

Technical Report

**Light-Duty Automotive Technology and
Fuel Economy Trends Through 1991**

by

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May 1991

NOTICE

Technical Reports do not necessarily represent final EPA decisions or positions. They are 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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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

ANN ARBOR, MICHIGAN 48105

MAY 20 1991

OFFICE OF
AIR AND RADIATION

MEMORANDUM

SUBJECT: Exemption From Peer and Administrative Review

FROM: Karl H. Hellman, Chief *KH*
Control Technology and Applications Branch

TO: Charles L. Gray, Jr., Director
Emission Control Technology Division

The attached report entitled, "Light-Duty Automotive Technology and Fuel Economy Trends Through 1991," (EPA/AA/CTAB/91-02) examines trends in light-duty automotive technology and fuel economy for model years 1975 through 1991. Comparisons are made with previous year's data for the fleet as a whole, and for number of cylinders, vehicle size class, weight class, and market segment (Domestic, European, and Asian).

Since this report is concerned only with the presentation of data and its analysis and does not involve matters of policy or regulation, your concurrence is requested to waive administrative review according to the policy outlined in your directive of April 22, 1982.

Concurrence: *Charles L. Gray, Jr.* Date: 5-17-91
Charles L. Gray, Jr., Dir., ECTD

Nonconcurrence: _____ Date: _____
Charles L. Gray, Jr., Dir., ECTD

I. Summary

This, the twenty-first in this series of papers and reports, examines trends in light-duty vehicle fuel economy and technology usage through model year 1991.

II. Introduction

Light-duty automotive technology and fuel economy trends are examined herein, as in preceding papers in this series, [1-23]* using the latest and most complete EPA data available. The source database was frozen in mid-March 1991.

Through model year 1989, all data are "final CAFE" data. For 1990, final CAFE data was available for some, but not all manufacturers. For model year 1991, fuel economy label data were used. For those manufacturers for which "final" data are unavailable, label data sales volumes have been adjusted to agree with post-label (but pre-"final") information reported to the Department of Transportation and in trade publications.

The MPG data in this series and this paper are unadjusted data values, with no correction factors for laboratory to on-road shortfall or "test procedure adjustment." Where only one MPG value is presented, it is 55/45 combined MPG. All vehicle weight data are based on inertia weight class (nominally curb weight plus 300 lbs). The light truck data in this paper include vehicles classified as light-duty trucks with gross vehicle weight ratings (GVWR) up to 8,500 lbs for all years shown.

Vehicle classification as to vehicle type, size class and manufacturer/origin generally follows fuel economy label, Gas Mileage Guide, and CAFE protocols; exceptions are listed in Appendix A. In some 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. Pickups, Vans and Utility Trucks are sometimes each subdivided as "Small," and "Large." The truck classification scheme used in this paper is explained in reference 14.

Appendix B lists the model year 1991 nameplates and their average MPG as of the data freeze date.

This paper includes an estimate of 0 to 60 MPH acceleration time, calculated from engine rated horsepower and vehicle inertia weight, as in reference 24. This provides a quantitative "index" of vehicle performance capability.

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

III. General Car and Truck Trends

Table 1 gives characteristics of passenger cars, light trucks, and all light-duty vehicles (cars and light trucks) for model years 1975 to 1991.

Sales-weighted 55/45 fuel economy for cars peaked at 28.6 in 1988. Passenger car fuel economy improved nearly 9 MPG between 1975 and 1981, improved less than 4 MPG between 1981 and 1988, and has since decreased about 1 MPG to 27.8 the past two years. Other changes since 1988, responsible for this declining MPG trend, include increases in inertia weight, horsepower, and engine size.

Similarly, light truck MPG peaked in 1987 at 21.6. Between 1975 and 1981, truck fuel economy improved about 6 MPG, compared to an improvement of only 1.5 MPG between 1981 and 1987. This year's light trucks achieve 0.2 MPG more than last year's, 20.8 MPG compared to 20.6 MPG.

Light truck sales fraction has increased steadily for several years. Over 33 percent of this year's light-duty vehicles will be trucks compared to 29 percent last year and 19 percent in 1975. As a result of this increase, average fuel economy for the combined (car and truck) light-duty fleet, has declined for the third consecutive year. As shown in Figure 1, this year's combined fleet averages 25.0 MPG, the lowest level since 1985.

The import market share for cars has reached 40 percent. For trucks, it has been as high as 30 percent but is now down below 18 percent.

Total sales in model year 1991 are projected to be 7.9 million cars and 4.0 million trucks. This is about as many cars as were sold annually in 1982-83, but about twice as many trucks. Considering only the sales and MPG values of cars and trucks, 1991 light trucks consume 40 percent of the car-truck fuel. When the vehicle miles of travel differences [25] are accounted for, the yearly light truck fuel consumption share increases to 44 percent and when vehicle lifetime differences are factored in, [26] the lifetime fuel consumed by 1991 light trucks increases to 46 percent of the combined car and light truck fleet.

Average inertia weight for cars dropped 1,000 lbs between 1975 and 1982, leveled off for a while, and has increased by over 150 lbs since 1987. The light truck weight trend is similar.

Average engine size for cars and light trucks decreased considerably between 1975 and 1987, by more than 125 CID for cars and 100 CID for trucks. Since 1987, average displacements of both car and truck engines have increased.

Average engine horsepower reached a minimum for cars in 1981-82 and for trucks in 1983-84, and has risen consistently since.

Average horsepower for cars has returned to its 1975 high even though average car weight is now some 900 lbs less. Average horsepower for trucks surpassed its 1975 level three years ago and continues to climb, while average truck weight has just about returned to its 1975 level.

Power per CID has increased steadily and significantly over the entire period; while advantage could have been taken of this to reduce CID and improve fuel economy, the MPG improvement has been foregone in favor of increased power (see Figure 2). For both cars and light trucks, power per CID and power per pound of vehicle have set new records every year since 1981.

More than 98 percent of both this year's cars and trucks will have fuel-injected engines, with nearly three-fourths of them port fuel injected. On a percentage basis, there will be fewer carbureted engines this year (0.6 percent), than there were Diesels in 1985 (0.9 percent). Use of throttle body injection (TBI) peaked at about 30 percent for cars in 1987 and 1988, and has since dropped to about 17 percent. TBI usage for trucks has remained at about 40-48 percent the past four years. Over half of this year's trucks have port fuel-injected engines, about the same as last year.

Four-wheel drive usage for trucks has more than doubled since 1979: over 37 percent of this year's light trucks will have four-wheel drive, compared to 18 percent in 1979. Four-wheel drive usage for cars peaked at 3.1 percent in 1983, and has remained at about 1 percent since 1986.

IV. Distributions of MPG Data

Data such as those shown in Figure 3 are a time series of the sales weighted averages of a substantial number of individual data values. For any given model year there is always some interest in the within-year distribution of the data. Most of the interest has been in the portion of the distribution that exceeds the average MPG. The information about MPG distributions is shown herein as a time series. For each year, the sample weighted percentile distribution of the data is used instead of sales weighting in order to portray the distribution as a number of technical offerings, not sales successes or failures.

Figure 4 illustrates each year's fuel economy distribution as a series of points; connecting the common percentiles over time yields several time series. If all the percentile MPG time series were lines with zero slope, then there would exist a stable population of MPG alternatives and the only way to change fleet average MPG would be to change the relative proportions of the MPG choices that existed, say, in 1975. At the other extreme, if the percentile lines diverge from one another the range of MPG choices has become larger with time.

Figure 4 and Table 2 show that something between the flat line and divergent possibilities actually happened. It appears that each percentile has increased in MPG by about 50 percent since 1975. The distribution has broadened somewhat. Almost all cars in 1975 were between 10 and 30 MPG. Now most cars span a 15 to 45 MPG range. Figure 4 and Table 2 also indicate that it took 5 to 6 years for the fleet average MPG to improve to the level of the base year's 75+ and 85+ percentiles, while it took 13 years for the average MPG to reach the base year's 95+ percentile value.

V. Best-In-Class Analysis

Because of interest in the high end of the MPG spectrum, this portion of the database was examined in more detail. This analysis was based on the higher MPG portions of the data in different vehicle weight classes. Best-in-class analyses are not new: among others, reference 20 included several types of best-in-size-class analyses, showing that average fuel economy levels of 32 to 34 MPG were feasible with then-current (now old) technology and no shifts in the size class mix.

Methodology: The best-in-class analysis herein was done using model year 1990 data as of Summer 1990 (that database has since been updated). It was done on the basis of inertia weight class, not vehicle size class, because best-in-size-class analysis embodies the hypothesis of significant weight reductions, and an approach was sought that keeps weight reduction to a reasonable minimum.

The single best-MPG car, or MPG role model, in each class might be viewed as an extreme case that other manufacturers are not able to emulate; for example, in the 2,500 lbs class, other manufacturers may not be capable of matching the 42 MPG achieved by Ford's Escort. Therefore, the analysis also includes cases for best five in class and best dozen in class, and thus presents varying degrees of technological emulation challenge in terms of 1, 5, or 12 MPG role models. Appendix C lists the twelve MPG role models in each car and truck weight class. Some classes do not contain twelve models.

By definition, when the mix of weight classes of the overall fleet is retained, the "fleet" of weight class role models has the same average weight as the overall fleet. To evaluate the fuel economy potential of modest changes in the weight mix itself, two alternate mixes were devised. Appendix D gives the car and truck as-is and re-mixed weight distributions used.

To keep all variables in a higher-is-better framework, the analysis represents vehicle performance in terms of a "top speed index" instead of the zero-to-60 acceleration index used in the rest of this report. The top speed index is a function of power-to-weight ratio. For perspective's sake, because the top speed

index is a newly introduced variable, Appendix D also includes the calculated top speed indexes for all model years back to 1975.

Cars have an institutionalized utility measure--the interior volume index--in the fuel economy regulation arena, whereas light trucks use payload weight as the utility measure. Changes in these utility measures were tracked in the analysis.

Results: The results of the analysis are given in Tables 3 through 6. In Table 3, the best-in-class 1990 passenger car technology achieves 34.4 MPG (a 24 percent improvement) with no change in the weight mix, with an 8 percent loss in cubic feet and a 9 percent loss in top speed. About the same degree of MPG improvement is achievable with best-five technology and a small weight shift (6 percent drop in average weight), along with 7 percent losses in volume and top speed, or with best-dozen technology and the larger weight shift (12 percent drop), and 8 or 9 percent losses in volume and speed. A 20 percent MPG gain is achievable with best-dozen technology and the smaller weight shift.

The best-in-class 1990 technology combined with the larger weight shift is capable of a 45 percent gain in passenger car MPG, along with reductions of 12 or 13 percent in average weight, volume, and top speed. Note that all of these fleets include Ford Thunderbirds, Buick Station Wagons, and Rolls-Royces, with weights in the two- to three-ton range. The best-five fleets include, in addition, an assortment of Lincoln Continentals, Cadillacs, Chrysler New Yorkers, and Mercedes-Benz; there is room for such autos and higher average MPG.

Table 4 illustrates the values of Table 3 normalized to the base case.

For trucks (Table 5), the best-in-class 1990 technology achieves 25.9 MPG (a 23 percent improvement) with no weight mix change (with no loss in payload and an 8 percent loss in top speed); 26 MPG is achieved with best-five technology and the small weight shift (6 or 7 percent losses in payload and top speed), or with best-dozen technology and the larger weight shift (9 percent payload loss, 6 percent speed loss); best-dozen technology and the smaller weight shift achieve a 20 percent MPG gain.

Trucks can gain nearly one third in average MPG (taking them up to the 1990 baseline passenger car MPG level, 27.8 MPG) with 1990 best-in-class technology combined with the larger weight shift; this would entail an 11 percent drop in average inertia weight, a 14 percent drop in payload weight, and a 9 percent drop in top speed.

Table 6 lists the values in Table 5 normalized to the base case. All of these truck fleets include Large Trucks and Vans weighing two to three tons empty; there is room for Large Trucks and higher average MPG.

VI. Engines

Tables 7 through 13 describe 1975 to 1991 cars and light trucks by number of cylinders. For cars, only 3-, 4-, 6- and 8-cylinder engines are shown because cars with other numbers of cylinders (e.g. 2-, 5- and 12) have never accounted for more than a percent or two of the fleet. In 1991, for example, cars with 3-, 4-, 6- and 8-cylinder engines account for 99.7 of the car fleet; the remainder of the fleet consists of cars with other cylinder counts. Similarly, only data for 4-, 6- and 8-cylinder engines are shown for light trucks.

This year's 4-cylinder car engines have higher average horsepower than 6-cylinder engines did in the late 1970s. Similarly, 6-cylinder engines have more horsepower now than 8-cylinder engines had between 1978 and 1987 (Figure 2).

The sales fraction of 8-cylinder engines in cars (See Figure 5) dropped from about 60 percent in 1975-77 to about 12 percent in 1987 where it has remained. Use of 4-cylinder engines in cars increased from about 20 percent in 1975-77, to a peak of 62 percent in 1987, and has since decreased to 53 percent. The market share of 6-cylinder engines has increased relatively steadily, from 19 percent in 1975 to 33.5 percent in 1991. These changes in market share account from much of the recent change in average passenger car engine size (see Figure 6). Average car engine size by number of cylinders has changed very little for several years, much less than the decreases that took place between 1975 and 1980 for 8-cylinder engine average CID, and between 1975 and 1986 for 6-cylinder engine average CID.

As shown in Figures 7, 8, and 9, average 0 to 60 acceleration index has decreased steadily and consistently across car classes and for 4-, 6- and 8-cylinder car engines for several years. This corresponds to the increases in average horsepower shown previously (Figure 2), and HP/CID (Figure 10) that have occurred since 1981.

The market share for 3-cylinder engines has increased from 0.3 percent in 1985 to 1.6 percent this year. Currently, 3-cylinder engines are used in the GEO Metro, the Hyundai Charade, the Suzuki Swift, and the Subaru Justy. Average fuel economy for cars with 3-cylinder engines has decreased from 57.4 in 1985 to 46.8 this year (Figure 11), but they still achieve nearly 20 MPG more than the fleet average.

For each number-of-cylinders stratification, cars and light trucks both achieve about the same fuel economy in 1991 as they did in 1990. Average fuel economy for all of these engine sizes remains at or below the level achieved in 1988.

VII. Vehicle Utility Measures

There is growing interest in the incorporation of some measure of vehicle utility into fuel economy standards. In this context, J. E. Elliot, former Chief of Engineering at Chrysler Canada, shared with the authors a revealing and meaningful approach to the concept of "volume-average fuel economy," or VAFE. Using data from reference 23, Elliot observed that the average fuel consumption of the Sedan classes forms a perfectly straight line against interior volume, and the fuel consumption of the Station Wagon classes forms a different straight line; the implication is that there are two basic types of passenger vehicle, each type having a unique linear fuel consumption/volume relationship, with all of the subclasses within each type sharing that relationship.

Figure 12 illustrates. Subcompacts through Large Sedans share a common slope, and all Station Wagons share a common (different) slope. Minicompacts do not fit the pattern of the other Sedan classes. Most of today's Minicompacts are not typical "Sedans," but sports cars with high power-to-weight ratios. Two-Seaters, also with high power-to-weight ratios, have a fuel consumption value similar to Minicompacts and seem to belong with Minicompacts as a third "type" of passenger car. In Figures 12 and 13, Two-Seaters are plotted at 75 cubic feet for illustration purposes.

Any new form of MPG standard must address all light-duty vehicles covered under current MPG standards, i.e., Two-Seaters and light trucks as well as Sedans and Wagons. All cars except Two-Seaters already have a utility measure institutionalized in the current system: interior volume; and light trucks have a different utility measure already inherent in the system: payload weight, by virtue of the use of GVW rating in the system.

The number of vehicle types to be incorporated into any new system must be considered carefully, since each separate vehicle type means a separate standard for the manufacturers to track, and for EPA and DOT to administer. The current system is set up to handle three vehicle types, each with its own standard: passenger vehicles, 2-wheel drive light trucks ("non-passenger vehicles"), and 4-wheel drive light trucks. While there is no fundamental prohibition against cars having volume-based standards and trucks having payload-based ones, the discussion above makes it clear that the infusion of a utility measure into the process can lead to a proliferation of vehicle "types." If there should be three types of cars, how many types of trucks might there have to be, and how much more administratively burdensome can a new system get before being unworkable?

Against this background, we estimated volumes for model year 1990 trucks and payloads for model year 1990 cars to see whether either one-utility-measure-for-all offered the possibility of a reasonable number of vehicle "types"/standards. The car database was augmented with these payload weight values and the truck data

base with volume values. Two-Seaters were assumed to have an interior volume of 75 cubic feet and a payload capacity of 600 lbs. The results are shown in Figures 13 and 14 for fuel consumption versus volume, and versus payload, respectively.

Volume and Fuel Consumption: In Figure 13, Station Wagons constitute one unique vehicle "type;" the Sedans and Vans are seen to belong together as another "type;" and all other vehicles--Two-Seaters, Minicompacts, Utility Trucks, and Pickups, form a third type characterized by high fuel consumption per unit volume. A case could also be made for placing pickups in their own unique group.

Payload and Fuel Consumption: The payload approach, Figure 14, shows a different natural aggregation of vehicle types, one with more logical appeal: Station Wagons, Vans, and Pickups are equally adept at hauling payload weight; "normal" Sedans are an intermediate group; and Two-Seaters, Minicompacts, and Utility vehicles are a unique type with high fuel consumption per unit payload.

These results show that, in addition to volume, payload deserves serious consideration as a utility measure for utility-based MPG standards.

VIII. Trends by Vehicle Size

Tables 14 through 22 are data by EPA car class. Interior volume was first officially defined in 1977, and has always been undefined for Two-Seaters. As shown in Figure 15, four classes (Subcompacts, Compacts, Midsize and Large Sedans) have accounted for at least 87 percent of the cars built the past eight years.

Large Sedans have not accounted for more than 15 percent of the cars since 1980, and have never exceeded 20.5 percent market share since 1975. The market share for Midsize Sedans increased from about 20 percent in 1975-77, to 33 percent in 1981, then decreased and remained at or below 26 percent every year since 1984.

Compacts, which had a market share of about 7 percent in 1979 and 1980, increased their market share to about 40 percent in 1988, but have decreased market share each year since then.

The market share for Subcompacts increased to nearly 40 percent in 1980, then decreased and remained at or below 26 percent every year since 1983. Recently, the subcompact market share is on a rising trend. None of the other five classes (Two-Seaters, Minicompacts, Small, Midsize, and Large Wagons) have accounted for more than 2 or 3 percent of car sales for several years.

Passenger car MPG remains lower this year than it was in 1988 for eight of the nine car classes. Two-Seaters, the only car class

to have improved MPG since 1988, have done so by only 0.5 MPG. The recent MPG decreases in the car classes paralleled increases in weight (see Figures 16 and 17).

Tables 23 through 28 describe light-duty trucks by size class. In the late 1970s, Large Pickups were nearly 60 percent of all light trucks, Large Vans nearly 20 percent, and Small Pickups 10 percent. Since then, the market share of Large Pickups has dropped to less than 30 percent. Small Pickups gained in popularity through 1983 when they accounted for 38 percent of all light trucks, but since then their market share has dropped below 15 percent.

Small Vans accounted for less than 1 percent of the trucks sold each year from 1975 to 1983. Their market share increased to over 12 percent in 1985, and nearly 25 percent last year, but has decreased to 19 percent this year. Similarly, the Small Utility trucks' market share was only 2 to 3 percent from 1975 to 1982, increased to over 12 percent in 1984, and over 25 percent this year. Small Vans and Utility Trucks comprise nearly half the trucks projected to be sold in 1991. Small Van average horsepower remained quite consistent from 1975 to 1983, but doubled from 1983 to 1988.

Appendixes E and F give similar data by inertia weight class for cars and light trucks.

IX. Trends by Market Segment

Table 29 shows major characteristics of the Domestic, European, and Asian car fleets for model years 1975-91. Table 30 presents similar data for light trucks in Domestic and Import segments. As in previous papers, Import production volumes include vehicles assembled in the U.S. by foreign manufacturers.

The market share of European cars has remained between 4 and 9 percent since 1975. The Asian share of the car market has increased from about 10 percent in 1975, to 25 percent in 1986, and has been over 35 percent the past two years. The sales fraction of Import trucks has ranged from 10 to 30 percent and is currently in the middle of this range.

The following discussions highlight the long-view and recent-past trends in major vehicle characteristics for Domestic, European, and Asian car market segments and for Imported and Domestic trucks.

Weight, Cars: Domestic cars average about 1,000 lbs less than in the mid-1970s; Domestic weight bottomed at 3,200 lbs in 1986-87 and has increased every year since at a 40 lbs/year rate. European cars are at their heaviest ever: 600 lbs over their mid-1970s weight; they reached a minimum in 1978 and have gained weight every year since 1986 at a 70 lbs/year rate. Asian cars are also at

their heaviest ever, 300 lbs over their mid-1970s weight; they bottomed in 1981, and have gained an average of 70 lbs/year since 1988; the heaviest average weight of Asian cars (2,872 lbs in 1991) is 328 lbs lighter than the lightest average weight of Domestic cars (3,200 lbs in 1986-87).

Interior Volume, Cars: After averaging 115 cubic feet in the 1970s, Domestic cars have remained below 113.5 every year since then, except 1983; they have gained slightly (1/3 cu.ft./year) since 1986. European cars are at their highest average interior volume, 17 cubic feet more than in the 1970s, and have grown every year since 1987 at a rate of 1.4 cu.ft./year. Asian cars reached a volume peak in 1989, the only year they broke 100, but have lost 4.0 cu. ft. since then. They are currently 14 cu. ft. larger than in 1977, and have tracked 6 to 8 cu. ft. behind the Europeans since then.

Engine CID, Cars: Domestic engine size has come down 40 percent since 1975; it bottomed in 1987-88 and has increased by 2.7 CID/year since. European displacement has gone up about 40 percent since 1978 when it bottomed, and has remained near 155 CID since 1988. The average displacement of Asian engines has not varied much since 1975; they are 15 CID above their 1977 minimum.

