5185
1999	2875	.365	22.1	36.2	26.8	3461	112.8	200	166	10.6	127	.838	.0474	46.5	3057	5254

PERCENT OF TWO VALVE CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1986	70.4	1.1	22.8	59.2	65.1	29.9	35.3	34.6	.3	57.5	29.3	13.1	71.7	6.5	21.8
1987	74.2	1.2	20.7	61.2	77.4	35.8	41.7	22.3	.3	57.4	28.5	14.1	72.2	7.4	20.4
1988	78.4	.8	19.4	68.7	90.0	35.2	54.8	10.0		57.9	26.3	15.9	75.0	6.9	18.1
1989	79.8	.7	15.2	72.4	94.4	31.0	63.4	5.6	.1	46.9	35.4	17.7	79.6	6.3	14.2
1990	82.9	.4	11.1	78.5	99.4	25.0	74.4	.6	.1	42.1	38.9	18.9	82.7	6.0	11.3
1991	81.5	.3	11.5	80.6	99.8	25.9	73.9		.2	45.4	36.0	18.6	84.8	5.1	10.2
1992	81.3	.6	9.9	81.6	99.9	12.8	87.1		.1	44.1	32.7	23.2	84.8	3.9	11.3
1993	83.2	1.0	11.7	82.1	100.0	11.1	88.9			47.7	33.3	18.9	89.7	2.1	8.2
1994	80.2	.9	10.7	84.5	100.0	8.5	91.5			47.9	30.5	21.6	84.8	2.1	13.0
1995	78.9	.1	10.9	88.0	100.0	2.5	97.5			42.1	37.1	20.9	92.4	3.6	4.0
1996	78.9	.5	11.2	87.3	99.9	2.6	97.3		.1	41.7	38.6	19.7	91.0	5.2	3.8
1997	82.1	.5	10.4	88.1	99.9	1.9	98.0		.1	41.7	36.1	22.2	91.7	4.6	3.6
1998	84.8	.1	10.2	84.3	99.3	.5	98.8		.7	39.7	43.3	17.1	94.7	4.6	.8
1999	78.7		11.7	88.3	99.3	.1	99.1		.7	38.4	38.1	23.5	94.0	5.7	.2

Table G-2 **CHARACTERISTICS OF 1986 TO 1999 LIGHT-DUTY VEHICLES** THREE VALVE CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG
1986	349	.032	27.9	39.8	32.2	2668	96.7	115	102	12.3	112	.888	.0382	43.1	3117	4180
1987	975	.091	30.2	41.4	34.4	2524	93.4	101	82	14.4	104	.799	.0322	43.6	3223	4069
1988	1017	.095	28.2	39.4	32.4	2689	99.4	109	93	13.6	108	.850	.0343	43.7	3247	4347
1989	1161	.116	26.8	38.5	31.0	2788	100.3	117	105	12.5	112	.902	.0375	43.5	3156	4366
1990	639	.073	27.0	39.0	31.4	2738	98.5	117	106	12.3	113	.911	.0385	43.2	3139	4259
1991	526	.062	27.7	39.4	32.0	2692	100.7	111	102	12.5	112	.928	.0376	43.2	3254	4353
1992	330	.041	26.8	38.1	30.9	2785	101.5	120	112	12.0	114	.938	.0395	43.1	3200	4387
1993	225	.027	30.7	42.1	35.0	2472	96.5	93	92	12.6	110	.984	.0369	43.5	3421	4198
1994	163	.019	30.8	41.4	34.9	2501	97.4	95	92	12.9	109	.962	.0364	43.7	3445	4260
1995	102	.011	32.0	45.9	37.1	2475	99.6	90	91	12.7	109	1.004	.0367	46.0	3705	4580
1996	74	.009	31.4	45.2	36.4	2478	100.7	91	91	12.7	109	1.002	.0366	45.1	3670	4544
1997	71	.009	32.0	47.0	37.4	2500	100.6	90	91	12.7	109	1.006	.0364	47.0	3778	4723
1998	111	.014	26.7	40.3	31.5	3087	104.1	138	149	11.1	124	1.055	.0461	48.3	3342	5048
1999	141	.018	24.6	38.5	29.4	3362	100.0	168	180	10.2	132	1.062	.0512	49.2	3038	4937

PERCENT OF THREE VALVE CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1986	100.0		60.5	39.5	48.4		48.4	51.6		100.0					100.0
1987	99.4	.6	53.7	46.3	18.9		18.9	81.1		100.0					100.0
1988	95.9	1.3	49.8	50.1	27.7		27.7	72.3		86.5	13.5				100.0
1989	92.2	.1	44.5	54.5	70.0	21.2	48.9	30.0		89.1	10.9				100.0
1990	89.0	.8	49.1	46.5	86.1	25.7	60.4	13.9		84.1	15.9				100.0
1991	98.2	1.2	41.9	51.0	99.5	13.7	85.8	.5		80.3	19.7				100.0
1992	90.9	.1	40.1	59.9	99.8		99.8	.2		80.6	19.4				100.0
1993	99.1	.9	52.1	28.7	100.0	7.1	92.9			100.0					100.0
1994	93.8		10.4	33.9	100.0		100.0			93.3	6.7				100.0
1995	100.0		35.8	35.7	100.0		100.0			100.0					100.0
1996	100.0		32.1	38.3	100.0		100.0			100.0					100.0
1997	100.0		38.8	61.2	100.0		100.0			100.0					100.0
1998	55.0	5.0	17.5	82.5	100.0		100.0			72.5	27.5			45.0	55.0
1999	37.9	4.4	11.6	88.4	100.0		100.0			66.3	33.7			62.1	37.9

Table G-3 **CHARACTERISTICS OF 1986 TO 1999 LIGHT-DUTY VEHICLES** FOUR VALVE CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1986	176	.016	23.9	34.7	27.8	3032	89.0	125	144	10.6	124	1.150	.0469	42.5	2487	3754
1987	601	.056	25.9	37.2	30.0	3025	98.4	123	126	11.8	118	1.026	.0412	45.8	3021	4518
1988	1117	.104	26.7	38.2	30.9	2889	97.1	120	119	12.0	116	.983	.0404	44.9	3063	4367
1989	1282	.128	26.2	37.7	30.4	2901	97.9	120	124	11.5	118	1.027	.0422	44.3	3029	4340
1990	2264	.257	25.3	36.4	29.3	2997	98.6	125	133	11.3	120	1.060	.0436	44.1	2933	4357
1991	2405	.282	25.6	36.8	29.6	2983	97.8	125	133	11.2	121	1.071	.0441	44.4	2953	4356
1992	2411	.297	24.9	37.0	29.2	3094	100.3	130	140	11.1	122	1.077	.0446	45.4	2986	4561
1993	2773	.328	24.5	36.9	28.9	3165	102.9	138	145	11.0	123	1.052	.0450	46.0	3029	4726
1994	3275	.390	24.5	37.3	29.0	3177	103.5	140	148	10.9	124	1.060	.0456	46.2	3048	4782
1995	4891	.521	24.5	38.0	29.1	3187	105.1	144	151	10.6	125	1.066	.0468	46.6	3106	4897
1996	4435	.562	24.3	37.9	29.0	3209	106.7	145	153	10.7	126	1.060	.0470	46.6	3131	4979
1997	4803	.575	24.2	38.0	29.0	3225	106.0	147	156	10.6	127	1.069	.0477	46.8	3109	4972
1998	4752	.588	24.7	38.7	29.5	3257	107.1	146	158	10.5	127	1.085	.0479	48.3	3204	5176
1999	4750	.603	24.2	38.0	28.9	3331	108.0	151	165	10.4	128	1.095	.0488	48.4	3170	5240

PERCENT OF FOUR VALVE CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1986	56.6		72.2	23.1	100.0		100.0			94.8		5.2		27.9	72.1
1987	84.6		43.4	54.8	93.2		93.2	6.8		97.7		2.3		11.3	88.7
1988	94.2	.8	38.1	60.9	86.5	17.4	69.1	13.5		98.7	.1	1.2	10.7	7.5	81.7
1989	90.0	3.1	33.7	64.5	84.1	15.6	68.5	15.9		97.4	1.8	.8	13.7	5.9	80.4
1990	88.0	2.5	33.7	65.7	100.0	9.6	90.4			94.2	5.5	.3	5.3	3.6	91.0
1991	84.1	3.9	36.8	62.0	100.0	14.3	85.7			94.8	4.9	.4	2.2	4.4	93.4
1992	78.4	2.3	30.6	67.1	100.0	6.4	93.6			80.9	18.2	1.0	7.1	5.1	87.8
1993	87.7	1.6	27.1	70.6	100.0	3.4	96.6			72.4	24.4	3.2	7.5	6.4	86.1
1994	89.8	.3	24.2	73.9	100.0		100.0			72.8	20.5	6.7	14.5	7.1	78.5
1995	84.3	2.1	20.5	77.3	99.9		99.9		.1	70.2	21.7	8.1	29.2	7.1	63.7
1996	92.2	2.3	17.4	81.4	99.9		99.9		.1	63.2	27.5	9.2	33.5	5.2	61.4
1997	89.7	2.6	15.2	84.6	99.9		99.9		.1	63.9	27.3	8.9	29.5	7.8	62.7
1998	90.1	2.8	15.7	83.7	99.9		99.9		.1	53.5	39.1	7.4	32.6	7.6	59.8
1999	90.5	2.9	14.5	84.9	99.9		99.9		.1	49.0	40.4	10.6	33.2	7.7	59.1

Table G-4 **CHARACTERISTICS OF 1995 TO 1999 LIGHT-DUTY VEHICLES** FIVE VALVE CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1995	0	.000	11.1	19.2	13.7	4000	50.0	213	375	6.1	191	1.760	.0926	27.3	683	1366
1996	0	.000	11.1	19.6	13.8	3500	50.0	213	375	5.5	203	1.759	.1049	24.1	689	1207
1997	9	.001	21.4	35.7	26.1	3352	98.0	116	166	10.4	129	1.403	.0492	45.2	2697	4502
1998	66	.008	21.2	36.3	26.1	3579	109.2	148	179	10.0	131	1.230	.0498	47.0	2883	5150
1999	110	.014	21.2	35.8	26.0	3589	109.6	147	178	10.1	131	1.231	.0494	46.9	2882	5155

PERCENT OF FIVE VALVE CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1995			100.0		100.0		100.0			100.0				100.0	
1996			100.0		100.0		100.0			100.0				100.0	
1997	29.6	63.4	39.4	60.6	100.0		100.0			100.0				100.0	
1998	55.3	44.1	39.4	60.3	100.0		100.0			35.9	64.1			100.0	
1999	52.0	47.5	34.7	65.1	100.0		100.0			39.8	60.2			100.0	

Table G-5 **CHARACTERISTICS OF 1994 TO 1999 LIGHT-DUTY VEHICLES** TWO VALVE TRUCKS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1994	5172	.944	17.9	26.3	20.9	4136		243	166	12.0	121	.705	.0401	43.4
1995	5265	.916	17.5	26.0	20.5	4199		250	168	12.0	121	.698	.0401	43.4
1996	4604	.876	17.4	26.3	20.5	4310		255	182	11.5	125	.730	.0423	44.6
1997	5397	.867	17.3	26.0	20.3	4435		259	191	11.4	126	.747	.0430	45.3
1998	5556	.848	17.0	25.7	20.1	4424		258	195	11.1	127	.767	.0440	44.6
1999	5710	.837	16.7	25.2	19.7	4547		264	201	11.1	128	.768	.0440	45.0

PERCENT OF TWO VALVE TRUCKS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1994	14.3	33.9	23.4	75.1	99.6	24.5	75.1	.4		9.1	61.7	29.1	87.8	12.2
1995	18.7	38.0	20.0	79.4	100.0	22.1	77.9			7.6	62.8	29.7	88.3	11.7
1996	21.3	36.6	12.6	86.9	99.9		99.9		.1		71.1	28.9	95.9	4.1
1997	14.0	42.2	13.2	86.7	100.0		100.0			4.8	53.9	41.3	95.4	4.6
1998	19.2	43.2	10.5	89.5	100.0		100.0			1.6	59.3	39.1	96.7	3.3
1999	16.8	45.8	10.5	89.5	100.0		100.0			1.6	55.9	42.5	96.4	3.6

Table G-6 **CHARACTERISTICS OF 1994 TO 1999 LIGHT-DUTY VEHICLES** THREE VALVE TRUCKS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1994	156	.029	16.4	23.1	18.9	4119	179	150	12.8	116	.837	.0365	39.0
1995	16	.003	17.7	26.8	20.9	4089	180	152	12.6	117	.844	.0372	42.7
1996	103	.020	21.4	29.6	24.4	3465	151	136	11.9	118	.907	.0399	42.3
1997	144	.023	21.5	29.3	24.4	3426	149	136	11.8	118	.911	.0401	41.8
1998	59	.009	18.2	27.0	21.4	4771	191	198	11.7	125	1.033	.0413	51.1
1999	42	.006	17.8	25.3	20.6	5000	220	235	10.6	134	1.073	.0469	51.5

PERCENT OF THREE VALVE TRUCKS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1994		91.3	36.4	63.6	100.0		100.0			31.4	61.1	7.4		100.0
1995		100.0		100.0	100.0		100.0				100.0			100.0
1996		19.2	66.0	34.0	100.0		100.0			85.9	14.1			100.0
1997		22.2	72.3	27.7	100.0		100.0			90.8	9.2			100.0
1998		81.2		100.0	100.0		100.0				27.1	72.9		100.0
1999		100.0		100.0	100.0		100.0					100.0		100.0

Table G-7 **CHARACTERISTICS OF 1994 TO 1999 LIGHT-DUTY VEHICLES** FOUR VALVE TRUCKS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1994	152	.028	17.5	23.8	19.9	4070	191	172	11.4	123	.907	.0419	40.6
1995	468	.081	18.0	24.8	20.5	4017	180	160	12.0	120	.895	.0399	41.4
1996	547	.104	20.3	27.7	23.1	3653	164	156	11.4	122	.958	.0424	42.2
1997	683	.110	20.3	27.7	23.1	3703	164	156	11.5	122	.964	.0419	42.9
1998	940	.143	21.1	29.3	24.2	3675	162	159	11.3	123	.990	.0431	44.6
1999	1069	.157	21.0	29.2	24.1	3800	166	167	11.1	125	1.019	.0440	45.8

PERCENT OF FOUR VALVE TRUCKS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1994	5.9	65.5	27.8	72.2	100.0		100.0			6.2	82.0	11.8		100.0
1995	7.2	68.8	27.4	69.7	100.0		100.0			20.5	70.1	9.4		100.0
1996	13.9	44.3	31.6	63.5	100.0		100.0			46.5	43.2	10.3	6.0	94.0
1997	13.5	52.7	22.6	74.2	100.0		100.0			33.9	58.1	8.1	5.5	94.5
1998	19.1	45.0	34.4	62.1	100.0		100.0			42.7	54.4	2.8	4.1	95.9
1999	20.2	50.4	26.6	71.5	100.0		100.0			41.4	55.5	3.1	3.8	96.2

Appendix H

Table H-1 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** TWO-SEATER

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	244	.030	16.7	25.0	19.7	3015		173	125	12.6	117	.764	.0405	29.5		
1976	203	.021	16.5	24.6	19.4	3032		187	136	12.1	120	.752	.0428	29.4		
1977	221	.020	17.2	25.0	20.0	3062	50.0	183	134	12.4	119	.754	.0420	30.7	1032	1534
1978	191	.017	16.6	24.4	19.4	3079	50.0	187	143	11.8	122	.794	.0445	29.9	1002	1495
1979	256	.024	17.0	25.6	20.1	3026	50.0	180	128	12.2	118	.734	.0409	30.6	1039	1528
1980	200	.021	17.3	26.7	20.6	2954	50.0	180	121	12.3	116	.702	.0399	30.8	1058	1539
1981	162	.019	18.9	27.0	21.9	3005	50.0	202	142	10.6	124	.758	.0468	33.2	1125	1660
1982	263	.034	21.9	32.7	25.7	2726	50.0	146	106	13.0	112	.734	.0376	35.7	1337	1784
1983	137	.017	20.4	29.9	23.9	2756	50.0	146	115	11.8	116	.778	.0410	33.2	1216	1660
1984	348	.033	22.5	34.6	26.7	2886	50.0	174	121	12.1	117	.717	.0409	39.7	1423	1983
1985	335	.031	22.8	34.5	26.9	2826	50.0	158	123	11.6	118	.805	.0424	39.1	1443	1955
1986	303	.028	23.8	36.3	28.1	2915	50.0	166	130	11.7	119	.818	.0430	41.9	1504	2097
1987	282	.026	23.1	35.7	27.5	2920	50.0	167	134	11.5	121	.830	.0441	41.5	1487	2074
1988	203	.019	23.0	35.7	27.4	2940	50.0	170	138	11.2	122	.845	.0454	41.8	1505	2091
1989	113	.011	22.6	35.0	26.9	3030	50.0	198	160	10.2	130	.891	.0507	42.4	1508	2121
1990	177	.020	23.4	35.4	27.7	2979	50.0	164	160	10.3	130	1.019	.0510	42.1	1484	2103
1991	178	.021	24.7	36.7	29.0	2890	50.0	149	150	10.8	127	1.040	.0489	42.9	1573	2146
1992	81	.010	22.5	34.5	26.7	3022	50.0	187	183	10.0	137	1.018	.0563	40.6	1433	2032
1993	118	.014	24.0	36.6	28.4	2975	50.0	169	178	9.6	137	1.138	.0570	43.3	1520	2167
1994	84	.010	21.9	33.9	26.0	3134	50.0	207	197	8.8	143	1.072	.0610	41.5	1371	2077
1995	79	.008	22.0	34.7	26.3	3176	50.0	204	199	8.9	142	1.076	.0603	42.5	1390	2124
1996	65	.008	21.5	34.6	26.0	3168	50.0	216	205	8.6	145	1.049	.0630	41.3	1336	2066
1997	72	.009	22.3	35.2	26.7	3056	50.0	178	198	8.7	144	1.157	.0625	41.3	1381	2064
1998	80	.010	20.0	33.3	24.4	3440	50.0	242	264	7.6	163	1.148	.0758	42.6	1248	2130
1999	106	.013	20.5	32.9	24.7	3294	50.0	225	245	7.6	159	1.140	.0734	40.9	1255	2043

PERCENT OF TWO-SEATER:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	DESIGNED DOM	EUR	ASIA
1975			74.6		42.4		42.4	57.6			16.4	50.1	33.6
1976			70.5		37.1		37.1	62.9			22.9	49.3	27.8
1977			70.5		40.2		40.2	59.8			22.3	50.0	27.7
1978			71.8		46.9		46.9	53.1			22.7	44.0	33.3
1979			72.8		31.5		31.5	68.5			18.6	36.8	44.6
1980			74.0	13.6	34.4		34.4	65.6			17.6	36.9	45.5
1981			61.3	20.1	55.4		55.4	44.6			23.4	23.4	53.2
1982	47.8		69.2	9.5	32.8	9.5	23.3	67.2			57.3	6.7	36.0
1983	17.1		81.0	4.5	40.3		40.3	59.7			17.1	9.6	73.3
1984	17.9		60.4	33.7	73.6	53.1	20.5	26.4			57.0	3.8	39.3
1985	25.0		67.4	26.3	64.9	11.6	53.3	35.1			37.1	4.8	58.1
1986	29.8		62.4	30.7	81.7	11.7	70.0	18.3		11.5	46.7	6.9	46.4
1987	32.7		64.0	28.5	85.9	14.6	71.3	14.1		7.4	36.1	7.2	56.7
1988	41.9		62.1	27.4	100.0	26.1	73.9			23.8	36.3	8.1	55.6
1989	32.6	16.5	51.5	36.6	100.0	14.2	85.8			38.5	30.7	14.4	54.8
1990	31.3		66.9	27.2	100.0	11.5	88.5			67.0	19.0	7.2	73.8
1991	34.9		68.5	21.1	100.0	18.6	81.4			66.9	12.7	9.1	78.2
1992	16.1	.1	55.3	26.3	100.0	13.7	86.3			52.7	26.1	13.6	60.3
1993	42.3		59.8	35.3	100.0	5.6	94.4			47.9	22.3	5.1	72.6
1994	24.1	.1	57.5	35.6	100.0		100.0			65.4	29.4	12.6	58.0
1995	23.5	.1	51.1	31.4	100.0		100.0			65.4	27.0	19.2	53.8
1996	4.7		55.6	40.8	100.0		100.0			64.3	35.3	26.9	37.8
1997	10.8	.1	64.0	34.3	100.0		100.0			84.3	15.4	47.6	37.0
1998		.2	32.5	66.8	100.0		100.0			61.9	39.0	60.6	.3
1999		.1	42.4	55.5	100.0		100.0			64.1	35.4	52.6	12.1

Table H-2 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** MINI-COMPACT

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	941	.114	19.6	29.3	23.0	2721		128	82	15.2	102	.669	.0297	32.1		
1976	913	.094	22.4	32.3	26.0	2688		124	80	15.1	102	.673	.0296	35.3		
1977	915	.081	24.2	34.4	27.9	2544	78.8	116	83	14.0	105	.756	.0326	36.1	2297	2839
1978	901	.081	24.1	32.8	27.4	2583	79.1	120	83	14.1	105	.730	.0321	35.9	2256	2846
1979	436	.040	24.1	33.7	27.6	2450	79.7	113	77	14.4	103	.689	.0312	34.0	2239	2718
1980	383	.041	24.5	34.3	28.1	2458	82.8	116	78	14.4	103	.674	.0313	34.7	2385	2875
1981	227	.026	30.6	40.1	34.3	2164	82.6	92	67	14.5	101	.723	.0307	37.6	2909	3105
1982	178	.023	31.7	41.5	35.5	2193	82.7	95	70	14.6	102	.727	.0310	39.6	3065	3287
1983	156	.020	31.5	42.7	35.7	2273	82.0	99	77	14.2	104	.753	.0326	41.5	3094	3412
1984	42	.004	21.6	32.9	25.6	2855	75.9	151	141	10.5	125	.927	.0480	37.0	2017	2812
1985	73	.007	31.1	44.8	36.0	2300	79.2	114	95	13.1	111	.818	.0378	44.2	3406	3518
1986	176	.016	26.1	39.1	30.7	2407	80.5	113	104	12.8	114	.881	.0402	39.4	2903	3176
1987	71	.007	26.2	38.7	30.7	2636	77.2	128	130	11.3	123	.985	.0467	42.4	2721	3300
1988	43	.004	26.8	38.7	31.1	2619	77.9	128	129	11.7	122	.954	.0460	43.4	2877	3411
1989	28	.003	23.0	33.7	26.9	2866	77.2	146	148	10.7	128	.985	.0501	39.2	2157	3051
1990	76	.009	22.4	33.5	26.3	3019	80.7	148	145	10.5	125	.969	.0474	39.8	2146	3216
1991	95	.011	24.5	35.9	28.6	2912	75.5	127	137	10.8	123	1.075	.0463	41.9	2185	3166
1992	118	.015	26.9	39.3	31.4	2691	81.0	110	118	11.2	118	1.072	.0434	42.3	2584	3421
1993	74	.009	25.8	37.6	30.0	2818	79.5	118	130	10.9	121	1.088	.0452	42.3	2437	3364
1994	39	.005	23.7	36.3	28.1	3147	81.0	132	163	10.3	129	1.201	.0498	44.1	2341	3574
1995	56	.006	23.1	35.1	27.3	3218	79.9	147	166	9.9	131	1.122	.0510	44.0	2212	3525
1996	43	.006	22.6	35.0	26.9	3270	76.8	157	179	9.8	134	1.127	.0535	44.4	2148	3431
1997	43	.005	22.3	34.9	26.6	3338	76.6	154	185	9.7	136	1.194	.0544	44.8	2088	3452
1998	37	.005	21.9	34.4	26.2	3425	78.4	166	196	9.3	138	1.176	.0560	44.9	2079	3532
1999	49	.006	20.9	33.9	25.2	3650	79.9	182	221	8.9	145	1.208	.0601	46.3	2034	3699

PERCENT OF MINI-COMPACT:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	DESIGNED DOM	EUR	ASIA
1975	19.6		67.7		11.5		11.5	88.5			55.6	13.6	30.8
1976	22.1		63.5		4.5		4.5	95.5			53.6	7.1	39.3
1977	25.4		70.6		1.9		1.9	98.1			19.2	5.7	75.1
1978	22.3		63.0		1.5		1.5	98.5			36.5	4.6	58.9
1979	44.8		73.4		3.4		3.4	96.6			39.4	6.6	54.0
1980	47.2		60.0		1.6		1.6	98.4			47.0	9.5	43.5
1981	83.2		81.2		1.0		1.0	99.0				5.9	94.1
1982	80.4		80.8		6.4		6.4	93.6			.1	19.9	80.0
1983	81.8		80.9	.2	20.6		20.6	79.4			.2	21.4	78.4
1984	30.6		84.3	.2	92.6		92.6	7.4			.2	96.9	2.9
1985	67.7		86.1	.1	46.9		46.9	53.1			.1	49.5	50.4
1986	54.6		82.7	5.1	52.2		52.2	47.8		5.8		43.8	56.2
1987	54.9		81.9	3.9	85.9		85.9	14.1		18.6		69.4	30.6
1988	62.4		76.6	8.3	77.0		77.0	23.0		23.5		62.7	37.3
1989	62.4	3.5	65.3	16.1	100.0		100.0			36.9		74.6	25.4
1990	11.4		61.6	32.1	100.0		100.0			3.2		20.6	79.4
1991	50.9		59.8	36.3	100.0		100.0			90.6		10.7	89.3
1992	71.5		55.3	41.3	100.0		100.0			91.8		15.0	85.0
1993	64.9		52.6	45.4	100.0		100.0			81.2		6.5	93.5
1994	44.4		43.3	51.3	100.0		100.0			93.3		46.2	53.8
1995	17.3		39.0	50.6	100.0		100.0			94.7		35.8	64.2
1996	37.7	6.7	48.0	50.2	100.0		100.0			80.8		47.8	52.2
1997	48.1	4.7	47.8	50.2	100.0		100.0			82.3		42.5	57.5
1998	32.0	1.3	39.3	59.4	100.0		100.0			91.2		49.4	50.6
1999	28.9	5.2	36.1	60.8	100.0		100.0			87.3		71.1	28.9

Table H-3 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** SUBCOMPACT

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	1011	.123	16.6	23.8	19.2	3242		206	107	14.2	108	.585	.0328	31.4		
1976	1368	.141	19.3	27.0	22.2	3033		181	97	14.7	106	.607	.0315	33.8		
1977	1577	.140	20.9	28.9	23.9	2966	90.7	174	98	14.2	107	.633	.0324	36.1	2329	3268
1978	2056	.184	21.5	30.0	24.6	2842	89.7	159	93	14.4	106	.649	.0321	35.7	2387	3201
1979	3044	.282	21.1	29.3	24.1	2847	90.4	155	94	14.2	106	.659	.0322	34.8	2297	3140
1980	3552	.376	23.7	32.9	27.1	2640	89.9	128	82	14.7	103	.669	.0307	36.2	2523	3251
1981	2712	.311	25.8	35.0	29.3	2604	90.3	124	81	14.7	103	.676	.0308	38.7	2744	3491
1982	2329	.298	25.3	35.5	29.1	2657	91.8	133	86	14.5	105	.666	.0316	39.4	2792	3613
1983	1968	.246	25.9	37.2	30.0	2687	93.3	136	90	14.0	106	.693	.0329	41.0	2941	3829
1984	2545	.238	25.4	36.9	29.6	2737	93.3	140	97	13.5	108	.722	.0347	41.1	2883	3830
1985	2181	.202	25.9	37.4	30.1	2734	93.9	136	100	13.2	110	.760	.0357	41.5	2941	3901
1986	2376	.216	26.4	37.9	30.6	2764	94.7	136	100	13.4	109	.765	.0353	42.7	3018	4048
1987	2088	.195	26.8	38.4	31.1	2728	92.7	128	99	13.7	109	.795	.0349	42.8	2995	3965
1988	2143	.200	27.8	39.2	32.0	2668	93.2	122	99	13.5	110	.823	.0357	43.1	3116	4019
1989	1950	.195	26.9	38.6	31.2	2748	93.1	129	104	13.0	111	.852	.0369	43.3	3044	4034
1990	1974	.224	27.4	38.6	31.5	2762	94.5	117	108	12.5	113	.962	.0384	43.9	3072	4149
1991	2303	.270	27.0	39.3	31.5	2779	94.8	124	111	12.3	114	.938	.0392	44.1	3086	4181
1992	2021	.249	27.3	40.0	31.8	2806	93.8	122	117	12.0	116	.987	.0407	45.2	3110	4241
1993	1872	.221	27.3	40.4	32.0	2797	94.4	124	120	11.8	117	.977	.0417	45.3	3140	4272
1994	1986	.236	26.7	40.5	31.5	2884	94.4	134	125	11.7	118	.972	.0422	46.0	3096	4338
1995	1623	.173	26.6	40.7	31.5	2949	93.6	141	134	11.3	121	1.015	.0442	47.0	3094	4404
1996	1110	.141	27.8	42.3	32.9	2874	94.9	135	131	11.2	121	1.024	.0445	47.6	3257	4528
1997	1487	.178	27.8	41.2	32.6	2909	95.5	126	128	11.5	119	1.059	.0431	47.7	3197	4556
1998	1550	.192	26.4	40.6	31.3	2988	96.7	141	136	11.1	122	1.001	.0447	47.2	3107	4562
1999	1321	.168	26.4	40.1	31.2	2989	96.5	139	138	11.0	123	1.030	.0454	47.0	3084	4536