Horsepower, Cars: The Domestic cars have re-achieved the 140-plus horsepower muscle of their half-a-ton heavier 1970s cars, and gained 6.5 HP/year the past two years. European power bottomed in 1980, from which it has nearly doubled, and has increased every year since then at an average rate of 6.3 HP/year. For 1991, European cars have an average horsepower of 149, a value higher than any segment has reached in any year. Asian horsepower is also at its highest ever; it too bottomed in 1980, and increased every year since at an average rate of 3.9 HP/year. Asian cars built this year have the same average horsepower as the Domestic cars did in 1987, but this year's Asian cars are 328 lbs lighter than the Domestic cars were in 1987. Asian engines in 1991 broke 1.0 HP/CID, something no other segment has done in any year.

Fuel Economy, Cars: Domestic car fuel economy has never reached 27.5 MPG; it peaked at 27.1 in 1988 and has decreased each year since; if it keeps declining at its present rate of about 0.2 MPG/year, it can recapture pre-1984 ground (under 25 MPG) by 1999. European cars' MPG peaked at 28.8 in 1981 and seems to have stabilized near 25 (its 1977 level) for the past four years. Asian MPG peaked five years ago at 32.9; declining at an average of some 0.6 MPG/year, it slid below 31.0 MPG in 1990 and remains there in 1991.

Weight, Trucks: Average inertia weight for Domestic trucks increased from just over 4,200 lbs in 1975, to over 4,500 lbs in 1979, then dropped below 4,000 lbs in 1983 and reached a minimum of 3,932 lbs in 1987. Since then, it has increased at a rate of more than 50 lbs/year and in 1989 went back above 4,000 lbs; it is now

almost as high as it was in 1981. Average inertia weight for Imported trucks has increased by at least 100 lbs/year for the past three years and is now at its highest level ever. Since 1989, Imported trucks have weighed more than Domestic cars. This year's Imported trucks outweigh this year's Domestic cars by more than 200 lbs (3,564 vs. 3,363 lbs).

Size, Trucks: Through 1981, less than 5 percent of the Domestic Trucks were classified as "Small." Since then, the percentage of Domestic trucks in this category has increased consistently, to above 50 percent in 1987, and almost 60 percent this year. The percentage of Imported trucks classified as "Small" has decreased from 100 percent in the 1970s to about 60 percent this year.

Engine CID and Horsepower, Trucks: Domestic truck engines decreased nearly 100 CID between 1975 and 1987 (from 335 to 237 CID), but have since increased back to 260 CID, about the same size as in 1983. In 1975, Imported truck engines were over 200 CID smaller than Domestic ones, but their size has increased consistently. This year's Imported Truck engines will be about 100 CID smaller than the Domestic (157 vs. 260 CID). Horsepower for Domestic trucks decreased to a minimum of 125 HP in 1983 and 1984 and has increased every year since, at an average rate of 5.3 HP/year. For the past two years, Domestic truck horsepower has been at a higher average than any 1975-89 level. Average horsepower for Import trucks remained about or below 93 HP through 1984, increased to about 100 HP for three years (1985 to 1987), and has since increased to 127 HP, more than the Domestic had in 1983 and 1984.

Fuel Economy, Trucks: Despite improving by 7.4 MPG between 1975 and 1988, Domestic light truck fuel economy has never reached 21 MPG and shows no trend toward doing so. Import trucks' fuel economy peaked in 1981 at 27.3 MPG when 15.9 percent of them had Diesel engines. Since then, Import truck MPG has declined each year, at an average rate of almost 0.5 MPG/year, and is now on the threshold of a 15-year throwback to the fuel economy it had in 1976.

Figures 18 through 28 illustrate some of the trends described in this section.

X. Conclusions

The Long View: Since 1975, there have been two distinct eras in light-duty technology and fuel economy. The period from 1975 to the early 80s featured significant reductions in Domestic passenger car weight, engine size and power, accompanied by a significant increase in MPG and no loss in performance. In this same era, Asian cars had small reductions in weight, engine size and power, significant MPG growth, and a small performance loss; and European cars held the line on weight, engine size and power, and performance, while improving MPG somewhat. Domestic trucks in this era trended as did the Asian cars, and Import trucks trended like the European cars. The first era ended in about 1982, when Domestic car and truck sales bottomed at 7 million units, the market shares of Diesels and Midsize cars peaked, and Asian cars broke 30 MPG (on the way up) and nearly reached 2 million sales.

The second era saw no real change in Domestic car or truck weight or Asian car CID. Only Domestic cars and trucks improved MPG (slightly), while Asian cars held MPG steady and European cars and Import trucks began an MPG decline. The dominant feature of the second era was a dramatic growth in horsepower by all sectors.

The Recent Short Term: Since 1988, light-duty vehicle fuel economy has been declining. Passenger car fuel economy peaked at 28.6 MPG in 1988, dropped to 27.8 in 1990, and remains there. Similarly, light truck fuel economy remains below its 1987 peak value of 21.6 and will be under 21 this year, for the third straight year. All segments of the market are increasing in horsepower.

Average fuel economy for the combined (car and truck) light-duty fleet, has declined for three consecutive years, and is now back to 25.0 MPG where it was in 1985. The main factors which caused this decline are increases in horsepower, weight, and the market share of light trucks.

XI. Acknowledgments

The authors wish to express their sincere appreciation to Jennifer Criss and Leslie Cribbins for work processing and report preparation.

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TABLE 1 -- CHARACTERISTICS OF 1975 TO 1991 LIGHT DUTY VEHICLES

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
<u>CARS</u>														
1975	8237	.806	13.7	19.5	15.8	4058		14.2	288	136	.515	.0331	.0678	
1976	9722	.788	15.2	21.3	17.5	4059		14.4	287	134	.502	.0324	.0676	
1977	11300	.800	16.0	22.3	18.3	3944	110.9	14.0	279	133	.516	.0335	.0680	2091
1978	11175	.773	17.2	24.5	19.9	3588	109.5	13.7	251	124	.538	.0342	.0670	2240
1979	10794	.778	17.7	24.6	20.3	3485	109.4	13.8	238	119	.545	.0338	.0655	2258
1980	9443	.835	20.3	29.0	23.5	3101	104.7	14.3	188	100	.583	.0322	.0580	2507
1981	8733	.827	21.7	31.1	25.1	3076	107.0	14.4	182	99	.594	.0320	.0566	2744
1982	7819	.803	22.3	32.7	26.0	3054	106.6	14.4	175	99	.609	.0320	.0549	2836
1983	8002	.777	22.1	32.7	25.9	3112	109.2	14.0	182	104	.615	.0330	.0561	2904
1984	10675	.761	22.4	33.3	26.3	3099	108.0	13.8	179	106	.637	.0339	.0555	2910
1985	10791	.746	23.0	34.3	27.0	3093	108.6	13.3	177	111	.671	.0355	.0551	2990
1986	11015	.717	23.7	35.5	27.9	3041	107.8	13.2	167	111	.701	.0360	.0532	3057
1987	10731	.722	23.9	35.9	28.1	3031	107.1	13.0	162	112	.732	.0365	.0517	3051
1988	10703	.701	24.2	36.6	28.6	3050	107.6	12.6	161	119	.769	.0384	.0511	3119
1989	10014	.693	23.8	36.3	28.1	3099	109.3	12.5	163	121	.783	.0387	.0511	3111
1990	9638	.713	23.4	36.1	27.8	3180	108.0	11.9	167	131	.830	.0409	.0512	3030
1991	7927	.664	23.4	36.2	27.8	3188	108.1	11.8	167	135	.847	.0417	.0510	3038
<u>TRUCKS</u>														
1975	1987	.194	12.1	16.2	13.7	4072		13.6	311	142	.476	.0349	.0756	
1976	2612	.212	12.8	16.9	14.4	4155		13.8	319	141	.458	.0340	.0763	
1977	2823	.200	14.0	18.1	15.6	4135		13.3	318	147	.482	.0356	.0760	
1978	3273	.227	13.8	17.5	15.2	4151		13.4	314	146	.481	.0351	.0750	
1979	3088	.222	13.4	16.8	14.7	4252		14.3	298	138	.486	.0325	.0688	
1980	1863	.165	16.5	21.9	18.6	3869		14.5	248	121	.528	.0313	.0621	
1981	1821	.173	17.8	23.9	20.1	3806		14.6	247	119	.508	.0311	.0634	
1982	1914	.197	18.1	24.4	20.5	3806		14.5	243	120	.524	.0317	.0624	
1983	2300	.223	18.3	25.2	20.9	3763		14.5	231	118	.543	.0313	.0597	
1984	3345	.239	17.9	24.8	20.5	3782		14.7	224	118	.557	.0310	.0578	
1985	3669	.254	18.0	24.9	20.6	3795		14.2	224	124	.586	.0326	.0575	
1986	4350	.283	18.8	25.9	21.4	3738		14.0	211	123	.621	.0330	.0551	
1987	4134	.278	18.8	26.5	21.6	3713		13.3	210	131	.654	.0351	.0552	
1988	4559	.299	18.3	26.2	21.2	3841		12.9	227	141	.650	.0366	.0578	
1989	4435	.307	18.1	25.8	20.9	3921		12.8	234	146	.653	.0372	.0587	
1990	3883	.287	17.7	25.7	20.6	4016		12.6	238	151	.665	.0377	.0583	
1991	4004	.336	17.9	26.2	20.8	4036		12.4	242	156	.668	.0386	.0592	
<u>BOTH CARS and TRUCKS</u>														
1975	10224	1.000	13.4	18.7	15.3	4060		14.1	293	137	.507	.0335	.0693	
1976	12334	1.000	14.6	20.2	16.7	4079		14.3	294	135	.493	.0328	.0695	
1977	14123	1.000	15.6	21.3	17.7	3982		13.8	287	136	.510	.0339	.0696	
1978	14448	1.000	16.3	22.5	18.6	3715		13.6	266	129	.525	.0344	.0688	
1979	13882	1.000	16.5	22.3	18.7	3655		13.9	252	124	.532	.0335	.0662	
1980	11306	1.000	19.6	27.5	22.5	3228		14.3	198	104	.574	.0320	.0586	
1981	10554	1.000	20.9	29.5	24.1	3202		14.4	193	102	.580	.0318	.0578	
1982	9732	1.000	21.3	30.7	24.7	3202		14.4	188	103	.593	.0320	.0564	
1983	10302	1.000	21.2	30.6	24.6	3257		14.1	193	107	.599	.0327	.0569	
1984	14020	1.000	21.2	30.8	24.6	3262		14.0	190	109	.618	.0332	.0561	
1985	14460	1.000	21.5	31.3	25.0	3271		13.6	189	114	.650	.0347	.0557	
1986	15365	1.000	22.1	32.2	25.7	3238		13.4	180	114	.678	.0351	.0538	
1987	14865	1.000	22.2	32.6	25.9	3221		13.1	175	118	.710	.0361	.0527	
1988	15262	1.000	22.1	32.7	25.9	3286		12.7	180	126	.734	.0378	.0531	
1989	14450	1.000	21.7	32.3	25.4	3352		12.5	185	129	.743	.0382	.0534	
1990	13522	1.000	21.4	32.3	25.2	3420		12.1	188	137	.783	.0400	.0532	
1991	11931	1.000	21.2	32.1	25.0	3473		12.0	192	142	.787	.0407	.0538	

TABLE 1, continued -- CHARACTERISTICS OF 1975 TO 1991 LIGHT DUTY VEHICLES

(PERCENTAGE BASIS)

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING				VEHICLE SIZE			MANUFACTURED				
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	SMALL	MID	LARGE	DOM	EUR	ASIA	IMPORT
<u>CARS</u>															
1975	6.5		19.9	5.1		5.1	94.6	.2	55.4	23.3	21.3	80.9	8.8	10.3	19.1
1976	5.8		17.1	3.2		3.2	96.6	.3	55.4	25.2	19.4	84.6	5.7	9.7	15.4
1977	6.8		16.8	4.2		4.2	95.3	.5	51.9	24.5	23.5	82.0	5.7	12.2	18.0
1978	9.6		20.2	5.1		5.1	94.0	.9	44.7	34.4	21.0	80.2	6.3	13.5	19.8
1979	11.9	.3	22.3	4.7		4.7	93.2	2.1	43.7	34.2	22.1	79.5	6.5	14.0	20.5
1980	29.7	.9	31.9	6.9	.7	6.2	88.7	4.4	54.4	34.4	11.3	70.5	9.1	20.4	29.5
1981	37.0	.7	30.4	8.8	2.6	6.1	85.3	5.9	51.5	36.4	12.2	71.1	6.6	22.3	28.9
1982	45.6	.8	29.7	17.0	9.8	7.2	78.4	4.7	56.5	31.0	12.5	70.0	6.8	23.3	30.0
1983	47.3	3.1	27.4	28.3	18.9	9.5	69.6	2.1	53.1	31.8	15.1	70.7	5.8	23.5	29.3
1984	53.7	1.0	24.2	39.4	24.4	15.0	58.9	1.7	57.4	29.4	13.2	75.7	6.2	18.1	24.3
1985	61.6	2.1	23.6	53.5	32.0	21.4	45.6	.9	55.7	28.9	15.4	72.1	6.3	21.6	27.9
1986	71.1	1.1	24.8	65.1	28.4	36.7	34.5	.3	59.5	27.9	12.6	68.1	6.8	25.1	31.9
1987	77.0	1.1	24.9	73.0	30.5	42.5	26.8	.3	63.5	24.3	12.2	61.6	6.9	31.5	38.4
1988	81.6	.8	24.0	84.0	30.1	53.9	16.0	.0	64.7	22.4	12.9	61.4	6.0	32.6	38.6
1989	82.5	1.0	21.0	90.3	27.9	62.4	9.7	.0	58.2	28.3	13.5	62.1	5.5	32.4	37.9
1990	82.4	.8	22.4	98.5	24.8	73.7	1.4	.0	58.6	26.4	15.0	60.3	4.6	35.1	39.7
1991	84.2	1.0	20.3	99.7	16.8	82.9	.2	.1	59.0	27.4	13.6	59.8	4.6	35.6	40.2
<u>TRUCKS</u>															
1975		17.1	37.0	.1			99.9		13.7		86.3	88.7			11.3
1976		22.9	34.8	.1			99.9		11.1		88.9	90.9			9.1
1977		23.6	32.0	.1			99.9		13.5		86.5	88.5			11.5
1978		29.0	32.4	.1			99.1	.8	13.3		86.7	89.1			10.9
1979		18.0	35.2	.3			97.9	1.8	18.5		81.5	84.7			15.3
1980	1.4	25.0	53.0	1.7			94.9	3.5	30.3		69.7	69.4			30.6
1981	2.0	20.1	51.6	1.1			93.3	5.6	27.6		72.4	72.0			28.0
1982	1.7	20.0	45.7	.7			90.0	9.3	33.9		66.1	76.3			23.7
1983	1.4	25.8	45.9	.6			94.7	4.7	45.5		54.5	78.5			21.5
1984	4.9	31.0	42.1	2.6			95.1	2.3	46.0		54.0	78.0			22.0
1985	7.1	30.6	37.1	12.3			86.7	1.1	50.5		49.5	80.1			19.9
1986	5.9	30.3	42.7	40.5	18.7	21.8	58.7	.7	56.8		43.2	70.3			29.7
1987	7.4	31.5	39.9	66.9	33.6	33.3	32.9	.3	61.8		38.2	72.3			27.7
1988	9.0	33.3	35.5	87.7	44.4	43.3	12.1	.2	57.2		42.8	81.1			18.9
1989	9.9	32.0	32.7	93.5	47.6	45.9	6.3	.2	56.7		43.3	81.9			18.1
1990	15.2	31.1	27.8	96.1	40.4	55.6	3.8	.2	52.2		47.8	80.7			19.3
1991	10.3	37.4	25.1	98.1	44.4	53.7	1.5	.4	59.5		40.5	82.4			17.6
<u>BOTH CARS and TRUCKS</u>															
1975	5.3	3.3	23.2	4.1		4.1	95.7	.2	47.3		52.7	82.4			17.6
1976	4.6	4.8	20.9	2.5		2.5	97.3	.2	46.0		54.0	85.9			14.1
1977	5.5	4.7	19.8	3.4		3.4	96.2	.4	44.2		55.8	83.3			16.7
1978	7.4	6.6	23.0	3.9		3.9	95.2	.9	37.6		62.4	82.2			17.8
1979	9.2	4.3	25.1	3.7		3.7	94.2	2.0	38.1		61.9	80.7			19.3
1980	25.0	4.9	35.4	6.0	.6	5.2	89.7	4.3	50.4		49.6	70.3			29.7
1981	31.0	4.0	34.1	7.5	2.2	5.1	86.7	5.9	47.4		52.6	71.3			28.7
1982	37.0	4.6	32.8	13.8	7.9	5.8	80.6	5.6	52.1		47.9	71.2			28.8
1983	37.0	8.1	31.5	22.1	14.7	7.3	75.2	2.7	51.4		48.6	72.5			27.5
1984	42.1	8.2	28.5	30.6	18.6	11.4	67.6	1.8	54.7		45.3	76.3			23.7
1985	47.8	9.3	27.0	43.0	23.9	16.0	56.1	.9	54.4		45.6	74.1			25.9
1986	52.6	9.3	29.8	58.2	25.7	32.5	41.4	.4	58.7		41.3	68.7			31.3
1987	57.7	9.6	29.1	71.3	31.4	39.9	28.4	.3	63.0		37.0	64.6			35.4
1988	59.9	10.5	27.4	85.1	34.4	50.7	14.8	.1	62.5		37.5	67.3			32.7
1989	60.2	10.5	24.6	91.3	33.9	57.3	8.7	.1	57.8		42.2	68.2			31.8
1990	63.1	9.5	23.9	97.8	29.3	68.5	2.1	.1	56.8		43.2	66.2			33.8
1991	59.4	13.2	21.9	99.2	26.1	73.1	.6	.2	59.2		40.8	67.4			32.6

TABLE 2 -- PASSENGER CAR FUEL ECONOMY BY PERCENTILE BRACKET

Percentile Bracket	Model Year																
	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91
Best Car	33.2	35.8	44.3	44.1	46.0	47.4	48.1	50.3	53.4	56.6	58.5	67.4	65.6	65.6	61.2	65.4	65.3
95 - 99.9	28.5	31.2	34.2	33.8	34.2	36.5	39.6	42.4	44.9	46.7	46.9	46.7	43.6	44.5	44.6	42.8	45.3
90 - 94.9	25.5	27.9	28.3	28.8	29.6	31.8	34.1	36.6	38.6	38.8	38.7	38.3	37.0	37.2	36.7	36.3	37.7
85 - 89.9	24.1	26.3	26.8	26.7	27.5	29.2	31.6	33.7	35.5	35.0	35.7	35.2	35.2	35.3	34.7	34.2	35.5
80 - 84.9	23.0	25.1	25.2	25.2	25.8	27.3	30.1	32.0	33.7	33.6	34.2	34.0	33.7	33.3	33.2	32.8	33.2
75 - 79.9	22.0	23.9	23.8	23.8	24.7	26.2	29.0	30.9	33.0	32.7	33.0	32.6	32.4	32.4	32.3	31.8	31.9
70 - 74.9	21.0	22.6	21.9	22.6	23.6	25.4	28.3	30.0	31.7	31.7	32.1	31.6	31.9	31.7	31.6	30.9	30.9
65 - 69.9	19.9	21.4	20.8	21.3	22.3	24.6	27.3	29.2	31.0	30.7	31.2	30.7	31.1	30.9	30.6	29.9	30.0
60 - 64.9	18.9	20.3	19.8	20.6	21.4	24.1	26.8	28.8	30.5	29.9	30.5	29.8	29.8	30.1	29.8	29.1	29.1
55 - 59.9	17.5	19.6	19.1	19.8	20.9	23.2	25.9	28.1	29.5	29.3	29.6	29.2	28.9	29.2	28.9	28.2	28.2
50 - 54.9	16.7	18.8	18.4	19.3	20.3	22.3	24.8	27.2	28.5	28.5	28.6	28.4	28.0	28.7	27.7	27.7	27.4
45 - 49.9	16.0	17.5	17.7	18.7	19.7	21.6	24.0	26.5	27.7	27.7	27.7	27.3	27.5	27.8	27.0	27.2	26.6
40 - 44.9	15.4	16.8	17.6	18.4	19.1	21.2	23.2	25.7	26.7	26.5	26.5	26.3	26.8	27.3	26.7	26.4	26.2
35 - 39.9	14.6	15.9	17.0	17.8	18.4	20.5	22.3	25.0	25.9	25.6	25.9	25.7	26.1	26.7	26.1	25.8	25.6
30 - 34.9	13.8	15.1	16.6	17.0	18.0	19.9	21.7	23.8	24.8	25.0	25.0	25.0	25.5	26.1	25.5	25.3	25.0
25 - 29.9	13.3	14.5	16.0	16.3	17.5	19.2	21.0	22.9	23.8	24.2	24.4	24.4	24.8	25.1	24.7	24.6	24.3
20 - 24.9	12.8	14.0	15.3	15.9	16.9	18.7	20.4	21.7	22.8	23.4	23.8	23.9	24.3	24.3	24.0	23.9	23.7
15 - 19.9	12.2	13.5	14.7	15.5	16.0	18.3	19.7	20.8	21.9	22.5	23.0	23.4	23.6	23.6	23.4	23.3	23.4
10 - 14.9	11.7	12.9	14.0	14.8	15.4	17.7	18.8	20.0	20.6	21.2	22.1	22.9	22.8	23.0	22.9	23.0	22.9
5 - 9.9	11.0	12.3	12.8	13.7	14.7	17.0	18.2	19.2	19.7	20.1	21.3	22.2	22.1	22.6	22.0	21.9	21.5
0 - 4.9	10.3	11.0	11.5	12.0	12.5	13.9	13.6	14.4	15.1	15.8	15.4	16.5	15.4	16.8	16.5	16.8	16.6
Worst Car	9.8	10.1	9.7	9.4	9.2	9.2	5.0	10.0	10.0	10.0	9.9	8.7	8.7	8.7	8.7	8.7	12.8
Actual Average	15.8	17.5	18.3	19.9	20.3	23.5	25.1	26.0	25.9	26.3	27.0	27.9	28.1	28.6	28.1	27.8	27.8