PERCENT OF SUBCOMPACT:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	DESIGNED DOM	EUR	ASIA
1975	17.6		40.9		8.9		8.9	91.1			55.9	22.8	21.3
1976	13.1		42.8		3.1		3.1	96.9			55.9	17.0	27.1
1977	19.4		46.5		12.5		12.5	86.3	1.2		53.6	19.7	26.8
1978	22.3		54.4		11.7		11.7	86.6	1.8		45.5	20.0	34.6
1979	25.9		51.5		7.3		7.3	91.3	1.5		58.2	10.3	31.5
1980	35.3	.4	58.2	3.5	10.9		10.9	85.6	3.4		45.9	13.6	40.4
1981	36.0	.3	58.9	8.5	12.1		12.1	82.4	5.5		36.8	10.9	52.3
1982	39.8	.2	55.1	23.6	18.1	3.2	14.8	77.8	4.1		33.6	9.9	56.5
1983	53.4	.2	55.8	32.0	24.2	2.7	21.5	74.6	1.2		32.3	8.2	59.5
1984	49.8	.5	51.5	35.1	31.9	3.0	28.9	66.3	1.7		39.5	10.9	49.6
1985	58.7	.3	49.4	34.1	33.9	5.1	28.8	65.9	.2		35.7	6.8	57.6
1986	64.5	1.1	50.3	34.0	41.4	4.9	36.5	58.5	.1	3.7	32.9	5.8	61.4
1987	69.1	.5	51.3	39.4	47.0	6.8	40.3	52.9	.1	13.4	25.1	10.1	64.8
1988	77.7	1.2	53.6	40.0	50.9	15.2	35.7	49.1		24.6	20.7	8.4	70.9
1989	72.3	1.1	46.5	45.3	65.1	20.6	44.5	34.9		29.3	24.9	5.5	69.6
1990	87.9	.5	44.9	51.1	95.5	24.0	71.5	4.5		48.3	14.7	4.1	81.2
1991	84.3	1.4	39.1	56.2	99.8	40.3	59.6	.2		44.3	30.6	3.1	66.4
1992	84.2	1.6	38.0	56.4	100.0	15.5	84.5			50.4	26.1	3.8	70.1
1993	84.6	1.7	42.6	51.9	100.0	8.3	91.7			44.6	29.8	4.5	65.8
1994	81.3	.6	34.6	58.2	100.0	5.9	94.1			46.9	36.8	2.2	61.0
1995	72.1	1.4	40.4	55.4	100.0	5.0	95.0			62.0	26.9	4.3	68.9
1996	75.9	1.1	41.5	52.0	100.0	7.8	92.2			64.5	24.3	3.6	72.1
1997	83.2	.7	31.4	64.9	100.0	4.5	95.5			77.8	17.0	3.3	79.7
1998	80.6	.7	32.2	55.1	99.7	1.0	98.7		.3	53.3	54.8	6.0	39.1
1999	81.7	.6	34.0	64.7	99.6	.3	99.3		.4	48.4	47.6	9.0	43.4

Table H-4 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** COMPACT

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	1893	.230	14.3	19.3	16.2	3958		287	129	14.6	110	.454	.0322	32.5		
1976	2557	.263	15.5	21.0	17.5	4025		289	125	15.2	108	.434	.0307	35.5		
1977	2767	.245	15.8	21.4	17.9	4128	107.3	291	131	14.6	110	.452	.0315	37.1	1946	3986
1978	1482	.133	17.5	24.7	20.2	3552	105.1	236	113	14.5	108	.506	.0317	36.0	2163	3782
1979	668	.062	17.1	23.5	19.5	3624	105.3	246	117	14.4	109	.495	.0320	35.7	2095	3761
1980	690	.073	19.4	27.6	22.4	3184	106.2	186	102	14.4	107	.577	.0323	36.1	2438	3830
1981	976	.112	23.0	33.5	26.7	2825	104.3	142	91	14.2	106	.671	.0324	37.9	2852	3959
1982	1268	.162	24.7	37.0	29.0	2794	102.9	128	86	14.6	104	.695	.0309	40.7	3035	4193
1983	1456	.182	24.7	36.2	28.8	2844	103.2	141	91	14.4	105	.677	.0317	41.2	3051	4259
1984	2731	.256	25.6	36.9	29.7	2798	103.1	136	90	14.3	106	.687	.0321	41.9	3134	4319
1985	2929	.271	25.7	37.2	29.8	2804	103.1	138	98	13.5	109	.727	.0347	42.2	3155	4356
1986	3348	.304	25.7	37.2	29.8	2819	103.2	137	98	13.5	109	.735	.0346	42.4	3143	4372
1987	4012	.374	25.5	37.3	29.7	2836	102.8	135	100	13.3	109	.759	.0351	42.4	3110	4359
1988	4317	.402	25.6	37.6	29.9	2889	103.6	136	106	13.0	111	.794	.0365	43.4	3147	4500
1989	3585	.358	25.6	37.5	29.9	2886	102.8	130	108	12.7	112	.837	.0372	43.3	3110	4452
1990	2771	.315	24.7	36.7	29.0	2984	103.3	138	118	12.3	115	.856	.0393	43.4	3027	4484
1991	2455	.288	24.7	36.7	29.0	2984	104.5	136	120	12.1	116	.887	.0399	43.5	3079	4553
1992	2221	.274	24.2	36.7	28.6	3034	104.3	143	127	11.8	118	.892	.0416	43.5	3015	4536
1993	2473	.292	25.1	37.9	29.6	2982	104.1	139	121	12.0	116	.886	.0404	44.3	3121	4613
1994	2602	.310	25.2	38.3	29.8	3023	103.9	138	124	11.9	117	.912	.0408	45.2	3131	4693
1995	3432	.365	25.8	39.5	30.6	2998	103.9	134	132	11.2	121	.992	.0438	45.9	3213	4775
1996	2981	.378	25.5	39.4	30.3	3007	103.1	134	133	11.1	121	.999	.0440	45.7	3157	4712
1997	2840	.340	25.4	39.5	30.3	3004	102.6	135	133	11.1	121	.988	.0442	45.6	3142	4683
1998	2131	.264	26.2	41.0	31.3	2990	102.8	130	134	11.0	121	1.029	.0445	47.1	3266	4836
1999	1998	.254	25.8	40.1	30.8	3091	103.0	135	140	10.9	122	1.037	.0448	47.8	3226	4924

PERCENT OF COMPACT:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	DESIGNED DOM	EUR	ASIA
1975	2.4		8.1		4.4		4.4	94.6	1.0		94.4	5.6	
1976	2.5		6.3		3.6		3.6	95.4	.9		96.5	3.5	
1977	2.3		4.4		3.8		3.8	95.1	1.1		96.6	3.4	
1978	17.8		10.0	16.3	9.1		9.1	88.8	2.2		92.3	7.7	
1979	13.6		9.0		14.8		14.8	77.2	8.0		81.5	18.5	
1980	56.8	5.8	14.5	6.7	10.8		10.8	80.9	8.4		79.1	20.9	
1981	81.4	2.1	32.9	5.8	8.0		8.0	86.0	6.0		86.0	14.0	
1982	84.8	1.9	34.8	39.7	21.5	13.1	8.3	73.2	5.3		81.4	13.7	4.9
1983	74.7	2.2	32.3	42.4	50.6	37.4	13.2	45.1	4.4		77.3	12.7	10.0
1984	82.0	.8	28.4	41.0	54.0	32.4	21.6	43.1	2.8		81.4	6.7	11.9
1985	85.3	.2	28.3	42.8	70.8	46.9	24.0	26.7	2.4		71.7	11.0	17.3
1986	86.6	.2	28.5	50.0	76.4	43.4	33.0	22.9	.7	1.0	65.3	9.6	25.2
1987	90.5	.4	29.5	49.3	74.6	42.2	32.4	25.1	.3	5.3	52.6	7.4	40.0
1988	91.2	.2	25.6	59.0	91.4	42.7	48.7	8.6		10.9	59.2	5.1	35.7
1989	95.8	.5	26.0	56.2	94.9	40.0	54.9	5.0	.1	15.8	53.7	6.0	40.3
1990	95.5	.8	19.3	63.6	99.9	33.2	66.7		.1	34.5	53.2	5.9	40.9
1991	95.0	1.6	21.7	65.3	99.6	17.3	82.3		.4	38.8	45.9	6.4	47.7
1992	96.1	.9	19.2	66.2	99.8	10.8	89.0		.2	32.3	54.2	5.3	40.5
1993	97.5	.5	18.3	69.9	100.0	12.3	87.7			40.3	56.5	3.0	40.5
1994	95.8	.7	18.8	72.8	100.0	8.3	91.7			50.7	41.9	5.5	52.7
1995	95.4	.8	19.5	78.7	99.8		99.8		.2	66.2	55.3	7.0	37.6
1996	97.3	.9	17.2	81.9	100.0		100.0			65.9	54.0	6.1	39.9
1997	95.5	1.1	16.8	83.2	100.0		100.0			61.8	54.6	8.2	37.2
1998	95.1	1.4	17.8	82.2	99.3		99.3		.7	74.4	52.6	8.1	39.3
1999	93.4	2.0	19.8	79.9	99.2		99.2		.8	76.9	46.5	10.8	42.7

TABLE H-5 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** SMALL CAR

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	4088	.496	16.0	22.4	18.3	3440		224	113	14.5	108	.554	.0323	31.9		
1976	5041	.519	17.4	24.1	19.9	3474		226	110	14.9	107	.537	.0312	34.8		
1977	5481	.485	18.2	25.0	20.7	3486	95.4	224	114	14.3	108	.567	.0323	36.4	2078	3489
1978	4630	.414	20.2	28.3	23.2	3029	90.9	177	100	14.2	107	.625	.0325	35.6	2233	3248
1979	4405	.408	20.3	28.4	23.3	2936	89.2	166	98	14.2	107	.641	.0326	34.6	2187	3099
1980	4825	.511	22.7	31.8	26.1	2717	90.0	137	86	14.5	104	.658	.0314	35.8	2439	3233
1981	4077	.467	24.9	34.5	28.5	2648	91.6	129	85	14.4	105	.680	.0318	38.2	2715	3509
1982	4039	.517	25.1	36.0	29.1	2684	92.2	131	87	14.4	105	.682	.0318	39.6	2786	3662
1983	3718	.465	25.4	36.7	29.4	2734	95.1	137	91	14.1	106	.693	.0328	40.8	2927	3900
1984	5666	.531	25.3	36.8	29.4	2776	95.2	140	95	13.8	108	.706	.0339	41.4	2908	3945
1985	5519	.511	25.6	37.2	29.8	2771	96.0	138	100	13.3	110	.746	.0356	41.8	2970	4019
1986	6203	.563	25.8	37.5	30.0	2791	96.7	137	101	13.3	110	.754	.0354	42.4	3008	4103
1987	6453	.601	25.8	37.6	30.1	2803	96.9	134	102	13.3	110	.776	.0356	42.5	2997	4120
1988	6706	.625	26.2	38.0	30.5	2818	98.5	133	105	13.1	111	.806	.0366	43.3	3086	4266
1989	5677	.567	26.0	37.8	30.2	2841	98.3	131	108	12.8	112	.844	.0374	43.3	3051	4255
1990	4999	.567	25.6	37.3	29.8	2897	97.6	131	116	12.2	115	.906	.0395	43.5	2977	4248
1991	5032	.590	25.7	37.8	30.0	2885	97.6	131	117	12.1	115	.919	.0400	43.7	3012	4271
1992	4440	.548	25.5	38.2	30.0	2921	97.9	134	123	11.8	117	.943	.0415	44.2	3018	4327
1993	4537	.537	26.0	38.9	30.5	2903	98.3	133	122	11.8	117	.933	.0415	44.6	3076	4388
1994	4711	.561	25.7	39.1	30.4	2968	98.7	137	126	11.7	118	.942	.0418	45.4	3078	4488
1995	5190	.552	25.9	39.8	30.7	2988	99.6	137	134	11.2	121	1.002	.0443	46.2	3137	4605
1996	4199	.532	25.9	40.0	30.8	2977	99.9	136	134	11.1	121	1.008	.0445	46.1	3145	4610
1997	4442	.532	26.1	40.0	30.9	2977	99.2	133	133	11.2	121	1.017	.0442	46.2	3122	4586
1998	3799	.470	26.1	40.6	31.1	3003	98.9	137	138	11.0	122	1.021	.0453	47.0	3146	4654
1999	3475	.441	25.7	39.8	30.6	3066	98.6	140	143	10.8	124	1.039	.0461	47.3	3095	4672

PERCENT OF SMALL CAR:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	DESIGNED DOM	EUR	ASIA
1975	10.0		33.9		9.4		9.4	90.1	.5		71.3	14.3	14.4
1976	8.8		29.2		5.0		5.0	94.5	.5		74.8	9.7	15.6
1977	11.0		30.3		7.5		7.5	91.6	.9		68.3	10.4	21.4
1978	19.9		42.6	5.2	10.3		10.3	88.2	1.5		57.8	14.1	28.2
1979	24.4		48.5		9.4		9.4	88.3	2.2		57.6	12.7	29.7
1980	37.8	1.1	52.8	4.1	11.1		11.1	85.1	3.7		49.6	15.3	35.1
1981	48.1	.7	54.0	7.8	12.2		12.2	82.7	5.1		46.0	11.9	42.2
1982	56.2	.7	50.8	26.7	19.6	6.6	13.0	76.4	4.0		48.7	11.3	40.0
1983	61.6	1.0	48.6	33.7	35.0	16.1	18.9	62.7	2.4		48.0	10.6	41.4
1984	63.2	.6	41.1	37.6	45.6	20.2	25.4	52.3	2.2		60.5	9.1	30.4
1985	70.9	.2	39.8	37.8	55.6	27.6	28.0	43.0	1.4		54.4	9.5	36.1
1986	74.5	.5	40.0	41.7	62.6	25.9	36.7	37.0	.4	2.7	50.1	8.9	41.0
1987	80.7	.4	38.7	44.7	66.3	29.1	37.2	33.5	.2	8.2	42.4	8.9	48.6
1988	85.2	.5	36.0	51.6	78.6	33.1	45.5	21.4		15.7	45.8	6.6	47.6
1989	86.3	1.0	33.8	51.8	84.8	32.6	52.1	15.1	.1	21.0	43.1	6.3	50.6
1990	89.0	.6	31.7	56.9	98.2	28.3	69.9	1.8	.1	40.6	36.0	5.5	58.6
1991	87.1	1.4	32.1	59.0	99.8	27.5	72.2	.1	.2	43.3	36.8	5.1	58.1
1992	88.6	1.2	29.3	60.3	99.9	12.7	87.2		.1	42.5	39.5	5.0	55.5
1993	90.2	1.0	30.0	61.2	100.0	10.3	89.7			43.0	43.7	3.7	52.6
1994	88.0	.7	26.3	65.8	100.0	7.1	92.9			49.7	39.1	4.6	56.3
1995	86.1	1.0	26.7	70.4	99.9	1.6	98.3		.1	65.2	45.4	6.7	47.9
1996	89.6	1.0	24.6	73.1	100.0	2.1	97.9			65.7	45.3	6.2	48.5
1997	89.5	1.0	22.7	76.0	100.0	1.5	98.5			67.7	40.8	7.5	51.6
1998	86.5	1.1	24.2	70.6	99.5	.4	99.1		.5	65.7	52.7	8.8	38.5
1999	85.2	1.4	26.1	73.1	99.4	.1	99.3		.6	65.8	45.9	12.2	41.8

Table H-6 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** MIDSIZE CAR

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	1631	.198	11.7	16.9	13.6	4630		353	158	13.9	115	.447	.0340	31.9		
1976	1964	.202	13.6	19.4	15.7	4558		343	156	13.8	114	.454	.0340	36.1		
1977	2226	.197	14.3	20.2	16.4	4473	112.9	332	151	13.9	114	.454	.0336	37.1	1880	4186
1978	3339	.299	16.0	23.0	18.6	3820	113.0	292	135	13.4	113	.464	.0353	35.5	2139	4015
1979	3211	.297	16.7	23.2	19.1	3710	113.1	272	128	13.6	112	.474	.0344	35.6	2197	4023
1980	2987	.316	18.6	26.9	21.6	3362	113.2	228	113	13.8	109	.512	.0336	36.5	2478	4132
1981	2902	.332	19.8	28.6	22.9	3346	113.9	220	107	14.2	108	.509	.0322	38.5	2645	4393
1982	2136	.273	20.5	30.5	24.0	3321	113.9	211	107	14.2	108	.529	.0323	40.2	2785	4576
1983	2269	.284	20.4	30.3	23.9	3316	113.8	212	111	13.8	109	.544	.0335	39.9	2770	4542
1984	2770	.260	20.5	30.6	24.1	3318	113.7	210	113	13.6	110	.563	.0341	40.2	2780	4565
1985	2777	.257	21.2	31.9	24.9	3318	113.6	205	117	13.3	112	.606	.0354	41.5	2873	4714
1986	2666	.242	21.9	33.4	25.9	3241	113.8	194	118	13.0	113	.640	.0364	42.1	2978	4786
1987	2252	.210	22.0	33.6	26.0	3247	113.7	188	123	12.7	114	.684	.0378	42.3	2993	4817
1988	2113	.197	22.3	35.1	26.7	3293	113.4	183	129	12.3	116	.718	.0389	44.0	3057	4995
1989	2591	.259	22.2	35.3	26.6	3314	113.6	181	131	12.2	117	.735	.0396	44.2	3049	5027
1990	2342	.266	21.7	35.1	26.2	3450	113.7	187	140	12.0	119	.758	.0406	45.3	3000	5152
1991	2114	.248	21.6	34.8	26.0	3412	113.5	191	146	11.5	121	.773	.0428	44.5	2973	5050
1992	2120	.261	21.3	34.7	25.8	3515	113.9	191	151	11.5	122	.801	.0426	45.4	2949	5170
1993	2330	.276	21.6	35.1	26.1	3515	113.9	192	153	11.4	123	.812	.0433	46.0	2992	5243
1994	2057	.245	21.4	34.7	25.9	3529	113.5	189	155	11.4	123	.827	.0436	45.7	2953	5192
1995	2515	.268	21.5	35.5	26.1	3546	114.3	189	166	10.7	127	.889	.0464	46.3	2996	5295
1996	2359	.299	21.9	35.6	26.5	3527	114.1	181	162	10.9	126	.906	.0458	46.7	3028	5327
1997	2411	.289	21.9	36.0	26.6	3551	114.6	184	170	10.6	128	.933	.0476	47.3	3060	5416
1998	3142	.389	22.5	36.7	27.2	3531	113.9	176	170	10.5	128	.974	.0479	48.3	3121	5498
1999	2969	.377	22.5	36.5	27.2	3550	113.8	176	172	10.5	129	.986	.0482	48.4	3108	5505

PERCENT OF MIDSIZE CAR:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	DESIGNED DOM	EUR	ASIA
1975	2.7		.6		.7		.7	99.3			99.3	.7	
1976	2.5		.4		.6		.6	99.4			99.8	.2	
1977	2.1		.3		.7		.7	99.3			99.7	.3	
1978	1.4		1.7	11.1	1.4		1.4	98.6			99.8	.2	
1979	5.2		1.9	21.4	2.3		2.3	96.3	1.4		99.5	.5	
1980	30.2		7.8	25.3	2.5	1.5	1.0	94.9	2.5		99.5	.5	
1981	32.3		5.6	52.2	2.4	2.3	.1	93.7	4.0		99.9	.1	
1982	44.7		2.0	82.6	15.6	15.4	.2	80.7	3.8		99.8	.2	
1983	48.9		1.2	80.0	17.7	17.2	.5	80.6	1.7		99.3	.7	
1984	55.1		.9	82.0	29.4	25.6	3.8	69.7	1.0		97.3	2.7	
1985	61.9		1.3	77.6	50.1	37.1	13.0	49.6	.3		96.5	3.5	
1986	71.0	.1	1.8	76.4	67.7	42.3	25.4	32.1	.2		95.6	4.4	
1987	77.3	.2	1.5	77.6	84.1	43.4	40.7	15.5	.4		95.3	4.7	
1988	87.0	.1	3.8	91.1	94.9	28.0	66.9	5.1		.1	87.8	5.6	6.5
1989	86.5	.1	4.7	91.7	99.3	21.0	78.3	.7		.8	85.6	3.8	10.7
1990	85.2	.2	3.9	93.9	100.0	13.3	86.6			5.1	82.6	4.1	13.3
1991	87.2	.1	3.6	94.5	99.9	11.2	88.7		.1	5.3	82.3	3.5	14.1
1992	79.1	.1	2.7	96.6	100.0	5.3	94.7			20.0	74.3	2.3	23.4
1993	85.4	.2	2.3	97.2	100.0	4.4	95.6			27.8	72.7	3.0	24.3
1994	84.7		2.0	97.7	100.0	4.0	96.0			31.4	70.2	3.6	26.2
1995	79.6		2.7	97.2	100.0	1.1	98.9			38.5	66.5	3.8	29.7
1996	91.9		4.3	94.9	99.7		99.7		.3	47.2	65.5	4.0	30.5
1997	90.6	.1	2.5	97.5	99.8		99.8		.2	50.1	63.3	6.4	30.3
1998	94.4	.5	4.9	95.1	99.8		99.8		.2	55.3	52.3	6.7	41.0
1999	94.1	1.5	4.3	95.7	99.9		99.9		.1	60.8	50.0	8.0	42.0

Table H-7 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** LARGE CAR

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	1555	.189	11.3	16.2	13.1	5142		409	180	13.5	117	.439	.0348	33.9		
1976	1679	.173	12.3	17.2	14.2	5156		410	180	13.4	117	.440	.0349	36.6		
1977	2319	.205	13.8	19.5	15.9	4482	128.1	366	165	12.8	118	.453	.0370	35.7	2065	4573
1978	2048	.183	14.5	20.9	16.8	4394	128.5	357	162	12.8	118	.457	.0370	37.2	2193	4775
1979	2111	.196	15.2	21.1	17.4	4210	130.0	339	154	12.9	116	.454	.0365	36.8	2279	4783
1980	963	.102	16.3	24.1	19.1	4130	130.9	314	137	14.0	112	.440	.0331	39.8	2526	5213
1981	956	.109	17.1	26.7	20.4	4108	131.0	304	133	14.3	111	.444	.0325	42.6	2712	5571
1982	832	.106	17.4	26.9	20.7	4034	131.0	292	135	13.9	112	.468	.0336	42.1	2730	5517
1983	1079	.135	16.9	26.4	20.2	4041	131.3	292	140	13.4	113	.481	.0347	40.9	2657	5370
1984	1236	.116	17.2	26.9	20.5	4022	130.9	294	140	13.4	114	.478	.0349	41.3	2688	5407
1985	1512	.140	18.5	29.8	22.3	3841	129.3	279	143	12.7	116	.512	.0371	42.9	2887	5543
1986	1267	.115	19.6	32.7	23.9	3719	127.4	260	147	12.1	119	.577	.0396	44.5	3055	5672
1987	1218	.113	19.5	32.8	23.9	3696	127.0	259	149	11.8	120	.587	.0405	44.1	3036	5599
1988	1303	.121	19.8	33.2	24.2	3730	128.1	262	150	11.9	120	.587	.0405	45.2	3111	5793
1989	1289	.129	19.6	33.0	24.0	3721	127.4	261	158	11.4	122	.619	.0427	44.7	3064	5696
1990	1092	.124	19.3	32.8	23.7	3799	126.7	258	161	11.4	123	.639	.0426	45.0	3004	5695
1991	1012	.119	19.3	32.6	23.6	3893	129.0	264	178	10.7	127	.685	.0459	46.0	3053	5941
1992	1240	.153	19.4	33.0	23.8	3872	129.6	262	185	10.4	130	.715	.0479	46.1	3091	5979
1993	1103	.130	19.8	33.4	24.2	3831	128.9	256	181	10.5	129	.720	.0473	46.4	3133	5989
1994	1277	.152	19.7	33.1	24.1	3858	128.3	248	188	10.2	131	.766	.0487	46.4	3092	5959
1995	1305	.139	19.9	34.0	24.4	3830	127.9	248	206	9.4	138	.845	.0539	46.8	3136	5992
1996	1066	.135	19.8	33.9	24.3	3894	127.6	250	217	9.2	140	.879	.0557	47.5	3119	6059
1997	1195	.143	19.9	34.2	24.5	3821	127.4	242	216	9.1	141	.903	.0567	46.9	3138	5980
1998	887	.110	20.3	34.4	24.9	3810	127.2	240	219	8.9	142	.930	.0576	47.5	3184	6044
1999	1179	.150	19.9	33.3	24.3	3896	127.4	240	216	9.2	140	.929	.0558	47.5	3120	6043

PERCENT OF LARGE CAR:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	DESIGNED DOM	EUR	ASIA
1975	1.5							100.0			100.0		
1976	1.5				1.2		1.2	98.8			100.0		
1977	1.5				.5		.5	99.5			100.0		
1978	1.1			2.5	.2		.2	98.5	1.4		100.0		
1979				6.5	.2		.2	96.4	3.5		100.0		
1980				41.6	2.0	2.0		87.5	10.4		100.0		
1981				89.8	17.1	17.1		67.7	15.2		100.0		
1982				93.1	20.1	20.1		69.9	10.0		100.0		
1983				99.9	37.3	37.3		60.3	2.4		100.0		
1984				99.9	39.0	39.0		60.3	.8		100.0		
1985	31.9			100.0	64.0	44.9	19.1	35.7	.3		100.0		
1986	55.9		.7	99.2	81.2	15.8	65.4	18.8		.7	99.2	.8	
1987	60.9		.5	99.5	85.1	15.2	69.9	14.9		1.1	98.9	1.1	
1988	58.7		.4	99.6	89.5	12.6	76.9	10.5		1.1	95.9	4.1	
1989	61.9		.3	99.7	97.0	22.2	74.8	3.0		.8	96.0	4.0	
1990	69.0		.2	99.8	98.9	6.0	92.9	1.1		.5	97.5	2.5	
1991	59.8		.4	99.6	100.0	16.7	83.3			.9	96.8	3.2	
1992	58.5		.3	98.5	99.9	10.7	89.2		.1	1.9	97.5	2.5	
1993	64.8		.4	98.2	100.0	10.3	89.7			8.0	97.7	2.3	
1994	69.2		.2	99.0	100.0		100.0			17.1	98.8	1.2	
1995	71.3		.2	98.3	100.0		100.0			30.4	93.3	2.1	4.6
1996	67.7		.1	99.3	100.0		100.0			38.4	91.8	2.1	6.2
1997	72.4		.4	99.6	100.0		100.0			35.6	91.0	2.8	6.2
1998	74.6			99.9	100.0		100.0			39.5	88.8	3.1	8.1
1999	65.7			100.0	100.0		100.0			42.7	92.7	1.5	5.8