TABLE 3 -- CHARACTERISTICS OF HIGHER-MPG 1990 PASSENGER CAR FLEETS

Weight Scenario:	As-is Weight Mix	Re-mix #1	Re-mix #2	
	-----	-----	-----	
Avg Weight	3171	2974	2802	
Avg MPG	34.4	37.5	40.3	Best in class
	32.5	34.7	36.8	Best five in class
	31.2	33.2	35.3	Best dozen in class
	27.8	29.6	31.5	All cars
Avg Volume Index, cu.ft.	98	94	93	Best in class
	103	99	98	Best five in class
	102	99	98	Best dozen in class
	107	103	100	All cars
Avg Top Speed Index	106	104	102	Best in class
	111	109	107	Best five in class
	111	109	108	Best dozen in class
	117	114	112	All cars

TABLE 4 -- RELATIVE VALUES, HIGHER-MPG 1990 PASSENGER CAR FLEETS

Weight Scenario:	As-is Weight Mix	Re-mix #1	Re-mix #2	
	-----	-----	-----	
Avg Weight	100%	94%	88%	
Avg MPG	124%	135%	145%	Best in class
	117%	125%	132%	Best five in class
	112%	120%	127%	Best dozen in class
	100%	106%	113%	All cars
Change in Fuel Consumption	-19%	-26%	-31%	Best in class
	-14%	-20%	-24%	Best five in class
	-11%	-16%	-21%	Best dozen in class
	0%	-6%	-12%	All cars
Avg Cu.Ft. Index	92%	88%	87%	Best in class
	96%	93%	92%	Best five in class
	95%	93%	91%	Best dozen in class
	100%	96%	94%	All cars
Avg Top Speed Index	91%	88%	87%	Best in class
	95%	93%	92%	Best five in class
	95%	93%	92%	Best dozen in class
	100%	98%	96%	All cars

TABLE 5 -- CHARACTERISTICS OF HIGHER-MPG 1990 LIGHT TRUCK FLEETS

Weight Scenario:	As-is Weight Mix	Re-mix #1	Re-mix #2	
	-----	-----	-----	
Avg Weight	3952	3720	3502	
Avg MPG	25.9	26.9	27.8	Best in class
	25.2	26.0	26.8	Best five in class
	24.3	25.2	26.1	Best dozen in class
	21.0	22.1	23.3	All trucks
Avg Payload	1524	1395	1291	Best in class
	1450	1404	1359	Best five in class
	1447	1401	1354	Best dozen in class
	1495	1439	1412	All trucks
Avg Top Speed Index	107	106	106	Best in class
	109	108	108	Best five in class
	111	110	110	Best dozen in class
	116	116	114	All trucks

TABLE 6 -- RELATIVE VALUES, HIGHER-MPG 1990 LIGHT TRUCK FLEETS

Weight Scenario:	As-is Weight Mix	Re-mix #1	Re-mix #2	
	-----	-----	-----	
Avg Weight	100%	94%	89%	
Avg MPG	123%	128%	132%	Best in class
	120%	124%	127%	Best five in class
	116%	120%	124%	Best dozen in class
	100%	105%	111%	All trucks
Change in Fuel Consumption	-19%	-22%	-24%	Best in class
	-16%	-19%	-22%	Best five in class
	-14%	-17%	-19%	Best dozen in class
	0%	-5%	-10%	All trucks
Avg Payload	102%	93%	86%	Best in class
	97%	94%	91%	Best five in class
	97%	94%	91%	Best dozen in class
	100%	96%	94%	All trucks
Avg Top Speed Index	92%	91%	91%	Best in class
	94%	93%	93%	Best five in class
	95%	95%	94%	Best dozen in class
	100%	99%	98%	All trucks

TABLE 7 -- CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

THREE CYLINDER

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
1985	37	.003	51.9	66.1	57.4	1750	82.6	16.1	61	48	.787	.0274	.0349	4756
1986	81	.007	50.8	63.7	55.9	1750	84.6	16.3	61	46	.759	.0264	.0349	4809
1987	78	.007	46.0	58.1	50.8	1878	84.8	16.2	63	51	.810	.0271	.0334	4369
1988	103	.010	42.8	54.1	47.2	1866	86.6	15.4	65	54	.824	.0286	.0347	4168
1989	85	.008	43.4	53.8	47.5	1975	90.9	15.9	64	55	.843	.0276	.0328	4446
1990	86	.009	43.8	54.4	48.0	2038	91.4	15.5	63	58	.914	.0283	.0309	4481
1991	123	.016	42.4	53.6	46.8	2014	89.1	15.8	62	56	.905	.0279	.0308	4251

PERCENT OF 3-CYL. CARS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN
1985	100.0		90.1					100.0			100.0
1986	100.0		64.7					100.0			100.0
1987	100.0		73.5	8.6		8.6	91.4				100.0
1988	89.0	11.0	76.5	14.7	1.5	13.2	85.3				100.0
1989	100.0		64.3	70.5	57.5	13.0	29.5				100.0
1990	92.9	7.1	57.7	97.6	77.2	20.5	2.4				100.0
1991	100.0		46.2	98.8	86.9	11.9	1.2				100.0

TABLE 8 -- CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

FOUR CYLINDER

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
1975	1805	.219	20.8	30.6	24.3	2651		15.1	112	79	.716	.0298	.0421	
1976	2017	.207	22.8	33.1	26.5	2613		15.2	111	77	.706	.0296	.0423	
1977	2287	.202	24.8	35.3	28.7	2523	86.8	14.6	106	78	.742	.0308	.0418	2556
1978	2926	.262	24.7	34.3	28.3	2511	88.9	14.7	108	77	.727	.0308	.0426	2580
1979	3157	.292	23.6	33.0	27.1	2564	90.1	14.9	110	77	.707	.0300	.0427	2491
1980	4511	.478	24.4	34.3	28.1	2573	93.0	14.8	116	78	.681	.0303	.0447	2662
1981	4469	.512	26.0	36.2	29.8	2555	97.7	14.6	115	79	.693	.0308	.0448	2953
1982	4251	.544	26.7	38.2	30.9	2595	97.8	14.9	114	78	.686	.0300	.0439	3061
1983	4158	.520	27.1	38.2	31.2	2622	101.2	14.7	118	81	.694	.0307	.0446	3213
1984	5744	.538	27.1	38.7	31.4	2655	100.3	14.3	119	85	.718	.0320	.0448	3192
1985	5865	.543	27.3	38.9	31.5	2671	101.7	13.9	120	90	.752	.0336	.0449	3251
1986	6462	.587	27.1	38.6	31.3	2719	102.5	13.9	121	91	.753	.0332	.0445	3244
1987	6679	.622	26.9	38.4	31.1	2732	102.1	13.8	121	92	.771	.0336	.0440	3207
1988	6300	.589	27.5	39.0	31.7	2743	101.9	13.6	119	95	.805	.0344	.0431	3270
1989	5668	.566	26.9	38.6	31.1	2794	103.4	13.1	120	100	.839	.0357	.0429	3250
1990	5370	.557	26.6	38.5	30.9	2857	101.2	12.6	123	109	.898	.0379	.0428	3150
1991	4234	.534	26.5	38.6	30.8	2864	101.2	12.4	121	111	.925	.0386	.0422	3152

PERCENT OF 4-CYL. CARS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN
1975	25.2		68.9	14.4		14.4	84.8	.8	27.7	33.9	38.4
1976	22.0		63.9	6.7		6.7	92.7	.6	35.5	23.0	41.5
1977	28.3		69.5	11.9		11.9	86.3	1.8	19.5	24.5	56.0
1978	31.8		67.4	10.4		10.4	87.8	1.7	31.1	20.9	48.0
1979	33.5	1.2	65.9	7.0		7.0	90.9	2.1	40.2	17.7	42.0
1980	44.8	1.0	60.3	9.1		9.1	87.3	3.6	44.5	16.0	39.6
1981	60.6	.9	55.2	7.5		7.5	88.5	4.0	50.1	10.2	39.7
1982	72.1	.9	49.5	18.7	11.2	7.5	78.7	2.6	53.7	9.0	37.2
1983	76.2	5.1	46.8	32.7	21.0	11.7	66.3	1.0	53.3	7.4	39.3
1984	81.3	1.4	40.0	43.7	28.3	15.4	54.7	1.6	63.3	7.3	29.4
1985	84.0	3.7	38.1	52.3	33.6	18.7	46.9	.8	58.4	7.5	34.1
1986	89.5	1.5	36.5	63.3	38.9	24.4	36.3	.4	55.1	7.4	37.5
1987	92.0	1.5	34.4	68.1	43.2	24.9	31.8	.1	49.6	7.0	43.3
1988	94.1	1.0	34.9	78.9	46.1	32.8	21.1		45.2	6.1	48.7
1989	93.2	1.5	31.8	85.0	41.3	43.7	15.0	.1	44.2	5.3	50.5
1990	94.0	1.1	32.1	98.3	37.8	60.6	1.6	.0	41.6	4.8	53.6
1991	93.4	1.6	31.1	99.7	25.1	74.6	.2	.1	39.4	5.2	55.3

TABLE 9 -- CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

SIX CYLINDER

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
1975	1533	.186	16.2	22.1	18.4	3625		15.7	225	105	.485	.0295	.0622	
1976	1935	.199	17.1	23.0	19.3	3715		16.7	231	100	.445	.0273	.0624	
1977	1851	.164	17.3	23.3	19.6	3753	106.6	16.1	229	105	.471	.0284	.0612	2095
1978	2325	.208	17.7	24.6	20.2	3482	108.6	14.8	221	107	.495	.0311	.0636	2206
1979	2187	.203	17.9	24.6	20.4	3421	108.8	14.4	217	109	.508	.0319	.0636	2224
1980	2644	.280	18.8	26.5	21.6	3332	111.0	13.9	213	110	.530	.0334	.0638	2407
1981	2394	.274	19.6	27.8	22.6	3382	111.6	14.1	215	110	.522	.0328	.0635	2527
1982	2080	.266	19.7	28.9	23.0	3404	112.9	13.8	213	114	.548	.0338	.0626	2614
1983	1858	.232	20.3	30.1	23.8	3373	111.0	13.6	211	116	.565	.0346	.0624	2654
1984	2455	.230	20.5	30.5	24.1	3364	111.3	13.4	205	117	.586	.0350	.0609	2684
1985	2498	.232	20.3	31.2	24.1	3387	111.8	12.9	206	124	.617	.0368	.0608	2697
1986	2694	.245	20.8	32.8	24.9	3377	112.0	12.1	200	134	.683	.0398	.0592	2805
1987	2489	.232	20.8	33.7	25.1	3414	112.9	11.6	198	143	.733	.0419	.0581	2847
1988	2985	.279	21.4	34.8	25.9	3397	113.6	11.5	193	142	.744	.0418	.0570	2952
1989	3155	.315	21.2	34.6	25.7	3423	114.8	11.4	194	146	.761	.0429	.0568	2957
1990	2998	.311	20.8	34.3	25.3	3499	113.6	11.0	199	157	.799	.0451	.0572	2881
1991	2655	.335	20.8	34.3	25.3	3491	113.6	11.0	201	156	.786	.0450	.0578	2887

PERCENT OF 6-CYL. CARS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN
1975			19.3	8.3		8.3	91.7		87.6	5.7	6.7
1976			15.2	4.7		4.7	95.3		92.7	3.3	4.0
1977			11.9	6.7		6.7	93.3		92.3	3.0	4.7
1978			9.1	5.3		5.3	94.7		94.0	1.5	4.5
1979		.5	9.1	6.9		6.9	93.1		91.0	2.8	6.1
1980	22.0	1.5	8.2	4.3		4.3	95.5	.2	94.8	2.0	3.3
1981	14.2	.8	5.4	6.8		6.8	92.9	.3	92.2	1.9	5.9
1982	19.5	1.1	5.3	17.8	8.0	9.8	79.6	2.6	88.4	2.7	8.9
1983	22.4	1.7	6.6	12.3		12.3	85.7	2.0	86.6	3.5	9.9
1984	31.5	.9	6.1	29.8	8.8	21.0	68.8	1.4	88.0	3.6	8.3
1985	48.6	.0	6.3	62.7	21.6	41.1	36.7	.6	86.8	3.8	9.3
1986	63.4	.3	6.9	80.1	15.4	64.7	19.6	.3	86.6	5.5	7.9
1987	73.0	.2	7.9	96.7	7.9	88.8	2.5	.8	78.4	7.2	14.4
1988	83.8	.2	5.8	99.9	2.3	97.6	.1		84.0	6.7	9.3
1989	84.1	.3	5.0	100.0	.2	99.8			84.6	6.1	9.3
1990	85.4	.1	10.2	100.0	.1	99.8		.0	83.7	4.6	11.7
1991	89.8	.4	6.8	99.9		99.9		.1	85.2	3.7	11.1

TABLE 10 -- CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

EIGHT CYLINDER

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
1975	4840	.588	11.6	16.6	13.4	4732		13.4	376	167	.446	.0354	.0793	
1976	5728	.589	13.2	18.5	15.1	4689		13.4	368	165	.448	.0352	.0784	
1977	7132	.631	14.1	19.7	16.2	4450	119.0	13.2	348	158	.455	.0356	.0783	1939
1978	5882	.526	14.9	21.4	17.2	4166	119.2	12.8	335	154	.460	.0371	.0807	2085
1979	5354	.496	15.4	21.4	17.6	4060	120.6	12.9	324	149	.460	.0368	.0799	2145
1980	2169	.230	16.4	24.0	19.1	3920	120.6	13.6	309	135	.439	.0346	.0789	2343
1981	1778	.204	17.1	26.0	20.2	3973	123.0	14.0	307	133	.440	.0337	.0773	2538
1982	1377	.176	17.0	26.5	20.3	3940	123.4	13.5	305	138	.457	.0355	.0776	2537
1983	1859	.232	16.8	26.4	20.1	3946	125.0	12.9	298	143	.482	.0364	.0759	2519
1984	2316	.217	17.0	26.8	20.3	3913	122.3	12.8	300	144	.483	.0371	.0771	2491
1985	2229	.207	18.1	28.8	21.7	3895	122.8	12.4	296	151	.509	.0389	.0763	2670
1986	1651	.150	18.6	30.1	22.5	3813	120.2	12.0	299	152	.511	.0403	.0788	2712
1987	1387	.129	18.4	29.6	22.2	3846	120.2	12.0	299	155	.520	.0407	.0781	2676
1988	1247	.117	18.7	30.4	22.6	3854	121.5	10.3	301	193	.640	.0504	.0785	2754
1989	1070	.107	18.7	30.7	22.7	3831	121.5	11.6	300	160	.535	.0423	.0786	2765
1990	1146	.119	18.4	30.9	22.5	3927	123.0	11.3	298	172	.582	.0443	.0762	2784
1991	889	.112	18.6	30.8	22.6	3982	123.4	10.6	299	190	.643	.0482	.0753	2806

PERCENT OF 8-CYL. CARS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN
1975	1.7		1.6	.7		.7	99.3		99.6	.4	
1976	2.0		1.2	1.4		1.4	98.6		99.8	.2	
1977	1.8		1.0	1.1		1.1	98.9		99.8	.2	
1978	2.1		1.2	1.9		1.9	97.5	.6	99.7	.3	
1979	3.7		1.4	2.2		2.2	95.3	2.6	99.4	.6	
1980	7.6		.8	4.4	3.0	1.4	85.8	9.8	99.0	1.0	
1981	8.8		1.1	13.8	13.0	.8	69.5	16.8	99.1	.9	
1982	5.5		3.9	10.4	9.1	1.3	77.9	11.7	97.9	2.1	
1983	9.6		3.5	35.4	34.4	1.0	62.4	2.2	98.7	1.3	
1984	9.3		3.2	37.6	32.5	5.2	61.7	.7	98.8	1.2	
1985	18.2		2.5	47.4	42.4	5.1	52.5	.1	98.2	1.8	
1986	12.2		4.3	48.4	12.2	36.2	51.6		97.3	2.7	
1987	14.2		4.4	55.9	13.9	42.0	44.1		96.7	3.3	
1988	16.4		6.2	76.2	19.8	56.4	23.8		97.5	2.5	
1989	21.2		7.2	90.9	36.9	54.0	9.1		97.4	2.6	
1990	20.8		5.6	95.6	25.5	70.1	4.4		93.6	1.7	4.7
1991	22.6	.1	5.3	99.3	18.4	80.9	.7		90.8	2.8	6.4

TABLE 11 -- CHARACTERISTICS OF 1975 TO 1991 LIGHT DUTY TRUCKS

FOUR CYLINDER

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT
	(000)	FRACT	CITY	HWY	55/45								
1975	221	.112	18.7	27.1	21.7	2856	14.8	120	88	.740	.0312	.0420	
1976	225	.086	20.4	29.6	23.7	2831	14.7	117	89	.756	.0317	.0416	
1977	306	.108	22.9	32.4	26.4	2824	14.3	122	90	.747	.0323	.0432	
1978	342	.105	23.3	31.1	26.2	2849	14.7	120	88	.730	.0310	.0424	
1979	481	.156	20.3	27.9	23.1	2850	15.0	123	84	.687	.0297	.0433	
1980	584	.314	21.5	28.9	24.3	2842	14.7	124	86	.699	.0306	.0439	
1981	522	.287	24.2	32.5	27.3	2861	15.2	130	84	.648	.0295	.0455	
1982	517	.270	24.4	32.3	27.4	2897	15.1	132	86	.652	.0300	.0460	
1983	744	.324	24.1	32.3	27.2	2924	14.9	135	87	.649	.0301	.0464	
1984	1083	.324	23.4	31.3	26.4	3064	15.1	135	90	.666	.0295	.0443	
1985	1253	.342	23.2	30.9	26.1	3157	14.8	141	97	.691	.0310	.0449	
1986	1802	.414	23.2	31.4	26.3	3159	14.5	139	97	.698	.0309	.0444	
1987	1539	.372	23.2	31.6	26.4	3122	14.5	139	97	.698	.0311	.0447	
1988	1247	.274	23.4	31.7	26.6	3123	14.5	139	97	.698	.0310	.0447	
1989	1121	.253	23.0	31.1	26.0	3184	13.9	143	104	.725	.0327	.0452	
1990	786	.202	23.3	31.4	26.4	3176	13.6	142	108	.764	.0342	.0448	
1991	698	.174	23.0	31.0	26.0	3252	13.7	142	109	.768	.0338	.0441	

PERCENT OF 4-CYL. TRUCKS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED	
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	IMPORTED
1975			83.7	.5			99.5			100.0
1976			81.4	.7			99.3			100.0
1977			82.3	.7			99.3			100.0
1978		6.8	88.1	.8			99.2			100.0
1979		20.5	86.4	1.8			98.2		2.7	97.3
1980	4.5	22.2	90.0	5.3			92.8	1.9	2.7	97.3
1981	6.4	24.5	92.9	3.9			80.6	15.5	2.6	97.4
1982	6.2	23.3	88.9	2.4			82.0	15.6	12.9	87.1
1983	4.2	19.2	84.8	2.0			92.5	5.6	34.1	65.9
1984	15.1	21.3	75.9	7.9			88.8	3.3	32.5	67.5
1985	20.7	21.7	65.9	27.7			71.1	1.2	42.2	57.8
1986	14.1	24.7	72.6	34.8	18.5	16.3	64.4	.8	30.7	69.3
1987	10.4	26.4	73.4	38.9	23.0	15.9	60.8	.2	29.7	70.3
1988	7.8	26.8	76.9	60.4	30.7	29.8	39.6		38.6	61.4
1989	16.8	21.7	68.4	79.2	41.6	37.7	20.8		45.0	55.0
1990	10.4	24.7	73.9	85.5	25.7	59.9	14.5		36.2	63.8
1991	6.3	22.4	69.6	92.0	26.2	65.8	8.0		36.0	64.0

TABLE 12 -- CHARACTERISTICS OF 1975 TO 1991 LIGHT DUTY TRUCKS

SIX CYLINDER

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT
	(000)	FRACT	CITY	HWY	55/45								
1975	272	.137	14.9	19.7	16.8	3960		16.9	269	102	.383	.0259	.0682
1976	445	.170	16.1	21.2	18.1	3936		16.7	267	102	.387	.0262	.0684
1977	410	.145	16.6	21.4	18.4	3956		15.9	271	110	.407	.0280	.0691
1978	558	.171	16.1	20.7	17.9	3973		15.2	273	116	.426	.0293	.0695
1979	515	.167	15.7	19.6	17.2	4066		14.8	264	122	.465	.0303	.0659
1980	555	.298	16.7	22.3	18.8	4016		15.1	268	118	.445	.0295	.0673
1981	636	.350	17.5	23.4	19.7	3956		14.8	272	119	.442	.0303	.0692
1982	642	.336	18.4	25.2	20.9	3693		14.6	243	113	.481	.0311	.0657
1983	751	.327	18.3	25.8	21.1	3754		15.0	229	112	.510	.0302	.0610
1984	1200	.359	18.0	25.5	20.8	3729		15.1	221	110	.523	.0298	.0589
1985	1217	.332	18.5	26.7	21.5	3704		14.5	216	117	.561	.0317	.0581
1986	1379	.317	18.2	25.7	20.9	3793		13.6	218	129	.623	.0344	.0571
1987	1689	.409	18.5	26.8	21.5	3756		12.6	214	141	.680	.0379	.0569
1988	2063	.453	18.5	27.1	21.6	3779		12.2	218	146	.689	.0389	.0578
1989	2104	.474	18.4	26.6	21.4	3887		12.4	227	148	.674	.0384	.0586
1990	1975	.509	18.3	26.7	21.3	3948		12.6	222	147	.683	.0376	.0563
1991	2377	.594	18.3	27.0	21.4	3987		12.2	235	155	.673	.0393	.0592

PERCENT OF 6-CYL. TRUCKS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	IMPORTED	
1975		5.1	18.8					100.0		100.0	
1976		10.7	35.5					100.0		98.1	1.9
1977		14.2	32.4					100.0		96.1	3.9
1978		14.6	32.0					99.8	.2	97.2	2.8
1979		19.5	61.0					99.3	.7	99.2	.8
1980		18.3	61.9					99.1	.9	99.7	.3
1981		14.5	57.3					100.0		99.7	.3
1982		12.8	52.5					100.0		99.5	.5
1983		32.4	48.5					100.0		99.5	.5
1984		41.2	41.4					100.0		99.6	.4
1985		43.0	37.7		.5	.5		99.5		99.5	.5
1986		37.8	33.3	58.3	34.7	23.5	41.6	.1		96.8	3.2
1987		8.7	36.2	26.7	89.8	36.5	53.2	10.2		96.4	3.6
1988		15.2	35.5	26.5	98.5	38.2	60.3	1.5		95.5	4.5
1989		11.9	35.0	25.6	98.3	39.2	59.1	1.7		91.4	8.6
1990		25.8	31.2	19.9	98.7	31.6	67.0	1.3		87.7	12.3
1991		15.4	43.1	19.6	100.0	43.1	56.9			89.2	10.8

TABLE 13 -- CHARACTERISTICS OF 1975 TO 1991 LIGHT DUTY TRUCKS

EIGHT CYLINDER

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT
	(000)	FRACT	CITY	HWY	55/45								
1975	1490	.750	11.2	14.9	12.6	4275		12.8	347	157	.452	.0371	.0820
1976	1938	.742	11.8	15.5	13.2	4361		13.1	355	155	.437	.0360	.0823
1977	2105	.745	12.9	16.6	14.4	4362		12.7	356	163	.457	.0375	.0822
1978	2372	.725	12.6	15.9	13.9	4381		12.7	352	161	.458	.0370	.0810
1979	2092	.677	12.1	14.9	13.2	4620		14.0	347	154	.445	.0336	.0753
1980	723	.388	13.7	18.2	15.4	4585		13.9	333	151	.453	.0331	.0730
1981	662	.364	14.9	20.1	16.9	4405		13.9	315	145	.462	.0331	.0718
1982	754	.394	15.2	20.4	17.2	4526		13.9	319	150	.473	.0335	.0710
1983	804	.350	15.0	20.5	17.0	4547		13.8	321	151	.477	.0336	.0709
1984	1062	.317	14.4	19.9	16.5	4573		13.7	320	154	.485	.0340	.0702
1985	1198	.327	14.3	19.6	16.3	4555		13.3	318	159	.502	.0352	.0701
1986	1169	.269	14.9	20.6	17.1	4563		13.5	315	157	.498	.0345	.0693
1987	906	.219	14.6	20.4	16.7	4637		12.9	323	171	.527	.0369	.0700
1988	1249	.274	14.9	21.3	17.2	4662		12.5	329	178	.538	.0383	.0710
1989	1210	.273	14.7	21.3	17.1	4663		12.3	330	182	.550	.0394	.0713
1990	1122	.289	14.5	21.6	17.0	4721		12.0	335	189	.563	.0404	.0715
1991	929	.232	14.5	21.8	17.1	4752		11.9	334	192	.577	.0407	.0706

PERCENT OF 8-CYL. TRUCKS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED	
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	IMPORTED
1975		21.8	33.4				100.0		100.0	
1976		28.4	29.2				100.0		100.0	
1977		28.9	24.5				100.0		100.0	
1978		35.5	24.4				98.9	1.1	100.0	
1979		17.0	17.0				97.5	2.5	100.0	
1980		32.5	16.3				93.4	6.6	100.0	
1981	.5	22.0	13.6				96.8	3.2	100.0	
1982	.1	24.0	10.2				87.0	13.0	100.0	
1983		25.6	7.4				91.7	8.3	100.0	
1984		29.3	8.5				96.0	4.0	100.0	
1985	.0	27.4	6.5	8.1		.0	89.9	2.0	100.0	
1986	.0	29.9	7.6	28.5	.0	28.4	70.2	1.3	100.0	
1987	.0	31.3	7.8	71.7	46.1	25.7	27.5	.8	99.8	.2
1988	.0	36.1	9.0	97.2	68.5	28.8	2.1	.7	99.7	.3
1989	.0	36.3	11.8	98.4	68.0	30.4	1.0	.6	99.6	.4
1990	.0	35.2	9.3	98.8	66.2	32.7	.6	.5	99.6	.4
1991	.0	33.9	5.7	97.8	61.4	36.4	.4	1.8	99.6	.4

TABLE 14 -- CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

TWO-SEATER

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
1975	244	.030	16.7	25.0	19.7	3015		12.6	173	125	.764	.0406	.0542	
1976	203	.021	16.5	24.6	19.4	3032		12.1	187	136	.752	.0429	.0581	
1977	221	.020	17.2	25.0	20.0	3062	50.0	12.4	183	134	.755	.0421	.0566	1032
1978	191	.017	16.6	24.4	19.4	3079	50.0	11.8	187	143	.795	.0446	.0573	1002
1979	256	.024	17.0	25.6	20.1	3026	50.0	12.2	180	128	.735	.0411	.0567	1039
1980	200	.021	17.3	26.7	20.6	2954	50.0	12.3	180	121	.702	.0400	.0589	1058
1981	162	.019	18.9	27.0	21.9	3005	50.0	10.6	202	142	.758	.0469	.0652	1125
1982	263	.034	21.9	32.7	25.7	2726	50.0	13.0	146	106	.734	.0377	.0518	1337
1983	137	.017	20.4	29.9	23.9	2756	50.0	11.8	146	115	.778	.0411	.0528	1216
1984	348	.033	22.5	34.6	26.7	2886	50.0	12.1	174	121	.717	.0410	.0586	1423
1985	335	.031	22.8	34.5	26.9	2826	50.0	11.7	158	123	.806	.0425	.0542	1443
1986	303	.028	23.8	36.3	28.1	2915	50.0	11.7	166	130	.818	.0430	.0546	1504
1987	282	.026	23.1	35.7	27.5	2920	50.0	11.5	167	134	.830	.0442	.0547	1487
1988	203	.019	23.0	35.7	27.4	2940	50.0	11.2	170	138	.845	.0455	.0556	1505
1989	113	.011	22.6	35.0	26.9	3030	50.0	10.2	198	160	.891	.0509	.0615	1508
1990	177	.018	23.1	35.1	27.3	3004	50.0	10.1	167	163	1.023	.0520	.0530	1462
1991	143	.018	23.7	35.6	27.9	2983	50.0	10.3	161	163	1.044	.0519	.0513	1511

PERCENT OF TWO-SEATERS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN
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	34.4		34.4	65.6		17.6	36.9	45.5
1981			61.3	55.4		55.4	44.6		23.4	23.4	53.2
1982	47.8		69.2	32.8	9.5	23.3	67.2		57.3	6.7	36.0
1983	17.1		81.0	40.3		40.3	59.7		17.1	9.6	73.3
1984	17.9		60.4	73.6	53.1	20.5	26.4		57.0	3.8	39.3
1985	25.0		67.4	64.9	11.6	53.3	35.1		37.1	4.8	58.1
1986	29.8		62.4	81.7	11.7	70.0	18.3		46.7	6.9	46.4
1987	32.7		64.0	85.9	14.6	71.3	14.1		36.1	7.2	56.7
1988	41.9		62.1	100.0	26.1	73.9			36.3	8.1	55.6
1989	32.6	16.5	51.5	100.0	14.2	85.8			30.7	14.4	54.8
1990	29.5		66.7	100.0	9.6	90.4			20.2	7.8	72.0
1991	36.8		67.3	100.0	13.3	86.7			16.2	11.2	72.5

TABLE 15 -- CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

MINICOMPACT SEDAN

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
1975	941	.114	19.6	29.3	23.0	2721		15.2	128	82	.669	.0298	.0459	
1976	913	.094	22.4	32.3	26.0	2688		15.1	124	80	.673	.0297	.0453	
1977	915	.081	24.2	34.4	27.9	2544	78.8	14.0	116	83	.756	.0326	.0444	2297
1978	901	.081	24.1	32.8	27.4	2583	79.1	14.1	120	83	.730	.0322	.0453	2256
1979	436	.040	24.1	33.7	27.6	2450	79.7	14.4	113	77	.689	.0312	.0456	2239
1980	383	.041	24.5	34.3	28.1	2458	82.8	14.4	116	78	.675	.0314	.0466	2385
1981	227	.026	30.6	40.1	34.3	2164	82.6	14.5	92	67	.723	.0307	.0425	2909
1982	178	.023	31.7	41.5	35.5	2193	82.7	14.6	95	70	.727	.0311	.0427	3065
1983	156	.020	31.5	42.7	35.7	2273	82.0	14.2	99	77	.754	.0327	.0430	3094
1984	42	.004	21.6	32.9	25.6	2855	75.9	10.5	151	141	.927	.0484	.0519	2016
1985	73	.007	31.1	44.8	36.0	2300	79.2	13.4	114	95	.818	.0380	.0461	3406
1986	176	.016	26.1	39.1	30.7	2407	80.5	12.8	113	104	.881	.0403	.0447	2902
1987	71	.007	26.2	38.7	30.7	2636	77.2	11.3	140	130	.916	.0469	.0507	2721
1988	43	.004	26.8	38.7	31.1	2619	77.9	11.7	135	129	.906	.0462	.0495	2877
1989	28	.003	23.0	33.7	26.9	2866	77.2	10.7	147	148	.970	.0504	.0506	2157
1990	76	.008	22.4	33.5	26.3	3019	80.7	10.5	148	145	.969	.0475	.0488	2146
1991	104	.013	24.7	36.1	28.8	2915	76.1	10.8	127	136	1.072	.0463	.0432	2213

PERCENT OF MINICOMPACT SEDANS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN
1975	19.6		67.7	11.5	11.5	88.5			49.8	19.4	30.8
1976	22.1		63.5	4.5	4.5	95.5			50.3	10.4	39.3
1977	25.4		70.6	1.9	1.9	98.1			16.8	8.2	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	20.6	20.6	79.4			.2	21.4	78.4
1984	30.6		84.3	92.6	92.6	7.4			.2	96.9	2.9
1985	67.7		86.1	46.9	46.9	53.1			.1	49.5	50.4
1986	54.6		82.7	52.2	52.2	47.8				43.8	56.2
1987	54.9		81.9	85.9	85.9	14.1				69.4	30.6
1988	62.4		76.6	77.0	77.0	23.0				62.7	37.3
1989	62.4	3.5	65.3	100.0	100.0					74.6	25.4
1990	11.4		61.6	100.0	100.0					20.6	79.4
1991	52.2	.6	55.9	100.0	100.0					10.0	90.0

TABLE 16 -- CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

SUBCOMPACT SEDAN

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
1975	1011	.123	16.6	23.8	19.2	3242		14.2	206	107	.585	.0329	.0607	
1976	1368	.141	19.3	27.0	22.2	3033		14.7	181	97	.607	.0316	.0561	
1977	1577	.140	20.9	28.9	23.9	2966	90.7	14.2	174	98	.633	.0325	.0548	2329
1978	2056	.184	21.5	30.0	24.6	2842	89.7	14.4	159	93	.649	.0321	.0523	2387
1979	3044	.282	21.1	29.3	24.1	2847	90.4	14.2	155	94	.659	.0323	.0515	2296
1980	3552	.376	23.7	32.9	27.1	2640	89.9	14.7	128	82	.669	.0308	.0470	2523
1981	2712	.311	25.8	35.0	29.3	2604	90.3	14.7	124	81	.676	.0308	.0464	2744
1982	2329	.298	25.3	35.5	29.1	2657	91.8	14.5	133	86	.666	.0317	.0487	2792
1983	1968	.246	25.9	37.2	30.0	2687	93.3	14.0	136	90	.693	.0330	.0489	2941
1984	2545	.238	25.4	36.9	29.6	2737	93.3	13.5	140	97	.722	.0348	.0496	2883
1985	2181	.202	25.9	37.4	30.1	2734	93.9	13.4	136	100	.760	.0358	.0481	2941
1986	2376	.216	26.4	37.9	30.6	2764	94.7	13.4	136	100	.765	.0354	.0477	3018
1987	2088	.195	26.8	38.4	31.1	2728	92.7	13.7	128	99	.795	.0350	.0452	2995
1988	2110	.197	27.8	39.2	31.9	2677	93.3	13.4	123	100	.823	.0360	.0444	3119
1989	1946	.194	26.9	38.6	31.2	2748	93.1	13.0	129	104	.852	.0369	.0452	3045
1990	2104	.218	27.2	38.6	31.4	2755	94.5	12.3	121	111	.957	.0396	.0427	3071
1991	2048	.258	26.8	39.1	31.2	2776	94.7	12.2	125	113	.944	.0401	.0440	3063

PERCENT OF SUBCOMPACT SEDANS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN
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	54.9	13.6	31.5
1980	35.3	.4	58.2	10.9		10.9	85.6	3.4	44.0	15.6	40.4
1981	36.0	.3	58.9	12.1		12.1	82.4	5.5	34.9	12.8	52.3
1982	39.8	.2	55.1	18.1	3.2	14.8	77.8	4.1	32.2	11.3	56.5
1983	53.4	.2	55.8	24.2	2.7	21.5	74.6	1.2	31.2	9.3	59.5
1984	49.8	.5	51.5	31.9	3.0	28.9	66.3	1.7	38.8	11.6	49.6
1985	58.7	.3	49.4	33.9	5.1	28.8	65.9	.2	35.0	7.5	57.6
1986	64.5	1.1	50.3	41.4	4.9	36.5	58.5	.1	32.2	6.4	61.4
1987	69.1	.5	51.3	47.0	6.8	40.3	52.9	.1	25.1	10.1	64.8
1988	77.3	1.3	52.9	51.7	15.5	36.2	48.3	.0	21.0	7.0	72.0
1989	72.3	1.1	46.5	65.1	20.6	44.5	34.9	.0	24.8	5.4	69.7
1990	84.8	.6	43.8	95.8	25.5	70.3	4.2		17.2	3.9	78.8
1991	87.8	1.2	40.6	99.5	27.0	72.6	.5		32.7	3.7	63.6

TABLE 17 -- CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

COMPACT SEDAN

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/CID	HP/WT	CID/WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
1975	1893	.230	14.3	19.3	16.2	3958		14.6	287	129	.454	.0322	.0717	
1976	2557	.263	15.5	21.0	17.5	4025		15.2	289	125	.434	.0307	.0712	
1977	2767	.245	15.8	21.4	17.9	4128	107.3	14.6	291	131	.452	.0315	.0700	1946
1978	1482	.133	17.5	24.7	20.2	3552	105.1	14.5	236	113	.506	.0318	.0652	2163
1979	668	.062	17.1	23.5	19.5	3624	105.3	14.4	246	117	.495	.0321	.0671	2095
1980	690	.073	19.4	27.6	22.4	3184	106.2	14.4	186	102	.577	.0324	.0579	2438
1981	976	.112	23.0	33.5	26.7	2825	104.3	14.2	142	91	.671	.0325	.0497	2852
1982	1268	.162	24.7	37.0	29.0	2794	102.9	14.6	128	86	.695	.0310	.0454	3035
1983	1456	.182	24.7	36.2	28.8	2844	103.2	14.4	141	91	.677	.0318	.0484	3051
1984	2731	.256	25.6	36.9	29.7	2798	103.1	14.3	136	90	.687	.0321	.0479	3134
1985	2929	.271	25.7	37.2	29.8	2804	103.1	13.5	138	98	.727	.0347	.0486	3155
1986	3348	.304	25.7	37.2	29.8	2819	103.2	13.5	137	98	.735	.0346	.0479	3143
1987	4012	.374	25.5	37.3	29.7	2836	102.8	13.3	135	100	.759	.0351	.0470	3110
1988	4317	.403	25.6	37.6	29.9	2889	103.6	12.9	136	108	.798	.0369	.0467	3147
1989	3585	.358	25.6	37.5	29.9	2886	102.8	12.7	130	108	.837	.0372	.0448	3110
1990	3138	.326	25.1	37.4	29.4	2968	103.2	12.3	138	117	.848	.0391	.0465	3078
1991	2185	.276	24.9	37.1	29.2	2990	104.6	12.0	136	122	.901	.0407	.0454	3099

PERCENT OF COMPACT SEDANS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN
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	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	10.8		10.8	80.9	8.4	79.1	20.9	
1981	81.4	2.1	32.9	8.0		8.0	86.0	6.0	86.0	14.0	
1982	84.8	1.9	34.8	21.5	13.1	8.3	73.2	5.3	81.4	13.7	4.9
1983	74.7	2.2	32.3	50.6	37.4	13.2	45.1	4.4	77.3	12.7	10.0
1984	82.0	.8	28.4	54.0	32.4	21.6	43.1	2.8	81.4	6.7	11.9
1985	85.3	.2	28.3	70.8	46.9	24.0	26.7	2.4	71.7	11.0	17.3
1986	86.6	.2	28.5	76.4	43.4	33.0	22.9	.7	65.3	9.6	25.2
1987	90.5	.4	29.5	74.6	42.2	32.4	25.1	.3	52.6	7.4	40.0
1988	91.2	.2	25.6	91.4	42.7	48.7	8.6		59.2	5.1	35.7
1989	95.8	.5	26.1	94.9	40.0	54.9	5.0	.1	53.7	6.0	40.3
1990	96.0	.7	24.1	99.9	38.8	61.1		.1	59.0	5.3	35.7
1991	95.6	1.0	21.1	99.8	14.9	84.8		.2	49.3	6.0	44.7

TABLE 18 -- CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

MIDSIZE SEDAN

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
1975	1631	.198	11.7	16.9	13.6	4630		13.9	353	158	.447	.0341	.0761	
1976	1964	.202	13.6	19.4	15.7	4558		13.8	343	156	.454	.0340	.0749	
1977	2226	.197	14.3	20.2	16.4	4473	112.9	13.9	332	151	.454	.0337	.0741	1880
1978	3339	.299	16.0	23.0	18.6	3820	113.0	13.4	292	135	.464	.0353	.0762	2139
1979	3211	.297	16.7	23.2	19.1	3710	113.1	13.6	272	128	.474	.0345	.0731	2197
1980	2987	.316	18.6	26.9	21.6	3362	113.2	13.8	228	113	.512	.0336	.0671	2478
1981	2902	.332	19.8	28.6	22.9	3346	113.9	14.2	220	107	.509	.0322	.0648	2645
1982	2136	.273	20.5	30.5	24.0	3321	113.9	14.2	211	107	.529	.0324	.0627	2785
1983	2269	.284	20.4	30.3	23.9	3316	113.8	13.8	212	111	.544	.0336	.0632	2769
1984	2770	.260	20.5	30.6	24.1	3318	113.7	13.6	210	113	.563	.0342	.0623	2780
1985	2777	.257	21.2	31.9	24.9	3318	113.6	13.3	205	117	.606	.0354	.0606	2873
1986	2666	.242	21.9	33.4	25.9	3241	113.8	13.0	194	118	.640	.0364	.0589	2978
1987	2252	.210	22.0	33.6	26.0	3247	113.7	12.7	188	123	.684	.0379	.0571	2993
1988	2113	.197	22.3	35.1	26.7	3293	113.4	12.3	183	129	.718	.0389	.0551	3057
1989	2591	.259	22.2	35.3	26.6	3314	117.6	12.2	181	131	.735	.0396	.0544	3168
1990	2378	.247	21.6	35.0	26.1	3448	113.7	11.5	187	149	.807	.0431	.0542	2993
1991	2011	.254	21.4	34.6	25.8	3463	113.6	11.5	195	149	.773	.0430	.0562	2954

PERCENT OF MIDSIZE SEDANS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN
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	1.4		1.4	98.6		99.8	.2	
1979	5.2		1.9	2.3		2.3	96.3	1.4	99.5	.5	
1980	30.2		7.8	2.5	1.5	1.0	94.9	2.5	99.5	.5	
1981	32.3		5.6	2.4	2.3	.1	93.7	4.0	99.9	.1	
1982	44.7		2.0	15.6	15.4	.2	80.7	3.8	99.8	.2	
1983	48.9		1.2	17.7	17.2	.5	80.6	1.7	99.3	.7	
1984	55.1		.9	29.4	25.6	3.8	69.7	1.0	97.3	2.7	
1985	61.9		1.3	50.1	37.1	13.0	49.6	.3	96.5	3.5	
1986	71.0	.1	1.8	67.7	42.3	25.4	32.1	.2	95.6	4.4	
1987	77.3	.2	1.5	84.1	43.4	40.7	15.5	.4	95.3	4.7	
1988	87.0	.1	3.8	94.9	28.0	66.9	5.1		87.8	5.6	6.5
1989	86.5	.1	4.7	99.3	21.0	78.3	.7		86.2	3.8	10.1
1990	85.5	.1	11.1	100.0	12.9	87.0		.0	83.2	4.1	12.8
1991	86.4	.1	5.6	99.9	12.8	87.2		.1	84.3	3.7	12.0

TABLE 19 -- CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

LARGE SEDAN

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/CID	HP/WT	CID/WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
1975	1555	.189	11.3	16.2	13.1	5142		13.5	409	180	.439	.0348	.0794	
1976	1679	.173	12.3	17.2	14.2	5156		13.4	410	180	.440	.0349	.0793	
1977	2319	.205	13.8	19.5	15.9	4482	128.1	12.8	366	165	.453	.0370	.0818	2065
1978	2048	.183	14.5	20.9	16.8	4394	128.5	12.8	357	162	.457	.0370	.0811	2193
1979	2111	.196	15.2	21.1	17.4	4210	130.0	12.9	339	154	.454	.0365	.0805	2279
1980	963	.102	16.3	24.1	19.1	4130	130.9	14.0	314	137	.440	.0331	.0759	2526
1981	956	.109	17.1	26.7	20.4	4108	131.0	14.3	304	133	.444	.0325	.0740	2712
1982	832	.106	17.4	26.9	20.7	4034	131.0	13.9	292	135	.468	.0337	.0724	2730
1983	1079	.135	16.9	26.4	20.2	4041	131.3	13.4	292	140	.481	.0347	.0724	2657
1984	1236	.116	17.2	26.9	20.5	4022	130.9	13.4	294	140	.478	.0349	.0731	2688
1985	1512	.140	18.5	29.8	22.3	3841	129.3	12.7	279	143	.512	.0371	.0725	2887
1986	1267	.115	19.6	32.7	23.9	3719	127.4	12.1	260	147	.577	.0396	.0696	3055
1987	1218	.113	19.5	32.8	23.9	3696	127.0	11.8	259	149	.587	.0405	.0699	3036
1988	1303	.122	19.8	33.2	24.2	3730	128.1	10.8	262	172	.661	.0461	.0701	3111
1989	1289	.129	19.6	33.0	24.0	3721	127.4	11.4	261	158	.619	.0427	.0701	3064
1990	1399	.145	19.2	32.6	23.5	3813	127.5	11.5	266	159	.613	.0420	.0696	3011
1991	1033	.130	19.3	32.7	23.7	3884	128.1	11.1	266	171	.656	.0443	.0683	3040