Table H-8 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** SMALL WAGON

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	477	.058	19.3	27.7	22.4	2833		128	87	14.8	104	.713	.0306	32.1		
1976	345	.036	20.7	29.4	23.9	2902		136	86	15.2	103	.668	.0296	35.0		
1977	384	.034	22.4	30.6	25.5	2801	108.0	134	85	14.9	104	.685	.0304	36.2	2824	3897
1978	361	.032	21.4	29.3	24.3	2805	108.0	134	90	14.3	105	.709	.0318	34.6	2692	3732
1979	310	.029	22.5	31.2	25.7	2711	105.1	123	81	15.1	102	.684	.0294	35.0	2742	3682
1980	310	.033	25.1	34.6	28.6	2591	108.2	113	75	15.4	101	.685	.0288	37.6	3175	4068
1981	418	.048	26.2	36.6	30.0	2531	110.6	108	79	14.4	103	.754	.0312	38.2	3356	4228
1982	382	.049	26.5	37.6	30.6	2580	112.2	109	75	15.3	101	.698	.0288	39.6	3463	4447
1983	531	.066	28.2	39.1	32.2	2565	108.2	105	74	15.3	101	.713	.0288	41.5	3507	4483
1984	461	.043	27.6	39.4	31.9	2620	116.5	107	77	15.2	102	.719	.0293	42.1	3762	4905
1985	496	.046	28.3	39.7	32.5	2579	117.7	106	78	15.0	102	.727	.0299	42.2	3870	4963
1986	348	.032	27.1	37.6	31.0	2647	118.4	113	82	14.7	103	.730	.0307	41.3	3729	4895
1987	361	.034	26.8	37.4	30.7	2795	120.0	116	91	14.2	106	.788	.0323	43.2	3733	5184
1988	253	.024	27.5	37.6	31.3	2757	118.7	113	93	13.7	107	.829	.0334	43.3	3748	5140
1989	159	.016	27.5	38.3	31.5	2766	118.6	112	96	13.5	108	.861	.0341	43.7	3769	5185
1990	160	.018	25.7	36.3	29.6	3026	122.2	120	110	12.9	111	.920	.0359	44.9	3652	5484
1991	209	.025	26.3	38.1	30.6	3005	123.3	120	106	13.3	110	.880	.0349	46.1	3816	5679
1992	143	.018	25.9	37.8	30.2	3076	123.7	122	123	12.4	116	1.016	.0397	46.5	3778	5756
1993	301	.036	27.8	41.2	32.5	2882	123.0	118	99	13.5	108	.842	.0342	47.1	4047	5794
1994	203	.024	27.8	42.4	32.9	2906	122.9	121	103	13.3	110	.848	.0352	48.1	4109	5915
1995	198	.021	28.3	42.6	33.3	2859	122.1	118	100	13.4	109	.844	.0348	47.8	4116	5836
1996	90	.011	26.8	40.4	31.6	2952	118.0	122	114	12.5	113	.928	.0381	46.7	3769	5514
1997	149	.018	27.2	41.7	32.2	2901	119.5	124	117	11.8	116	.943	.0404	46.8	3893	5596
1998	100	.012	26.7	41.3	31.8	2877	117.8	125	121	11.6	117	.964	.0416	45.8	3774	5394
1999	96	.012	27.0	41.9	32.2	2884	118.9	124	121	11.6	117	.967	.0414	46.5	3865	5529

PERCENT OF SMALL WAGON:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	DESIGNED DOM	EUR	ASIA
1975	13.3		48.6		.8		.8	99.2			34.8	10.9	54.3
1976	12.2		42.8		3.2		3.2	96.8			49.7	5.2	45.1
1977	23.3		52.9		6.4		6.4	93.0	.6		37.4	7.2	55.4
1978	23.0		56.3		6.9		6.9	93.1			33.7	9.6	56.7
1979	13.3	12.1	59.3		1.0		1.0	99.0			32.5	1.4	66.1
1980	24.4	9.8	67.3	4.6	1.1		1.1	92.5	6.3		19.2	6.7	74.1
1981	57.9	8.0	62.0	8.1	4.0		4.0	93.9	2.2		41.6	3.5	54.8
1982	68.3	8.9	54.0	19.4	5.6	.7	4.8	93.3	1.2		44.9	1.8	53.3
1983	55.4	39.3	64.7	23.7	20.7	17.0	3.7	79.0	.3		35.0	1.1	64.0
1984	81.4	15.6	43.7	39.2	37.3	32.2	5.1	61.1	1.6		53.4	1.4	45.2
1985	60.0	39.6	59.1	42.2	21.7	15.4	6.2	77.8	.5		35.2	1.4	63.4
1986	78.4	20.7	43.3	29.0	31.0	24.3	6.8	68.2	.8		49.1	1.2	49.6
1987	76.6	23.4	34.4	41.0	71.8	42.6	29.2	28.2		16.3	35.1	1.8	63.1
1988	80.2	19.8	37.8	34.6	93.4	62.8	30.6	6.6		18.9	34.5	6.5	58.9
1989	89.9	10.1	26.6	51.8	89.7	48.8	41.0	10.3		36.9	36.3	2.0	61.8
1990	68.3	31.7	30.6	58.8	100.0	40.6	59.4			63.6	21.0	1.2	77.8
1991	79.1	20.9	24.4	74.1	100.0	20.0	80.0			48.6	43.7		56.3
1992	73.0	25.5	22.6	68.2	100.0	4.7	95.3			43.9	40.4	1.8	57.8
1993	83.2	16.2	28.9	70.6	100.0	4.2	95.8			19.9	73.6	.8	25.6
1994	87.7	11.4	26.8	73.2	100.0	2.2	97.8			20.3	15.8	1.3	82.9
1995	92.8	4.6	23.8	76.2	100.0		100.0			25.7	80.2	3.5	16.3
1996	84.5	11.2	20.8	79.2	100.0		100.0			51.1	60.4	7.0	32.7
1997	82.9	14.4	19.6	80.4	100.0		100.0			40.7	71.9	4.6	23.5
1998	74.7	21.6	18.9	81.1	100.0		100.0			49.6	66.1	7.2	26.6
1999	81.2	14.1	26.1	73.9	100.0		100.0			44.2	67.4	7.7	24.9

Table H-9 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** MIDSIZE WAGON

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	289	.035	11.4	16.5	13.2	4791		361	162	13.8	115	.473	.0337	32.1		
1976	485	.050	14.0	19.4	16.0	4555		315	142	14.8	110	.458	.0311	36.7		
1977	548	.048	14.4	19.6	16.3	4410	143.6	297	135	15.1	109	.459	.0304	36.1	2368	5190
1978	503	.045	16.3	22.6	18.6	3836	140.0	258	123	14.4	109	.484	.0319	35.8	2630	5010
1979	482	.045	16.9	22.9	19.1	3758	139.7	249	118	14.7	108	.480	.0312	36.1	2698	5046
1980	257	.027	18.4	25.8	21.1	3534	139.7	228	107	15.0	106	.482	.0302	37.5	2985	5231
1981	272	.031	20.2	28.0	23.1	3285	136.2	193	103	14.5	107	.562	.0315	38.1	3187	5187
1982	284	.036	20.6	28.9	23.7	3384	136.1	205	108	14.3	108	.551	.0319	40.3	3265	5481
1983	276	.034	21.2	29.9	24.4	3348	136.2	200	109	14.1	108	.568	.0323	41.0	3368	5586
1984	365	.034	21.6	31.0	25.0	3298	135.9	172	107	14.1	108	.633	.0323	41.4	3428	5622
1985	341	.032	21.6	31.6	25.2	3356	130.2	170	112	13.9	109	.679	.0332	42.4	3280	5531
1986	409	.037	22.1	33.1	26.0	3355	137.8	162	115	13.6	110	.718	.0341	43.6	3592	6014
1987	359	.033	21.7	33.0	25.6	3434	140.2	173	125	13.0	113	.735	.0362	44.0	3606	6182
1988	285	.027	22.0	34.4	26.2	3378	139.4	171	126	12.7	114	.743	.0371	44.5	3677	6199
1989	239	.024	21.4	33.8	25.6	3436	139.9	176	132	12.4	116	.765	.0382	44.1	3597	6177
1990	184	.021	21.0	33.9	25.3	3498	141.6	181	139	12.0	118	.781	.0395	44.4	3593	6281
1991	122	.014	21.4	34.7	25.9	3506	142.3	181	140	12.0	118	.793	.0398	45.5	3701	6484
1992	137	.017	21.5	35.5	26.2	3503	142.6	188	143	11.8	119	.777	.0406	46.0	3747	6560
1993	166	.020	21.7	35.2	26.2	3498	137.7	188	144	11.7	120	.790	.0410	46.0	3626	6340
1994	138	.016	21.5	35.2	26.0	3532	137.4	180	151	11.4	122	.863	.0427	46.0	3584	6327
1995	176	.019	22.1	35.6	26.6	3482	135.9	167	148	11.4	121	.915	.0426	46.5	3627	6313
1996	169	.021	21.9	34.7	26.3	3661	136.9	161	153	11.6	122	.965	.0421	48.2	3614	6612
1997	149	.018	22.0	34.3	26.3	3666	136.5	160	158	11.3	123	1.001	.0433	48.1	3590	6576
1998	151	.019	22.1	34.4	26.3	3606	135.3	154	167	10.7	127	1.089	.0463	47.6	3580	6448
1999	157	.020	21.8	34.2	26.1	3665	136.2	159	171	10.6	127	1.083	.0467	47.8	3563	6517

PERCENT OF MIDSIZE WAGON:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	DESIGNED DOM	EUR	ASIA
1975			4.0		7.6		7.6	92.2	.2		91.7	8.3	
1976			7.1		3.4		3.4	96.5	.1		96.4	3.6	
1977			4.6		3.5		3.5	96.2	.3		96.2	3.8	
1978			5.3	17.2	3.0		3.0	96.8	.3		96.7	3.3	
1979			5.3	9.1	2.5		2.5	95.0	2.5		96.4	3.6	
1980			9.9	43.8	4.3		4.3	89.8	5.9		93.6	6.4	
1981	35.6		12.8	28.5	6.9		6.9	87.2	5.9		91.2	8.8	
1982	28.2		7.4	62.6	5.7		5.7	88.0	6.3		90.8	9.2	
1983	32.8		6.2	50.2	7.9		7.9	89.8	2.3		90.5	9.5	
1984	69.9		6.5	62.5	30.7	20.3	10.4	66.8	2.5		88.1	11.9	
1985	69.5	4.5	5.9	64.7	56.2	30.5	25.7	42.0	1.8		83.2	11.4	5.4
1986	82.2	2.1	9.1	71.0	79.3	28.0	51.3	20.6	.2		76.2	11.1	12.7
1987	83.9	.1	4.4	83.6	94.5	22.8	71.7	4.7	.8		84.9	11.3	3.8
1988	87.7	.7	3.8	87.2	100.0	29.8	70.2				82.3	13.9	3.7
1989	77.5	8.2	7.1	80.7	100.0	12.3	87.7			1.0	76.3	15.6	8.0
1990	81.1	.4	1.7	87.9	100.0	1.5	98.5			3.4	79.2	20.8	
1991	79.6	1.3	2.4	85.6	100.0	.7	99.3			3.6	77.0	23.0	
1992	80.8	.6	1.7	88.9	100.0	.3	99.7			10.3	74.9	18.5	6.6
1993	87.0	.6	1.8	91.2	100.0		100.0			17.3	68.1	13.7	18.2
1994	89.0	.4	1.6	94.0	100.0		100.0			20.1	63.3	21.9	14.8
1995	64.8	27.8	10.1	86.7	100.0		100.0			51.4	44.9	17.0	38.1
1996	61.0	39.0	12.9	87.1	99.2		99.2		.8	63.5	44.2	13.5	42.3
1997	48.5	51.5	13.4	86.6	99.9		99.9		.1	67.6	37.7	10.8	51.5
1998	39.5	59.4	13.6	86.4	99.2		99.2		.8	79.5	22.7	26.5	50.9
1999	40.7	57.1	14.3	85.7	100.0		100.0			72.1	28.8	25.0	46.3

Table H-10 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** LARGE WAGON

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	197	.024	10.3	14.9	11.9	5453		410	181	14.0	116	.441	.0332	32.7		
1976	207	.021	11.8	16.5	13.5	5444		416	185	13.7	117	.445	.0339	36.9		
1977	340	.030	13.6	18.7	15.5	4713	163.1	365	161	13.6	115	.442	.0341	36.9	2567	6008
1978	293	.026	13.8	19.7	15.9	4664	162.4	354	162	13.4	116	.460	.0348	37.3	2601	6056
1979	275	.026	14.2	19.3	16.1	4466	162.5	333	155	13.4	115	.465	.0346	36.1	2633	5872
1980	102	.011	16.3	24.2	19.1	4423	161.5	323	134	15.2	109	.418	.0302	43.2	3152	6975
1981	108	.012	16.7	26.0	19.9	4394	161.4	312	131	15.3	108	.424	.0298	44.7	3273	7199
1982	146	.019	16.0	25.4	19.2	4396	161.3	306	139	14.6	110	.456	.0316	42.6	3130	6872
1983	130	.016	16.3	25.9	19.6	4379	161.6	307	142	14.1	112	.465	.0324	43.0	3174	6944
1984	176	.017	16.6	26.3	19.9	4371	161.7	305	144	13.9	112	.472	.0329	43.6	3227	7049
1985	145	.013	17.3	28.0	20.9	4354	161.7	305	153	13.2	115	.504	.0354	45.6	3382	7360
1986	120	.011	18.1	30.0	22.0	4381	161.4	304	146	13.9	113	.479	.0334	48.3	3558	7791
1987	88	.008	18.3	29.9	22.1	4348	161.8	304	143	14.0	112	.470	.0330	48.2	3583	7789
1988	75	.007	19.0	30.4	22.8	4349	161.7	304	143	14.0	112	.470	.0330	49.7	3691	8025
1989	63	.006	18.7	29.9	22.5	4334	161.8	304	143	13.9	112	.471	.0331	48.8	3643	7887
1990	31	.004	18.8	30.2	22.7	4337	161.6	304	143	13.9	112	.471	.0331	49.2	3664	7942
1991	34	.004	18.7	31.8	22.9	4402	169.1	304	177	11.9	122	.581	.0404	50.4	3877	8535
1992	27	.003	18.3	32.0	22.7	4500	170.3	338	177	12.1	121	.526	.0393	51.1	3865	8695
1993	19	.002	18.1	32.1	22.5	4500	168.9	340	174	12.2	120	.513	.0385	50.7	3804	8560
1994	16	.002	18.6	32.0	22.9	4500	169.2	350	250	9.1	144	.714	.0554	51.6	3878	8726
1995	10	.001	18.5	31.9	22.8	4500	167.6	350	250	9.1	144	.714	.0555	51.3	3824	8603
1996	9	.001	18.7	32.8	23.2	4500	170.2	350	260	8.9	147	.743	.0577	52.2	3946	8879

PERCENT OF LARGE WAGON:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	DESIGNED DOM	EUR	ASIA
1975								100.0			100.0		
1976								100.0			100.0		
1977								100.0			100.0		
1978								98.6	1.4		100.0		
1979								100.0			100.0		
1980				74.0				73.3	26.7		100.0		
1981				100.0	.2	.2		74.6	25.2		100		
1982				100.0				89.0	11.0		100		
1983				100.0	24.1	24.1		71.3	4.6		99	.1	
1984				100.0	25.8	25.8		72.7	1.5		100.0		
1985				100.0	29.2	29.2		70.4	.4		100.0		
1986				100.0	23.7		23.7	76.3			100.0		
1987				100.0	30.3		30.3	69.7			100.0		
1988				100.0	30.2		30.2	69.8			100.0		
1989				100.0	33.1		33.1	66.9			100.0		
1990				100.0	32.7		32.7	67.3			100.0		
1991				100.0	100.0	80.5	19.5				100.0		
1992				100.0	100.0	100.0					100.0		
1993	.2			100.0	100.0	99.8	.2				100.0		
1994				100.0	100.0		100.0				100.0		
1995				100.0	100.0		100.0				100.0		
1996				100.0	100.0		100.0				100.0		

Table H-11 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** SMALL VAN

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	2	.001	18.0	25.1	20.6	3498	118	78	19.1	96	.654	.0204	36.1
1976	1	.001	16.8	25.8	19.9	3500	120	67	20.9	92	.557	.0179	34.9
1977	2	.001	19.1	27.6	22.2	3500	120	67	20.8	92	.557	.0180	38.9
1978	3	.001	17.4	24.5	20.0	3500	120	67	20.9	92	.558	.0185	35.0
1979	8	.003	16.5	22.6	18.7	3500	120	67	20.9	92	.558	.0188	32.9
1980	16	.008	16.3	23.9	19.0	3618	120	67	21.4	91	.558	.0182	34.4
1981	11	.006	16.3	22.3	18.5	3644	120	67	21.6	91	.558	.0181	33.8
1982	15	.008	19.7	24.9	21.7	3668	111	61	23.4	89	.549	.0164	42.1
1983	14	.006	17.4	23.5	19.7	3567	118	69	20.9	92	.582	.0185	35.7
1984	83	.025	23.1	29.5	25.6	3313	120	87	16.6	100	.720	.0263	42.8
1985	93	.025	23.0	29.6	25.5	3270	121	88	16.2	101	.726	.0270	41.9
1986	102	.023	23.1	29.8	25.7	3298	131	95	15.3	104	.728	.0289	42.6
1987	126	.030	21.8	28.3	24.3	3299	134	98	15.0	105	.736	.0299	40.3
1988	55	.012	21.7	29.0	24.5	3402	134	100	15.1	105	.751	.0294	41.9
1989	35	.008	22.5	29.1	25.0	3390	130	98	15.3	104	.755	.0289	42.5
1990	30	.008	21.1	28.5	23.9	3554	140	120	14.0	111	.854	.0339	42.6
1991	15	.004	21.3	28.3	24.0	3402	124	95	15.8	103	.761	.0276	40.7
1992	40	.010	23.4	33.3	27.0	3217	129	115	13.0	112	.901	.0352	43.5
1993	12	.003	24.4	35.0	28.2	3032	121	120	12.0	115	.990	.0390	42.9
1994	11	.002	23.1	34.1	27.0	3248	135	130	11.9	117	.965	.0396	44.0
1995	6	.001	22.8	33.1	26.5	3163	134	130	11.7	118	.966	.0407	42.1
1996	2	.000	22.2	33.4	26.2	3416	142	134	12.1	117	.947	.0374	44.8

PERCENT OF SMALL VAN:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	DESIGNED DOM	IMPORT
1975			43.3		61.1			38.9				100.0
1976			84.8		100.0							100.0
1977			89.9		100.0							100.0
1978			85.0		100.0							100.0
1979			81.2		100.0							100.0
1980			82.9		100.0							100.0
1981			81.2		100.0							100.0
1982			89.0		61.7				38.3			100.0
1983	4.2		76.9		93.6				6.4		4.2	95.8
1984	20.0		41.9	50.1	80.0			17.6	2.4		2.4	97.6
1985	18.7	3.2	40.8	53.3	78.1			21.9				100.0
1986	22.4	13.1	36.4	60.8	64.5		64.5	35.5				100.0
1987	20.5	17.0	30.4	66.8	83.2	18.1	65.1	16.8				100.0
1988	21.1	16.0	28.4	68.6	100.0	18.4	81.6					100.0
1989	27.6	21.3	30.0	65.4	100.0	.3	99.7					100.0
1990	55.8	22.8	20.8	55.9	100.0	1.0	99.0					100.0
1991	42.3	28.4	45.2	36.5	100.0		100.0					100.0
1992	84.4	15.6	26.8	73.2	100.0		100.0					100.0
1993	98.5	1.5	14.5	85.5	100.0		100.0			69.3		100.0
1994	66.1	33.9	14.1	85.9	100.0		100.0			23.3		100.0
1995	27.3	72.7	18.8	81.2	100.0		100.0			100.0		100.0
1996	92.3	7.7	3.8	96.2	100.0		100.0			100.0		100.0

Table H-12 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** MIDSIZE VAN

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	302	.152	12.0	15.3	13.3	4230	310	141	13.9	112	.453	.0332	28.8
1976	308	.118	12.6	16.5	14.1	4277	317	143	14.0	112	.449	.0332	30.7
1977	313	.111	12.9	16.4	14.3	4348	326	149	13.6	114	.456	.0341	31.4
1978	399	.122	12.6	15.6	13.8	4345	327	152	13.3	115	.465	.0349	30.5
1979	313	.101	13.1	16.0	14.3	4506	320	137	15.0	109	.433	.0303	32.6
1980	130	.070	15.0	20.0	16.9	4230	288	136	14.3	111	.475	.0317	35.9
1981	138	.076	15.9	21.2	17.9	4248	279	134	14.6	110	.480	.0312	38.2
1982	180	.094	15.9	21.1	17.9	4266	284	139	14.3	111	.485	.0321	38.3
1983	230	.100	16.4	22.3	18.7	4396	294	141	14.5	111	.480	.0318	41.5
1984	420	.125	16.8	23.2	19.2	4081	248	127	14.8	109	.537	.0307	39.7
1985	600	.163	17.5	23.7	19.8	3945	233	131	14.1	111	.586	.0329	39.7
1986	782	.180	18.1	25.3	20.8	3964	224	129	14.3	110	.595	.0322	41.5
1987	848	.205	18.4	26.2	21.2	3959	226	146	12.9	116	.671	.0367	42.3
1988	941	.206	18.7	27.3	21.8	3974	223	148	12.7	117	.691	.0372	43.5
1989	1100	.248	18.7	27.2	21.8	3980	218	146	12.9	116	.700	.0366	43.6
1990	1197	.315	18.3	26.9	21.4	4080	225	149	13.0	116	.682	.0364	43.9
1991	943	.233	18.7	27.4	21.9	4079	214	148	13.0	116	.714	.0362	44.8
1992	1088	.268	18.7	27.5	21.8	4102	218	152	12.8	117	.713	.0369	45.0
1993	1323	.278	19.0	28.5	22.3	4033	211	153	12.5	118	.741	.0380	45.1
1994	1262	.230	18.8	28.0	22.0	4076	218	157	12.4	119	.731	.0384	45.1
1995	1552	.270	18.8	28.5	22.2	4041	226	158	12.3	119	.717	.0389	45.0
1996	1298	.247	19.2	29.4	22.8	4115	211	168	11.8	122	.806	.0410	47.0
1997	1105	.178	19.1	29.0	22.6	4134	210	168	11.9	122	.807	.0406	46.8
1998	1364	.208	19.6	30.4	23.3	4087	208	173	11.5	124	.840	.0424	47.7
1999	1341	.197	19.0	29.7	22.7	4237	216	179	11.4	124	.837	.0423	48.1

PERCENT OF MIDSIZE VAN:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	DESIGNED DOM	IMPORT
1975			19.1					100.0			100.0	
1976			17.6					100.0			100.0	
1977			11.8					100.0			100.0	
1978			10.6					100.0			100.0	
1979			13.5	10.4				100.0			100.0	
1980			21.9	71.3				100.0			100.0	
1981	.6		16.0	81.1				100.0			100.0	
1982			10.5	78.7				100.0			100.0	
1983			9.1	77.2				92.9	7.1		100.0	
1984	32.0		12.0	48.7				98.5	1.5		100.0	
1985	40.4		6.1	45.9	1.1		.1	98.5	.4		100.0	
1986	29.7		5.7	61.5	32.7	21.7	10.9	67.1	.2		100.0	
1987	33.1		3.9	70.6	73.6	36.8	36.9	26.3	.1		100.0	
1988	42.4		2.6	83.1	99.7	49.8	49.9	.2	.1		100.0	
1989	39.0	.1	2.3	80.2	99.9	47.9	52.0		.1		96.9	3.1
1990	47.9	6.4	1.1	95.1	99.9	43.6	56.3		.1		96.0	4.0
1991	41.2	11.5	.7	99.0	99.9	39.7	60.2		.1		86.4	13.6
1992	47.8	5.6	.8	98.3	99.9	31.3	68.6		.1		92.0	8.0
1993	53.4	4.9	1.1	98.6	100.0	22.6	77.4				85.2	14.8
1994	58.2	6.9	.4	98.7	100.0	20.9	79.1			1.4	88.2	11.8
1995	65.5	9.4		99.5	100.0	13.1	86.9			3.4	85.7	14.3
1996	80.0	2.5		99.5	100.0		100.0			5.0	88.5	11.5
1997	72.1	5.4		99.5	100.0		100.0			6.0	85.9	14.1
1998	87.8	4.3		100.0	100.0		100.0			9.5	86.6	13.4
1999	83.3	4.5		100.0	100.0		100.0			11.9	86.1	13.9

Table H-13 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** LARGE VAN

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	153	.077	11.1	15.1	12.6	4135	334	148	13.7	115	.434	.0354	26.4
1976	192	.074	11.8	16.3	13.4	4081	335	151	13.3	117	.444	.0369	28.0
1977	199	.070	13.9	18.1	15.5	4110	343	158	12.6	119	.459	.0384	32.2
1978	224	.068	13.5	17.4	15.0	4088	335	145	13.3	114	.429	.0353	31.2
1979	159	.052	10.8	14.2	12.1	4665	336	163	13.5	116	.480	.0347	28.6
1980	96	.052	14.2	18.8	16.0	4639	315	133	15.5	107	.421	.0284	37.6
1981	96	.053	15.0	19.6	16.8	4513	310	128	15.6	107	.414	.0282	38.2
1982	115	.060	14.4	18.8	16.1	4548	314	131	15.5	107	.418	.0286	37.0
1983	138	.060	14.3	19.2	16.2	4532	314	134	15.1	108	.429	.0295	37.0
1984	174	.052	14.4	19.8	16.4	4421	314	143	14.4	111	.451	.0320	36.6
1985	162	.044	14.1	19.3	16.1	4491	312	146	14.3	112	.464	.0322	36.3
1986	160	.037	15.4	21.2	17.6	4610	306	142	14.9	110	.464	.0306	40.8
1987	140	.034	14.8	20.7	17.0	4659	309	155	13.9	113	.500	.0331	39.8
1988	137	.030	14.7	20.8	16.9	4858	309	156	14.3	113	.501	.0319	41.3
1989	142	.032	14.6	20.5	16.8	4821	309	155	14.3	113	.501	.0321	40.7
1990	35	.009	14.0	19.8	16.1	5095	317	167	14.2	114	.523	.0321	41.3
1991	76	.019	14.4	20.7	16.7	4943	312	162	14.1	114	.518	.0325	41.4
1992	93	.023	14.5	21.3	16.9	5132	315	167	14.2	114	.527	.0324	43.6
1993	106	.022	14.6	21.2	17.0	5132	315	178	13.5	117	.565	.0347	43.7
1994	112	.020	14.5	21.6	17.0	5156	318	183	13.3	118	.576	.0355	43.8
1995	104	.018	14.6	21.6	17.1	5185	314	178	13.7	117	.567	.0343	44.3
1996	109	.021	14.6	21.7	17.1	5153	325	197	12.7	122	.604	.0383	44.1
1997	139	.022	15.8	23.9	18.6	5120	300	221	11.3	129	.740	.0431	48.2
1998	182	.028	15.6	23.6	18.4	4976	299	221	11.0	130	.742	.0445	45.8
1999	170	.025	15.1	23.0	17.8	5188	304	228	11.1	130	.751	.0439	46.3

PERCENT OF LARGE VAN:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	DESIGNED DOM	IMPORT
1975			31.4					100.0			100.0	
1976			24.8					100.0			100.0	
1977			17.4					100.0			100.0	
1978			16.5					100.0			100.0	
1979			13.9					100.0			100.0	
1980			22.2	1.6				100.0			100.0	
1981			23.5	2.6				100.0			100.0	
1982			14.4	.4				100.0			100.0	
1983			10.3	35.6				100.0			100.0	
1984			11.2	35.8				100.0			100.0	
1985			6.5	49.5				100.0			100.0	
1986			4.8	52.8	47.7		47.7	51.1	1.2		100.0	
1987			2.0	50.4	84.1	1.4	82.8	15.9			100.0	
1988			1.5	52.5	99.2	4.5	94.7	.8			100.0	
1989			1.2	51.1	100.0	5.0	95.0				100.0	
1990				70.7	100.0	16.9	83.1				100.0	
1991				77.6	100.0	5.0	95.0				100.0	
1992				83.7	100.0	2.8	97.2				100.0	
1993		.2		80.9	100.0	2.7	97.3				100.0	
1994				83.7	100.0	1.9	98.1				100.0	
1995	1.7		.8	80.2	100.0	5.5	94.5				98.3	1.7
1996				85.1	100.0		100.0				100.0	
1997	1.2			100.0	100.0		100.0				98.8	1.2
1998				100.0	100.0		100.0				100.0	
1999	.5			100.0	100.0		100.0				99.5	.5

Table H-14 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** SMALL SUV

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	53	.027	14.1	19.3	16.1	2897	273	118	11.9	117	.429	.0415	23.3
1976	60	.023	14.2	18.6	15.9	2980	273	108	12.7	112	.397	.0365	24.0
1977	72	.025	15.3	19.8	17.0	3055	274	111	12.7	112	.405	.0366	26.1
1978	91	.028	15.0	19.8	16.9	2986	275	109	12.6	112	.398	.0369	25.2
1979	104	.034	15.5	18.6	16.7	3192	261	117	12.7	113	.463	.0366	26.7
1980	60	.033	17.0	21.8	18.8	3083	227	95	14.6	105	.453	.0305	29.3
1981	43	.023	18.2	23.9	20.4	3054	224	102	13.6	108	.475	.0334	31.4
1982	42	.022	18.5	23.8	20.5	2922	207	97	13.9	107	.495	.0329	30.0
1983	55	.024	19.3	24.5	21.4	2830	210	100	13.3	109	.505	.0348	30.2
1984	145	.043	19.2	25.4	21.6	3302	186	101	14.7	106	.563	.0307	35.6
1985	115	.031	19.1	27.3	22.1	3438	167	98	15.5	103	.596	.0284	38.0
1986	177	.041	20.7	28.7	23.7	3231	167	118	13.0	112	.733	.0360	38.2
1987	254	.062	21.2	29.2	24.2	3169	161	112	13.4	110	.723	.0346	38.3
1988	288	.063	21.3	29.0	24.2	3128	157	112	13.2	111	.739	.0350	37.9
1989	228	.051	20.1	27.3	22.8	3443	171	120	13.3	111	.731	.0346	39.4
1990	189	.050	20.7	27.8	23.4	3329	162	115	13.4	110	.749	.0344	39.1
1991	136	.034	21.5	26.8	23.6	3195	145	110	14.0	109	.768	.0338	38.1
1992	129	.032	21.3	26.7	23.4	3087	146	117	13.0	113	.811	.0372	36.7
1993	144	.030	21.1	26.5	23.2	3113	150	121	12.8	114	.814	.0382	36.6
1994	162	.030	21.3	27.0	23.5	3084	146	120	12.6	114	.834	.0384	36.5
1995	189	.033	21.9	27.8	24.2	2965	138	117	12.4	115	.864	.0391	36.3
1996	120	.023	25.4	33.6	28.5	2896	107	106	12.8	111	.988	.0364	41.4
1997	489	.079	19.8	27.8	22.8	3473	182	152	11.2	122	.861	.0434	39.8
1998	236	.036	21.6	29.4	24.5	3319	156	141	11.6	120	.937	.0421	41.4
1999	300	.044	21.9	29.6	24.8	3468	150	143	11.7	119	.980	.0410	43.4

PERCENT OF SMALL UTILITY:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	DESIGNED DOM	IMPORT
1975		88.3	100.0					100.0			88.3	11.7
1976		85.9	84.6					100.0			85.9	14.1
1977		79.1	90.1					100.0			79.1	20.9
1978		85.5	86.9					100.0			85.5	14.5
1979		87.3	77.5					100.0			95.3	4.7
1980		100.0	88.6					100.0			91.8	8.2
1981		100.0	90.5	8.8				100.0			94.0	6.0
1982		74.2	67.4	6.8				100.0			85.3	14.7
1983		77.2	70.5	6.6				100.0			89.9	10.1
1984		97.9	42.2	3.2				100.0			94.4	5.6
1985		100.0	55.1	44.0				100.0			92.1	7.9
1986		100.0	60.2	37.4	62.3		62.3	37.7			76.0	24.0
1987		91.0	65.3	25.3	48.2	4.2	44.0	51.8			61.6	38.4
1988		86.7	67.3	27.3	54.0	2.3	51.7	46.0			64.8	35.2
1989		84.9	60.4	31.1	79.9	26.0	53.9	20.1			67.2	32.8
1990		85.8	64.6	31.6	84.2	36.0	48.2	15.8			56.0	44.0
1991		65.6	61.0	33.9	98.7	59.4	39.3	1.3			55.9	44.1
1992		62.6	66.5	28.8	97.7	47.9	49.7	2.3			52.1	47.9
1993		66.4	63.5	31.0	97.7	40.4	57.3	2.3			56.4	43.6
1994		67.5	59.8	24.6	100.0	33.3	66.7			4.3	56.8	43.2
1995		86.6	70.4	29.6	100.0	21.1	78.9				55.0	45.0
1996	14.9	65.6	39.7	60.3	100.0		100.0			100.0		100.0
1997	6.2	78.3	41.6	53.9	100.0		100.0			47.3	52.2	47.8
1998	11.2	80.2	48.1	51.9	100.0		100.0			61.5	38.5	61.5
1999	9.2	74.5	42.9	57.1	100.0		100.0			75.6	24.4	75.6

Table H-15 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** MIDSIZE SUV

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	123	.062	11.0	13.6	12.1	4724	349	156	14.0	113	.445	.0325	28.6
1976	168	.064	11.9	15.4	13.3	4730	354	150	14.5	112	.422	.0313	31.5
1977	194	.069	13.1	17.0	14.6	4610	349	153	13.9	113	.438	.0330	33.8
1978	270	.082	12.3	16.3	13.8	4653	358	160	13.4	115	.448	.0343	32.3
1979	187	.061	10.8	13.4	11.9	4807	344	153	14.5	112	.445	.0316	28.6
1980	100	.054	12.8	16.7	14.3	4708	324	145	14.8	110	.448	.0304	34.1
1981	79	.044	13.8	18.6	15.6	4664	317	140	15.0	109	.445	.0297	36.8
1982	98	.051	14.5	19.4	16.4	4732	320	140	15.2	109	.440	.0294	40.1
1983	203	.088	16.3	23.1	18.8	4312	250	126	15.3	107	.537	.0290	41.5
1984	431	.129	16.4	23.2	18.9	4092	226	123	15.0	107	.571	.0298	39.5
1985	563	.153	17.0	24.6	19.7	4011	212	122	14.9	108	.602	.0303	40.3
1986	538	.124	17.2	24.0	19.7	4006	204	126	14.4	109	.653	.0314	39.9
1987	562	.136	17.0	24.7	19.8	3975	216	141	13.3	114	.679	.0356	39.7
1988	610	.134	16.8	24.4	19.5	4017	234	152	12.6	118	.675	.0384	39.5
1989	624	.141	16.9	24.2	19.5	4026	254	161	12.0	121	.650	.0406	39.7
1990	447	.117	16.4	24.0	19.1	4079	243	162	12.1	121	.689	.0403	39.1
1991	904	.223	17.3	25.5	20.2	4112	236	163	12.0	120	.699	.0399	41.7
1992	799	.197	17.0	25.1	19.9	4106	233	170	11.7	123	.735	.0418	40.9
1993	1038	.218	17.0	25.5	20.0	4115	242	183	11.0	127	.764	.0449	41.4
1994	1170	.213	17.0	25.0	19.9	4207	238	181	11.3	125	.770	.0434	42.0
1995	1397	.243	16.8	24.8	19.6	4213	237	179	11.4	125	.766	.0428	41.6
1996	1528	.291	17.0	25.5	20.0	4196	249	182	11.2	126	.740	.0438	42.2
1997	1409	.226	17.6	25.7	20.5	4217	235	179	11.5	124	.781	.0425	43.4
1998	1679	.256	17.4	25.7	20.4	4204	236	187	11.0	127	.811	.0445	42.9
1999	1716	.252	17.9	26.0	20.8	4184	231	187	10.9	127	.833	.0449	43.6

PERCENT OF MIDSIZE UTILITY:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	DESIGNED DOM	IMPORT
1975		88.4	18.3					100.0			100.0	
1976		91.1	17.7					100.0			99.9	.1
1977		89.5	17.8					100.0			99.5	.5
1978		93.9	17.7					100.0			99.1	.9
1979		90.3	19.1	1.2				100.0			99.8	.2
1980		95.8	22.4	29.7				97.1	2.9		100.0	
1981		96.8	21.0	48.6				100.0			100.0	
1982		93.0	19.8	45.0				86.5	13.5		100.0	
1983		89.2	26.3	56.1				95.7	4.3		98.0	2.0
1984		86.9	28.2	50.0				98.8	1.2		95.3	4.7
1985		81.4	25.1	59.4	7.0			92.2	.8		93.4	6.6
1986		87.3	33.8	57.1	50.8	36.9	13.9	47.9	1.3		80.1	19.9
1987		85.5	27.6	63.6	84.8	53.4	31.4	15.0	.2		79.8	20.2
1988		87.1	21.1	70.2	96.9	46.1	50.8	3.0	.1		77.5	22.5
1989		86.4	16.7	75.4	97.9	49.2	48.7	2.0	.1		84.1	15.9
1990		89.8	19.6	75.9	98.4	28.0	70.4	1.5	.1		67.3	32.7
1991		79.6	17.3	81.7	99.6	34.6	64.9	.4			81.5	18.5
1992		74.4	17.4	82.6	100.0	17.4	82.6				79.6	20.4
1993		58.1	11.6	88.4	100.0	.6	99.4				84.8	15.2
1994	.7	76.9	13.3	86.7	100.0	.4	99.6			9.2	75.9	24.1
1995		79.4	10.3	89.7	100.0		100.0			19.7	70.0	30.0
1996		70.8	6.1	93.9	100.0		100.0			11.2	83.3	16.7
1997	1.5	68.1	5.8	94.2	100.0		100.0			23.4	67.4	32.6
1998	1.5	70.3	8.2	91.8	100.0		100.0			22.8	70.9	29.1
1999	1.7	71.2	6.1	93.9	100.0		100.0			25.3	67.7	32.3

Table H-16 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** LARGE SUV

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	11	.005	11.1	13.8	12.2	4728	364	171	13.0	118	.463	.0338	28.9
1976	16	.006	11.3	14.9	12.7	4904	373	166	13.9	115	.437	.0321	31.2
1977	17	.006	12.3	15.6	13.6	4870	371	170	13.6	116	.450	.0330	33.7
1978	19	.006	12.0	15.0	13.2	4953	373	168	13.5	116	.453	.0323	32.8
1979	109	.035	10.3	12.1	11.1	5260	375	152	15.8	109	.403	.0287	29.3
1980	23	.013	12.6	17.2	14.3	5188	340	160	14.7	112	.470	.0303	37.3
1981	14	.008	13.6	18.0	15.3	5127	338	170	13.9	115	.502	.0328	39.3
1982	22	.011	16.0	24.3	18.9	5410	344	146	16.5	107	.427	.0269	52.7
1983	30	.013	15.1	21.9	17.6	5327	355	153	15.8	109	.434	.0287	48.7
1984	49	.015	14.5	21.2	16.9	5247	351	157	15.1	111	.450	.0300	45.3
1985	57	.016	14.3	21.6	16.9	5248	350	161	14.9	112	.460	.0307	44.9
1986	58	.013	14.3	21.5	16.8	5227	350	162	14.7	112	.463	.0310	44.5
1987	57	.014	14.5	21.4	17.0	5501	350	205	12.7	122	.587	.0372	46.9
1988	69	.015	14.2	20.9	16.6	5518	351	199	13.0	120	.567	.0360	46.0
1989	74	.017	14.1	21.6	16.7	5716	351	208	12.9	121	.594	.0364	47.9
1990	72	.019	14.1	21.7	16.7	5720	351	208	12.9	121	.595	.0364	47.8
1991	54	.013	13.8	20.5	16.2	5570	328	197	13.3	119	.603	.0352	45.3
1992	75	.018	13.3	19.9	15.7	5578	331	204	12.9	121	.629	.0365	43.8
1993	129	.027	13.9	20.7	16.3	5652	345	210	12.6	122	.612	.0373	46.2
1994	169	.031	14.1	20.5	16.4	5628	343	210	12.6	122	.616	.0374	46.2
1995	230	.040	14.3	20.8	16.6	5576	347	206	12.7	122	.594	.0369	46.3
1996	241	.046	14.7	22.0	17.3	5534	344	247	10.9	133	.719	.0447	47.9
1997	559	.090	14.8	22.5	17.5	5348	328	234	11.1	131	.714	.0438	46.9
1998	617	.094	14.7	22.2	17.3	5249	310	228	11.2	130	.748	.0435	45.6
1999	915	.134	14.1	21.6	16.7	5502	324	239	11.1	131	.747	.0438	46.0

PERCENT OF LARGE UTILITY:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	DESIGNED DOM	IMPORT
1975		13.5	13.4					100.0			100.0	
1976		22.8	14.6					100.0			100.0	
1977		18.4	13.9					100.0			100.0	
1978		26.9	19.3					100.0			100.0	
1979		16.1	15.3					99.3	.7		100.0	
1980		30.0	17.8	78.6				94.1	5.9		100.0	
1981		25.4	3.1	96.9				100.0			100.0	
1982		28.7	1.1	98.9				46.8	53.2		100.0	
1983		30.5	.9	99.1				65.0	35.0		100.0	
1984		30.2	1.0	99.0				80.7	19.3		100.0	
1985		31.3	.9	99.1				88.5	11.5		100.0	
1986		32.8	.6	99.4				91.7	8.3		100.0	
1987		36.2	.6	99.4	95.6	95.6			4.4		100.0	
1988		41.0	.5	99.5	96.9	96.9			3.1		100.0	
1989		43.4	.5	99.5	97.6	97.6			2.4		100.0	
1990		42.8	.3	99.7	97.8	97.8			2.2		100.0	
1991		54.1		100.0	97.5	76.3	21.2		2.5		78.8	21.2
1992		67.5	.6	99.4	100.0	88.8	11.2				88.8	11.2
1993		64.6	.5	99.5	100.0	93.2	6.8				93.2	6.8
1994		67.0	.4	99.6	100.0	89.7	10.3			9.5	90.5	9.5
1995		71.9	.2	99.8	100.0	95.9	4.1			3.9	96.1	3.9
1996		75.7		100.0	99.9		99.9		.1	7.7	92.3	7.7
1997		73.4		100.0	100.0		100.0			4.4	95.6	4.4
1998		77.0		100.0	99.9		99.9		.1	2.2	90.9	9.1
1999		76.3		100.0	99.9		99.9		.1	3.6	91.7	8.3

Table H-17 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** SMALL PICKUP

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	160	.081	19.2	28.5	22.5	2756	118	96	13.3	108	.814	.0347	31.1
1976	173	.066	20.3	30.0	23.8	2775	119	98	13.2	109	.828	.0352	33.1
1977	241	.085	22.1	31.5	25.5	2771	120	96	13.3	108	.804	.0347	35.5
1978	264	.081	22.7	30.2	25.6	2799	119	92	13.8	107	.774	.0330	35.9
1979	358	.116	19.9	27.6	22.8	2793	120	86	14.5	104	.715	.0308	32.2
1980	452	.243	21.6	28.9	24.3	2790	122	88	14.2	105	.723	.0316	34.5
1981	369	.203	25.0	33.3	28.2	2819	130	85	15.0	103	.654	.0301	40.5
1982	346	.181	24.3	32.2	27.3	2899	137	89	14.8	104	.651	.0307	40.4
1983	312	.136	24.0	31.8	26.9	2976	142	96	14.0	106	.679	.0323	40.6
1984	423	.127	23.3	30.8	26.1	3035	142	97	14.1	106	.684	.0320	40.1
1985	497	.135	23.8	31.4	26.7	3098	143	103	13.6	108	.718	.0333	41.6
1986	743	.171	22.9	30.9	25.9	3141	145	105	13.5	109	.726	.0338	40.9
1987	441	.107	22.9	31.1	26.0	3135	147	107	13.3	110	.732	.0345	40.9
1988	340	.075	22.2	29.5	25.0	3200	148	113	13.0	111	.757	.0353	40.1
1989	354	.080	21.2	28.4	23.9	3328	153	119	12.9	112	.774	.0359	40.0
1990	289	.076	21.9	29.5	24.8	3293	153	129	12.0	116	.844	.0395	41.2
1991	309	.076	22.0	29.9	25.0	3324	152	128	12.1	116	.845	.0389	41.8
1992	252	.062	21.7	29.4	24.6	3321	152	126	12.3	115	.828	.0383	41.2
1993	263	.055	23.1	31.5	26.3	3232	147	123	12.3	115	.835	.0383	42.7
1994	358	.065	21.8	30.0	24.9	3355	151	125	12.4	114	.829	.0377	42.0
1995	298	.052	21.5	29.3	24.4	3385	157	138	11.6	119	.879	.0411	41.5
1996	221	.042	21.7	29.5	24.6	3362	159	147	11.0	122	.926	.0439	41.4
1997	131	.021	22.0	29.7	24.9	3349	146	134	11.7	118	.918	.0405	41.7
1998	256	.039	21.9	30.0	24.9	3421	159	150	11.0	123	.949	.0442	42.8
1999	232	.034	21.6	29.4	24.5	3484	162	151	11.1	123	.940	.0437	42.8

PERCENT OF SMALL PICKUP:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	DESIGNED DOM	IMPORT
1975			88.4					100.0				100.0
1976			80.1					100.0				100.0
1977			79.8					100.0				100.0
1978		8.8	88.5					100.0				100.0
1979		26.3	90.3					100.0				100.0
1980	5.8	24.5	91.2		3.3			94.2	2.5			100.0
1981	9.1	31.6	94.8	.1	2.5			75.6	22.0		.8	99.2
1982	9.3	30.7	92.3	.3	1.0			79.3	19.7		2.0	98.0
1983	9.8	30.9	90.4	1.6	.4			93.6	6.0		1.4	98.6
1984	2.9	32.5	88.7	3.2	4.6			90.7	4.6		3.8	96.2
1985		31.7	85.0	6.9	13.8			84.3	1.9		.1	99.9
1986		29.9	85.1	7.9	38.6	28.1	10.5	60.4	1.0			100.0
1987		29.6	81.3	9.9	48.2	39.2	9.0	51.8				100.0
1988		38.4	83.2	8.5	71.8	31.4	40.4	28.2				100.0
1989		38.0	79.9	14.1	86.0	34.9	51.1	14.0				100.0
1990		31.5	81.5	14.3	88.4		88.4	11.6				100.0
1991		34.7	79.6	14.9	100.0		100.0					100.0
1992		36.8	80.8	13.3	100.0		100.0					100.0
1993		27.1	81.8	12.2	100.0		100.0					100.0
1994		39.5	81.4	11.5	100.0		100.0					100.0
1995		37.8	73.2	20.0	100.0		100.0			30.1		100.0
1996		36.6	69.2	18.7	100.0		100.0			59.8		100.0
1997		20.8	79.6	20.4	100.0		100.0					100.0
1998		36.3	67.8	19.6	100.0		100.0			100.0		100.0
1999		39.6	67.6	23.4	100.0		100.0			92.9		100.0

Table H-18 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** MIDSIZE PICKUP

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	56	.028	18.6	25.1	21.1	3000	109	67	18.6	95	.615	.0223	31.6
1976	54	.021	20.1	27.7	22.9	3000	109	65	18.9	94	.596	.0216	34.9
1977	66	.023	25.8	35.9	29.5	3000	125	72	17.5	97	.580	.0240	44.5
1978	75	.023	26.0	34.8	29.3	3000	124	72	17.6	96	.581	.0238	44.4
1979	101	.033	22.9	30.8	25.9	2971	131	80	16.2	100	.609	.0268	39.2
1980	98	.052	22.8	30.9	25.9	2944	133	82	15.7	101	.620	.0280	38.6
1981	130	.072	23.1	31.8	26.4	2909	131	84	15.2	102	.641	.0288	39.0
1982	315	.165	23.1	32.9	26.7	2936	152	98	13.8	108	.648	.0332	39.5
1983	621	.270	23.0	32.5	26.5	3016	146	91	14.8	104	.626	.0301	40.3
1984	703	.210	22.2	31.8	25.7	3093	148	92	14.9	104	.626	.0298	40.1
1985	616	.168	22.1	32.1	25.7	3064	154	97	14.2	106	.637	.0317	39.7
1986	788	.181	22.6	32.0	26.1	3081	147	102	14.0	108	.687	.0328	40.4
1987	1052	.254	22.0	31.4	25.4	3163	159	106	13.8	109	.672	.0334	40.4
1988	1055	.231	21.8	31.3	25.3	3205	165	110	13.6	110	.670	.0342	40.8
1989	887	.200	21.5	30.5	24.8	3278	177	116	13.2	111	.671	.0353	40.9
1990	600	.158	21.3	30.5	24.7	3338	175	120	13.0	112	.697	.0358	41.4
1991	873	.216	21.1	30.7	24.6	3352	190	125	12.7	114	.673	.0372	41.5
1992	716	.176	20.3	30.0	23.8	3493	195	131	12.7	115	.685	.0373	41.9
1993	743	.156	20.3	29.8	23.7	3521	198	135	12.5	116	.694	.0383	42.0
1994	982	.179	20.8	30.3	24.2	3598	195	143	12.2	118	.744	.0394	44.0
1995	700	.122	21.2	31.1	24.7	3631	190	141	12.3	117	.768	.0386	45.5
1996	698	.133	21.1	31.4	24.8	3668	187	140	12.4	117	.775	.0381	46.0
1997	807	.130	20.8	30.6	24.3	3719	193	145	12.4	117	.768	.0385	45.9
1998	779	.119	20.1	29.8	23.6	3728	195	146	12.3	118	.771	.0388	44.5
1999	730	.107	20.0	29.5	23.4	3746	194	146	12.3	118	.769	.0387	44.5

PERCENT OF MIDSIZE PICKUP:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	DESIGNED DOM	IMPORT
1975			68.8					100.0				100.0
1976			85.5					100.0				100.0
1977			91.4					100.0				100.0
1978			86.9					100.0				100.0
1979			80.2					100.0				100.0
1980			83.7					100.0				100.0
1981			88.1					100.0				100.0
1982		4.1	68.7	28.8				97.9	2.1		70.1	29.9
1983		17.3	72.6	14.2				96.5	3.5		73.6	26.4
1984		19.6	71.1	16.8				98.0	2.0		68.7	31.3
1985		19.8	65.1	32.7	27.4			71.9	.7		84.8	15.2
1986		16.8	73.0	23.7	57.4	26.7	30.7	42.4	.2		62.1	37.9
1987		20.5	67.2	28.9	50.8	26.5	24.4	48.8	.3		65.5	34.5
1988		19.8	65.0	32.6	71.9	39.2	32.7	28.1			78.3	21.7
1989		18.7	62.9	35.6	80.5	46.7	33.8	19.5			77.1	22.9
1990		16.7	61.6	38.4	87.2	27.9	59.3	12.8			74.5	25.5
1991		14.8	63.5	36.5	93.0	56.4	36.6	7.0			85.1	14.9
1992		15.5	59.9	40.1	91.7	32.7	59.0	8.3			84.6	15.4
1993		18.0	59.4	40.6	94.3	28.9	65.5	5.7			91.5	8.5
1994		17.9	57.0	43.0	97.9	12.6	85.3	2.1			96.0	4.0
1995		15.6	59.8	40.2	100.0	17.2	82.8				96.2	3.8
1996		14.3	52.9	47.1	100.0		100.0			.1	99.9	.1
1997		17.7	51.3	48.7	100.0		100.0				100.0	
1998		16.8	44.5	55.5	100.0		100.0				100.0	
1999		23.7	50.7	49.3	100.0		100.0				100.0	

Table H-19 **CHARACTERISTICS OF 1975 TO 1999 LIGHT-DUTY VEHICLES** LARGE PICKUP

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	1126	.567	11.5	15.7	13.1	4241	343	151	13.3	115	.438	.0356	28.3
1976	1639	.627	12.4	16.3	13.9	4301	344	146	13.8	113	.423	.0340	30.5
1977	1719	.609	13.4	17.2	14.9	4318	347	156	13.1	116	.449	.0361	32.7
1978	1928	.589	13.3	16.8	14.7	4326	339	154	13.2	116	.454	.0356	32.3
1979	1748	.566	13.1	16.2	14.3	4486	330	149	14.1	113	.452	.0333	32.7
1980	887	.476	15.3	20.3	17.2	4312	305	137	14.3	110	.452	.0317	37.6
1981	940	.516	16.5	22.2	18.6	4124	293	132	14.2	110	.452	.0319	38.8
1982	780	.407	16.5	22.2	18.6	4233	299	136	14.2	111	.457	.0321	40.1
1983	695	.302	15.9	21.7	18.1	4270	302	138	14.2	111	.461	.0323	39.4
1984	917	.274	15.6	21.4	17.8	4291	301	138	14.3	111	.459	.0321	38.6
1985	964	.263	15.6	21.1	17.7	4292	305	149	13.4	114	.490	.0347	38.4
1986	1001	.230	16.1	21.8	18.2	4283	298	146	13.6	113	.495	.0340	39.3
1987	654	.158	15.5	21.3	17.7	4375	309	162	12.8	118	.522	.0368	39.0
1988	1064	.233	15.6	22.2	18.0	4436	318	173	12.2	121	.542	.0388	40.2
1989	990	.223	15.6	22.4	18.1	4444	318	175	12.2	121	.547	.0393	40.3
1990	945	.248	15.4	22.7	18.0	4497	320	178	12.1	122	.555	.0396	40.8
1991	738	.182	15.6	23.0	18.2	4476	315	178	12.1	122	.562	.0396	41.1
1992	872	.215	15.6	23.3	18.3	4562	312	174	12.5	120	.556	.0381	42.0
1993	996	.209	15.9	23.8	18.7	4552	303	180	12.1	122	.600	.0395	42.6
1994	1255	.229	15.6	23.3	18.3	4614	317	189	11.7	124	.599	.0410	42.4
1995	1273	.221	15.3	22.9	18.0	4672	316	188	11.9	123	.598	.0402	42.2
1996	1036	.197	15.5	23.2	18.2	4718	315	210	11.1	129	.671	.0445	43.1
1997	1585	.255	16.0	24.2	18.9	4802	303	222	10.6	132	.737	.0463	45.5
1998	1440	.220	15.5	23.3	18.2	4839	307	229	10.4	134	.750	.0474	44.2
1999	1418	.208	15.7	23.2	18.3	4853	307	233	10.3	135	.763	.0483	44.5

PERCENT OF LARGE PICKUP:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	DESIGNED DOM	IMPORT
1975		16.1	33.0					100.0			100.0	
1976		23.8	32.9					100.0			100.0	
1977		25.2	27.7					100.0			100.0	
1978		30.5	28.5					98.6	1.4		100.0	
1979		10.5	27.3	1.7				96.9	3.1		100.0	
1980		21.6	39.5	35.5				94.5	5.5		100.0	
1981		13.4	38.9	42.1				97.7	2.3		100.0	
1982		17.3	30.9	42.8				90.6	9.4		100.0	
1983		22.3	26.4	52.2				95.5	4.5		100.0	
1984		25.1	26.7	50.9				97.6	2.4		100.0	
1985		25.8	25.7	48.1	9.7	.7		89.1	1.2		100.0	
1986		28.3	27.0	52.5	24.3	2.6	21.7	75.0	.7		100.0	
1987		30.8	29.1	41.6	79.1	36.0	43.1	20.4	.4		99.4	.6
1988		33.8	26.8	54.5	99.1	62.6	36.5	.5	.5		99.9	.1
1989		34.8	33.2	56.6	99.6	60.8	38.8		.4		100.0	
1990		33.9	24.9	68.0	99.6	62.6	37.0		.4		100.0	
1991		32.5	27.3	71.3	99.6	60.1	39.5		.4		100.0	
1992		32.1	26.8	73.1	99.7	54.7	45.0		.3		100.0	
1993		35.0	22.4	77.6	100.0	52.1	47.9				93.9	6.1
1994		37.1	15.7	84.3	100.0	53.4	46.6			.1	98.9	1.1
1995		41.5	20.7	79.3	100.0	44.9	55.1			2.8	97.2	2.8
1996		37.9	15.0	85.0	99.7		99.7		.3	3.7	96.3	3.7
1997		43.3	10.5	89.5	99.9		99.9		.1	1.9	98.1	1.9
1998		51.6	9.5	90.5	99.9		99.9		.1	.9	99.1	.9
1999		51.4	8.7	91.3	100.0		100.0				100.0	