PERCENT OF LARGE SEDANS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED				
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN		
1975	1.5		.0					100.0			100.0		
1976	1.5		.0	1.2		1.2	98.8				100.0		
1977	1.5			.5		.5	99.5				100.0		
1978	1.1			.2		.2	98.5	1.4			100.0		
1979				.2		.2	96.4	3.5			100.0		
1980				2.0	2.0		87.5	10.4			100.0		
1981				17.1	17.1		67.7	15.2			100.0		
1982				20.1	20.1		69.9	10.0			100.0		
1983				37.3	37.3		60.3	2.4			100.0	.0	
1984				39.0	39.0		60.3	.8			100.0		
1985	31.9			64.0	44.9	19.1	35.7	.3			100.0	.0	
1986	55.9		.7	81.2	15.8	65.4	18.8				99.2	.8	
1987	60.9		.5	85.1	15.2	69.9	14.9				98.9	1.1	
1988	58.7		.4	89.5	12.6	76.9	10.5				95.9	4.1	
1989	61.9		.3	97.0	22.2	74.8	3.0				96.0	4.0	
1990	57.2		.2	98.1	17.4	80.7	1.9				97.9	2.1	
1991	62.0		.2	99.4	11.8	87.6	.6				97.5	2.5	

TABLE 20 -- CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

SMALL WAGON

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
1975	477	.058	19.3	27.7	22.4	2833		14.8	128	87	.713	.0307	.0443	
1976	345	.036	20.7	29.4	23.9	2902		15.2	136	86	.668	.0297	.0461	
1977	384	.034	22.4	30.6	25.5	2801	108.0	14.9	134	85	.685	.0305	.0465	2824
1978	361	.032	21.4	29.3	24.3	2805	108.0	14.3	134	90	.709	.0319	.0465	2692
1979	310	.029	22.5	31.2	25.7	2711	105.1	15.1	123	81	.684	.0295	.0443	2742
1980	310	.033	25.1	34.6	28.6	2591	108.2	15.4	113	75	.685	.0289	.0430	3175
1981	418	.048	26.2	36.6	30.0	2531	110.6	14.4	108	79	.755	.0313	.0422	3356
1982	382	.049	26.5	37.6	30.6	2580	112.2	15.3	109	75	.698	.0289	.0418	3463
1983	531	.066	28.2	39.1	32.2	2565	108.2	15.3	105	74	.713	.0289	.0407	3507
1984	461	.043	27.6	39.4	31.9	2620	116.5	15.2	107	77	.719	.0294	.0409	3762
1985	496	.046	28.3	39.7	32.5	2579	117.7	15.2	106	78	.727	.0300	.0412	3870
1986	348	.032	27.1	37.6	31.0	2647	118.4	14.7	113	82	.730	.0308	.0424	3729
1987	361	.034	26.8	37.4	30.7	2795	120.0	14.2	116	91	.788	.0324	.0413	3733
1988	253	.024	27.5	37.6	31.3	2757	118.7	13.7	113	93	.829	.0336	.0408	3748
1989	159	.016	27.5	38.3	31.5	2766	118.6	13.5	112	96	.862	.0344	.0403	3769
1990	153	.016	25.7	36.6	29.7	3022	121.8	12.9	122	110	.914	.0364	.0403	3649
1991	195	.025	26.0	38.0	30.3	2995	123.0	13.2	121	106	.879	.0353	.0406	3775

PERCENT OF SMALL WAGONS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN
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	1.1		1.1	92.5	6.3	19.2	6.7	74.1
1981	57.9	8.0	62.0	4.0		4.0	93.9	2.2	41.6	3.5	54.8
1982	68.3	8.9	54.0	5.6	.7	4.8	93.3	1.2	44.9	1.8	53.3
1983	55.4	39.3	64.7	20.7	17.0	3.7	79.0	.3	35.0	1.1	64.0
1984	81.4	15.6	43.7	37.3	32.2	5.1	61.1	1.6	53.4	1.4	45.2
1985	60.0	39.6	59.1	21.7	15.4	6.2	77.8	.5	35.2	1.4	63.4
1986	78.4	20.7	43.3	31.0	24.3	6.8	68.2	.8	49.1	1.2	49.6
1987	76.6	23.4	34.4	71.8	42.6	29.2	28.2		35.1	1.8	63.1
1988	80.2	19.8	37.8	93.4	62.8	30.6	6.6		34.5	6.5	58.9
1989	89.9	10.1	26.6	89.7	48.8	41.0	10.3		36.3	2.0	61.8
1990	77.0	23.0	30.5	100.0	39.2	60.8			28.6	1.3	70.2
1991	83.6	16.4	25.0	100.0	15.6	84.4			44.2		55.8

TABLE 21 -- CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

MIDSIZE WAGON

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
1975	289	.035	11.4	16.5	13.2	4791		13.8	361	162	.473	.0338	.0744	
1976	485	.050	14.0	19.4	16.0	4555		14.8	315	142	.458	.0311	.0686	
1977	548	.048	14.4	19.6	16.3	4410	143.6	15.1	297	135	.459	.0305	.0667	2368
1978	503	.045	16.3	22.6	18.6	3836	140.0	14.4	258	123	.484	.0320	.0670	2630
1979	482	.045	16.9	22.9	19.1	3758	139.7	14.7	249	118	.480	.0313	.0660	2698
1980	257	.027	18.4	25.8	21.1	3534	139.7	15.0	228	107	.482	.0304	.0644	2984
1981	272	.031	20.2	28.0	23.1	3285	136.2	14.5	193	103	.562	.0316	.0582	3187
1982	284	.036	20.6	28.9	23.7	3384	136.1	14.3	205	108	.551	.0320	.0599	3265
1983	276	.034	21.2	29.9	24.4	3348	136.2	14.1	200	109	.568	.0325	.0589	3368
1984	365	.034	21.6	31.0	25.0	3298	135.9	14.1	172	107	.633	.0324	.0521	3428
1985	341	.032	21.6	31.6	25.2	3356	130.2	13.9	170	112	.679	.0334	.0505	3280
1986	409	.037	22.1	33.1	26.0	3355	137.8	13.6	162	115	.718	.0342	.0481	3592
1987	359	.033	21.7	33.0	25.6	3434	140.2	13.0	173	125	.735	.0363	.0500	3606
1988	285	.027	22.0	34.4	26.2	3378	139.4	12.7	171	126	.743	.0372	.0505	3677
1989	239	.024	21.4	33.8	25.6	3436	139.9	12.4	176	132	.765	.0383	.0509	3597
1990	166	.017	21.1	34.4	25.6	3492	140.3	12.0	182	140	.787	.0401	.0520	3598
1991	163	.021	21.4	35.0	25.9	3502	141.7	11.9	188	141	.765	.0403	.0537	3680

PERCENT OF MIDSIZE WAGONS:

MODEL YEAR	DRIVE FRONT		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	4WD			FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN
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	3.0		3.0	96.8	.3	96.7	3.3	
1979			5.3	2.5		2.5	95.0	2.5	96.4	3.6	
1980			9.9	4.3		4.3	89.8	5.9	93.6	6.4	
1981	35.6		12.8	6.9		6.9	87.2	5.9	91.2	8.8	
1982	28.2		7.4	5.7		5.7	88.0	6.3	90.8	9.2	
1983	32.8		6.2	7.9		7.9	89.8	2.3	90.5	9.5	
1984	69.9		6.5	30.7	20.3	10.4	66.8	2.5	88.1	11.9	
1985	69.5	4.5	5.9	56.2	30.5	25.7	42.0	1.8	83.2	11.4	5.4
1986	82.2	2.1	9.1	79.3	28.0	51.3	20.6	.2	76.2	11.1	12.7
1987	83.9	.1	4.4	94.5	22.8	71.7	4.7	.8	84.9	11.3	3.8
1988	87.7	.7	3.8	100.0	29.8	70.2			82.3	13.9	3.7
1989	77.5	8.2	7.1	100.0	12.3	87.7			76.3	15.6	8.0
1990	79.0	.5	1.9	100.0	5.3	94.7			76.6	23.4	
1991	85.0	.2	1.4	100.0	1.9	98.1			82.9	17.1	

TABLE 22 -- CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

LARGE WAGON

MODEL YEAR	SALES (000)	FRACT	FUEL CITY	ECONOMY HWY	55/45	WT	VOL	0-60 TIME	DISP (IN)	HP	HP/CID	HP/WT	CID/WT	CU-FT -MPG
1975	197	.024	10.3	14.9	11.9	5453		14.0	410	181	.441	.0333	.0752	
1976	207	.021	11.8	16.5	13.5	5444		13.7	416	185	.445	.0340	.0763	
1977	340	.030	13.6	18.7	15.5	4713	163.1	13.6	365	161	.442	.0342	.0773	2567
1978	293	.026	13.8	19.7	15.9	4664	162.4	13.4	354	162	.460	.0348	.0758	2601
1979	275	.026	14.2	19.3	16.1	4466	162.5	13.4	333	155	.465	.0346	.0746	2633
1980	102	.011	16.3	24.2	19.1	4423	161.5	15.2	323	134	.418	.0304	.0733	3152
1981	108	.012	16.7	26.0	19.9	4394	161.4	15.3	312	131	.424	.0299	.0712	3272
1982	146	.019	16.0	25.4	19.2	4396	161.3	14.6	306	139	.456	.0316	.0697	3130
1983	130	.016	16.3	25.9	19.6	4379	161.6	14.1	307	142	.465	.0325	.0702	3174
1984	176	.017	16.6	26.3	19.9	4371	161.7	13.9	305	144	.472	.0330	.0700	3227
1985	145	.013	17.3	28.0	20.9	4354	161.7	13.2	305	153	.504	.0354	.0702	3382
1986	120	.011	18.1	30.0	22.0	4381	161.4	13.9	304	146	.479	.0334	.0696	3558
1987	88	.008	18.3	29.9	22.1	4348	161.8	14.0	304	143	.470	.0330	.0702	3583
1988	75	.007	19.0	30.4	22.8	4349	161.7	12.9	304	166	.545	.0387	.0701	3691
1989	63	.006	18.7	29.9	22.5	4334	161.8	13.9	304	143	.471	.0332	.0703	3643
1990	46	.005	19.1	30.7	23.0	4260	162.3	13.6	305	145	.476	.0342	.0717	3737
1991	44	.006	18.5	31.5	22.8	4288	167.8	12.5	304	161	.532	.0377	.0711	3818

PERCENT OF LARGE WAGONS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED				
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN		
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								73.3	26.7		100.0		
1981				.2	.2			74.6	25.2		100.0		
1982								89.0	11.0		100.0		
1983				24.1	24.1			71.3	4.6		99.9	.1	
1984				25.8	25.8			72.7	1.5		100.0		
1985				29.2	29.2			70.4	.4		100.0		
1986				23.7		23.7	76.3				100.0		
1987				30.3		30.3	69.7				100.0		
1988				30.2		30.2	69.8				100.0		
1989				33.1		33.1	66.9				100.0		
1990				47.9		47.9	52.1				100.0		
1991				100.0	57.6	42.4					100.0		

TABLE 23 -- CHARACTERISTICS OF 1975 TO 1991 LIGHT TRUCKS

SMALL PICKUP

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT
	(000)	FRACT	CITY	HWY	55/45								
1975	217	.109	19.0	27.5	22.1	2821		14.7	116	88	.762	.0315	.0412
1976	227	.087	20.2	29.4	23.5	2829		14.6	117	90	.772	.0320	.0414
1977	306	.109	22.8	32.4	26.3	2820		14.2	121	91	.756	.0325	.0431
1978	339	.104	23.3	31.1	26.3	2844		14.7	120	88	.731	.0310	.0424
1979	459	.149	20.5	28.3	23.4	2832		14.9	123	84	.692	.0300	.0434
1980	489	.262	22.4	30.2	25.3	2792		14.5	123	86	.706	.0311	.0441
1981	449	.247	24.9	33.4	28.1	2822		15.2	129	83	.647	.0295	.0457
1982	591	.309	24.1	33.2	27.5	2880		14.3	144	93	.645	.0322	.0501
1983	875	.381	23.5	32.7	26.9	2978		14.5	145	92	.641	.0311	.0486
1984	905	.271	22.6	32.0	26.0	3080		14.9	146	93	.638	.0302	.0474
1985	886	.242	23.4	32.8	26.9	2974		14.0	148	98	.663	.0330	.0499
1986	1253	.288	23.4	32.6	26.8	3003		13.6	145	101	.697	.0337	.0482
1987	1108	.268	23.3	33.1	26.9	3018		13.6	147	103	.695	.0340	.0488
1988	1040	.228	22.9	32.2	26.3	3077		13.5	153	106	.690	.0343	.0496
1989	882	.199	22.8	32.0	26.2	3133		13.0	161	112	.704	.0356	.0510
1990	525	.135	22.4	31.5	25.7	3236		12.4	165	124	.762	.0384	.0508
1991	576	.144	21.9	31.0	25.2	3300		12.3	181	130	.728	.0393	.0546

PERCENT OF SMALL PICKUPS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED	
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	IMPORTED
1975			83.1					100.0		100.0
1976			81.4					100.0		100.0
1977			82.3					100.0		100.0
1978		6.9	88.1					100.0		100.0
1979		20.5	88.1					100.0		100.0
1980	5.4	13.1	88.6	3.1			94.6	2.3		100.0
1981	7.4	16.3	92.3	2.0			79.9	18.0	.7	99.3
1982	5.4	10.7	78.8	.6			86.8	12.7	38.5	61.5
1983	3.5	16.7	77.1	.2			95.2	4.6	52.8	47.2
1984	1.4	21.9	75.3	.0			96.7	3.2	55.1	44.9
1985		8.2	71.7	19.5			79.1	1.5	52.6	47.4
1986		8.2	78.2	44.5	25.1	19.4	54.7	.7	35.7	64.3
1987	.0	7.5	74.7	53.4	32.1	21.3	46.3	.3	44.0	56.0
1988		8.8	72.1	65.3	33.3	32.1	34.7		61.2	38.8
1989	.0	7.3	72.4	75.8	38.0	37.8	24.2		55.7	44.3
1990		8.6	68.3	93.8	14.9	78.9	6.2		66.3	33.7
1991		9.0	58.1	96.7	35.6	61.1	3.3		76.4	23.6

TABLE 24 -- CHARACTERISTICS OF 1975 TO 1991 LIGHT TRUCKS

LARGE PICKUP

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT
	(000)	FRACT	CITY	HWY	55/45								
1975	1126	.567	11.5	15.7	13.1	4241		13.3	343	151	.438	.0358	.0813
1976	1639	.628	12.4	16.3	13.9	4301		13.8	344	146	.423	.0341	.0804
1977	1719	.609	13.4	17.2	14.9	4318		13.1	347	156	.449	.0363	.0805
1978	1928	.589	13.3	16.8	14.7	4326		13.2	339	154	.454	.0357	.0786
1979	1748	.566	13.1	16.2	14.3	4486		14.1	330	149	.452	.0334	.0737
1980	947	.508	15.4	20.5	17.4	4227		14.3	294	134	.467	.0318	.0691
1981	990	.544	16.7	22.5	18.9	4068		14.2	285	130	.464	.0321	.0700
1982	849	.444	16.8	22.6	19.0	4151		14.3	287	133	.475	.0322	.0688
1983	754	.328	16.2	22.1	18.4	4197		14.2	289	135	.479	.0323	.0687
1984	1138	.340	16.6	22.5	18.8	4048		14.2	270	131	.503	.0324	.0660
1985	1192	.325	16.4	22.2	18.6	4139		13.7	275	141	.533	.0341	.0660
1986	1279	.294	16.8	22.8	19.1	4133		13.7	266	139	.550	.0335	.0636
1987	1039	.251	16.9	23.1	19.2	4068		13.2	261	145	.578	.0355	.0632
1988	1418	.311	16.4	23.3	19.0	4221		12.5	285	161	.580	.0380	.0669
1989	1349	.304	16.3	23.2	18.8	4242		12.5	285	163	.586	.0383	.0666
1990	1373	.354	16.4	23.8	19.1	4219		12.5	280	162	.598	.0383	.0654
1991	1160	.290	16.7	24.5	19.5	4214		12.4	274	163	.618	.0386	.0640

PERCENT OF LARGE PICKUPS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED	
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	IMPORTED
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					96.9	3.1	100.0
1980		25.2	43.4					94.9	5.1	93.6
1981	.3	17.1	42.0					97.8	2.2	94.9
1982	.1	22.6	36.6					91.4	8.6	91.8
1983		28.4	32.2					95.9	4.1	92.1
1984		27.0	38.6		1.7			96.0	2.3	80.6
1985		38.2	36.6		13.3	.5		85.6	1.1	85.7
1986		41.8	38.9		33.2	10.2	23.0	66.3	.5	81.6
1987		44.8	41.1		64.8	31.9	32.9	34.9	.3	82.0
1988	.0	42.8	35.5		97.1	59.3	37.9	2.6	.3	88.3
1989	.0	43.0	39.3		99.0	59.7	39.4	.7	.3	87.6
1990	.0	35.8	35.2		94.1	50.9	43.2	5.7	.2	80.7
1991	.0	40.3	35.9		96.1	52.2	43.9	3.0	.9	77.1

TABLE 25 -- CHARACTERISTICS OF 1975 TO 1991 LIGHT TRUCKS

SMALL VAN

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT
	(000)	FRACT	CITY	HWY	55/45								
1975	1	.001	18.0	25.3	20.7	3496		21.0	109	67	.615	.0192	.0312
1976	1	.001	16.8	25.8	19.9	3500		20.9	120	67	.558	.0191	.0343
1977	2	.001	19.1	27.6	22.2	3500		20.8	120	67	.558	.0191	.0343
1978	3	.001	17.4	24.5	20.0	3500		20.9	120	67	.558	.0191	.0343
1979	8	.003	16.5	22.6	18.7	3500		20.9	120	67	.558	.0191	.0343
1980	16	.008	16.3	23.9	19.0	3618		21.4	120	67	.558	.0186	.0333
1981	11	.006	16.3	22.3	18.5	3644		21.6	120	67	.558	.0185	.0330
1982	15	.008	19.7	24.9	21.7	3668		23.4	111	61	.550	.0168	.0304
1983	14	.006	17.4	23.5	19.7	3567		20.9	118	69	.583	.0194	.0333
1984	217	.065	21.9	29.2	24.7	3380		15.8	136	94	.694	.0281	.0405
1985	442	.121	20.7	28.2	23.5	3521		14.9	169	109	.664	.0310	.0476
1986	650	.149	20.1	28.5	23.2	3671		14.6	181	115	.651	.0313	.0489
1987	868	.210	20.0	28.7	23.2	3672		13.1	185	133	.730	.0362	.0501
1988	804	.176	19.8	29.1	23.1	3816		12.9	194	140	.732	.0366	.0507
1989	922	.208	19.8	28.9	23.1	3843		13.2	191	138	.738	.0358	.0494
1990	968	.249	19.4	28.7	22.8	3934		13.2	197	140	.720	.0357	.0501
1991	759	.190	19.5	28.6	22.8	3996		13.1	199	144	.731	.0360	.0498

PERCENT OF SMALL VANS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED	
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	IMPORTED
1975			70.8	100.0						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	69.5		30.2	30.5			68.6	.9	62.8	37.2
1985	58.6	.7	15.3	17.8			82.2		78.9	21.1
1986	39.2	2.1	12.0	49.4	26.1	23.3	50.3	.3	84.3	15.7
1987	35.3	12.7	13.3	81.9	23.6	58.3	18.1		85.5	14.5
1988	51.1	1.1	4.8	100.0	36.0	64.0			93.1	6.9
1989	47.6	1.0	3.7	100.0	34.1	65.9			92.5	7.5
1990	61.0	8.2	2.2	100.0	35.0	65.0			92.0	8.0
1991	54.1	10.3	2.4	100.0	27.2	72.8			86.2	13.8

TABLE 26 -- CHARACTERISTICS OF 1975 TO 1991 LIGHT TRUCKS

LARGE VAN

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT
	(000)	FRACT	CITY	HWY	55/45								
1975	455	.229	11.7	15.2	13.1	4198		13.9	318	143	.447	.0341	.0759
1976	500	.191	12.3	16.4	13.8	4202		13.7	324	146	.447	.0348	.0774
1977	512	.181	13.3	17.0	14.7	4255		13.2	333	153	.458	.0360	.0783
1978	622	.190	12.9	16.2	14.2	4253		13.3	330	149	.453	.0352	.0778
1979	472	.153	12.2	15.4	13.5	4559		14.5	325	146	.449	.0320	.0714
1980	226	.121	14.6	19.5	16.5	4404		14.8	299	135	.452	.0307	.0680
1981	234	.128	15.5	20.5	17.4	4357		15.0	292	132	.453	.0303	.0670
1982	296	.154	15.3	20.2	17.1	4376		14.8	296	136	.459	.0310	.0676
1983	368	.160	15.6	21.1	17.7	4445		14.7	301	139	.461	.0312	.0677
1984	459	.137	15.0	20.6	17.1	4402		14.5	302	141	.464	.0319	.0689
1985	412	.112	14.5	19.5	16.4	4462		13.9	308	150	.487	.0336	.0691
1986	394	.091	15.3	20.7	17.4	4537		14.2	304	148	.485	.0326	.0672
1987	398	.096	14.9	20.6	17.1	4599		13.5	310	161	.516	.0350	.0676
1988	329	.072	15.3	21.4	17.5	4632		13.3	313	164	.522	.0355	.0679
1989	355	.080	15.0	21.3	17.3	4614		13.1	315	168	.529	.0365	.0685
1990	308	.079	14.9	21.4	17.3	4627		12.5	320	178	.552	.0385	.0693
1991	340	.085	14.8	22.0	17.4	4769		12.5	319	183	.572	.0384	.0670

PERCENT OF LARGE VANS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED	
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	IMPORTED
1975			23.3				100.0		100.0	
1976			20.3				100.0		100.0	
1977			14.0				100.0		100.0	
1978			12.7				100.0		100.0	
1979			13.6				100.0		100.0	
1980			22.0				100.0		100.0	
1981	.3		19.1				100.0		100.0	
1982			12.0				100.0		100.0	
1983			9.6				95.6	4.4	100.0	
1984			8.5				98.6	1.4	100.0	
1985			4.2				99.4	.6	100.0	
1986			2.8	19.4		19.4	80.2	.5	100.0	
1987		10.3	2.7	70.1	33.1	37.0	29.6	.2	100.0	
1988			1.1	98.8	59.5	39.3	.8	.4	100.0	
1989			.9	99.8	61.8	37.9		.2	100.0	
1990			.2	99.7	61.7	38.0		.3	100.0	
1991			.3	99.4	42.3	57.1		.6	100.0	