Appendix I

Table I-1 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 1750 lb. CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1985	37	.003	51.9	66.1	57.4	1750	82.6	61	48	15.7	96	.787	.0273	50.4	4756	4161
1986	81	.007	50.8	63.7	55.9	1750	84.6	61	46	16.3	95	.758	.0264	49.8	4809	4208
1987	38	.004	51.3	65.4	56.8	1750	84.4	61	46	16.2	95	.756	.0263	50.1	4828	4224
1988	55	.005	47.0	58.7	51.6	1750	84.6	61	47	16.3	95	.766	.0266	46.0	4443	3888
1989	25	.003	54.1	67.4	59.4	1750	90.9	61	49	15.4	96	.806	.0280	52.0	5400	4725
1990	4	.001	59.1	74.8	65.3	1750	89.1	61	49	15.5	96	.803	.0280	57.1	5815	5088
1991	4	.000	59.2	74.7	65.3	1750	89.1	61	55	14.1	100	.902	.0313	57.1	5815	5089
1992	8	.001	59.1	74.8	65.3	1750	89.1	61	55	14.1	100	.902	.0314	57.1	5815	5088
1993	10	.001	59.1	74.8	65.3	1750	89.1	61	55	14.1	100	.902	.0314	57.1	5815	5088
1994	8	.001	60.0	74.7	65.8	1750	89.1	61	55	14.1	100	.902	.0314	57.6	5864	5131

PERCENT OF 1750 lb. CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1985	100.0		90.1					100.0			100.0					100.0
1986	100.0		64.7					100.0			100.0					100.0
1987	100.0		100.0					100.0			100.0					100.0
1988	100.0		59.5		2.8	2.8		97.2			100.0					100.0
1989	100.0		100.0		100.0	100.0					100.0					100.0
1990	100.0		100.0		100.0	100.0					100.0					100.0
1991	100.0		100.0		100.0	100.0					100.0					100.0
1992	100.0		100.0		100.0	100.0					100.0					100.0
1993	100.0		100.0		100.0	100.0					100.0					100.0
1994	100.0		100.0		100.0	100.0					100.0					100.0

Table I-2 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 2000 lb. CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	105	.013	27.3	38.5	31.4	2000		83	54	15.9	97	.655	.0271	31.5		
1976	154	.016	28.4	39.8	32.6	2000		83	56	15.6	97	.670	.0279	32.9		
1977	157	.014	31.3	44.0	36.0	2000	73.7	84	61	14.4	100	.739	.0307	36.8	2709	2709
1978	270	.024	30.9	41.7	34.9	2000	80.3	90	62	14.3	101	.695	.0312	35.3	2847	2847
1979	234	.022	28.2	38.3	32.0	2000	80.1	88	62	14.3	101	.712	.0311	32.3	2594	2594
1980	280	.030	29.0	39.6	33.0	2000	85.7	90	63	14.3	101	.696	.0314	33.4	2860	2860
1981	209	.024	34.3	44.9	38.4	2000	86.7	86	64	14.0	102	.744	.0320	38.8	3362	3362
1982	157	.020	35.9	47.3	40.3	2000	87.3	86	61	14.5	100	.715	.0307	40.7	3554	3554
1983	94	.012	38.7	51.6	43.6	2000	86.0	84	61	14.4	100	.728	.0306	44.0	3783	3783
1984	92	.009	39.4	52.3	44.3	2000	73.5	86	67	13.5	103	.776	.0334	45.0	3297	3297
1985	62	.006	39.5	52.4	44.4	2000	60.2	89	69	13.3	105	.782	.0347	45.5	2757	2757
1986	58	.005	31.7	45.0	36.6	2000	72.3	76	56	15.4	98	.750	.0280	38.9	2658	2658
1987	106	.010	35.7	46.8	40.0	2000	79.9	70	55	15.9	97	.799	.0275	41.7	3256	3256
1988	186	.017	39.5	49.8	43.6	2000	91.0	77	59	15.0	99	.770	.0293	44.4	4009	4009
1989	135	.013	39.8	49.1	43.5	2000	92.4	76	59	15.2	99	.782	.0294	44.5	4056	4056
1990	71	.008	42.6	55.4	47.5	2000	92.7	72	58	15.2	99	.813	.0289	48.0	4449	4449
1991	142	.017	42.3	54.7	47.1	2000	88.8	67	58	15.3	98	.866	.0287	47.7	4243	4243
1992	120	.015	42.5	54.7	47.3	2000	88.8	64	56	15.6	98	.886	.0281	47.8	4254	4254
1993	111	.013	43.6	56.5	48.6	2000	91.1	67	58	15.2	99	.869	.0290	49.2	4485	4485
1994	90	.011	44.4	56.3	49.1	2000	91.9	61	55	15.8	97	.903	.0276	49.8	4579	4579
1995	33	.004	48.2	62.3	53.7	2000	99.9	63	57	15.4	98	.900	.0283	53.8	5370	5370
1996	37	.005	47.2	60.3	52.3	2000	99.9	72	60	14.8	99	.846	.0298	52.6	5253	5253
1997	13	.002	48.9	63.2	54.4	2000	90.5	61	55	15.7	97	.902	.0275	54.4	4928	4928
1998	16	.002	48.9	63.2	54.4	2000	90.5	61	55	15.7	97	.902	.0275	54.4	4928	4928
1999	4	.000	45.3	59.7	50.8	2000	88.0	61	55	15.7	97	.901	.0274	50.8	4471	4471

PERCENT OF 2000 lb. CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1975	100.0		100.0					100.0			100.0				2.3	97.7
1976	92.5		89.7					100.0			100.0				10.1	89.9
1977	100.0		87.0					100.0			100.0				6.0	94.0
1978	100.0		100.0					100.0			100.0				53.9	46.1
1979	100.0		100.0					100.0			100.0				39.8	60.2
1980	100.0		83.9					100.0			100.0				43.3	56.7
1981	82.7		90.6					100.0			100.0				5.4	94.6
1982	85.1		93.0	2.5				100.0			100.0				15.3	84.7
1983	91.9		100.0		8.1		8.1	91.9			100.0				9.4	90.6
1984	98.7		96.7	3.1	1.3		1.3	98.7			100.0					100.0
1985	100.0		94.7	5.3	11.9		11.9	88.1			100.0					100.0
1986	100.0		100.0					100.0			100.0				61.2	38.8
1987	100.0		80.5		6.3		6.3	93.7			100.0				45.9	54.1
1988	93.9	6.1	99.0		14.0		14.0	86.0			100.0				14.5	85.5
1989	100.0		65.0		57.2	19.3	37.9	42.8		2.1	100.0				1.7	98.3
1990	100.0		89.8		97.4	46.9	50.5	2.6		.4	100.0					100.0
1991	100.0		68.4		98.3	69.2	29.1	1.7			100.0				.5	99.5
1992	100.0		53.4		99.6	86.6	13.0	.4			100.0					100.0
1993	100.0		76.2		100.0	71.3	28.7				100.0					100.0
1994	100.0		49.8		100.0	98.3	1.7				100.0					100.0
1995	100.0		100.0		100.0	100.0					100.0					100.0
1996	100.0		100.0		100.0	100.0					100.0					100.0
1997	100.0		100.0		100.0	100.0					100.0					100.0
1998	100.0		100.0		100.0	100.0					100.0					100.0
1999	100.0		100.0		100.0	100.0					100.0					100.0

Table I-3 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 2250 lb. CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	375	.046	24.0	36.4	28.3	2250		89	66	15.3	100	.749	.0294	32.1		
1976	570	.059	25.8	36.1	29.6	2250		91	66	15.3	100	.736	.0295	33.6		
1977	851	.075	27.8	39.5	32.1	2250	85.5	90	68	14.8	101	.762	.0303	36.8	2799	3149
1978	886	.079	28.1	38.3	31.9	2250	85.6	89	67	15.0	100	.758	.0297	36.8	2814	3166
1979	699	.065	27.5	37.9	31.4	2250	88.0	88	65	15.2	100	.745	.0291	35.9	2813	3165
1980	1162	.123	28.4	38.9	32.4	2250	89.6	92	67	15.0	100	.722	.0296	37.1	2956	3325
1981	1191	.136	30.2	41.5	34.4	2250	91.3	96	68	14.8	101	.710	.0301	39.3	3187	3586
1982	884	.113	31.3	42.7	35.6	2250	92.5	94	66	15.0	100	.703	.0294	40.5	3328	3744
1983	985	.123	31.8	43.7	36.2	2250	96.4	94	67	14.9	101	.709	.0298	41.2	3528	3969
1984	899	.084	32.6	44.6	37.1	2250	97.2	94	68	14.8	101	.721	.0302	42.3	3657	4114
1985	840	.078	33.2	44.7	37.5	2250	96.9	94	70	14.4	102	.748	.0311	42.7	3678	4138
1986	745	.068	34.2	45.3	38.5	2250	93.1	93	68	14.8	101	.737	.0303	43.8	3627	4080
1987	461	.043	34.8	45.7	39.0	2250	89.7	90	69	14.6	102	.766	.0307	44.2	3534	3976
1988	401	.037	34.8	45.6	38.9	2250	91.7	90	73	14.0	104	.808	.0325	44.2	3603	4053
1989	280	.028	34.6	45.4	38.7	2250	93.4	89	78	13.3	106	.876	.0346	44.0	3655	4112
1990	97	.011	35.6	45.9	39.6	2250	87.6	86	77	13.5	105	.891	.0340	45.1	3456	3888
1991	129	.015	34.0	44.6	38.1	2250	90.3	88	81	12.9	107	.921	.0359	43.7	3444	3874
1992	146	.018	35.2	46.9	39.7	2250	93.2	89	82	12.8	108	.924	.0364	45.8	3796	4271
1993	136	.016	34.4	45.6	38.7	2250	94.4	88	81	12.8	108	.921	.0361	44.2	3710	4173
1994	112	.013	35.3	47.5	39.9	2250	95.7	86	76	13.7	105	.882	.0339	45.4	3865	4348
1995	161	.017	35.9	47.8	40.4	2250	95.8	84	76	13.7	105	.903	.0339	45.9	3908	4397
1996	135	.017	34.5	46.0	38.9	2250	95.7	90	78	13.5	106	.869	.0348	43.9	3733	4200
1997	87	.010	34.8	46.7	39.3	2250	92.1	81	72	14.2	103	.891	.0322	44.5	3646	4102
1998	32	.004	35.1	46.3	39.4	2250	90.5	80	77	13.5	105	.960	.0341	44.7	3595	4045
1999	18	.002	34.7	45.7	39.0	2250	87.8	79	80	13.1	107	1.001	.0353	44.2	3445	3876

PERCENT OF 2250 lb. CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID LARGE	DESIGNED DOM	EUR	ASIA
1975	46.1		90.3		22.6		22.6	77.4			100.0			65.0	35.0
1976	37.5		72.2		5.7		5.7	94.3			100.0		32.9	36.9	30.2
1977	43.0		78.9		14.4		14.4	83.7	1.9		100.0		15.7	33.6	50.7
1978	41.6		80.6		16.7		16.7	79.2	4.1		100.0		13.9	26.6	59.5
1979	44.8		87.0		15.6		15.6	79.0	5.5		100.0		11.3	27.5	61.2
1980	57.9		80.7		14.9		14.9	75.7	9.3		100.0		20.5	26.2	53.3
1981	69.8		82.7	5.0	6.5		6.5	84.3	9.2		100.0		33.3	15.7	51.0
1982	79.8		74.9	6.8	5.7		5.7	89.6	4.7		100.0		27.0	11.2	61.9
1983	93.2	1.6	72.6	10.2	20.1	12.1	8.0	78.5	1.4		100.0		29.4	7.5	63.0
1984	91.1		71.8	13.5	23.3	16.5	6.8	74.1	2.6		100.0		36.9	8.4	54.7
1985	97.1	.3	65.3	21.6	10.2	8.6	1.6	89.7	.1		100.0		20.9		79.1
1986	96.3		65.5	20.1	14.0	6.3	7.7	85.9			100.0		10.0		90.0
1987	96.3		70.5	14.1	13.2	3.4	9.9	86.8		1.6	100.0		7.1		92.9
1988	100.0		69.9	18.0	37.5	28.1	9.4	62.5		28.0	100.0			2.9	97.1
1989	100.0		63.5	15.0	33.1	28.0	5.1	66.9		23.1	100.0			.1	99.9
1990	95.4	4.6	70.3	3.6	59.6	20.3	39.4	40.4		19.3	100.0				100.0
1991	95.7	4.3	69.6	22.3	99.1	18.8	80.3	.9		18.1	100.0			.1	99.9
1992	99.8	.2	80.0	12.5	99.8	2.0	97.8	.2		20.6	100.0				100.0
1993	98.6	1.4	76.0	13.3	100.0	1.8	98.2			16.1	100.0				100.0
1994	100.0		30.8	17.3	100.0		100.0			7.0	100.0				100.0
1995	100.0		48.7	27.7	100.0	30.1	69.9			31.6	100.0				100.0
1996	100.0		29.5	32.8	100.0	36.9	63.1			38.4	100.0				100.0
1997	100.0		39.1	4.4	100.0	61.8	38.2			17.3	100.0				100.0
1998	100.0		28.0	.4	100.0		100.0			100.0	100.0				100.0
1999	100.0		20.1		100.0		100.0			100.0	100.0				100.0

Table I-4 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 2500 lb. CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	406	.049	20.9	30.5	24.4	2500		95	73	15.2	101	.774	.0292	30.7		
1976	349	.036	22.4	33.1	26.2	2500		97	73	15.1	101	.755	.0292	33.1		
1977	465	.041	25.5	35.8	29.3	2500	90.3	98	75	14.9	102	.764	.0298	36.9	2674	3343
1978	782	.070	24.6	33.5	27.9	2500	91.6	101	74	15.1	101	.734	.0296	35.3	2582	3227
1979	1078	.100	24.7	33.1	27.9	2500	90.6	101	72	15.4	100	.710	.0286	35.1	2543	3178
1980	1172	.124	24.8	33.3	28.0	2500	92.3	104	71	15.6	100	.680	.0283	35.3	2607	3259
1981	1531	.175	25.8	35.3	29.4	2500	94.8	108	76	14.8	102	.711	.0304	37.0	2816	3520
1982	1442	.184	27.1	38.1	31.2	2500	91.5	106	72	15.4	101	.683	.0288	39.4	2898	3623
1983	1240	.155	28.1	39.1	32.2	2500	94.8	106	75	15.0	102	.705	.0300	40.7	3104	3879
1984	1529	.143	28.4	40.0	32.7	2500	96.3	107	78	14.7	103	.726	.0311	41.3	3194	3993
1985	1699	.157	28.5	40.4	32.8	2500	98.3	109	82	14.0	105	.760	.0329	41.5	3284	4106
1986	1622	.147	29.4	40.9	33.7	2500	100.0	106	80	14.3	104	.759	.0320	42.4	3399	4249
1987	1975	.184	29.3	40.5	33.4	2500	98.9	104	78	14.6	103	.749	.0311	42.1	3330	4162
1988	1802	.168	30.1	40.9	34.1	2500	99.5	100	78	14.5	103	.785	.0314	42.9	3418	4272
1989	1335	.133	30.1	41.5	34.4	2500	98.0	98	85	13.6	106	.865	.0339	43.2	3384	4231
1990	942	.107	30.9	42.1	35.1	2500	94.0	97	89	13.0	108	.920	.0356	44.1	3330	4162
1991	748	.088	31.4	43.1	35.8	2500	94.2	96	91	12.8	109	.957	.0364	45.0	3407	4259
1992	525	.065	31.2	43.8	35.9	2500	94.1	97	94	12.5	110	.980	.0375	45.2	3416	4270
1993	517	.061	31.6	45.1	36.5	2500	93.9	99	93	12.5	110	.956	.0374	46.1	3465	4331
1994	424	.050	31.0	44.7	36.0	2500	94.4	100	91	12.8	109	.929	.0366	45.6	3455	4319
1995	484	.052	32.1	47.2	37.5	2500	94.1	100	99	12.0	113	.991	.0395	47.3	3569	4462
1996	332	.042	31.9	47.1	37.4	2500	95.4	103	102	11.7	114	.999	.0407	47.1	3611	4514
1997	329	.039	31.7	46.4	37.0	2500	94.8	101	98	12.2	112	.976	.0392	46.6	3557	4447
1998	197	.024	31.4	47.2	37.0	2500	99.4	103	98	12.1	112	.952	.0390	46.4	3688	4610
1999	164	.021	31.2	46.5	36.6	2500	95.4	103	101	11.9	114	.979	.0402	46.0	3531	4414

PERCENT OF 2500 lb. CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1975	36.0		75.3		20.4		20.4	79.6			100.0				47.2	52.8
1976	18.3		67.5		12.9		12.9	87.1			100.0				27.1	72.9
1977	20.7		69.3		12.5		12.5	86.3	1.2		100.0				15.8	84.2
1978	34.3		53.2		8.0		8.0	92.0			100.0			41.6	10.0	48.5
1979	43.7	3.5	56.8		2.3		2.3	97.2	.6		100.0			46.3	5.6	48.0
1980	47.9	3.9	52.5		3.8		3.8	93.5	2.8		100.0			38.0	8.2	53.7
1981	53.6	2.7	52.4	.9	4.1		4.1	93.4	2.5		96.3	3.7		49.8	5.3	44.9
1982	69.3	.6	57.3	8.6	4.6		4.6	92.4	3.0		99.3	.7		50.3	5.9	43.8
1983	68.9	13.1	57.2	20.7	3.2	.1	3.2	96.3	.4		98.6	1.4		42.3	2.4	55.3
1984	75.4	2.4	47.3	26.4	13.5	1.6	11.9	84.4	2.2		99.9	.1		46.5	8.2	45.2
1985	77.1	9.2	58.5	19.8	19.9	4.2	15.7	78.4	1.7		100.0			46.6	10.5	42.8
1986	94.3	.9	49.5	22.1	22.2	5.3	16.9	76.8	1.0	.8	100.0			42.7	11.7	45.6
1987	97.7	.8	47.7	32.6	33.2	19.5	13.6	66.8		2.7	100.0			28.2	8.9	62.9
1988	99.7	.3	48.3	41.8	63.4	51.5	11.9	36.6		13.6	100.0			17.1	5.7	77.2
1989	97.8	2.2	52.0	37.6	72.0	47.3	24.7	28.0		24.5	100.0			14.7	4.6	80.7
1990	94.4	.1	56.7	34.2	95.5	51.0	44.5	4.5		30.1	100.0			11.9	3.5	84.6
1991	94.7	.1	62.7	36.6	100.0	36.0	64.0			43.1	100.0			11.0	1.4	87.6
1992	94.7		53.6	46.3	100.0	17.4	82.6			50.6	100.0			14.9	.4	84.7
1993	95.8		61.9	32.8	100.0	23.3	76.7			35.7	100.0			22.9	3.1	73.9
1994	94.8	.4	50.7	41.6	100.0	24.6	75.4			46.9	100.0			24.6		75.4
1995	95.9		48.4	45.6	100.0		100.0			47.4	100.0			30.9		69.1
1996	94.3		50.2	43.6	100.0		100.0			45.0	100.0			33.6		66.4
1997	94.4		47.0	53.0	100.0		100.0			38.8	100.0			33.7		66.3
1998	100.0		42.2	57.8	100.0		100.0			25.9	100.0			43.1		56.9
1999	92.5		46.3	53.7	100.0		100.0			30.1	100.0			37.4		62.6

Table I-5 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 2750 lb. CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	281	.034	18.5	27.7	21.7	2750		127	100	12.8	110	.799	.0364	30.4		
1976	203	.021	21.1	30.4	24.5	2750		121	95	13.4	108	.794	.0346	34.1		
1977	349	.031	21.3	30.9	24.8	2750	80.3	126	96	13.3	109	.765	.0349	34.5	2026	2786
1978	498	.045	21.4	30.9	24.8	2750	88.6	129	94	13.4	108	.740	.0343	34.5	2220	3052
1979	459	.043	20.5	30.3	24.0	2750	82.2	132	94	13.6	108	.710	.0340	33.3	2017	2773
1980	973	.103	22.1	33.3	26.1	2750	96.0	141	93	13.6	107	.665	.0339	36.3	2549	3505
1981	714	.082	24.0	34.2	27.7	2750	107.2	136	92	13.8	107	.678	.0332	38.3	2972	4086
1982	961	.123	24.5	36.5	28.8	2750	104.3	124	87	14.4	105	.707	.0315	39.6	3006	4133
1983	863	.108	26.2	37.0	30.2	2750	106.3	124	88	14.2	105	.712	.0319	41.8	3235	4448
1984	2050	.192	25.9	37.5	30.1	2750	102.7	127	89	14.1	106	.705	.0324	41.7	3112	4279
1985	1878	.174	26.4	37.9	30.6	2750	102.9	128	93	13.6	108	.735	.0340	42.2	3163	4349
1986	1899	.172	26.4	38.2	30.6	2750	102.0	125	95	13.4	108	.769	.0347	42.4	3140	4318
1987	1896	.177	26.5	38.4	30.8	2750	101.7	124	96	13.3	109	.790	.0350	42.6	3142	4321
1988	1519	.141	27.1	39.3	31.5	2750	102.1	123	97	13.1	109	.804	.0353	43.5	3225	4435
1989	1204	.120	27.3	39.7	31.8	2750	101.7	118	96	13.3	109	.820	.0348	43.8	3240	4455
1990	1081	.123	27.6	39.5	31.9	2750	98.7	111	100	12.9	110	.919	.0363	44.0	3158	4343
1991	1462	.172	27.8	40.7	32.5	2750	100.3	112	100	12.9	110	.913	.0364	44.8	3273	4500
1992	1280	.158	27.9	41.1	32.6	2750	98.5	110	106	12.3	113	.972	.0385	45.1	3234	4447
1993	1651	.195	28.1	41.7	33.0	2750	101.9	112	106	12.4	113	.955	.0384	45.6	3378	4644
1994	1521	.181	28.6	42.8	33.6	2750	101.2	109	108	12.1	114	1.001	.0393	46.5	3423	4706
1995	1747	.186	28.9	43.1	33.9	2750	102.6	109	111	12.0	115	1.017	.0403	46.9	3500	4813
1996	1241	.157	28.9	42.7	33.9	2750	101.5	108	117	11.5	118	1.086	.0427	46.9	3458	4754
1997	1637	.196	29.1	43.0	34.0	2750	100.5	109	112	11.7	116	1.039	.0409	47.0	3436	4725
1998	1534	.190	29.4	44.2	34.6	2750	100.9	111	118	11.3	118	1.066	.0429	47.9	3511	4828
1999	1363	.173	29.7	44.3	34.9	2750	100.9	110	118	11.3	118	1.078	.0427	48.2	3536	4862

PERCENT OF 2750 lb. CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID LARGE	DESIGNED DOM	EUR	ASIA
1975	.4		70.7		3.9		3.9	96.1			100.0		9.2	17.4	73.3
1976	.9		63.5		3.6		3.6	96.4			100.0		15.3	27.3	57.4
1977	2.0		67.5		9.4		9.4	90.6			100.0		21.2	26.8	52.0
1978	.9		66.7		5.5		5.5	94.5			100.0		27.7	13.9	58.4
1979	5.4		59.6		6.1		6.1	93.9			100.0		60.1	16.1	23.7
1980	47.9		53.6		13.8		13.8	86.2			66.9	33.1	69.0	6.8	24.2
1981	70.0		36.0		18.3		18.3	81.1	.6		43.2	56.8	69.8	7.5	22.7
1982	77.9	3.1	33.7	30.2	12.2	5.8	6.4	87.4	.4		69.7	30.3	73.8	6.5	19.8
1983	89.4	4.0	31.2	33.0	52.9	40.6	12.3	46.5	.6		70.5	29.5	76.3	7.2	16.6
1984	87.7	2.2	30.5	36.3	54.7	42.4	12.2	44.3	1.0		85.7	14.3	80.6	2.3	17.1
1985	93.3	2.8	21.8	45.1	74.0	59.5	14.5	25.6	.4		86.0	14.0	72.9	3.2	23.9
1986	92.7	2.9	34.7	47.5	84.7	52.6	32.1	15.0	.3	3.0	91.3	8.7	59.6	1.6	38.8
1987	95.7	1.9	31.5	44.0	83.2	58.4	24.7	16.6	.2	6.9	92.7	7.3	61.0	1.6	37.4
1988	97.4	1.8	31.0	58.1	78.6	59.8	18.9	21.4		7.9	85.9	14.1	60.7	6.3	32.9
1989	97.5	1.1	29.6	59.2	85.6	63.8	21.8	14.1	.3	13.1	91.2	8.8	64.3	6.2	29.5
1990	99.0	.9	25.7	65.5	99.5	43.0	56.5	.4	.2	45.9	100.0		40.4	6.0	53.7
1991	99.3	.2	28.1	68.0	99.7	36.1	63.5		.3	45.0	100.0		46.3	5.3	48.4
1992	99.5	.5	30.0	64.4	99.9	14.0	85.9		.1	52.6	100.0		40.8	4.7	54.5
1993	98.4	1.6	27.3	69.4	100.0	6.2	93.8			43.1	100.0		52.8	.3	47.0
1994	98.4	.3	32.1	66.4	100.0	.3	99.7			67.4	100.0		21.5	.6	77.9
1995	99.9		27.6	72.4	100.0		100.0			74.7	100.0		53.9	.9	45.2
1996	100.0		25.1	74.8	100.0		100.0			88.0	100.0		44.1	.3	55.6
1997	100.0		22.1	77.5	100.0		100.0			75.7	100.0		47.0	.2	52.8
1998	100.0		25.7	74.1	100.0		100.0			81.5	100.0		50.6	.1	49.4
1999	100.0		24.5	75.1	100.0		100.0			82.4	100.0		40.9		59.1

Table I-6 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 3000 lb. CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG
1975	828	.100	18.4	26.8	21.4	3000		147	98	14.4	107	.674	.0328	32.6		
1976	884	.091	20.1	29.7	23.5	3000		147	95	14.6	106	.657	.0316	35.7		
1977	584	.052	20.2	28.6	23.2	3000	87.6	146	104	13.7	109	.715	.0345	35.3	2078	3117
1978	903	.081	19.7	27.3	22.5	3000	97.3	164	102	13.9	108	.637	.0338	34.2	2215	3322
1979	1286	.119	19.1	27.4	22.1	3000	96.3	162	100	13.9	108	.634	.0333	33.5	2152	3228
1980	2026	.215	20.3	29.4	23.6	3000	100.9	164	100	13.8	108	.624	.0334	35.6	2392	3589
1981	1626	.186	21.1	30.0	24.4	3000	103.8	165	101	13.9	108	.619	.0335	36.8	2544	3816
1982	1554	.199	21.9	32.6	25.7	3000	104.2	163	103	13.6	109	.640	.0342	39.0	2717	4076
1983	1515	.189	22.0	32.8	25.8	3000	105.4	161	104	13.4	110	.658	.0348	39.1	2749	4123
1984	1994	.187	22.5	33.6	26.4	3000	104.9	157	107	13.3	111	.689	.0356	40.0	2789	4183
1985	2037	.189	23.0	34.5	27.1	3000	106.4	153	110	13.0	112	.727	.0366	41.0	2906	4359
1986	2829	.257	23.4	34.9	27.5	3000	106.6	151	108	13.2	111	.723	.0359	41.5	2956	4433
1987	2743	.256	23.8	35.4	27.9	3000	106.3	147	111	12.9	112	.767	.0371	42.3	2997	4496
1988	3146	.293	24.2	36.1	28.4	3000	105.3	145	114	12.6	113	.797	.0379	43.0	3017	4526
1989	3402	.340	24.1	36.2	28.4	3000	105.2	146	118	12.3	115	.815	.0392	42.8	3001	4502
1990	2856	.324	24.3	36.2	28.6	3000	103.9	142	121	12.0	116	.867	.0405	43.0	2980	4471
1991	2714	.318	23.9	35.8	28.1	3000	104.0	145	124	11.8	118	.868	.0414	42.5	2943	4414
1992	1918	.237	24.1	36.4	28.4	3000	102.7	146	127	11.6	119	.884	.0422	42.7	2928	4392
1993	2021	.239	24.3	36.9	28.7	3000	102.6	147	125	11.8	118	.863	.0416	43.2	2959	4438
1994	2033	.242	24.6	37.3	29.1	3000	102.8	143	124	11.8	117	.881	.0413	43.8	3000	4500
1995	1933	.206	25.0	38.6	29.7	3000	103.6	139	135	10.9	122	.988	.0451	44.7	3090	4634
1996	1796	.228	25.1	39.3	29.9	3000	103.1	137	133	11.0	121	.980	.0443	45.1	3095	4643
1997	1765	.211	25.1	39.2	30.0	3000	102.5	136	134	11.0	121	.993	.0447	45.1	3079	4619
1998	1302	.161	25.4	39.6	30.3	3000	101.3	133	131	11.2	120	.993	.0436	45.8	3092	4638
1999	916	.116	25.6	39.1	30.3	3000	99.4	128	129	11.3	119	1.003	.0428	45.9	3052	4578

PERCENT OF 3000 lb. CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1975	3.5		48.6		17.1		17.1	82.9			100.0			69.7	7.1	23.3
1976	2.5		50.4		9.8		9.8	90.2			100.0			66.5	4.0	29.4
1977	3.6		51.3		22.4		22.4	77.6			100.0			51.7	8.7	39.6
1978	4.4		35.2		18.0		18.0	82.0			62.0	38.0		71.0	8.2	20.8
1979	2.6		39.7		14.1		14.1	85.8	.1		71.5	28.5		70.5	4.9	24.7
1980	32.0		30.9	1.0	7.5		7.5	92.0	.5		62.4	37.6		82.0	4.1	13.8
1981	45.4		21.6	.7	11.9		11.9	87.8	.4		55.3	44.7		78.3	3.9	17.8
1982	53.2		17.0	65.1	45.5	26.9	18.6	53.8	.7		52.5	47.5		77.0	5.0	18.0
1983	63.0		17.2	62.7	49.2	26.5	22.7	50.1	.7		44.2	55.8		75.5	7.5	17.0
1984	73.9	.2	16.3	58.2	57.2	29.6	27.6	42.1	.8		44.4	55.6		79.7	11.1	9.2
1985	77.9	.5	14.4	53.5	72.2	34.7	37.5	27.4	.4		39.8	60.2		81.5	11.0	7.5
1986	82.2	1.0	15.1	56.4	84.8	49.0	35.7	15.0	.2	2.3	46.3	53.6	.1	80.6	9.3	10.1
1987	84.1	1.9	15.7	63.5	99.1	49.5	49.6	.9		10.6	52.4	47.6		71.9	8.9	19.2
1988	90.6	1.2	17.2	66.8	100.0	30.1	69.9			14.6	73.1	25.6	1.3	71.5	6.5	22.0
1989	91.3	1.4	16.4	71.5	97.4	24.0	73.4	2.6		15.0	67.0	31.9	1.1	63.3	5.1	31.7
1990	95.0	.7	20.8	68.8	99.9	25.0	74.9	.1		36.0	79.4	20.6		51.9	1.8	46.3
1991	93.3	1.5	18.4	72.4	100.0	24.3	75.7			34.4	74.6	25.4		54.3	1.6	44.1
1992	94.2	.7	19.7	66.3	100.0	12.8	87.2			29.4	89.6	10.4		58.9	1.7	39.4
1993	94.6	.9	19.7	68.9	100.0	13.2	86.8			37.9	86.7	13.3		58.2	1.6	40.2
1994	98.6	.8	16.4	75.6	100.0	10.5	89.5			37.1	87.2	12.8		57.5	3.0	39.5
1995	95.4	2.6	22.1	77.9	100.0	1.4	98.6			65.5	89.5	10.5		48.5	5.5	46.0
1996	96.7	1.8	20.7	79.3	100.0		100.0			61.9	90.9	9.1		54.7	7.4	37.9
1997	95.5	2.3	19.8	80.1	99.9		99.9		.1	68.0	90.3	9.7		47.2	8.9	43.9
1998	94.0	3.1	25.4	61.4	98.5		98.5		1.5	58.2	89.2	10.8		63.8	12.6	23.6
1999	93.5	2.6	40.7	58.8	97.7		97.7		2.3	51.0	91.1	8.9		53.5	22.2	24.3

Table I-7 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 3500 lb. CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	1029	.125	15.9	22.0	18.2	3500		227	102	15.6	104	.462	.0291	32.4		
1976	933	.096	17.2	23.1	19.4	3500		231	100	15.8	104	.447	.0285	34.3		
1977	724	.064	17.9	24.1	20.2	3500	102.4	232	104	15.3	105	.458	.0296	35.9	2104	3682
1978	2991	.268	17.6	24.6	20.2	3500	111.1	257	119	13.8	111	.468	.0341	35.5	2253	3943
1979	2684	.249	17.8	24.1	20.2	3500	112.3	252	120	13.7	111	.477	.0342	35.4	2273	3978
1980	2147	.227	18.1	25.3	20.7	3500	111.3	244	115	14.1	109	.477	.0329	36.5	2325	4068
1981	1829	.209	19.2	27.4	22.2	3500	113.3	234	113	14.3	108	.486	.0321	39.1	2534	4435
1982	1421	.182	19.3	27.9	22.4	3500	112.0	237	118	14.0	110	.504	.0337	39.6	2546	4455
1983	1669	.209	19.4	29.0	22.8	3500	111.8	238	122	13.6	112	.524	.0347	40.2	2577	4509
1984	2220	.208	19.4	29.2	22.9	3500	109.6	236	127	13.2	113	.556	.0362	40.4	2538	4442
1985	2461	.228	19.7	30.3	23.4	3500	111.9	228	133	12.7	116	.603	.0379	41.0	2629	4600
1986	2760	.251	20.3	32.4	24.4	3500	113.5	225	141	12.0	119	.654	.0404	42.9	2787	4878
1987	2520	.235	20.3	33.2	24.6	3500	114.0	217	147	11.6	121	.703	.0420	43.1	2818	4931
1988	2693	.251	20.9	34.4	25.4	3500	113.5	212	151	11.4	122	.732	.0430	44.6	2902	5078
1989	2688	.268	20.7	34.1	25.1	3500	114.2	207	151	11.4	122	.751	.0430	44.2	2887	5052
1990	2704	.307	21.0	34.5	25.5	3500	113.0	194	150	11.4	122	.795	.0429	44.7	2893	5063
1991	2137	.251	20.9	34.1	25.4	3500	111.2	195	156	11.1	124	.821	.0445	44.5	2837	4964
1992	2822	.348	21.1	34.6	25.6	3500	113.6	192	155	11.2	123	.829	.0442	44.9	2917	5104
1993	2848	.337	21.5	35.1	26.0	3500	114.2	194	156	11.1	124	.825	.0447	45.7	2986	5226
1994	2770	.330	21.5	35.2	26.1	3500	111.7	191	155	11.1	124	.837	.0444	45.8	2926	5121
1995	3628	.386	21.7	35.9	26.4	3500	111.9	188	166	10.6	127	.905	.0473	46.4	2966	5191
1996	3154	.400	21.9	35.8	26.5	3500	111.5	181	164	10.7	127	.924	.0470	46.5	2966	5191
1997	3208	.384	22.0	36.2	26.7	3500	112.5	181	170	10.4	129	.957	.0486	47.0	3017	5280
1998	4052	.502	22.5	36.9	27.3	3500	111.6	178	171	10.3	129	.978	.0489	48.0	3063	5360
1999	4069	.517	22.6	36.7	27.3	3500	111.2	176	172	10.3	130	.990	.0491	48.0	3053	5343

PERCENT OF 3500 lb. CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1975			19.3		6.5		6.5	91.6	1.9		97.7	2.3		91.4	8.6	
1976			17.2		5.7		5.7	92.9	1.4		98.1	1.9		92.1	7.9	
1977			16.2		6.1		6.1	91.1	2.7		97.1	2.9		90.6	9.4	
1978			4.7	6.4	1.4		1.4	98.1	.5		34.2	65.8		98.0	2.0	
1979			4.0	16.9	1.3		1.3	97.9	.8		23.4	76.6		97.7	2.3	
1980	.2	.4	3.1	37.9	2.2		2.2	96.2	1.7		18.4	81.4	.1	96.2	3.8	
1981		.5	3.4	84.4	3.0		3.0	94.5	2.5		13.7	86.2		94.5	5.2	.3
1982	.5	.6	6.9	88.4	9.5	4.4	5.1	85.6	4.9		27.8	72.2		91.2	6.0	2.7
1983	.9	.8	8.7	83.4	14.4	5.3	9.1	83.0	2.6		35.0	65.0		90.1	4.7	5.2
1984	8.2	.2	7.7	88.9	35.6	12.1	23.5	63.0	1.4		39.5	60.5		90.0	4.4	5.6
1985	35.2		8.3	88.8	69.9	32.3	37.6	29.5	.7		35.1	45.3	19.6	86.1	4.3	9.5
1986	49.2	.5	8.6	88.5	80.1	20.7	59.4	19.9	.1	1.1	33.2	41.3	25.5	87.1	5.0	8.0
1987	64.1	.4	8.8	87.8	92.1	15.0	77.1	7.4	.4	3.1	36.6	34.1	29.3	80.3	6.2	13.5
1988	72.8	.2	7.9	89.7	99.7	11.4	88.2	.3		5.0	30.5	44.5	24.9	84.4	5.2	10.4
1989	80.6	.2	6.8	88.2	100.0	12.2	87.8			6.9	22.8	51.7	25.5	83.0	5.8	11.2
1990	84.5	1.9	6.3	89.6	100.0	2.8	97.2			12.3	23.6	59.0	17.4	76.8	7.9	15.3
1991	79.7	2.7	7.4	88.2	99.9	3.9	96.0		.1	16.1	30.7	58.0	11.3	72.0	8.3	19.7
1992	78.6	1.7	5.2	92.2	99.9	1.9	98.0		.1	24.0	21.8	63.6	14.7	69.9	5.8	24.3
1993	87.5	1.6	4.6	93.7	100.0	.4	99.6			25.6	17.0	66.5	16.5	72.6	5.5	21.8
1994	84.7	1.0	7.4	91.5	100.0		100.0			26.1	27.8	55.9	16.3	70.1	6.1	23.7
1995	79.4	1.4	6.9	91.8	100.0		100.0			37.5	27.7	57.4	14.9	64.7	6.2	29.1
1996	89.0	2.5	7.5	91.8	99.8		99.8		.2	46.7	25.5	64.3	10.2	59.9	5.8	34.3
1997	88.8	2.9	6.1	93.8	99.9		99.9		.1	48.9	25.2	60.3	14.6	57.2	6.5	36.3
1998	87.9	2.6	6.7	93.3	99.9		99.9		.1	54.6	21.8	68.9	9.3	53.1	7.4	39.5
1999	89.6	2.7	6.6	93.3	100.0		100.0			60.2	26.4	64.5	9.1	54.0	5.9	40.1

Table I-8 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 4000 lb. CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-. TON-MPG
1975	1089	.132	13.8	18.6	15.6	4000		292	130	14.5	110	.443	.0324	31.8		
1976	1977	.203	15.6	21.2	17.7	4000		280	122	15.4	108	.433	.0305	35.7		
1977	3323	.294	15.8	21.4	17.9	4000	113.5	293	133	14.2	111	.453	.0332	36.0	2044	4087
1978	2235	.200	15.7	21.9	18.0	4000	114.9	305	145	13.1	115	.474	.0361	36.2	2092	4184
1979	2643	.245	15.6	21.5	17.8	4000	119.6	311	147	13.0	116	.472	.0367	35.8	2150	4300
1980	1316	.139	16.2	23.5	18.8	4000	122.4	302	136	13.9	112	.453	.0339	38.3	2349	4698
1981	1312	.150	17.2	26.0	20.3	4000	123.2	295	133	14.0	112	.458	.0333	41.2	2542	5085
1982	1215	.155	17.3	26.7	20.6	4000	126.4	287	135	13.8	112	.479	.0338	41.6	2626	5252
1983	1445	.181	17.1	26.4	20.3	4000	126.7	287	139	13.4	113	.490	.0347	40.9	2588	5176
1984	1702	.159	17.3	26.8	20.6	4000	126.3	289	139	13.4	113	.484	.0347	41.3	2603	5207
1985	1671	.155	18.2	28.6	21.7	4000	125.3	294	148	12.8	116	.507	.0370	43.6	2733	5467
1986	918	.083	18.4	29.1	22.1	4000	124.9	299	154	12.4	118	.520	.0384	44.3	2774	5548
1987	912	.085	18.3	28.4	21.7	4000	122.2	294	157	12.3	119	.551	.0392	43.7	2676	5352
1988	829	.077	18.5	29.4	22.2	4000	125.8	289	160	12.1	120	.569	.0400	44.6	2819	5639
1989	860	.086	19.1	30.6	23.0	4000	125.1	275	154	12.5	118	.576	.0386	46.2	2892	5783
1990	986	.112	19.0	31.0	23.0	4000	123.1	263	165	12.0	122	.643	.0411	46.2	2842	5684
1991	1114	.131	19.1	31.7	23.3	4000	124.9	265	186	10.7	129	.718	.0466	46.7	2917	5835
1992	1166	.144	19.3	31.8	23.4	4000	123.4	258	198	10.2	133	.788	.0494	47.0	2905	5810
1993	1059	.125	19.4	31.9	23.6	4000	121.9	253	198	10.3	133	.805	.0494	47.3	2882	5764
1994	1342	.160	19.3	31.8	23.5	4000	121.5	248	204	10.0	135	.841	.0510	47.1	2860	5720
1995	1281	.136	19.2	32.3	23.5	4000	121.3	253	219	9.4	140	.885	.0546	47.1	2859	5717
1996	1092	.138	19.5	32.9	23.9	4000	124.1	249	218	9.5	139	.885	.0545	47.9	2975	5950
1997	1260	.151	19.5	32.8	23.8	4000	123.1	248	225	9.3	142	.913	.0562	47.8	2939	5878
1998	898	.111	19.5	32.5	23.8	4000	123.2	248	232	9.0	144	.947	.0581	47.8	2942	5883
1999	1202	.153	19.7	32.8	24.0	4000	122.9	239	232	9.0	144	.995	.0579	48.2	2954	5908

PERCENT OF 4000 lb. CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1975			7.6		.6		.6	99.4			94.4	4.6	1.0	98.4	1.6	
1976			6.9		.4		.4	99.0	.6		82.6	17.1	.3	98.6	1.4	
1977			3.3		.5		.5	99.1	.4		51.9	19.3	28.9	99.1	.9	
1978			3.0	10.4	.9		.9	98.4	.7		40.8	18.9	40.4	98.4	1.6	
1979	5.3		2.2	10.4	2.8		2.8	94.8	2.3		24.1	24.7	51.2	98.3	1.7	
1980	10.9	2.3	.9	40.1	7.4	4.9	2.5	83.0	9.6		15.7	29.2	55.1	97.4	2.6	
1981	11.1	.9	.9	82.8	11.5	10.3	1.2	75.3	13.2		12.2	29.1	58.8	97.5	2.5	
1982	11.1	1.3		89.6	20.5	18.7	1.8	70.0	9.4		5.6	28.1	66.3	95.2	4.8	
1983	12.5	1.3		94.6	39.9	38.0	2.0	55.7	4.4		5.8	23.4	70.8	95.0	5.0	
1984	12.8	1.1		95.8	43.2	41.1	2.1	53.9	2.8		5.1	22.8	72.1	95.8	4.2	
1985	13.0		.1	94.8	45.2	41.4	3.8	52.7	2.0		5.2	30.7	64.2	94.3	5.7	
1986	.2	.7	.2	92.5	52.7	4.4	48.3	46.8	.5	1.1	9.4	26.6	64.0	91.9	7.1	1.0
1987	1.1	.4	4.0	87.9	54.1	3.2	50.9	44.7	1.2	4.5	12.7	31.9	55.3	86.2	9.6	4.3
1988	6.3	.3	1.6	92.7	77.2	2.2	75.0	22.8		5.5	10.8	21.1	68.1	86.7	10.9	2.4
1989	8.9		2.5	92.5	98.0	13.6	84.4	2.0		4.0	8.0	28.1	63.9	89.2	8.7	2.1
1990	33.2	.1	1.8	95.5	99.9	4.6	95.3		.1	10.5	5.3	33.9	60.8	85.7	6.1	8.1
1991	38.6	.9	1.9	95.4	99.6	12.9	86.8		.4	10.4	5.9	26.7	67.4	86.9	5.6	7.5
1992	41.3	1.9	1.6	97.3	100.0	5.2	94.8			15.9	14.1	22.5	63.4	79.1	4.1	16.8
1993	39.2	.7	.9	97.1	100.0	4.3	95.7			31.9	16.2	30.9	52.9	74.9	5.1	20.0
1994	45.6	.2	.8	97.3	100.0		100.0			40.8	15.3	28.7	55.9	79.1	5.9	15.0
1995	44.7	.6	1.2	96.4	99.6		99.6		.4	48.9	16.3	30.4	53.3	81.6	8.3	10.1
1996	51.6	.7	1.1	97.1	99.8		99.8		.2	48.3	9.1	30.4	60.5	87.7	5.1	7.3
1997	50.8	.9	1.0	99.0	99.8		99.8		.2	48.2	9.3	35.3	55.4	82.7	10.3	7.0
1998	53.5	2.4	1.0	99.0	99.6		99.6		.4	45.1	7.3	39.2	53.5	76.2	12.6	11.2
1999	52.7	5.1	2.1	97.9	99.7		99.7		.3	50.8	8.1	34.1	57.8	73.2	20.0	6.8

Table I-9 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 4500 lb. CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG
1975	1791	.217	12.4	17.6	14.3	4500		347	158	13.6	116	.455	.0351	32.5		
1976	2223	.229	13.6	19.3	15.7	4500		346	157	13.5	115	.454	.0349	35.6		
1977	3496	.309	14.5	20.0	16.5	4500	118.7	346	157	13.4	115	.454	.0348	37.4	1973	4440
1978	1997	.179	14.0	20.6	16.3	4500	123.8	356	161	13.1	117	.453	.0358	37.0	2038	4586
1979	1527	.142	14.3	20.3	16.5	4500	127.6	353	157	13.4	115	.445	.0348	37.4	2122	4775
1980	363	.038	16.0	24.4	19.0	4500	137.3	350	137	15.1	109	.394	.0304	43.7	2661	5988
1981	318	.036	17.1	26.8	20.4	4500	137.1	343	127	16.1	106	.374	.0282	47.3	2876	6471
1982	183	.023	17.5	27.7	21.0	4500	148.3	323	127	16.1	106	.401	.0281	48.6	3153	7095
1983	188	.023	16.4	26.7	19.9	4500	146.6	311	143	14.4	111	.463	.0317	45.2	2935	6603
1984	185	.017	16.7	26.9	20.2	4500	152.0	308	148	14.0	113	.482	.0329	45.6	3074	6917
1985	104	.010	17.3	28.4	21.0	4500	160.2	306	150	13.8	113	.489	.0332	47.3	3369	7579
1986	101	.009	17.7	28.9	21.5	4500	156.5	308	150	14.0	113	.484	.0332	48.6	3398	7646
1987	78	.007	18.3	30.4	22.3	4500	160.2	306	140	14.6	110	.458	.0311	50.1	3570	8033
1988	105	.010	18.8	30.3	22.6	4500	144.8	305	144	14.4	111	.474	.0320	51.1	3296	7416
1989	87	.009	18.1	28.9	21.8	4500	141.1	306	151	14.1	114	.494	.0335	49.3	3118	7016
1990	67	.008	16.8	27.3	20.3	4500	130.1	322	178	12.6	122	.555	.0396	46.3	2729	6140
1991	72	.009	17.2	28.5	20.9	4500	133.6	312	201	11.3	129	.648	.0447	47.6	2894	6511
1992	113	.014	17.9	30.7	22.1	4500	137.2	334	191	11.6	126	.586	.0423	49.9	3070	6908
1993	84	.010	17.8	31.5	22.1	4500	141.3	339	187	11.8	124	.567	.0415	49.9	3151	7089
1994	88	.010	18.2	31.0	22.4	4500	136.8	344	255	9.0	145	.747	.0566	50.6	3101	6978
1995	110	.012	18.3	30.9	22.4	4500	127.6	310	257	9.0	146	.867	.0571	50.6	2882	6485
1996	96	.012	18.6	32.0	23.0	4500	131.5	323	260	8.9	147	.826	.0577	52.6	3084	6938
1997	38	.005	18.4	29.7	22.2	4500	109.1	257	271	8.7	150	1.061	.0601	50.1	2448	5509
1998	38	.005	18.3	29.6	22.1	4500	104.5	273	286	8.3	155	1.058	.0634	49.9	2334	5252
1999	126	.016	16.4	26.8	19.8	4500	124.6	282	199	11.3	128	.705	.0441	44.8	2469	5556

PERCENT OF 4500 lb. CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1975	.9		.6		1.6		1.6	98.4			27.6	69.7	2.7	98.9	1.1	
1976	2.0		.1		2.3		2.3	97.7			28.0	69.8	2.2	99.4	.6	
1977	1.3		.1		1.6		1.6	98.4			24.9	49.9	25.2	99.7	.3	
1978	2.7			12.9	3.1		3.1	95.3	1.5		2.9	48.9	48.2	99.6	.4	
1979	4.4			9.3	3.4		3.4	91.1	5.5		3.7	35.9	60.4	99.3	.7	
1980	7.5			54.2				71.3	28.7		.1	7.6	92.3	99.9	.1	
1981	8.6			61.7	29.7	29.7		26.1	44.2			8.6	91.4	100.0		
1982	6.3			99.8				54.7	45.3		.2	6.3	93.5	100.0		
1983	1.4			100.0				87.7	12.3			1.4	98.6	99.7	.3	
1984	.6			100.0				95.8	4.2			.6	99.4	100.0		
1985	.1			100.0				98.9	1.1		.1	.1	99.8	100.0		
1986				91.2	8.7		8.7	91.3				8.7	91.2	91.2	8.8	
1987				100.0	.1		.1	99.9			.1	21.6	78.3	99.9	.1	
1988				100.0	2.9		2.9	97.1				2.8	97.1	97.1	2.9	
1989				96.2	8.0		8.0	92.0			3.8	4.2	92.0	92.0	8.0	
1990				84.4	51.1	30.5	20.5	48.9		4.2	9.4	11.1	79.5	79.5	20.5	
1991			.7	82.1	100.0	73.8	26.2			11.6	13.8	12.5	73.8	73.8	23.0	3.2
1992			.2	89.6	100.0	87.8	12.2			5.0	6.5	1.4	92.0	87.8	11.5	.7
1993			.2	96.0	100.0	89.4	10.6			9.3	4.8	5.8	89.4	89.4	10.4	.2
1994			.2	93.6	100.0		100.0			8.9	9.3	2.3	88.5	88.5	9.4	2.1
1995		.5	.5	82.4	100.0		100.0			35.3	10.8	16.6	72.6	63.1	36.1	.8
1996		.4	.4	90.7	100.0		100.0			23.5	6.9	5.4	87.7	74.7	24.9	.4
1997	.6		.7	99.3	100.0		100.0			96.9	17.9	27.7	54.3	.9	98.5	.6
1998		.3	.4	99.6	100.0		100.0			96.3	26.0	18.4	55.6		99.7	.3
1999				100.0	100.0		100.0			16.6	6.4	8.7	84.9	77.8	22.2	

Table I-10 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 5000 lb. CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	1505	.183	11.1	16.0	12.9	5000		388	166	14.0	115	.428	.0332	32.6		
1976	1494	.154	12.8	17.8	14.6	5000		378	166	13.9	115	.440	.0332	36.7		
1977	1051	.093	12.1	17.7	14.1	5000	129.7	387	175	13.3	117	.453	.0350	35.5	1843	4606
1978	477	.043	12.4	18.6	14.6	5000	132.3	403	179	13.1	118	.445	.0358	36.7	1947	4869
1979	182	.017	12.3	18.2	14.4	5000	126.5	396	169	13.7	115	.426	.0338	36.7	1861	4653
1980	2	.000	11.0	15.2	12.5	5000	121.9	382	156	14.6	112	.408	.0297	31.5	1549	3873
1981	2	.000	10.3	14.2	11.7	5000	122.2	387	156	14.6	112	.400	.0297	29.4	1446	3615
1982	2	.000	9.7	13.6	11.2	5000	121.4	378	176	13.7	117	.480	.0337	28.0	1362	3406
1983	1	.000	10.1	14.0	11.5	5000	126.4	373	157	14.7	112	.424	.0284	28.9	1463	3658
1984	2	.000	9.8	13.6	11.2	5000	122.1	374	176	13.7	117	.484	.0330	28.1	1375	3439
1985	1	.000	9.5	13.2	10.9	5000	113.5	394	187	12.9	121	.490	.0354	27.2	1234	3085
1986	1	.000	9.3	13.1	10.7	5000	114.2	378	205	12.2	125	.572	.0396	26.8	1223	3058
1987	1	.000	10.1	13.6	11.4	5000	113.0	410	191	12.4	122	.463	.0336	28.6	1295	3236
1988	1	.000	10.7	15.1	12.3	5000	112.0	408	207	11.6	126	.508	.0400	30.9	1384	3461
1989	1	.000	10.8	15.2	12.4	5000	112.9	410	206	11.6	126	.501	.0396	31.0	1400	3500
1990	0	.000	9.3	13.9	10.9	5000	95.9	326	240	10.3	135	.500	-0.0001	27.3	1048	2620
1992	10	.001	14.7	21.9	17.3	5000	126.0	283	297	9.1	152	1.041	.0592	44.0	2213	5532
1993	16	.002	16.1	24.1	18.9	5000	125.8	247	263	9.8	142	1.072	.0524	47.6	2392	5981
1994	11	.001	16.7	26.3	20.0	5000	124.6	256	274	9.4	145	1.073	.0545	50.4	2510	6276
1995	16	.002	16.5	25.3	19.6	5000	119.6	284	298	8.8	152	1.048	.0594	49.3	2362	5905
1996	7	.001	16.4	27.1	19.9	5000	125.5	286	303	8.6	153	1.058	.0602	49.9	2509	6273
1997	9	.001	16.6	27.4	20.2	5000	125.1	288	304	8.6	154	1.057	.0606	50.6	2534	6336
1998	6	.001	16.7	27.2	20.2	5000	126.1	283	299	8.7	152	1.059	.0594	50.5	2551	6379
1999	15	.002	16.5	27.2	20.1	5000	118.2	293	307	8.5	154	1.050	.0612	50.3	2380	5949

PERCENT OF 5000 lb. CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1975								100.0				33.5	66.5	100.0		
1976	.3							100.0				28.7	71.3	100.0		
1977	3.3				.7		.7	99.3			15.2	25.8	59.0	100.0		
1978	4.9			14.1	.4		.4	98.7	.9			18.5	81.5	100.0		
1979					.9		.9	90.0	9.1			39.4	60.6	100.0		
1980					6.7		6.7	93.3			31.2		68.8	68.8	31.2	
1981					100.0	57.4	42.6				6.6	36.0	57.4	57.4	42.6	
1982				14.2	85.8	41.5	44.2	14.2				58.5	41.5	41.5	58.5	
1983				6.5	93.5	74.2	19.3	6.5			2.4	23.4	74.2	74.2	25.8	
1984				15.8	84.2	46.8	37.4	15.8			1.4	51.7	46.8	46.8	53.2	
1985				16.3	83.7		83.7	16.3			2.3	97.7			100.0	
1986				30.6	69.4		69.4	30.6			1.6	98.4			100.0	
1987				1.8	100.0		100.0				1.8	98.2			100.0	
1988				4.9	100.0		100.0				4.9	95.1			100.0	
1989					100.0		100.0				2.0	98.0			100.0	
1990				100.0	100.0		100.0				100.0				100.0	
1992					89.1		89.1		10.9	89.1			100.0		100.0	
1993					100.0		100.0			93.5		1.4	98.6		100.0	
1994					100.0		100.0			100.0	10.0		90.0		100.0	
1995					100.0		100.0			100.0	39.2		60.8		100.0	
1996				100.0	100.0		100.0			100.0	11.6		88.4		100.0	
1997				100.0	100.0		100.0			100.0	13.4		86.6		100.0	
1998				100.0	100.0		100.0			100.0	8.6		91.4		100.0	
1999				100.0	100.0		100.0			92.7	42.1	2.3	55.6		100.0	