TABLE 27 -- CHARACTERISTICS OF 1975 TO 1991 LIGHT TRUCKS

SMALL UTILITY

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT
	(000)	FRACT	CITY	HWY	55/45								
1975	53	.027	14.1	19.3	16.1	2897		11.9	273	118	.429	.0416	.0960
1976	60	.023	14.2	18.6	15.9	2985		12.7	273	108	.397	.0367	.0933
1977	73	.026	15.2	19.8	17.0	3073		12.7	274	111	.406	.0366	.0916
1978	93	.029	14.8	19.6	16.7	3026		12.7	275	110	.400	.0368	.0930
1979	105	.034	15.4	18.5	16.7	3196		12.7	261	117	.463	.0366	.0812
1980	60	.033	17.0	21.8	18.8	3083		14.6	227	95	.454	.0306	.0727
1981	43	.023	18.2	23.9	20.4	3054		13.6	224	102	.475	.0335	.0733
1982	42	.022	18.5	23.8	20.5	2922		13.9	207	97	.495	.0331	.0700
1983	156	.068	19.0	26.9	21.9	3512		14.7	189	107	.586	.0309	.0553
1984	417	.125	19.0	26.9	21.9	3546		15.1	175	105	.609	.0297	.0498
1985	524	.143	18.9	27.9	22.1	3643		15.5	168	106	.632	.0291	.0462
1986	569	.131	19.3	27.0	22.2	3550		14.0	163	116	.720	.0328	.0460
1987	577	.140	19.4	27.7	22.4	3512		13.5	174	122	.716	.0348	.0495
1988	763	.167	19.0	27.3	22.0	3528		12.7	188	134	.725	.0377	.0530
1989	709	.160	18.8	26.5	21.6	3665		12.1	214	146	.700	.0398	.0582
1990	534	.137	18.5	26.2	21.3	3651		12.4	198	142	.737	.0390	.0544
1991	1048	.262	18.2	26.7	21.2	3890		11.9	235	158	.684	.0406	.0603

PERCENT OF SMALL UTILITY:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	IMPORTED	
1975		88.3	100.0					100.0	88.3	11.7	
1976		85.6	84.6					100.0	85.6	14.4	
1977		78.1	90.3					100.0	78.1	21.9	
1978		83.2	87.2					100.0	83.2	16.8	
1979		87.0	77.6					100.0	95.0	5.0	
1980		100.0	88.6					100.0	91.8	8.2	
1981		100.0	90.5					100.0	94.0	6.0	
1982		74.2	67.4					100.0	85.3	14.7	
1983		78.5	49.9					100.0	94.8	5.2	
1984		88.1	38.9					100.0	93.2	6.8	
1985		83.2	36.3	5.8				93.9	.2	91.2	8.8
1986		89.6	48.4	60.6	34.9	25.7	38.5	.9	74.2	25.8	
1987		87.6	45.4	71.7	47.0	24.8	28.2	.0	64.5	35.5	
1988		85.7	41.4	82.6	31.2	51.4	17.4		70.0	30.0	
1989		84.3	32.9	93.5	44.2	49.3	6.5		76.9	23.1	
1990		86.5	39.1	94.4	29.7	64.7	5.6		58.3	41.7	
1991		77.3	22.2	99.9	52.3	47.5	.1		82.0	18.0	

TABLE 28 -- CHARACTERISTICS OF 1975 TO 1991 LIGHT TRUCKS

LARGE UTILITY

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT
	(000)	FRACT	CITY	HWY	55/45								
1975	134	.067	11.0	13.6	12.1	4724		13.9	350	157	.447	.0333	.0745
1976	183	.070	11.8	15.4	13.2	4745		14.4	356	151	.424	.0320	.0754
1977	210	.075	13.0	16.9	14.5	4632		13.9	351	155	.440	.0335	.0763
1978	287	.088	12.3	16.2	13.8	4676		13.4	359	161	.449	.0346	.0772
1979	296	.096	10.6	12.9	11.6	4975		15.0	355	153	.430	.0307	.0714
1980	125	.067	12.7	16.8	14.3	4810		14.8	328	148	.452	.0308	.0682
1981	93	.051	13.8	18.5	15.6	4734		14.8	320	145	.454	.0305	.0677
1982	120	.063	14.8	20.2	16.8	4855		15.4	324	141	.438	.0293	.0670
1983	132	.057	14.4	20.0	16.5	4905		15.3	333	145	.439	.0297	.0680
1984	208	.062	13.6	18.7	15.5	4910		14.7	331	152	.461	.0310	.0676
1985	212	.058	13.8	19.2	15.8	4945		14.2	333	161	.485	.0327	.0676
1986	204	.047	14.1	20.1	16.3	4955		14.4	328	157	.481	.0318	.0664
1987	143	.035	13.7	19.6	15.8	5093		13.1	340	185	.544	.0362	.0669
1988	204	.045	13.9	19.8	16.1	5093		13.3	334	181	.543	.0355	.0657
1989	216	.049	13.8	20.0	16.0	5173		13.2	333	184	.553	.0356	.0647
1990	175	.045	13.7	20.7	16.2	5243		13.0	337	191	.567	.0365	.0645
1991	120	.030	13.7	20.4	16.1	5303		13.1	332	190	.576	.0359	.0628

PERCENT OF LARGE UTILITY:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED	
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	IMPORTED
1975		82.4	17.9				100.0		100.0	
1976		85.3	17.3				100.0		100.0	
1977		84.1	17.2				100.0		100.0	
1978		90.0	17.1				100.0		100.0	
1979		63.0	17.6				99.8	.2	100.0	
1980		82.8	21.4				96.5	3.5	100.0	
1981		86.0	18.3				100.0		100.0	
1982		81.3	16.4				79.3	20.7	100.0	
1983		82.7	10.1				85.3	14.7	100.0	
1984		78.6	10.1				93.1	6.9	100.0	
1985	.2	73.3	7.0	4.4		.2	91.1	4.5	100.0	
1986	.2	76.3	6.6	19.1	.2	19.0	77.6	3.3	98.9	1.1
1987		68.0	5.6	66.8	65.6	1.2	30.8	2.3	95.4	4.6
1988		76.2	3.6	89.6	57.2	32.5	9.0	1.4	95.0	5.0
1989		77.0	3.8	93.2	57.6	35.5	5.7	1.1	95.5	4.5
1990		73.7	2.6	95.0	60.4	34.6	3.9	1.1	96.1	3.9
1991		73.9	1.4	93.8	58.3	35.4	3.4	2.8	90.7	9.3

TABLE 29 -- CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

BY MARKET SEGMENT

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
<u>DOMESTIC</u>														
1975	6663	.809	12.7	18.0	14.7	4391		14.2	329	147	.454	.0332	.0737	
1976	8224	.846	14.4	20.1	16.5	4321		14.4	318	142	.454	.0324	.0722	
1977	9271	.820	14.9	20.7	17.1	4249	115.8	13.9	317	144	.460	.0337	.0737	2005
1978	8958	.802	16.1	23.0	18.6	3854	114.4	13.6	287	134	.480	.0346	.0731	2170
1979	8582	.795	16.8	23.2	19.2	3719	114.6	13.6	271	129	.498	.0345	.0712	2232
1980	6659	.705	18.9	27.1	21.8	3344	110.6	14.1	220	110	.529	.0328	.0641	2447
1981	6210	.711	20.2	29.4	23.5	3293	113.3	14.2	210	106	.549	.0323	.0617	2709
1982	5471	.700	20.8	31.4	24.5	3248	112.2	14.3	200	106	.567	.0323	.0593	2804
1983	5661	.707	20.5	30.9	24.1	3311	114.7	14.0	208	111	.565	.0331	.0609	2830
1984	8085	.757	21.3	32.1	25.1	3234	111.5	13.8	197	110	.593	.0336	.0590	2858
1985	7782	.721	21.8	33.2	25.8	3247	112.7	13.2	199	117	.625	.0357	.0594	2951
1986	7503	.681	22.4	34.5	26.6	3200	111.6	13.0	191	117	.646	.0364	.0581	2999
1987	6608	.616	22.4	34.8	26.7	3200	112.1	12.8	189	121	.666	.0374	.0578	3017
1988	6574	.614	22.7	35.7	27.1	3247	112.2	12.2	189	132	.713	.0400	.0571	3070
1989	6218	.621	22.4	35.6	26.9	3276	112.7	12.3	190	129	.705	.0392	.0569	3047
1990	5814	.603	22.0	35.6	26.6	3356	113.0	11.9	196	138	.731	.0411	.0575	3031
1991	4738	.598	21.9	35.5	26.5	3363	113.4	11.7	197	142	.743	.0420	.0576	3029
<u>EUROPEAN</u>														
1975	728	.088	19.6	29.1	23.0	2726		15.2	117	84	.721	.0301	.0421	
1976	557	.057	20.0	29.2	23.3	2735		14.8	120	86	.723	.0312	.0434	
1977	645	.057	21.3	31.3	24.9	2687	89.3	14.8	117	84	.729	.0311	.0428	2351
1978	707	.063	21.9	32.0	25.5	2579	91.1	14.5	112	83	.743	.0318	.0429	2505
1979	699	.065	21.2	30.8	24.7	2733	89.9	14.7	126	88	.708	.0317	.0452	2366
1980	860	.091	23.9	34.7	27.8	2610	89.9	15.1	116	80	.693	.0305	.0442	2657
1981	576	.066	25.0	35.4	28.8	2785	93.4	15.2	125	85	.684	.0303	.0447	2877
1982	528	.068	24.6	33.9	28.1	2911	96.4	14.7	133	93	.707	.0316	.0452	2873
1983	462	.058	23.5	32.8	26.9	3045	98.5	13.5	144	108	.764	.0354	.0469	2762
1984	657	.062	23.2	32.7	26.7	2990	99.8	13.0	141	110	.793	.0367	.0467	2763
1985	681	.063	22.8	32.3	26.3	3073	102.4	12.8	146	117	.818	.0380	.0469	2812
1986	747	.068	22.6	32.2	26.1	3017	102.9	12.2	147	123	.852	.0400	.0475	2789
1987	743	.069	22.5	31.8	25.9	3032	100.8	11.9	147	128	.883	.0414	.0474	2699
1988	642	.060	21.6	31.6	25.2	3135	104.0	11.5	154	138	.901	.0431	.0483	2695
1989	548	.055	21.1	31.0	24.6	3214	104.4	11.3	157	144	.933	.0442	.0479	2652
1990	445	.046	21.0	31.2	24.6	3356	105.0	11.5	155	148	.966	.0435	.0453	2657
1991	364	.046	21.2	32.1	25.0	3365	106.5	11.6	155	149	.967	.0433	.0451	2764
<u>ASIAN</u>														
1975	846	.103	20.1	29.3	23.4	2575		13.4	113	93	.814	.0355	.0435	
1976	942	.097	23.0	33.3	26.7	2550		13.9	108	86	.795	.0334	.0419	
1977	1384	.122	25.4	35.8	29.2	2485	83.7	13.9	104	84	.798	.0333	.0417	2543
1978	1510	.135	25.3	34.3	28.7	2482	85.3	14.0	106	84	.784	.0332	.0423	2531
1979	1513	.140	23.4	32.4	26.7	2506	84.9	14.6	107	78	.734	.0310	.0422	2356
1980	1924	.204	25.5	34.7	29.0	2482	88.5	14.6	107	77	.720	.0309	.0429	2647
1981	1948	.223	27.5	36.5	30.9	2469	88.6	14.5	109	78	.713	.0314	.0440	2816
1982	1819	.233	27.6	37.2	31.2	2512	90.6	14.5	113	80	.707	.0315	.0444	2924
1983	1879	.235	28.7	39.4	32.7	2529	93.1	14.2	112	83	.731	.0322	.0440	3160
1984	1933	.181	28.5	39.9	32.7	2569	93.6	13.7	114	88	.768	.0340	.0440	3174
1985	2328	.216	28.1	39.2	32.2	2585	94.6	13.9	113	89	.782	.0339	.0433	3175
1986	2765	.251	28.8	40.0	32.9	2616	96.8	13.8	110	90	.810	.0338	.0416	3287
1987	3380	.315	27.9	39.2	32.0	2700	97.1	13.9	111	93	.827	.0338	.0408	3194
1988	3487	.326	28.6	39.6	32.7	2662	98.1	13.6	108	93	.851	.0344	.0403	3291
1989	3249	.324	27.7	39.0	31.8	2741	102.1	12.9	112	102	.907	.0367	.0405	3312
1990	3379	.351	26.5	37.7	30.6	2853	98.3	12.0	119	117	.982	.0402	.0410	3078
1991	2825	.356	26.6	38.0	30.7	2872	98.1	11.9	119	120	1.006	.0410	.0408	3089

TABLE 29, continued -- CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS: MARKET SEGMENT, PERCENTAGE BASIS

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					VEHICLE SIZE		
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	SMALL	MID	LARGE
<u>DOMESTIC</u>											
1975	1.3		7.6	.6		.6	99.4		45.4	28.3	26.3
1976	1.4		7.8	.9		.9	99.1		47.6	29.5	22.9
1977	1.4		4.2	.7		.7	99.3		41.7	29.6	28.7
1978	3.3		6.9	1.1		1.1	98.5	.4	31.2	42.7	26.1
1979	5.5		8.7	1.2		1.2	97.2	1.6	29.6	42.6	27.8
1980	22.6	.6	15.3	1.2	1.0	.2	95.6	3.2	35.8	48.2	16.0
1981	32.7	.3	15.1	3.7	3.7		91.3	5.0	32.2	50.7	17.1
1982	43.2	.4	15.2	14.0	14.0		82.3	3.7	38.5	43.7	17.9
1983	42.6	.6	12.1	27.3	26.7	.7	71.4	1.2	34.4	44.2	21.3
1984	51.4	.3	13.6	38.3	32.1	6.2	60.8	.9	45.2	37.3	17.5
1985	60.1	.0	11.0	57.5	44.2	13.3	42.2	.2	40.6	38.1	21.3
1986	68.3	.1	11.7	70.7	41.1	29.7	29.2	.1	43.5	38.1	18.4
1987	74.3	.1	10.8	84.8	45.2	39.6	15.1	.1	43.3	37.1	19.6
1988	78.8	.0	10.0	95.5	36.1	59.4	4.5		48.1	31.8	20.1
1989	80.8	.3	8.7	98.4	34.6	63.9	1.6		40.3	38.8	20.9
1990	80.7	.1	12.5	99.1	32.4	66.7	.9		39.5	36.2	24.3
1991	83.7		8.3	99.9	20.8	79.0	.1		39.2	38.6	22.2
<u>EUROPEAN</u>											
1975	42.7		69.7	35.9		35.9	61.4	2.7	95.2	4.8	
1976	43.8		66.5	31.9		31.9	63.6	4.4	96.0	4.0	
1977	53.1		73.4	50.6		50.6	41.1	8.3	95.8	4.2	
1978	61.9		74.2	53.9		53.9	36.7	9.5	96.9	3.1	
1979	46.3		69.4	40.8		40.8	46.0	13.1	95.1	4.9	
1980	63.7		76.0	45.0		45.0	31.3	23.7	96.3	3.7	
1981	55.7		66.7	56.0		56.0	10.8	33.2	95.4	4.6	
1982	51.2		60.1	61.4		61.4	12.4	26.2	94.2	5.8	
1983	40.0	.1	53.2	73.5		73.5	8.0	18.5	91.0	8.9	.1
1984	44.2	.5	50.6	83.4		83.4	3.4	13.2	82.1	17.9	
1985	44.0	.6	46.3	87.3	.5	86.8	2.0	10.6	79.9	20.1	.0
1986	46.2	1.2	46.9	90.4	.4	90.0	6.3	3.3	76.9	21.7	1.4
1987	45.7	1.4	49.3	90.3		90.3	6.6	3.1	78.5	19.7	1.9
1988	48.1	1.0	38.0	99.1	2.5	96.5	.8	.1	66.8	24.8	8.4
1989	44.2	.9	31.2	99.2	.1	99.1	.1	.8	65.9	24.7	9.5
1990	43.3	1.3	30.3	98.9		98.9	.2	.8	62.9	30.4	6.7
1991	45.0	1.3	33.2	97.0		97.0	1.2	1.8	64.7	28.3	7.0
<u>ASIAN</u>											
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	11.0		11.0	88.2	.8	100.0		
1982	51.3	2.2	64.4	13.1		13.1	85.6	1.3	100.0		
1983	63.2	11.3	67.1	20.2		20.2	79.3	.5	100.0		
1984	66.8	4.2	59.4	29.1	.5	28.6	70.1	.8	100.0		
1985	71.8	9.4	59.0	29.9	.4	29.5	69.9	.2	99.2	.8	
1986	85.3	3.6	54.4	43.2	1.7	41.4	56.8	.1	98.1	1.9	
1987	89.3	3.0	47.1	46.1	8.5	37.6	53.9		99.6	.4	
1988	93.0	2.3	47.9	59.6	23.9	35.7	40.4		95.8	4.2	
1989	92.4	2.3	42.7	73.1	19.7	53.4	26.9		91.4	8.6	
1990	90.5	1.8	38.3	97.4	15.0	82.4	2.6		91.0	9.0	
1991	90.1	2.7	38.9	99.8	12.3	87.5	.2		91.5	8.5	

TABLE 30 -- CHARACTERISTICS OF 1975 TO 1991 LIGHT DUTY TRUCKS

BY MARKET SEGMENT

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT
	(000)	FRACT	CITY	HWY	55/45								
DOMESTIC													
1975	1763	.887	11.6	15.4	13.1	4227		13.4	335	149	.441	.0354	.0798
1976	2374	.909	12.4	16.3	13.9	4282		13.8	339	146	.427	.0342	.0798
1977	2499	.885	13.4	17.2	14.9	4298		13.2	343	154	.449	.0360	.0802
1978	2915	.891	13.2	16.7	14.5	4305		13.2	337	153	.451	.0356	.0789
1979	2616	.847	12.7	15.7	13.8	4504		14.2	330	148	.449	.0329	.0733
1980	1293	.694	14.9	19.8	16.8	4323		14.4	303	136	.451	.0315	.0703
1981	1310	.720	16.1	21.7	18.2	4173		14.4	293	132	.453	.0317	.0703
1982	1459	.763	16.8	22.7	19.0	4078		14.3	277	130	.486	.0323	.0675
1983	1806	.785	17.2	23.8	19.6	3977		14.5	257	125	.508	.0314	.0635
1984	2608	.780	16.8	23.4	19.2	3991		14.6	250	125	.523	.0313	.0616
1985	2939	.801	17.0	23.7	19.5	3963		14.2	245	130	.553	.0327	.0607
1986	3057	.703	17.4	24.2	19.9	3994		13.8	243	134	.580	.0335	.0597
1987	2989	.723	17.7	25.2	20.4	3932		13.0	237	143	.629	.0364	.0594
1988	3695	.811	17.7	25.5	20.5	3989		12.7	247	150	.629	.0375	.0610
1989	3634	.819	17.5	25.3	20.3	4048		12.6	253	154	.630	.0380	.0617
1990	3134	.807	17.2	25.2	20.0	4151		12.6	259	158	.631	.0381	.0616
1991	3298	.824	17.5	25.9	20.4	4137		12.2	260	162	.636	.0392	.0624
IMPORTS													
1975	224	.113	18.6	26.9	21.6	2857		14.8	120	89	.752	.0314	.0418
1976	238	.091	19.3	28.4	22.6	2879		14.6	122	91	.761	.0319	.0421
1977	325	.115	21.8	30.9	25.1	2884		14.3	128	93	.741	.0323	.0441
1978	358	.109	22.2	29.9	25.1	2903		14.7	127	89	.719	.0309	.0433
1979	473	.153	20.3	28.0	23.1	2854		15.0	124	85	.688	.0298	.0434
1980	571	.306	21.5	29.0	24.3	2839		14.7	124	87	.701	.0307	.0438
1981	510	.280	24.2	32.5	27.3	2862		15.2	130	84	.650	.0296	.0455
1982	454	.237	24.1	32.0	27.1	2932		15.2	135	87	.648	.0300	.0461
1983	495	.215	24.1	32.1	27.1	2982		14.6	137	92	.672	.0310	.0461
1984	736	.220	23.7	31.2	26.6	3043		14.9	134	91	.680	.0300	.0442
1985	730	.199	23.5	30.9	26.3	3119		14.4	139	100	.719	.0322	.0448
1986	1294	.297	23.1	31.2	26.2	3132		14.2	138	99	.717	.0317	.0442
1987	1145	.277	22.5	30.6	25.6	3139		14.2	139	99	.718	.0318	.0444
1988	864	.189	21.9	29.3	24.7	3211		13.9	142	105	.743	.0327	.0442
1989	801	.181	21.1	28.4	23.9	3347		13.6	149	113	.756	.0338	.0447
1990	749	.193	20.6	28.0	23.4	3447		13.0	153	124	.807	.0360	.0446
1991	706	.176	20.1	27.6	22.9	3564		13.1	157	127	.814	.0358	.0441