Table I-11 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 5500 lb. CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1975	828	.100	10.5	15.1	12.2	5500		458	208	12.6	123	.454	.0378	33.6		
1976	934	.096	11.6	16.2	13.3	5500		460	203	12.7	121	.443	.0370	36.6		
1977	298	.026	10.7	16.1	12.6	5500	131.8	447	194	13.2	119	.434	.0353	34.8	1664	4577
1978	134	.012	10.8	16.6	12.8	5500	130.7	445	191	13.3	118	.429	.0347	35.3	1682	4625
1979	2	.000	9.8	12.9	11.0	5500	112.7	417	174	14.4	114	.415	.0302	30.4	1247	3430
1980	0	.000	9.6	12.6	10.7	5500	100.7	412	170	14.7	113	.400	.0235	29.6	1084	2982
1981	0	.000	9.2	12.6	10.5	5500	98.8	412	170	14.7	113	.392	.0142	28.9	1043	2869
1982	0	.000	8.9	12.2	10.1	5500	92.5	412	170	14.7	113	.395	.0175	27.9	937	2577
1983	0	.000	9.4	13.7	10.9	5500	92.3	412	170	14.7	113	.396	.0248	30.1	1010	2778
1984	0	.000	9.4	13.8	11.0	5500	92.6	412	170	14.7	113	.400	.0217	30.1	1015	2792
1985	0	.000	9.4	13.8	11.0	5500	92.5	412	170	14.7	113	.404	.0259	30.2	1015	2792
1986	0	.000	9.4	13.8	11.0	5500	92.4	412	170	14.7	113	.409	.0285	30.1	1012	2784
1987	0	.000	9.5	13.2	10.9	5500	92.0	412	187	13.7	117	.442	.0276	30.1	1007	2771
1988	0	.000	10.6	14.8	12.2	5500	91.3	412	205	12.6	122	.493	.0315	33.4	1109	3050
1989	0	.000	10.8	15.4	12.5	5500	103.8	412	259	10.7	136	.626	.0443	34.4	1300	3576
1990	1	.000	11.3	16.2	13.1	5500	107.2	412	250	11.0	134	.605	.0444	36.0	1405	3863
1991	1	.000	11.4	16.3	13.2	5500	107.5	412	237	11.4	131	.574	.0410	36.2	1414	3890
1992	0	.000	11.7	18.8	14.1	5500	107.2	412	258	10.7	136	.615	.0312	38.9	1517	4173
1993	1	.000	13.3	19.9	15.6	5500	126.5	374	290	10.4	144	.774	.0496	43.2	2008	5521
1994	3	.000	14.9	22.8	17.7	5500	141.3	356	262	10.5	137	.734	.0465	48.9	2526	6946
1995	3	.000	15.4	23.4	18.2	5500	143.1	354	252	10.7	134	.711	.0449	50.4	2631	7235
1996	3	.000	15.3	22.3	17.8	5500	12.5	357	261	10.4	137	.733	.0465	49.2	196	538
1997	1	.000	14.8	24.6	18.1	5500	149.9	315	312	9.0	150	1.007	.0539	50.3	2793	7681
1998	3	.000	15.5	25.8	18.9	5500	143.7	283	302	9.2	147	1.067	.0540	52.0	2725	7493
1999	0	.000	12.4	20.3	15.0	5500	108.4	412	350	8.2	160	.816	.0408	41.3	1627	4475

PERCENT OF 5500 lb. CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1975	8.2							100.0			5.2	11.3	83.4	99.9	.1	
1976	7.4				2.9		2.9	97.1			5.8	12.1	82.1	99.9	.1	
1977	15.9				3.1		3.1	96.9			.4	32.7	66.9	99.6	.4	
1978	33.7				30.0		30.0	70.0			.7	33.7	65.6	99.3	.7	
1979								100.0			58.8		41.2	41.2	58.8	
1980					5.0		5.0	95.0			100.0				100.0	
1981					100.0		100.0				100.0				100.0	
1982					100.0		100.0				100.0				100.0	
1983					100.0		100.0				100.0				100.0	
1984					100.0		100.0				100.0				100.0	
1985					100.0		100.0				100.0				100.0	
1986					100.0		100.0				100.0				100.0	
1987					100.0		100.0				100.0				100.0	
1988					100.0		100.0				100.0				100.0	
1989					100.0		100.0				47.2	52.8			100.0	
1990					100.0		100.0				18.0	82.0			100.0	
1991					100.0		100.0				16.5	83.5			100.0	
1992				100.0	100.0		100.0				15.6	84.4			100.0	
1993				56.9	100.0	28.2	71.8			43.1	10.9	17.8	71.3	28.2	71.8	
1994				92.4	100.0		100.0			7.6	1.5	6.8	91.6	84.0	16.0	
1995				100.0	100.0		100.0				1.4	5.9	92.7	92.7	7.3	
1996				100.0	100.0		100.0				1.4	10.0	88.6	88.6	11.4	
1997	73.2			100.0	100.0		100.0			73.2	3.0	23.9	73.2	73.2	26.8	
1998	96.6			100.0	100.0		100.0			96.6	1.2	2.2	96.6	96.6	3.4	
1999				100.0	100.0		100.0				16.3	83.7			100.0	

Table I-12 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 6000 lb. CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT- TON-MPG
1985	0	.000	8.9	12.2	10.1	6000	157.5	412	170	15.7	110	.250	.0000	30.4	1595	4786
1986	0	.000	8.9	12.2	10.1	6000	157.5	412	170	15.7	110	.368	.0000	30.4	1595	4786
1987	0	.000	9.3	12.3	10.4	6000	157.5	412	173	15.5	111	.375	.0000	31.3	1645	4935
1988	0	.000	10.5	14.0	11.8	6000	157.5	412	205	13.5	119	.000	.0000	35.5	1863	5590
1993	1	.000	15.1	22.1	17.6	6000	145.5	350	175	15.3	111	.500	.0285	52.8	2559	7677
1994	0	.000	11.5	18.7	13.9	6000	90.6	412	241	11.9	128	.556	.0278	41.7	1260	3781
1995	0	.000	11.5	18.8	13.9	6000	90.6	412	280	10.7	137	.645	.0323	41.7	1260	3779
1996	0	.000	12.3	20.0	14.9	6000	88.9	412	350	8.8	155	.845	.0476	44.6	1322	3966
1997	0	.000	12.3	20.0	14.9	6000	88.9	412	350	8.8	155	.840	.0494	44.6	1322	3966
1998	0	.000	12.3	20.0	14.9	6000	93.8	412	350	8.8	155	.812	.0312	44.6	1395	4185
1999	0	.000	12.3	20.0	14.9	6000	91.1	412	350	8.8	155	.846	.0256	44.6	1355	4064

PERCENT OF 6000 lb. CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1985					100.0		100.0						100.0		100.0	
1986					100.0		100.0						100.0		100.0	
1987					100.0		100.0						100.0		100.0	
1988					100.0		100.0						100.0		100.0	
1993				100.0	100.0	99.5	.5						100.0	99.5	.5	
1994				100.0	100.0		100.0				100.0				100.0	
1995				100.0	100.0		100.0				100.0				100.0	
1996				100.0	100.0		100.0				100.0				100.0	
1997				100.0	100.0		100.0				100.0				100.0	
1998				100.0	100.0		100.0				100.0				100.0	
1999				100.0	100.0		100.0				100.0				100.0	

Table I-13 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 6500 lb. CARS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG	CU-FT -MPG	CU-FT-TON-MPG
1994	0	.000	11.3	18.1	13.6	6500	140.2	412	241	12.7	125	.250	.0000	44.2	1907	6197
1998	0	.000	11.3	18.5	13.7	6500	140.1	412	300	10.6	139	.615	.0000	44.7	1925	6257
1999	0	.000	11.4	18.6	13.8	6500	140.1	412	300	10.6	139	.571	.0000	44.9	1934	6287

PERCENT OF 6500 lb. CARS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	EUR	ASIA
1994				100.0	100.0		100.0						100.0		100.0	
1998				100.0	100.0		100.0						100.0		100.0	
1999				100.0	100.0		100.0						100.0		100.0	

Table I-14 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 2000 lb. TRUCKS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1979	1	.000	23.2	29.5	25.7	2000	49	41	19.7	89	.836	.0201	25.7
1980	3	.002	22.5	29.4	25.2	2000	49	41	19.7	89	.836	.0199	25.2
1981	1	.000	22.5	29.4	25.2	2000	49	41	19.7	89	.835	.0197	25.2
1982	1	.001	23.7	27.3	25.2	2000	59	45	18.3	92	.762	.0218	25.2
1983	1	.001	23.7	27.3	25.2	2000	59	45	18.3	92	.762	.0221	25.2

PERCENT OF 2000 lb. TRUCKS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1979		100.0	100.0					100.0			100.0				100.0
1980		100.0	100.0					100.0			100.0				100.0
1981		100.0	100.0					100.0			100.0				100.0
1982		100.0	100.0					100.0			100.0				100.0
1983		100.0	100.0					100.0			100.0				100.0

Table I-15 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 2250 lb. TRUCKS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1979	0	.000	22.3	29.3	25.0	2250	49	41	21.6	88	.832	.0105	28.1
1980	25	.013	28.1	38.5	32.0	2250	94	64	15.9	99	.677	.0282	38.1
1981	24	.013	36.9	48.9	41.5	2250	97	52	17.9	93	.536	.0230	46.7
1982	13	.007	36.1	43.5	39.1	2250	91	51	18.2	93	.570	.0224	45.8
1983	4	.002	26.6	31.0	28.4	2250	71	47	19.4	91	.691	.0202	33.9
1984	7	.002	30.2	32.1	31.1	2250	70	47	19.5	91	.697	.0204	35.6
1985	6	.002	28.1	29.6	28.8	2250	61	45	20.0	90	.737	.0198	32.4
1986	37	.008	30.2	37.5	33.1	2250	81	64	15.3	99	.790	.0284	37.2
1987	63	.015	30.2	37.5	33.1	2250	81	64	15.3	99	.790	.0284	37.2
1988	83	.018	30.6	37.3	33.3	2250	81	64	15.3	99	.790	.0284	37.4
1989	5	.001	30.9	37.0	33.4	2250	80	64	15.3	99	.797	.0282	37.5

PERCENT OF 2250 lb. TRUCKS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1979		100.0	100.0					100.0			100.0				100.0
1980	100.0		100.0		54.6				45.4		100.0				100.0
1981	100.0		100.0						100.0		100.0				100.0
1982	85.0	15.0	100.0					15.0	85.0		100.0				100.0
1983	31.3	68.7	91.1					68.7	31.3		100.0			13.3	86.7
1984	28.9	71.1	82.7					71.1	28.9		100.0			28.9	71.1
1985		100.0	100.0					100.0			100.0				100.0
1986		100.0	100.0					100.0			100.0				100.0
1987		100.0	100.0					100.0			100.0				100.0
1988		100.0	100.0					100.0			100.0				100.0
1989		100.0	100.0					100.0			100.0				100.0

Table I-16 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 2500 lb. TRUCKS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1978	23	.007	23.5	33.7	27.2	2500	97	67	16.0	98	.691	.0268	34.2
1979	39	.013	24.1	33.5	27.5	2500	97	67	16.0	98	.691	.0268	34.5
1980	16	.009	22.1	32.3	25.8	2500	97	68	15.8	99	.701	.0271	32.3
1981	27	.015	24.9	34.2	28.4	2500	108	73	14.9	101	.683	.0292	35.5
1982	36	.019	24.8	32.0	27.6	2500	132	81	13.9	105	.625	.0324	34.9
1983	33	.014	25.4	32.8	28.2	2500	137	86	13.3	107	.636	.0342	36.4
1984	18	.005	24.2	31.4	27.0	2500	110	74	15.8	101	.686	.0292	34.2
1985	4	.001	26.2	35.2	29.6	2500	109	73	15.0	101	.669	.0287	37.0
1986	5	.001	26.4	36.0	30.0	2500	109	73	15.0	101	.670	.0290	37.5
1987	1	.000	26.3	35.5	29.8	2500	109	73	15.0	101	.668	.0290	37.2
1989	39	.009	28.8	34.9	31.3	2500	97	80	14.1	104	.825	.0319	39.2
1990	34	.009	29.2	35.9	31.9	2500	94	78	14.3	103	.826	.0309	39.8
1991	15	.004	28.7	35.1	31.2	2500	91	75	14.7	102	.828	.0298	39.2
1992	19	.005	27.5	33.7	30.0	2500	94	77	14.4	103	.827	.0309	37.6
1993	19	.004	26.9	33.1	29.4	2500	96	79	14.2	104	.825	.0315	36.8
1994	22	.004	26.7	32.7	29.1	2500	96	80	14.1	104	.830	.0317	36.5
1995	20	.003	27.0	33.9	29.7	2500	97	81	13.9	105	.840	.0324	37.2
1996	3	.001	26.6	33.6	29.3	2500	97	95	12.3	111	.979	.0374	36.7
1997	4	.001	25.9	32.2	28.4	2500	97	95	12.4	111	.979	.0375	35.6
1998	6	.001	26.0	32.3	28.5	2500	97	97	12.1	112	1.003	.0387	35.6

PERCENT OF 2500 lb. TRUCKS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1978		100.0	100.0					100.0			100.0				100.0
1979		100.0	100.0					100.0			100.0				100.0
1980	9.5	90.5	90.5		9.5			90.5			100.0				100.0
1981	34.2	65.8	100.0		34.2			65.8			100.0				100.0
1982	49.7	20.1	58.4		9.4			90.6			100.0			30.1	69.9
1983	48.9	13.2	59.4	2.7	2.6			97.4			100.0			37.9	62.1
1984	29.9	53.1	79.8	3.3				100.0			100.0			46.9	53.1
1985		100.0	95.6	4.4				100.0			100.0				100.0
1986		100.0	100.0					100.0			100.0				100.0
1987		100.0	100.0					100.0			100.0				100.0
1989		100.0	56.2	43.8	100.0	100.0					100.0				100.0
1990		95.5	100.0		100.0	100.0					100.0				100.0
1991		20.6	100.0		100.0	100.0					100.0				100.0
1992		11.5	75.8	24.2	100.0	100.0					100.0				100.0
1993		2.4	67.2	32.8	100.0	93.5	6.5				100.0				100.0
1994		6.0	57.4	42.6	100.0	97.0	3.0			3.0	100.0				100.0
1995		5.9	60.8	39.2	100.0	90.0	10.0				100.0				100.0
1996			66.6	33.4	100.0		100.0			100.0	100.0				100.0
1997			27.2	72.8	100.0		100.0			100.0	100.0				100.0
1998			57.0	43.0	100.0		100.0			100.0	100.0				100.0

Table I-17 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 2750 lb. TRUCKS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	204	.102	18.1	26.0	21.0	2750	155	101	12.9	111	.713	.0367	29.4
1976	202	.078	19.6	27.5	22.5	2750	150	98	13.0	110	.727	.0357	31.5
1977	270	.096	21.1	29.3	24.2	2750	146	98	13.0	109	.732	.0355	33.8
1978	241	.074	21.0	27.3	23.5	2750	157	98	12.9	110	.700	.0357	33.1
1979	250	.081	19.8	27.4	22.6	2750	126	90	13.7	106	.720	.0328	31.6
1980	324	.174	22.3	30.0	25.2	2750	126	91	13.6	107	.728	.0332	34.9
1981	222	.122	24.7	33.3	27.9	2750	130	90	13.8	106	.695	.0328	38.7
1982	227	.119	24.9	33.8	28.3	2750	130	91	13.7	106	.699	.0330	39.1
1983	340	.148	25.4	34.3	28.8	2750	132	87	14.2	105	.658	.0314	39.8
1984	328	.098	25.1	33.5	28.3	2750	130	87	14.2	105	.672	.0317	39.2
1985	246	.067	26.3	35.7	29.9	2750	130	90	13.8	106	.692	.0327	41.3
1986	316	.073	26.0	35.2	29.5	2750	132	92	13.6	107	.695	.0334	40.8
1987	244	.059	26.1	35.8	29.7	2750	133	93	13.5	107	.695	.0338	41.0
1988	120	.026	24.6	33.1	27.8	2750	136	98	12.9	109	.721	.0355	38.4
1989	76	.017	24.5	32.7	27.6	2750	135	97	12.9	109	.721	.0354	38.1
1990	45	.012	24.3	30.6	26.8	2750	129	95	13.3	108	.745	.0346	36.9
1991	28	.007	26.5	32.6	28.9	2750	97	80	15.2	102	.825	.0289	39.9
1992	46	.011	25.7	33.2	28.6	2750	116	95	13.5	108	.819	.0344	39.4
1993	24	.005	26.5	32.6	29.0	2750	97	81	15.0	102	.835	.0292	39.9
1994	38	.007	26.2	32.3	28.7	2750	97	82	14.9	103	.850	.0298	39.5
1995	39	.007	25.8	32.3	28.4	2750	97	95	13.3	108	.979	.0344	39.1
1996	44	.008	25.8	32.9	28.5	2750	99	97	13.1	109	.980	.0352	39.3
1997	12	.002	25.9	32.8	28.6	2750	100	98	13.0	110	.980	.0354	39.3
1998	11	.002	26.0	32.4	28.5	2750	97	97	13.0	109	1.002	.0351	39.2
1999	3	.001	28.0	35.9	31.0	2750	99	99	12.7	110	1.003	.0354	42.7

PERCENT OF 2750 lb. TRUCKS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1975		23.2	91.3					100.0			100.0			23.2	76.8
1976		20.2	82.0					100.0			100.0			20.2	79.8
1977		16.3	81.9					100.0			100.0			16.3	83.7
1978		24.0	86.9					100.0			100.0			24.0	76.0
1979			82.7					100.0			93.9	6.1		3.7	96.3
1980			86.9					100.0			92.4	7.6			100.0
1981			90.3					98.6	1.4		73.4	26.6			100.0
1982	1.4		87.1	4.9				98.3	1.7		62.5	37.5		22.3	77.7
1983	4.0	.1	89.4	.2	.1			99.1	.9		37.7	62.3		43.0	57.0
1984	6.5	.1	86.1	2.9	1.1			98.2	.7		49.5	50.5		15.4	84.6
1985	3.4		92.0	.8	1.4			98.1	.4		50.3	49.7		25.4	74.6
1986	1.7		88.3	.8				99.6	.4		61.0	39.0		14.8	85.2
1987	1.6		89.9	.9				100.0			51.7	48.3		18.1	81.9
1988			99.4		.6		.6	99.4			63.1	36.9			100.0
1989			100.0					100.0			60.9	39.1			100.0
1990		31.1	68.9	31.1	31.1	31.1		68.9			100.0				100.0
1991		100.0	56.7	43.3	100.0	100.0					100.0				100.0
1992		49.1	78.8	21.2	100.0	49.1	50.9				100.0				100.0
1993		92.9	60.6	39.4	100.0	78.2	21.8				100.0				100.0
1994		97.1	52.0	48.0	100.0	83.7	16.3			16.3	100.0				100.0
1995		97.2	46.1	53.9	100.0		100.0				100.0				100.0
1996	8.5	59.5	51.5	48.5	100.0		100.0			100.0	100.0				100.0
1997	13.6	81.0	48.4	51.6	100.0		100.0			100.0	100.0				100.0
1998		96.5	52.0	48.0	100.0		100.0			100.0	100.0				100.0
1999	8.1		100.0		100.0		100.0			100.0	100.0				100.0

Table I-18 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 3000 lb. TRUCKS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	60	.030	18.2	24.9	20.7	3000	107	70	18.2	96	.667	.0233	31.2
1976	73	.028	18.3	25.4	21.0	3000	136	77	17.4	99	.628	.0257	32.5
1977	91	.032	22.9	31.3	26.0	3000	147	81	16.4	100	.596	.0269	40.9
1978	144	.044	22.4	29.9	25.2	3000	148	83	16.0	101	.598	.0277	39.5
1979	226	.073	19.6	25.7	21.9	3000	154	89	15.2	103	.607	.0296	34.2
1980	212	.114	20.2	26.7	22.7	3000	146	86	15.3	102	.620	.0285	34.9
1981	249	.137	23.0	30.8	25.9	3000	150	86	15.7	102	.591	.0286	40.3
1982	379	.198	22.6	31.4	25.9	3000	162	97	14.3	107	.604	.0322	39.8
1983	414	.180	22.5	31.2	25.7	3000	158	94	14.5	106	.609	.0313	39.4
1984	575	.172	22.7	31.6	26.0	3000	153	94	14.5	105	.625	.0312	39.6
1985	658	.179	22.9	31.8	26.2	3000	151	100	13.7	108	.662	.0331	39.7
1986	840	.193	23.4	32.5	26.8	3000	143	99	13.8	108	.691	.0331	40.4
1987	799	.193	23.4	32.9	26.9	3000	145	100	13.8	108	.690	.0333	40.5
1988	740	.162	23.9	33.4	27.4	3000	145	98	14.0	107	.675	.0328	41.4
1989	609	.137	24.0	33.2	27.4	3000	145	102	13.4	109	.704	.0341	41.3
1990	446	.117	24.4	33.4	27.8	3000	142	110	12.8	112	.770	.0365	42.0
1991	597	.147	24.0	33.5	27.5	3000	148	109	12.9	111	.738	.0362	41.4
1992	370	.091	23.5	32.7	26.9	3000	145	113	12.4	113	.783	.0377	40.6
1993	418	.088	23.5	33.1	27.0	3000	148	116	12.2	114	.790	.0386	40.9
1994	321	.059	24.0	32.5	27.2	3000	144	118	11.9	115	.825	.0395	41.1
1995	286	.050	22.9	30.2	25.7	3000	142	124	11.7	117	.870	.0413	38.9
1996	181	.035	24.3	33.2	27.6	3000	133	127	11.4	119	.959	.0424	41.5
1997	219	.035	24.2	33.1	27.5	3000	132	127	11.4	119	.961	.0423	41.4
1998	144	.022	24.7	33.7	28.0	3000	135	132	11.0	121	.988	.0441	42.1
1999	145	.021	25.0	33.7	28.3	3000	135	134	10.9	121	.993	.0444	42.6

PERCENT OF 3000 lb. TRUCKS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1975			69.3					100.0			6.7	93.3			100.0
1976		14.3	80.2					100.0			25.6	74.4		14.3	85.7
1977		14.0	86.2					100.0			27.6	72.4		14.0	86.0
1978		13.8	85.6					100.0			47.6	52.4		13.8	86.2
1979		47.4	88.2					100.0			62.9	37.1		22.9	77.1
1980		65.7	94.6					100.0			66.3	33.7		20.4	79.6
1981		52.6	93.2	1.4				78.4	21.6		73.5	26.5		16.5	83.5
1982		26.2	75.1	22.0				84.2	15.8		39.8	60.2		53.4	46.6
1983		23.8	75.1	9.6				92.0	8.0		31.2	68.8		56.8	43.2
1984	3.7	19.7	72.7	13.6	4.4			91.7	3.9		33.4	66.6		57.9	42.1
1985	4.3	11.4	64.7	28.4	30.9			67.5	1.6		38.6	61.4		58.0	42.0
1986	2.6	5.7	78.0	17.6	51.5	31.7	19.8	47.7	.8		40.2	59.8		34.4	65.6
1987	2.8	6.6	74.3	19.6	61.5	37.9	23.6	38.2	.3		29.0	71.0		41.5	58.5
1988	1.6	2.3	77.3	16.7	66.4	36.8	29.6	33.6			19.2	80.7	.1	61.0	39.0
1989	1.6	3.6	82.2	12.4	77.5	46.0	31.5	22.5			28.5	71.5	.1	51.9	48.1
1990	.7	6.3	86.9	10.4	82.3	14.1	68.2	17.7			38.1	61.8	.1	39.3	60.7
1991	1.0	2.1	87.0	10.1	89.8	37.9	51.9	10.2			32.6	67.4		50.9	49.1
1992	6.1	7.8	83.8	12.2	83.9	24.2	59.7	16.1			46.2	53.8		36.8	63.2
1993	2.7	9.4	85.2	11.0	89.9	21.9	68.0	10.1		2.0	53.1	46.9		40.2	59.8
1994	.9	12.1	84.7	7.4	93.6		93.6	6.4		.8	75.3	24.7		24.8	75.2
1995	.6	37.5	78.8	14.2	100.0	7.7	92.3			12.3	89.9	10.1		29.8	70.2
1996	8.0	29.0	56.4	29.0	100.0		100.0			75.2	97.0	3.0		2.6	97.4
1997	13.1	25.7	52.5	37.5	100.0		100.0			70.1	99.7	.3		.3	99.7
1998	18.4	14.7	52.3	25.3	100.0		100.0			100.0	100.0				100.0
1999	18.7	18.1	58.5	27.1	100.0		100.0			100.0	100.0				100.0

Table I-19 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 3500 lb. TRUCKS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	55	.028	13.9	19.9	16.1	3500	308	138	12.5	118	.452	.0389	28.6
1976	83	.032	14.9	20.3	16.9	3500	303	132	12.9	115	.443	.0373	30.0
1977	74	.026	15.5	20.7	17.5	3500	311	136	12.7	117	.445	.0386	31.0
1978	100	.031	16.4	22.4	18.6	3500	267	128	13.2	114	.498	.0364	32.9
1979	69	.022	15.4	19.2	16.9	3500	251	110	14.7	107	.462	.0313	30.0
1980	82	.044	16.4	21.4	18.3	3500	211	106	15.3	106	.526	.0299	32.4
1981	122	.067	18.5	24.9	20.9	3500	238	108	14.7	107	.474	.0306	36.9
1982	145	.076	19.5	26.4	22.1	3500	205	104	15.2	105	.533	.0295	39.0
1983	275	.120	20.2	28.9	23.3	3500	174	105	14.8	106	.620	.0299	41.1
1984	738	.221	19.9	27.6	22.7	3500	164	102	15.2	105	.634	.0291	40.2
1985	953	.260	20.0	28.1	23.0	3500	168	106	14.9	106	.647	.0301	40.5
1986	1125	.259	20.2	27.9	23.0	3500	164	114	14.0	109	.704	.0326	40.6
1987	1236	.299	19.9	28.4	23.0	3500	178	125	13.2	113	.711	.0357	40.5
1988	1166	.256	19.5	28.1	22.6	3500	189	134	12.5	116	.720	.0384	39.9
1989	999	.225	19.5	27.8	22.5	3500	197	136	12.5	117	.704	.0388	39.7
1990	745	.196	19.8	28.7	23.0	3500	195	140	12.1	118	.730	.0400	40.5
1991	697	.172	19.7	28.3	22.8	3500	202	141	12.1	118	.709	.0401	40.4
1992	692	.170	20.0	28.9	23.2	3500	194	141	12.2	118	.730	.0401	41.3
1993	850	.179	20.2	29.3	23.5	3500	192	143	12.0	119	.750	.0409	41.7
1994	1056	.193	20.9	30.1	24.2	3500	185	139	12.3	118	.760	.0398	42.9
1995	969	.169	21.2	31.0	24.7	3500	179	141	12.1	118	.803	.0402	44.0
1996	810	.154	21.0	30.8	24.5	3500	176	144	11.9	120	.830	.0411	43.8
1997	899	.144	21.8	30.8	25.1	3500	161	133	12.5	116	.843	.0381	44.7
1998	956	.146	21.7	30.9	25.0	3500	159	137	12.2	117	.885	.0392	44.4
1999	844	.124	22.3	31.5	25.7	3500	153	137	12.2	117	.918	.0391	45.5

PERCENT OF 3500 lb. TRUCKS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1975			9.7		1.8			98.2			3.0	27.1	69.9	97.0	3.0
1976			13.7		1.9			98.1			5.4	12.7	81.8	94.6	5.4
1977			11.8		3.0			97.0			6.7	9.9	83.5	93.3	6.7
1978			21.4		2.7			97.3			11.7	8.8	79.5	88.3	11.7
1979		55.5	64.8		12.2			87.8			72.4	2.8	24.9	80.3	19.7
1980		15.1	46.7	36.8	14.6			85.4			46.6	8.0	45.4	66.8	33.2
1981		6.7	61.7	31.3	6.5			93.5			16.5	11.0	72.5	80.5	19.5
1982		26.1	77.0	19.1	4.3			93.2	2.6		35.5	11.9	52.6	63.4	36.6
1983		54.6	66.0	28.7	3.7			94.9	1.5		29.0	56.7	14.3	68.3	31.7
1984	15.3	53.3	48.4	25.2	7.0			91.8	1.2		35.8	58.2	6.0	74.4	25.6
1985	23.3	46.7	44.5	32.6	14.7	.7		84.9	.4		32.5	60.5	6.9	74.1	25.9
1986	20.2	54.0	45.6	34.6	49.4	19.7	29.7	50.4	.1		34.7	59.3	5.9	70.8	29.2
1987	20.2	49.4	39.9	47.8	64.9	20.7	44.2	35.0	.1		29.0	69.9	1.1	74.3	25.7
1988	18.1	49.9	36.4	55.5	93.7	30.2	63.5	6.3			29.8	70.2		82.5	17.5
1989	22.3	35.7	32.2	49.8	95.0	37.5	57.6	5.0			19.6	80.4		83.6	16.4
1990	26.4	34.7	31.8	66.0	96.0	20.1	75.9	4.0			20.5	79.5		82.1	17.9
1991	7.3	32.8	40.6	58.4	99.7	39.4	60.3	.3			23.2	76.8		83.1	16.9
1992	10.4	29.0	46.8	52.4	99.6	29.4	70.1	.4			19.0	80.9		83.1	16.9
1993	25.0	22.8	40.0	59.1	99.6	20.3	79.4	.4			15.3	82.4	2.3	87.9	12.1
1994	13.2	16.3	48.8	48.8	100.0	13.1	86.9			.2	12.0	87.1	.9	92.1	7.9
1995	23.4	17.1	45.6	54.4	100.0	13.1	86.9			8.2	10.5	88.7	.8	86.5	13.5
1996	3.1	23.5	49.6	50.4	100.0		100.0			12.6	9.6	89.5	1.0	83.3	16.7
1997	2.7	32.5	57.4	42.6	100.0		100.0			19.8	23.0	76.8	.3	75.8	24.2
1998	4.1	30.8	53.3	46.7	100.0		100.0			36.8	29.6	70.4	.1	63.2	36.8
1999	2.2	32.7	51.8	48.2	100.0		100.0			42.4	31.7	68.3		57.6	42.4