TABLE 30, continued -- CHARACTERISTICS OF 1975 TO 1991 LIGHT TRUCKS: MARKET SEGMENT, PERCENTAGE BASIS

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					VEHICLE SIZE	
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	SMALL	LARGE
<u>DOMESTIC</u>										
1975		19.3	31.1				100.0		2.7	97.3
1976		25.2	30.1				100.0		2.2	97.8
1977		26.7	25.3				100.0		2.3	97.7
1978		31.7	25.5				99.1	.9	2.7	97.3
1979		17.6	25.6				97.9	2.1	3.8	96.2
1980			27.1				95.9	4.1	4.3	95.7
1981	.3	19.0	35.6				98.4	1.6	3.3	96.7
1982	.0	18.2	31.2				93.3	6.7	18.1	81.9
1983	.0	26.1	33.8				95.9	4.1	33.8	66.2
1984	5.7	33.0	30.1				98.1	1.9	39.3	60.7
1985	8.2	30.7	26.5	9.5	.2	.0	89.6	.9	44.0	56.0
1986	7.6	29.9	25.4	44.6	19.8	24.8	54.8	.6	46.4	53.6
1987	9.4	29.8	26.0	79.2	38.6	40.6	20.6	.3	53.6	46.4
1988	10.8	30.0	25.9	96.0	50.7	45.3	3.8	.2	52.0	48.0
1989	11.8	29.8	24.2	98.5	52.8	45.7	1.3	.2	52.0	48.0
1990	18.3	26.9	18.6	98.7	47.9	50.8	1.1	.2	49.5	50.5
1991	12.2	35.5	17.5	99.4	51.6	47.8	.1	.5	59.3	40.7
<u>IMPORTS</u>										
1975			83.5	.5			99.5		100.0	
1976			82.1	.7			99.3		100.0	
1977			83.2	.7			99.3		100.0	
1978		6.5	88.6	.8			99.2		100.0	
1979		20.1	88.1	1.8			98.2		100.0	
1980	4.6	20.3	89.8	5.4			92.6	2.0	89.3	10.7
1981	6.5	22.8	92.8	4.0			80.1	15.9	90.2	9.8
1982	7.1	26.1	92.2	2.8			79.5	17.7	84.7	15.3
1983	6.2	24.6	90.2	3.0			90.3	6.8	88.0	12.0
1984	2.0	23.9	84.6	11.7			84.6	3.8	70.0	30.0
1985	2.4	30.0	79.8	23.5			75.0	1.6	76.7	23.3
1986	1.8	31.2	83.5	31.0	16.2	14.8	68.1	.9	81.6	18.4
1987	2.3	35.9	76.3	34.8	20.5	14.4	64.9	.2	83.1	16.9
1988	1.4	47.2	76.5	52.4	17.7	34.7	47.6		79.6	20.4
1989	1.2	42.2	71.1	70.9	24.3	46.6	29.1		77.9	22.1
1990	2.3	48.7	65.8	84.8	9.0	75.8	15.2		63.7	36.3
1991	1.1	46.1	60.6	92.1	10.9	81.2	7.9		60.8	39.2