Table I-20 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 4000 lb. TRUCKS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	1021	.514	12.3	17.2	14.1	4000	324	141	13.5	114	.433	.0351	28.8
1976	1234	.473	13.2	17.9	15.0	4000	326	137	13.7	113	.419	.0341	30.8
1977	1165	.413	14.7	19.3	16.5	4000	322	144	13.1	115	.447	.0360	33.5
1978	1317	.402	14.3	18.3	15.9	4000	319	144	13.1	115	.449	.0358	32.5
1979	702	.227	14.4	18.5	15.9	4000	301	140	13.4	114	.465	.0349	32.4
1980	536	.288	16.5	22.2	18.6	4000	279	125	14.5	109	.453	.0312	37.5
1981	675	.371	16.9	22.8	19.1	4000	282	127	14.3	109	.452	.0316	38.6
1982	490	.256	16.5	22.4	18.7	4000	286	127	14.5	110	.445	.0317	37.9
1983	501	.218	16.7	22.9	19.0	4000	269	123	14.8	108	.468	.0307	38.5
1984	688	.206	16.4	23.0	18.9	4000	265	121	15.0	108	.471	.0302	38.4
1985	742	.202	17.1	23.8	19.6	4000	259	132	14.1	111	.523	.0329	39.7
1986	935	.215	17.5	24.5	20.1	4000	243	132	14.0	111	.572	.0329	40.6
1987	856	.207	17.8	25.3	20.5	4000	227	141	13.3	114	.649	.0353	41.3
1988	1189	.261	18.1	26.2	21.1	4000	230	148	12.8	116	.668	.0369	42.4
1989	1390	.313	18.5	26.9	21.5	4000	225	149	12.7	117	.686	.0373	43.2
1990	1229	.323	18.3	26.8	21.3	4000	219	148	12.8	116	.694	.0369	43.0
1991	1502	.371	18.4	27.0	21.5	4000	221	151	12.6	117	.702	.0377	43.2
1992	1460	.359	18.4	27.3	21.5	4000	219	153	12.5	118	.710	.0381	43.3
1993	1716	.361	18.3	27.4	21.5	4000	222	164	11.9	122	.747	.0409	43.2
1994	1778	.324	18.3	27.1	21.5	4000	223	163	11.8	121	.746	.0408	43.2
1995	1857	.323	18.2	27.4	21.4	4000	225	163	11.8	121	.737	.0409	43.1
1996	1779	.339	18.7	28.0	22.0	4000	222	173	11.2	125	.794	.0434	44.4
1997	1862	.299	18.6	27.6	21.8	4000	223	176	11.1	126	.802	.0440	43.9
1998	2172	.331	18.7	28.4	22.1	4000	219	177	11.1	126	.820	.0443	44.6
1999	1976	.290	18.7	28.1	22.0	4000	215	175	11.1	125	.827	.0438	44.2

PERCENT OF 4000 lb. TRUCKS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1975		2.0	33.8					100.0			.6	16.1	83.3	99.4	.6
1976		2.7	33.4					100.0			.6	12.9	86.6	99.4	.6
1977		3.4	29.7					100.0			1.3	11.8	86.9	98.7	1.3
1978		3.8	29.3					99.5	.5		1.0	12.7	86.3	99.0	1.0
1979		6.4	35.0	7.6				100.0			.6	11.2	88.2	99.4	.6
1980		5.8	50.0	21.7	.7			99.3			1.0	13.8	85.1	99.0	1.0
1981	.1	7.3	42.9	37.4	.5			99.5			.7	10.2	89.2	99.3	.7
1982		9.1	31.3	33.8	.6			99.0	.4		1.4	14.7	83.9	98.6	1.4
1983		16.7	27.6	50.1	.7			99.2	.1		.9	29.8	69.3	99.0	1.0
1984		20.6	29.0	43.5	.8			99.2			1.1	32.1	66.8	98.9	1.1
1985		27.4	20.6	50.2	8.0			92.0			1.0	42.8	56.2	99.0	1.0
1986		23.2	25.7	57.1	59.8	34.8	24.9	39.7	.5		6.3	49.6	44.0	89.3	10.7
1987	3.6	27.9	19.2	70.8	87.0	47.5	39.5	13.0			4.7	69.6	25.7	89.6	10.4
1988	15.8	27.5	21.8	71.3	100.0	51.9	48.1				2.9	71.0	26.0	86.8	13.2
1989	14.9	34.8	19.3	78.0	100.0	48.7	51.3				10.4	72.8	16.8	85.6	14.4
1990	31.8	29.0	17.5	79.8	100.0	41.8	58.2				8.0	73.9	18.1	82.8	17.2
1991	22.4	37.0	17.0	82.8	100.0	42.0	58.0				3.7	84.7	11.6	79.1	20.9
1992	31.5	23.0	13.9	86.1	100.0	27.0	73.0				3.3	87.1	9.6	84.6	15.4
1993	28.6	19.6	11.0	89.0	100.0	10.6	89.4				1.2	91.3	7.4	82.0	18.0
1994	34.2	28.6	16.0	84.0	100.0	15.1	84.9			6.3	5.7	85.3	9.1	78.1	21.9
1995	42.5	34.5	10.4	89.6	100.0	5.7	94.3			10.6	4.0	92.5	3.6	73.8	26.2
1996	48.5	26.4	7.2	92.8	100.0		100.0			9.3	2.3	94.7	2.9	82.1	17.9
1997	37.4	27.4	10.8	89.2	100.0		100.0			12.9	9.6	81.5	8.9	79.5	20.5
1998	49.5	25.2	7.4	92.6	100.0		100.0			17.5	2.2	95.8	1.9	79.2	20.8
1999	36.9	30.4	12.4	87.6	100.0		100.0			21.8	5.4	92.1	2.5	74.1	25.9

Table I-21 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 4500 lb. TRUCKS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	386	.194	10.7	13.6	11.9	4500	350	160	13.3	116	.455	.0353	26.9
1976	610	.234	11.6	15.1	12.9	4500	353	158	13.5	116	.445	.0348	29.3
1977	862	.305	12.5	15.9	13.8	4500	359	164	13.0	117	.456	.0362	31.3
1978	986	.301	12.3	15.4	13.5	4500	353	161	13.1	116	.456	.0355	30.8
1979	960	.311	12.8	15.9	13.9	4500	323	145	14.3	112	.452	.0321	32.0
1980	389	.209	14.0	18.3	15.7	4500	319	144	14.3	111	.452	.0317	35.7
1981	373	.205	14.9	19.9	16.8	4500	311	143	14.4	111	.461	.0315	38.2
1982	407	.213	14.9	19.7	16.8	4500	310	150	13.9	113	.484	.0331	38.2
1983	517	.225	15.0	20.2	17.0	4500	310	148	14.0	113	.480	.0328	38.6
1984	691	.207	14.7	20.0	16.7	4500	310	149	13.9	113	.481	.0330	38.0
1985	745	.203	14.5	19.4	16.4	4500	311	157	13.3	115	.505	.0348	37.2
1986	769	.177	15.3	20.6	17.3	4500	307	151	13.8	114	.493	.0336	39.3
1987	636	.154	15.0	20.6	17.1	4500	315	165	12.9	118	.523	.0366	38.7
1988	814	.179	15.4	21.6	17.7	4500	321	172	12.5	120	.534	.0381	40.0
1989	895	.202	15.3	21.7	17.6	4500	320	174	12.4	120	.541	.0385	39.9
1990	832	.219	15.6	22.7	18.2	4500	307	171	12.6	120	.561	.0379	41.3
1991	909	.224	16.1	23.8	18.8	4500	285	172	12.5	120	.615	.0381	42.6
1992	1015	.250	16.1	23.8	18.9	4500	282	172	12.5	120	.623	.0382	42.7
1993	1163	.245	16.5	24.5	19.3	4500	278	175	12.3	121	.644	.0389	43.7
1994	1482	.270	16.4	24.4	19.3	4500	277	183	11.9	123	.674	.0406	43.6
1995	1680	.292	16.3	24.3	19.2	4500	277	180	12.0	122	.666	.0399	43.4
1996	1570	.299	16.8	25.4	19.8	4500	269	185	11.8	124	.693	.0410	44.8
1997	1713	.275	17.0	25.4	19.9	4500	263	192	11.4	126	.735	.0427	45.1
1998	1645	.251	16.9	25.2	19.8	4500	265	203	10.9	129	.771	.0452	44.8
1999	1978	.290	17.2	25.6	20.2	4500	261	205	10.8	130	.790	.0455	45.6

PERCENT OF 4500 lb. TRUCKS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1975		31.9	27.8					100.0				43.4	56.6	100.0	
1976		44.1	30.3					100.0			.2	32.1	67.7	99.8	.2
1977		45.0	22.0					100.0				31.9	68.1	99.9	.1
1978		50.0	21.0					98.0	2.0			36.7	63.3	99.8	.2
1979		15.7	20.7	.2				99.7	.3			24.8	75.2	100.0	
1980		31.6	27.0	41.1				97.3	2.7			24.5	75.5	100.0	
1981		24.7	18.3	54.4				99.0	1.0		.2	26.8	72.9	99.8	.2
1982		20.5	13.7	53.1				99.6	.4		.6	33.9	65.5	99.4	.6
1983		26.7	14.1	59.2				99.6	.4			33.7	66.3	99.3	.7
1984		27.5	14.0	59.9				99.8	.2			33.2	66.8	99.2	.8
1985		25.1	11.9	62.6	4.6			95.4				31.6	68.4	99.2	.8
1986		25.8	12.4	68.6	22.1		22.1	77.9				29.3	70.7	99.7	.3
1987		23.2	13.2	48.8	79.3	43.2	36.1	20.7				31.5	68.5	99.0	1.0
1988		31.3	15.1	60.8	97.4	66.4	31.0	2.5	.1			22.8	77.2	98.7	1.3
1989		29.6	23.5	61.2	98.5	59.8	38.7	1.4	.1			22.9	77.1	98.9	1.1
1990		28.5	15.7	74.6	99.1	59.1	40.0	.8	.1			38.9	61.1	94.5	5.5
1991		44.9	15.6	82.0	99.5	45.3	54.2	.4				51.0	49.0	95.9	4.1
1992		39.5	18.0	81.3	100.0	36.9	63.0					51.4	48.6	93.1	6.9
1993	.3	37.7	13.6	86.1	100.0	38.2	61.8					49.6	50.4	90.9	9.1
1994		46.3	10.6	88.8	100.0	27.9	72.1			.9		56.3	43.7	90.2	9.8
1995		44.2	14.0	85.6	100.0	25.8	74.2			8.8	.2	57.3	42.5	87.6	12.4
1996	9.7	40.2	8.1	91.5	100.0		100.0			5.0		66.7	33.3	93.7	6.3
1997	5.7	46.3	5.6	94.1	100.0		100.0			4.1		63.0	37.0	90.1	9.9
1998	6.6	45.5	6.7	93.3	100.0		100.0			2.0		58.9	41.1	93.3	6.7
1999	20.1	48.8	4.0	96.0	100.0		100.0			5.0	.4	66.2	33.4	91.7	8.3

Table I-22 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 5000 lb. TRUCKS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	201	.101	10.2	12.4	11.1	5000	365	165	14.1	114	.449	.0327	27.9
1976	297	.114	11.0	13.7	12.1	5000	364	156	14.7	112	.427	.0311	30.4
1977	256	.091	11.9	14.8	13.1	5000	372	167	14.0	115	.446	.0331	32.8
1978	324	.099	11.7	14.6	12.8	5000	371	170	13.6	116	.459	.0338	32.1
1979	673	.218	11.4	13.7	12.3	5000	363	156	15.1	112	.426	.0311	31.8
1980	242	.130	13.4	17.9	15.1	5000	347	154	14.8	111	.443	.0305	39.1
1981	122	.067	14.1	18.7	15.8	5000	330	146	15.4	109	.446	.0289	40.6
1982	170	.089	15.1	20.2	17.0	5000	331	144	15.6	108	.438	.0284	44.5
1983	173	.075	14.8	20.6	17.0	5000	332	150	15.0	110	.458	.0298	44.0
1984	260	.078	14.0	19.5	16.0	5000	327	159	14.4	113	.488	.0316	41.0
1985	277	.076	13.8	19.4	15.9	5000	326	164	14.0	114	.504	.0326	40.3
1986	289	.067	14.1	20.0	16.3	5000	323	162	14.1	113	.502	.0323	41.1
1987	235	.057	13.8	19.3	15.9	5000	327	175	13.4	117	.534	.0349	40.0
1988	366	.080	14.2	20.3	16.4	5000	330	180	13.2	118	.541	.0357	41.3
1989	340	.077	14.0	19.8	16.1	5000	322	176	13.4	117	.547	.0349	40.7
1990	390	.103	14.0	20.6	16.4	5000	332	188	12.7	121	.567	.0374	41.1
1991	245	.060	13.9	20.2	16.2	5000	325	188	12.6	121	.582	.0373	40.7
1992	363	.089	14.3	21.3	16.8	5000	320	182	13.0	119	.572	.0363	42.3
1993	405	.085	14.5	21.5	17.0	5000	324	196	12.2	123	.606	.0389	42.7
1994	574	.105	14.5	21.6	17.0	5000	329	200	12.0	124	.610	.0399	42.7
1995	629	.109	14.5	21.6	17.0	5000	329	199	12.1	124	.605	.0396	42.6
1996	572	.109	14.8	22.2	17.4	5000	328	220	11.2	130	.671	.0440	43.6
1997	828	.133	15.6	23.4	18.3	5000	313	227	10.8	132	.728	.0454	45.9
1998	1117	.170	15.1	22.8	17.8	5000	310	230	10.7	133	.750	.0461	44.6
1999	1039	.152	15.1	22.4	17.7	5000	313	236	10.5	134	.760	.0471	44.5

PERCENT OF 5000 lb. TRUCKS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1975		48.9	24.2					100.0				35.9	64.1	100.0	
1976		50.3	24.6					100.0				35.3	64.7	100.0	
1977		40.8	22.1					100.0				30.4	69.6	100.0	
1978		56.5	27.0					100.0				36.9	63.1	100.0	
1979		22.4	15.5	1.2				92.2	7.8			25.2	74.8	100.0	
1980		51.8	18.5	56.3				82.5	17.5			23.1	76.9	100.0	
1981		50.7	17.4	53.8				85.6	14.4			33.1	66.9	100.0	
1982		42.0	17.9	54.6				67.9	32.1			23.1	76.9	100.0	
1983		48.9	12.1	67.2				81.7	18.3			38.2	61.8	100.0	
1984		60.0	12.6	59.0				93.4	6.6			45.1	54.9	100.0	
1985		63.5	11.8	63.6	3.2			94.0	2.8			42.5	57.5	100.0	
1986		62.7	9.5	68.8	16.2		16.2	82.3	1.5			42.7	57.3	100.0	
1987		70.3	13.0	53.5	70.7	40.0	30.7	28.5	.8			48.8	51.2	100.0	
1988		61.1	9.8	64.3	97.4	47.8	49.6	1.4	1.1			31.3	68.7	100.0	
1989		62.7	12.6	64.7	99.3	39.1	60.2		.7		3.4	37.0	59.6	96.6	3.4
1990		58.9	8.7	84.4	99.4	54.7	44.7		.6		2.2	36.6	61.2	97.8	2.2
1991		69.9	10.5	82.8	99.3	48.2	51.1		.7		2.1	19.4	78.6	93.2	6.8
1992		64.5	10.0	85.1	99.6	38.8	60.8		.4		1.1	13.9	85.0	96.6	3.4
1993		71.1	9.2	87.4	100.0	40.5	59.5				.9	15.0	84.1	96.1	3.9
1994		75.2	7.5	90.2	100.0	40.2	59.8			2.8		11.0	89.0	96.9	3.1
1995	.3	72.7	8.3	89.6	100.0	38.7	61.3			1.4		12.6	87.4	97.2	2.8
1996		61.2	5.7	93.1	99.9		99.9		.1	3.2		10.7	89.3	95.5	4.5
1997		48.1	4.0	96.0	100.0		100.0			3.0		4.1	95.9	96.2	3.8
1998		72.7	3.5	96.5	100.0		100.0					9.0	91.0	95.2	4.8
1999		62.0	2.8	97.2	100.0		100.0					7.9	92.1	94.3	5.7

Table I-23 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 5500 lb. TRUCKS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	59	.030	9.2	11.3	10.0	5500	380	175	14.7	114	.455	.0314	27.7
1976	109	.042	10.3	13.1	11.4	5500	385	173	14.8	113	.445	.0312	31.5
1977	101	.036	10.7	13.4	11.8	5500	398	184	14.1	116	.458	.0332	32.8
1978	133	.041	11.0	13.8	12.1	5500	380	173	14.5	113	.457	.0313	33.4
1979	158	.051	10.3	12.2	11.1	5500	400	183	14.3	116	.454	.0332	30.8
1980	28	.015	11.7	15.4	13.1	5500	353	162	15.2	110	.457	.0288	36.3
1981	6	.003	12.2	16.1	13.7	5500	350	163	15.2	111	.465	.0287	37.7
1982	41	.022	18.7	26.4	21.5	5500	350	132	17.9	103	.378	.0237	60.0
1983	35	.015	17.6	25.4	20.4	5500	373	136	17.6	104	.367	.0242	57.9
1984	34	.010	15.6	22.1	17.9	5500	367	145	16.8	106	.398	.0259	51.9
1985	28	.008	13.9	20.2	16.1	5500	359	157	15.8	109	.439	.0281	45.8
1986	28	.006	13.8	20.0	16.0	5500	341	157	15.8	109	.474	.0280	45.3
1987	58	.014	14.3	21.0	16.7	5500	351	206	12.6	122	.588	.0372	46.1
1988	77	.017	13.9	20.3	16.2	5500	350	199	12.9	120	.569	.0361	44.8
1989	47	.011	14.4	22.4	17.2	5500	350	205	12.7	122	.587	.0372	47.6
1990	51	.013	14.1	22.0	16.8	5500	350	206	12.6	122	.588	.0372	46.5
1991	37	.009	14.0	21.5	16.7	5500	347	201	12.9	121	.578	.0361	46.1
1992	73	.018	13.8	20.5	16.2	5500	343	201	13.0	121	.583	.0361	44.7
1993	111	.023	14.2	21.0	16.6	5500	342	200	13.0	121	.584	.0362	45.8
1994	140	.025	14.3	21.0	16.7	5500	346	202	12.9	121	.584	.0366	46.1
1995	199	.035	14.3	20.9	16.6	5500	346	202	12.8	121	.583	.0366	45.9
1996	231	.044	14.1	21.2	16.6	5500	345	234	11.5	130	.679	.0426	45.9
1997	609	.098	14.5	22.3	17.2	5500	338	238	11.2	131	.705	.0432	47.6
1998	408	.062	14.0	21.4	16.6	5500	326	233	11.4	129	.716	.0423	45.7
1999	347	.051	14.1	21.6	16.7	5500	336	243	11.0	132	.724	.0441	46.0

PERCENT OF 5500 lb. TRUCKS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1975		84.9	2.6					100.0				7.8	92.2	100.0	
1976		86.1	3.3					100.0				3.9	96.1	100.0	
1977		76.1	1.7					100.0				6.6	93.4	100.0	
1978		89.9	1.1					100.0				6.5	93.5	100.0	
1979		11.9	29.5					100.0				8.7	91.3	100.0	
1980		60.6	22.9	41.6				100.0					100.0	100.0	
1981		73.2	24.3	55.0				100.0				3.9	96.1	100.0	
1982		79.9	13.2	85.7				7.2	92.8			32.0	68.0	100.0	
1983		67.5	3.6	94.1				19.9	80.1			33.8	66.2	100.0	
1984		67.2	4.5	88.8				42.1	57.9			20.2	79.8	100.0	
1985		79.8	4.1	86.5				70.0	30.0			10.8	89.2	100.0	
1986		76.2	10.1	82.7				74.5	25.5			6.4	93.6	100.0	
1987		35.9	.4	95.8	92.6	91.6	.9	3.8	3.6			1.4	98.6	100.0	
1988		36.4	1.2	89.5	97.7	88.3	9.3	.4	1.9			1.1	98.9	100.0	
1989		4.6	1.0	93.2	96.9	89.8	7.1		3.1			1.1	98.9	100.0	
1990		3.5	1.1	98.0	97.2	83.1	14.1		2.8			.8	99.2	100.0	
1991		8.0	.6	99.4	95.6	72.0	23.5		4.4			.9	99.1	100.0	
1992		41.3	3.8	94.5	98.4	74.9	23.5		1.6				100.0	100.0	
1993		30.8	1.0	92.8	100.0	73.5	26.5					2.2	97.8	100.0	
1994		40.0	2.2	92.8	100.0	74.5	25.5					1.4	98.6	100.0	
1995		61.8	1.4	94.6	100.0	75.2	24.8					.2	99.8	100.0	
1996		73.7	1.3	94.6	98.9		98.9		1.1				100.0	100.0	
1997	.3	87.9	.3	99.7	99.9		99.9		.1				100.0	99.7	.3
1998		84.6	1.1	98.9	99.8		99.8		.2	2.1			100.0	97.9	2.1
1999	.2	58.1	1.4	98.6	100.0		100.0						100.0	99.8	.2

Table I-24 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 6000 lb. TRUCKS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	1	.000	10.0	12.3	10.9	6000	329	152	16.9	105	.448	.0157	33.2
1976	1	.001	10.6	13.9	11.9	6000	373	161	16.3	108	.422	.0232	35.8
1977	2	.001	11.2	14.2	12.4	6000	362	165	16.0	109	.450	.0235	37.4
1978	2	.001	10.7	13.4	11.8	6000	373	170	15.6	110	.454	.0254	35.4
1979	10	.003	9.7	12.6	10.8	6000	411	189	15.7	115	.448	.0310	32.6
1980	4	.002	10.8	14.9	12.3	6000	362	169	15.8	110	.466	.0270	37.5
1982	4	.002	18.2	26.2	21.1	6000	350	130	19.5	100	.371	.0213	63.4
1983	4	.002	17.4	25.3	20.2	6000	378	131	19.4	100	.346	.0216	61.3
1984	4	.001	17.4	25.8	20.4	6000	378	131	19.4	100	.345	.0213	61.9
1985	8	.002	18.0	27.6	21.4	6000	378	132	19.3	100	.348	.0208	64.6
1986	6	.001	18.8	28.5	22.2	6000	379	130	19.5	100	.342	.0211	66.8
1987	3	.001	18.1	26.8	21.2	6000	377	136	19.0	102	.362	.0212	64.5
1988	4	.001	16.0	23.6	18.7	6000	369	158	17.3	107	.430	.0249	57.7
1989	33	.007	13.5	20.0	15.8	6000	352	205	13.7	119	.583	.0340	47.8
1990	32	.008	13.6	20.4	16.0	6000	352	206	13.6	119	.586	.0341	48.3
1991	18	.005	13.5	19.9	15.8	6000	351	206	13.5	119	.588	.0342	47.5
1992	25	.006	12.5	19.3	14.9	6000	350	209	13.3	120	.595	.0347	44.7
1993	49	.010	13.4	20.1	15.8	6000	350	210	13.3	120	.600	.0350	47.4
1994	69	.013	13.9	20.0	16.1	6000	352	208	13.4	120	.592	.0346	48.4
1995	70	.012	13.6	19.9	15.8	6000	352	207	13.4	119	.590	.0345	47.6
1996	63	.012	14.1	21.6	16.7	6000	350	246	11.7	129	.703	.0409	50.2
1997	78	.013	14.2	21.4	16.8	6000	350	248	11.6	129	.709	.0413	51.1
1998	95	.015	13.3	21.0	15.9	6000	341	236	12.1	126	.692	.0392	47.7
1999	488	.072	13.5	20.7	16.0	6000	332	244	11.8	129	.735	.0407	48.1

PERCENT OF 6000 lb. TRUCKS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1975		14.6	74.8					100.0				85.4	14.6	100.0	
1976		64.4	38.8					100.0				35.6	64.4	100.0	
1977		53.5	36.7					100.0				46.5	53.5	100.0	
1978		64.2	33.8					100.0				30.3	69.7	100.0	
1979		43.1						100.0					100.0	100.0	
1980		2.3		76.5				100.0					100.0	100.0	
1982		99.3		100.0				.7	99.3				100.0	100.0	
1983		95.5		95.5				4.5	95.5				100.0	100.0	
1984		95.4		95.4				4.6	95.4				100.0	100.0	
1985		41.2	2.5	97.5				4.7	95.3			14.0	86.0	100.0	
1986		41.5	.3	99.7					100.0			15.3	84.7	100.0	
1987		48.5	7.9	92.1	7.8	7.8			92.2			14.6	85.4	100.0	
1988		61.9	7.4	92.6	32.9	32.9			67.1			11.9	88.1	100.0	
1989		96.3	1.1	98.9	93.7	93.7			6.3			.9	99.1	100.0	
1990		96.8	.7	99.3	94.5	94.5			5.5			.7	99.3	100.0	
1991		94.9	.1	99.9	94.7	94.7			5.3			1.3	98.7	100.0	
1992		82.5		100.0	99.2	82.5	16.7		.8			.8	99.2	100.0	
1993		99.8		100.0	100.0	99.8	.2					.2	99.8	100.0	
1994		91.6		100.0	100.0	87.0	13.0					.1	99.9	100.0	
1995		91.3		100.0	100.0	86.4	13.6					.1	99.9	100.0	
1996		92.5		100.0	99.3		99.3		.7				100.0	100.0	
1997		95.5		100.0	98.4		98.4		1.6				100.0	100.0	
1998		96.2		100.0	98.7		98.7		1.3	5.0			100.0	95.0	5.0
1999		99.1	.1	99.9	99.9		99.9		.1	6.8			100.0	93.2	6.8

Table I-25 **CHARACTERISTICS OF 1975 TO 1999 LIGHT DUTY VEHICLES** 6500 lb. TRUCKS

MODEL YEAR	SALES (000)	FRAC	FUEL ECONOMY CITY	HWY	55/45	WGHT LB	VOL CU-FT	ENGINE CID	HP	0-60 TIME	TOP SPD	HP/ CID	HP/ WT	TON -MPG
1975	1	.000	9.9	11.6	10.6	6500		321	150	18.6	103	.464	.0199	34.5
1976	1	.000	10.4	13.3	11.5	6500		324	144	19.2	102	.442	.0197	37.6
1977	1	.001	11.4	13.6	12.3	6500		316	142	19.3	101	.449	.0202	40.1
1978	2	.000	10.7	13.2	11.7	6500		327	155	18.1	104	.472	.0223	38.2
1980	1	.000	10.6	14.5	12.0	6500		368	150	18.5	103	.407	.0213	39.2
1991	1	.000	16.8	26.7	20.2	6500		379	140	19.6	101	.368	.0194	65.5

PERCENT OF 6500 lb. TRUCKS:

MODEL YEAR	DRIVETRAIN FRONT	4WD	TRANSMISSION MANUAL	LOCK	FUEL METERING FI	TBI	PORT	CARB	DSL	FOUR VALVE	VEHICLE SIZE SMALL	MID	LARGE	DESIGNED DOM	IMPORT
1975								100.0				100.0		100.0	
1976			.2					100.0				100.0		100.0	
1977								100.0				100.0		100.0	
1978								100.0				86.8	13.2	100.0	
1980								100.0					100.0	100.0	
1991		100.0		100.0					100.0				100.0	100.0	