MPG by Model Year

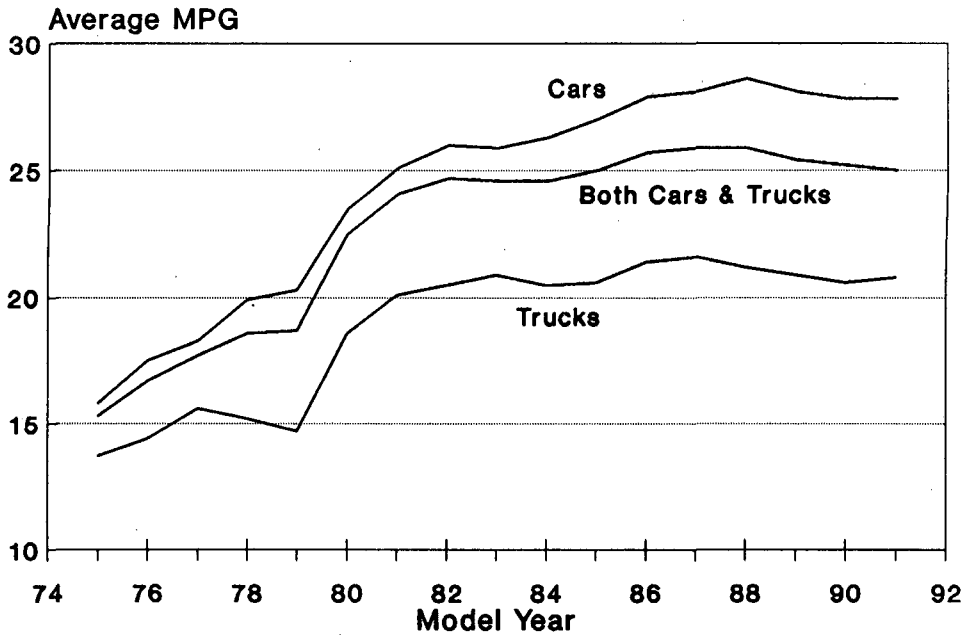


Figure 1

Average Engine Horsepower Passenger Cars

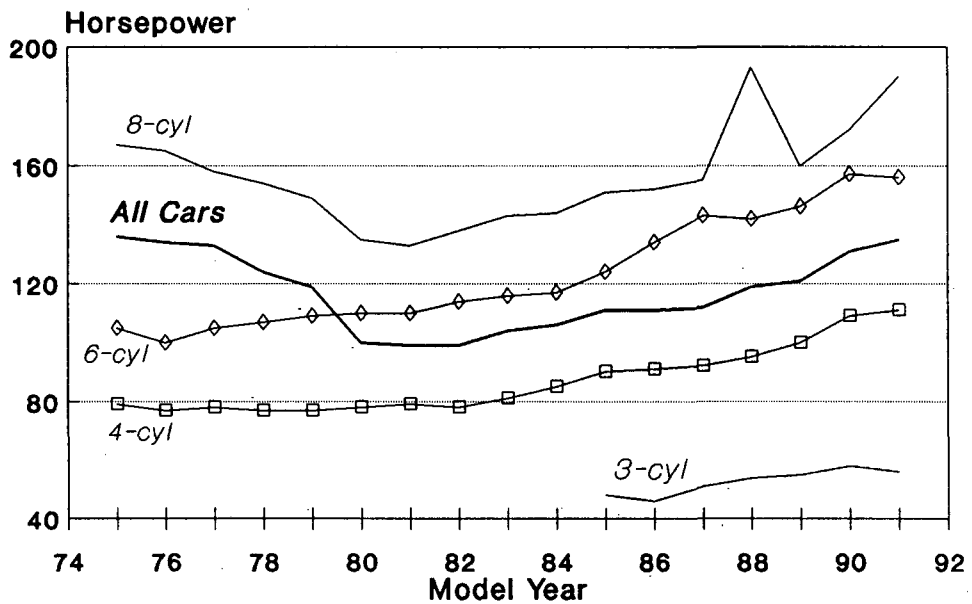


Figure 2

Passenger Car MPG and Inertia Weight

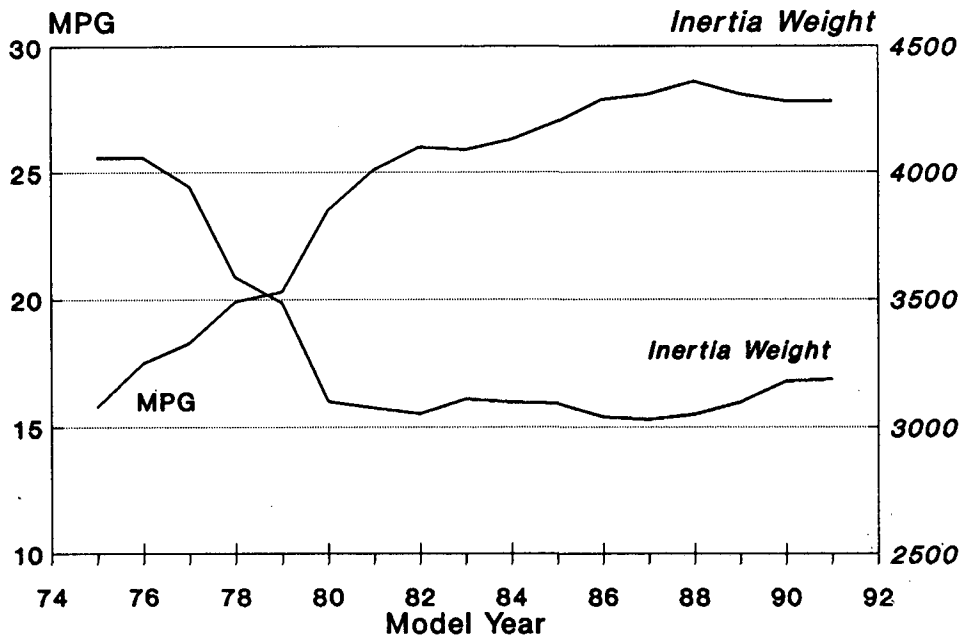


Figure 3

Passenger Car Fuel Economy by Percentile Bracket

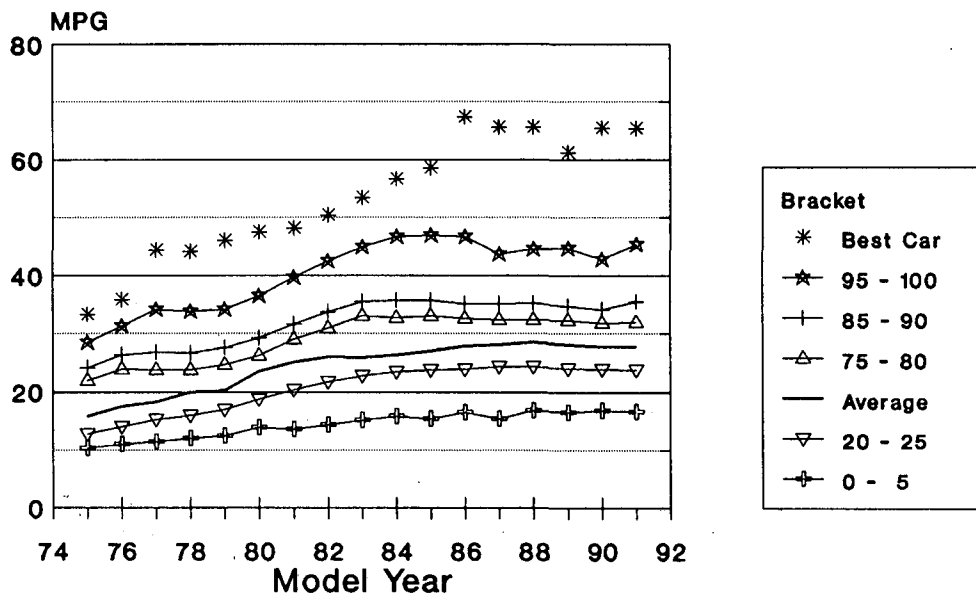


Figure 4

Engine Size Market Shares Passenger Cars

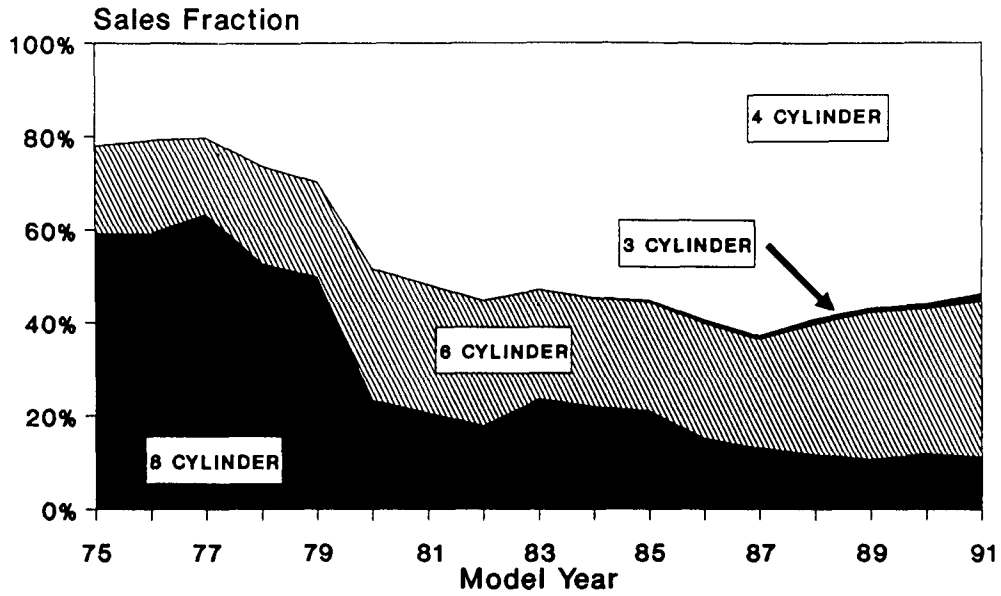


Figure 5

Average Engine Size Passenger Cars

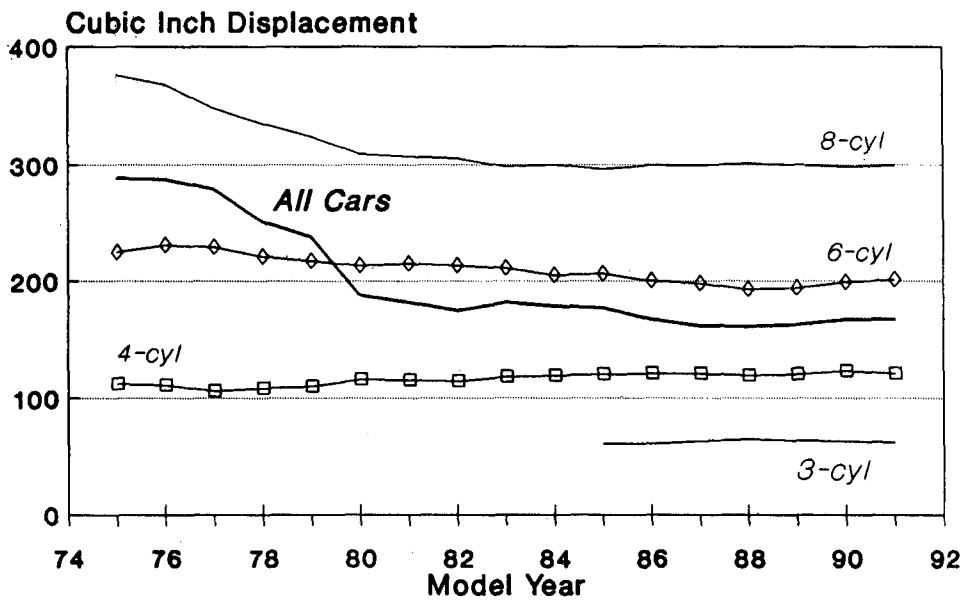


Figure 6

MPG and Performance Passenger Cars

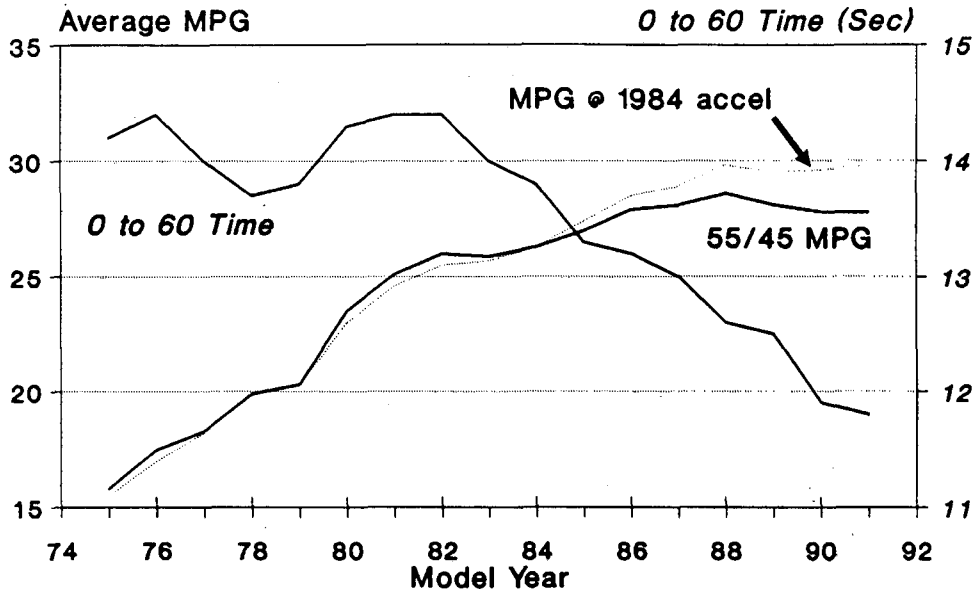


Figure 7

0 to 60 for Four Car Classes

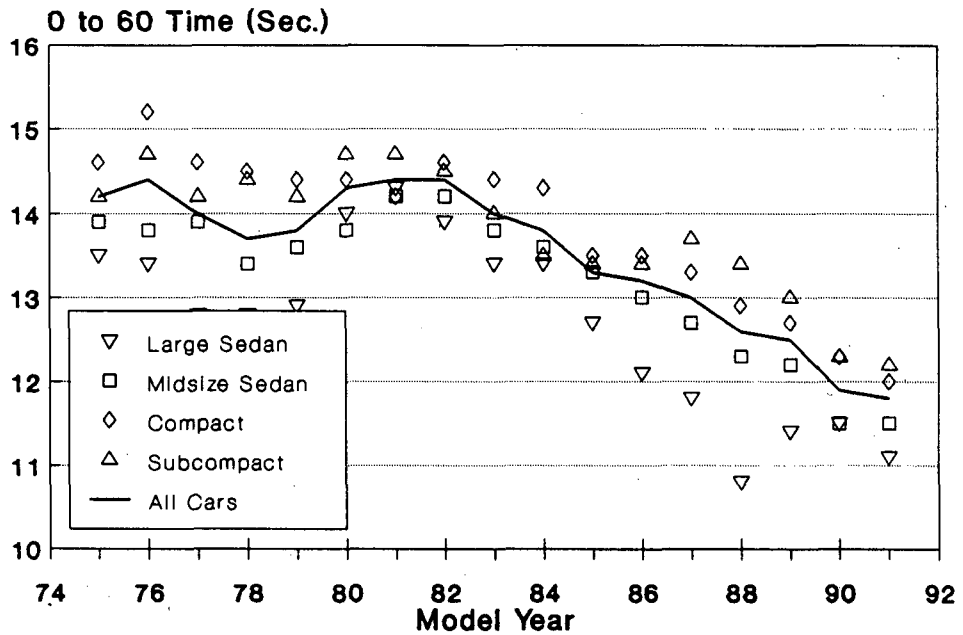


Figure 8

Average Zero to 60 Acceleration Passenger Cars

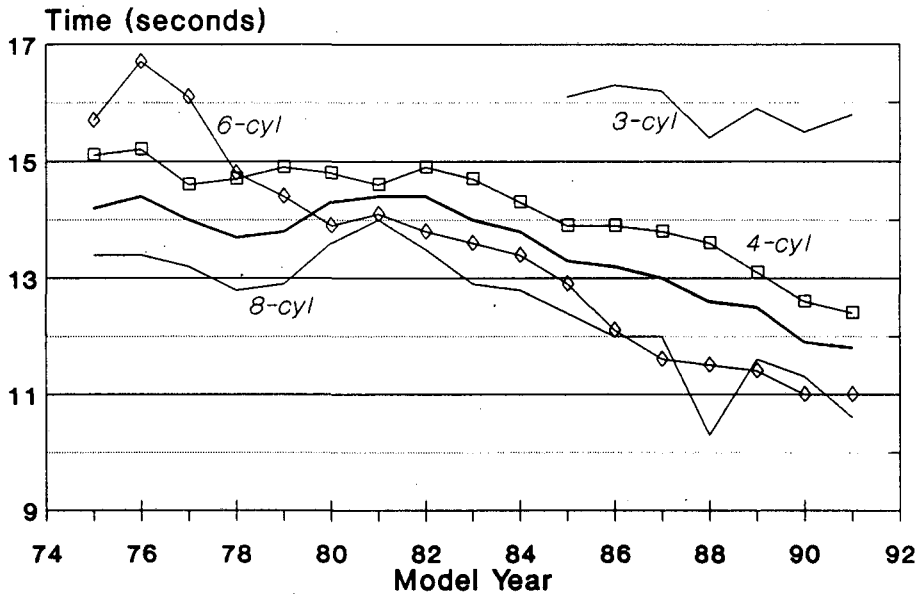


Figure 9

Horsepower per CID, 1975 to 1991 Cars

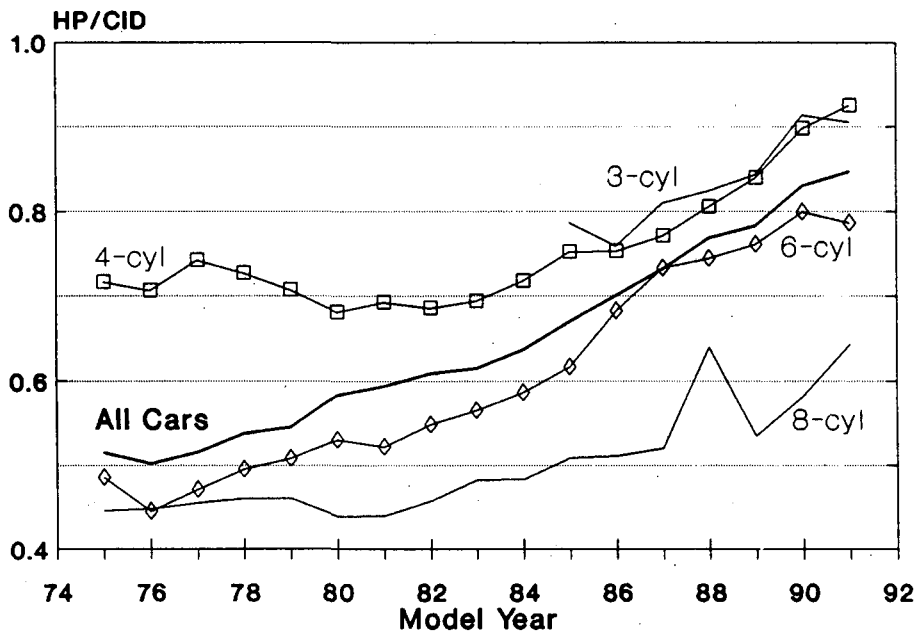


Figure 10

Passenger Car MPG by Model Year and Number of Cylinders

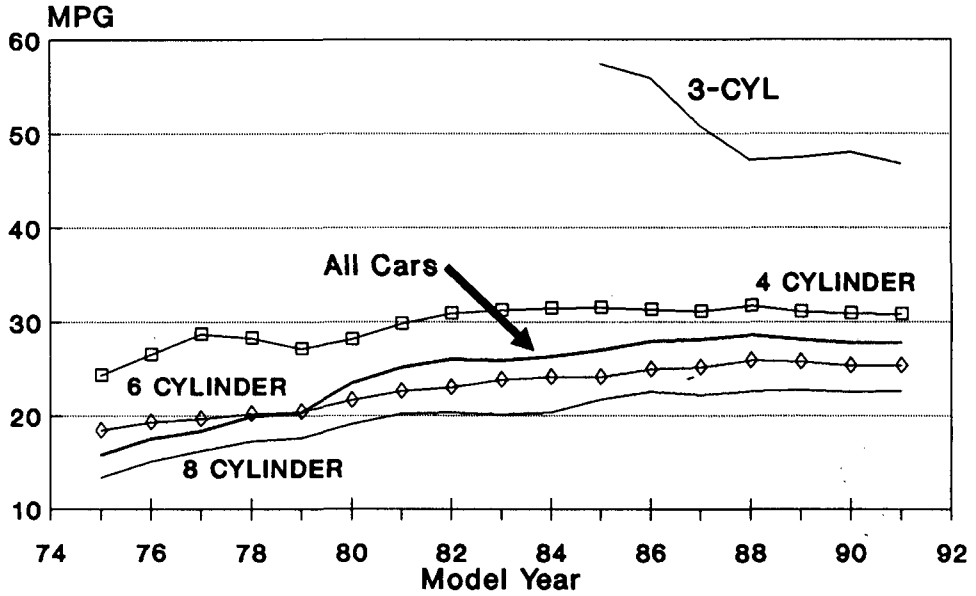


Figure 11

Fuel Consumption and Volume 1990 Sedans and Wagons

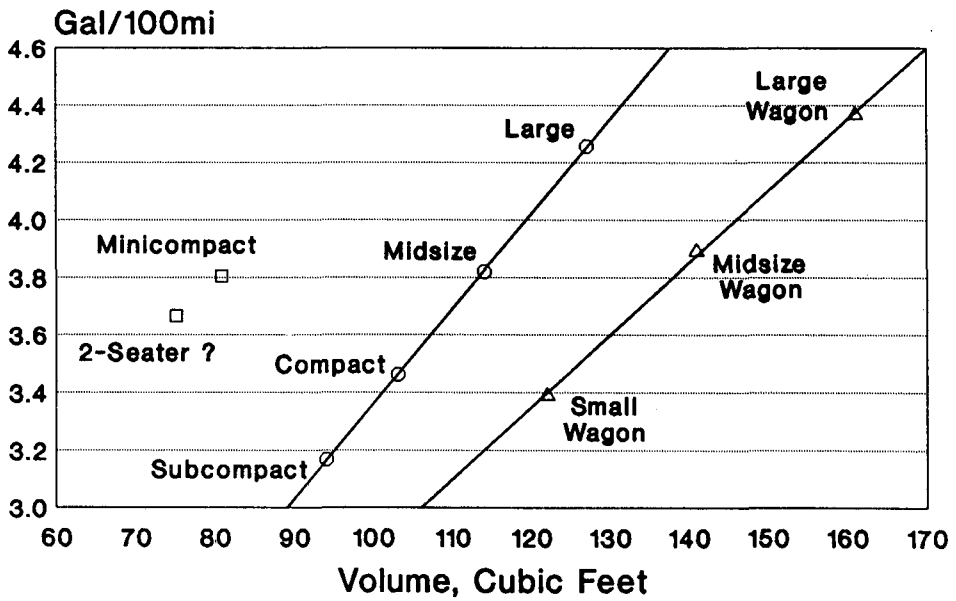


Figure 12

Fuel Consumption and Volume 1990 Cars & Light Trucks

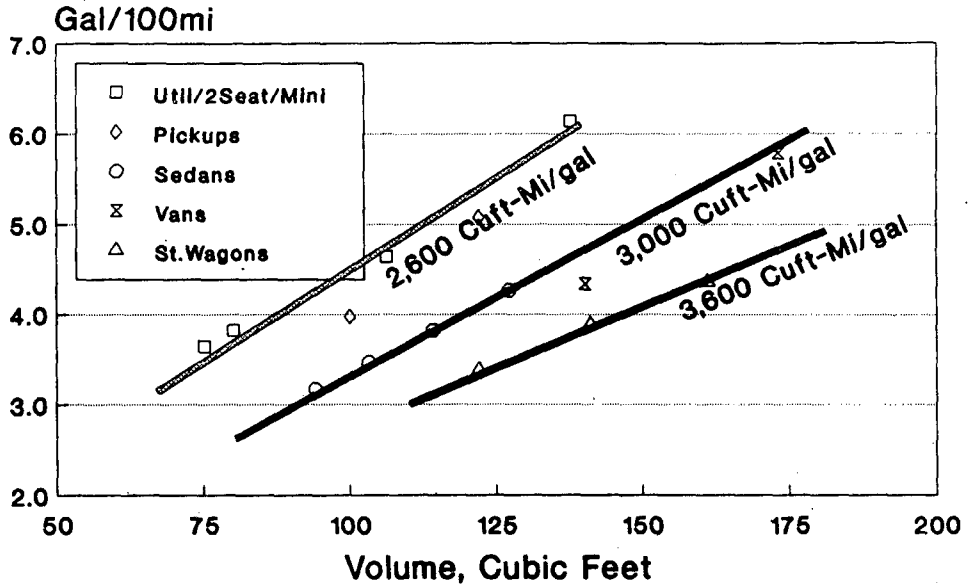


Figure 13

Fuel Consumption and Payload 1990 Cars & Light Trucks

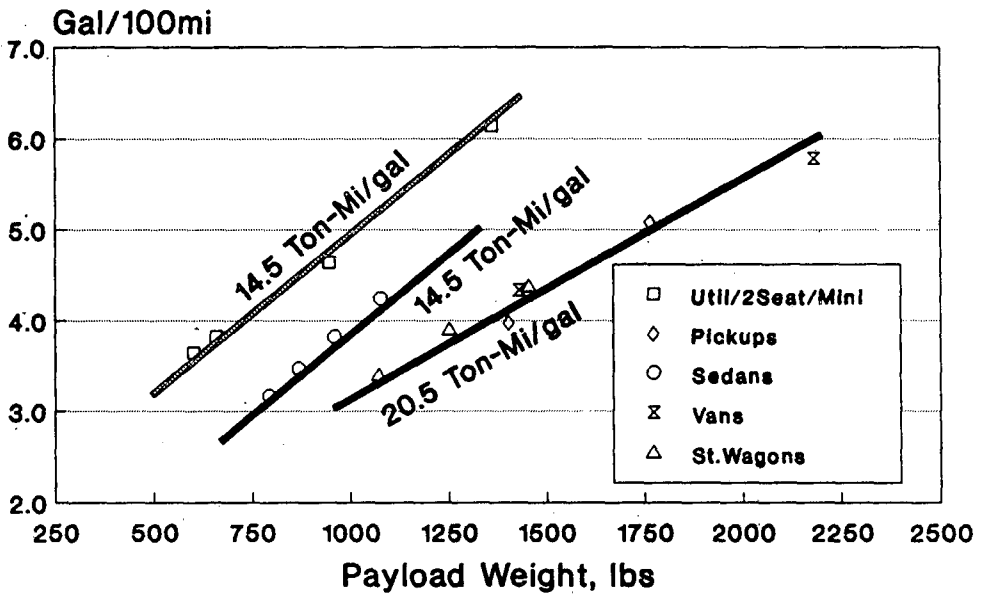


Figure 14

Sales Fraction by Car Class

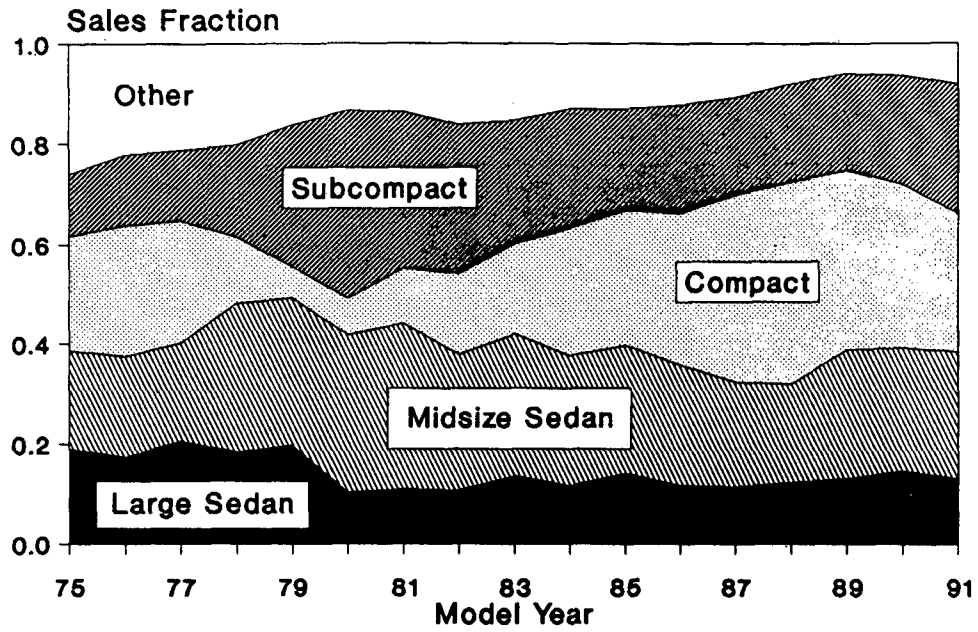


Figure 15

MPG for Four Car Classes

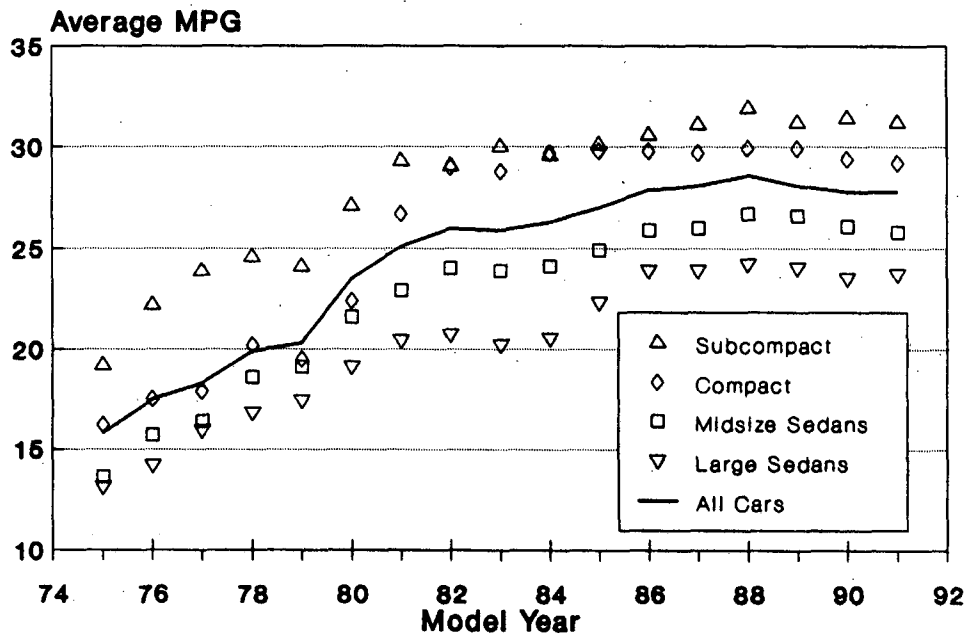


Figure 16

Inertia Weight for Four Car Classes

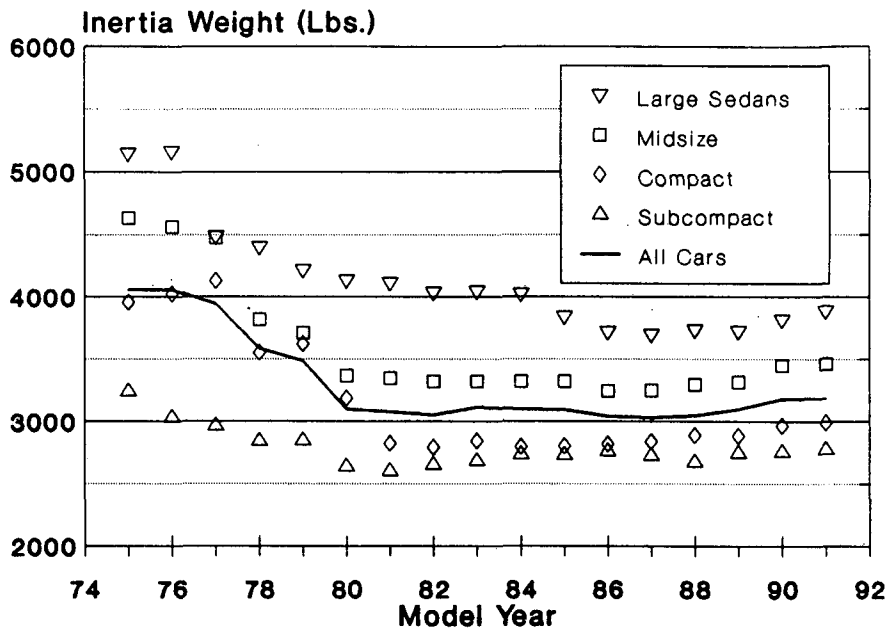


Figure 17

Car and Truck Sales by Size Class

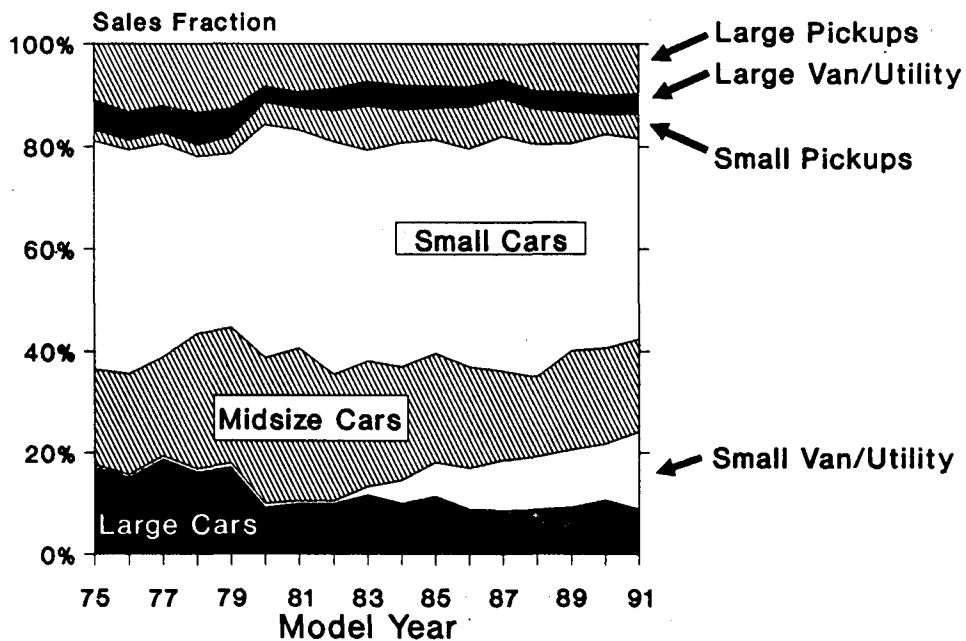


Figure 18

Sales Fraction by Engine Type Passenger Cars

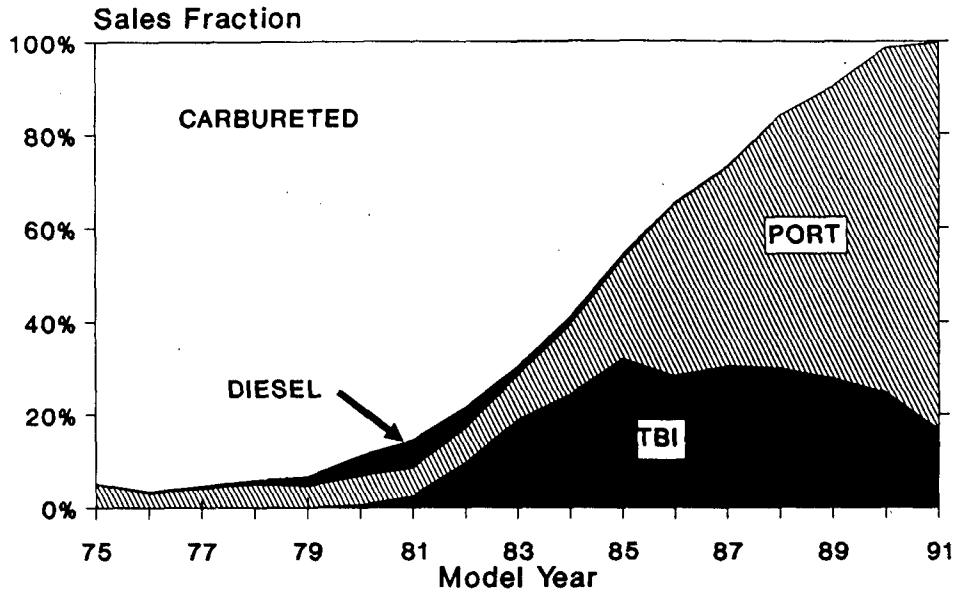


Figure 19

Front Wheel Drive Usage Passenger Cars

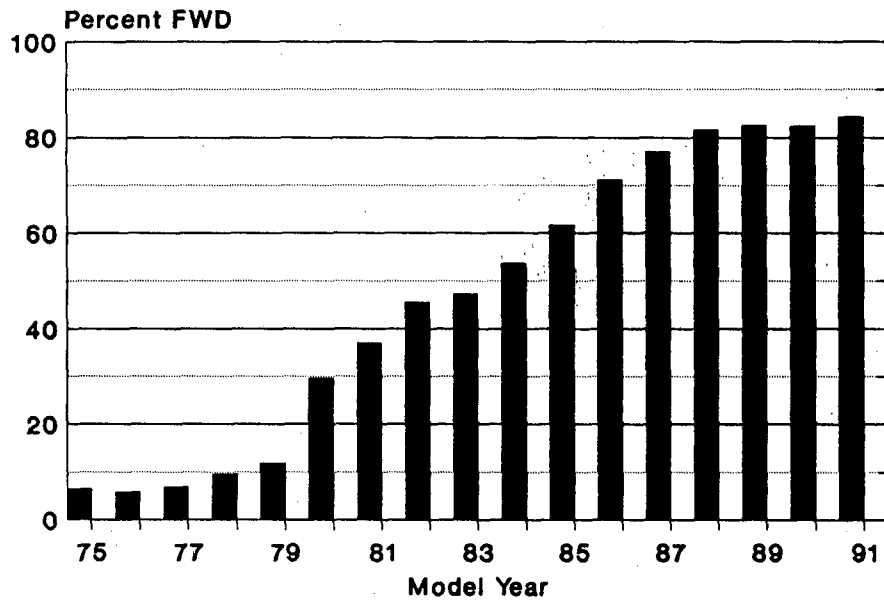


Figure 20

MPG Range 1975 to 1991 Passenger Cars

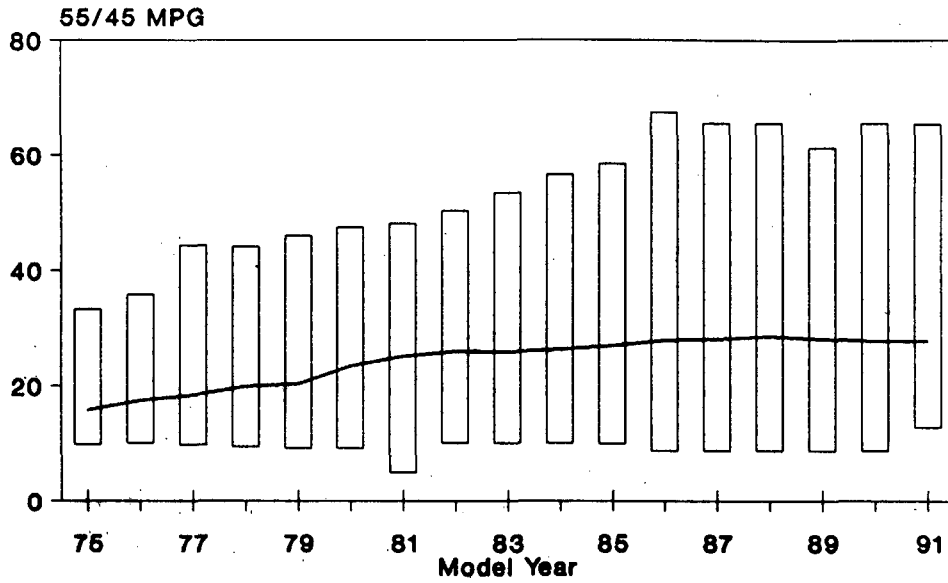


Figure 21

Light Duty Trucks

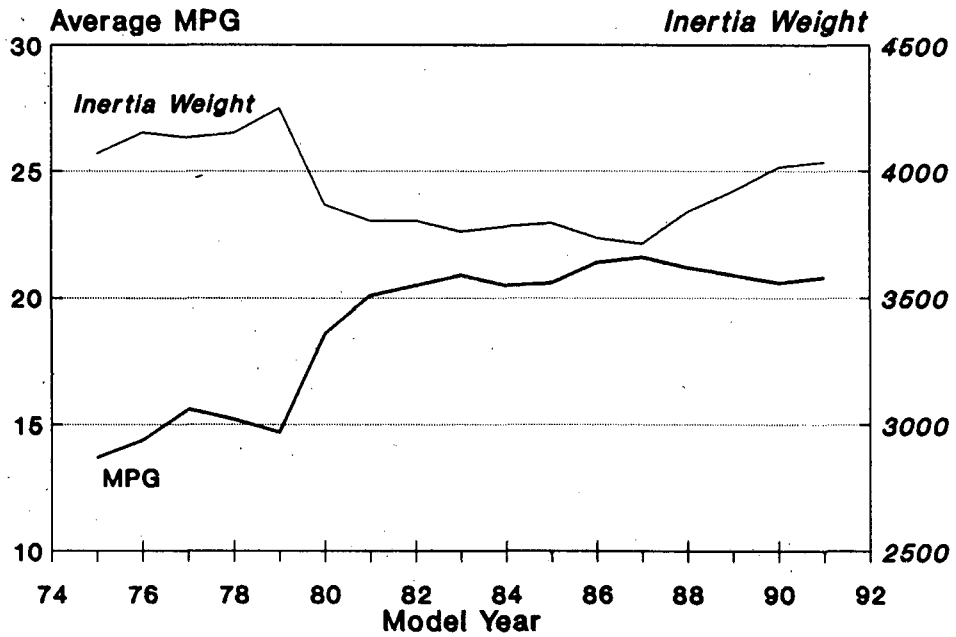


Figure 22

Sales Fraction by Vehicle Type Cars and Light Trucks

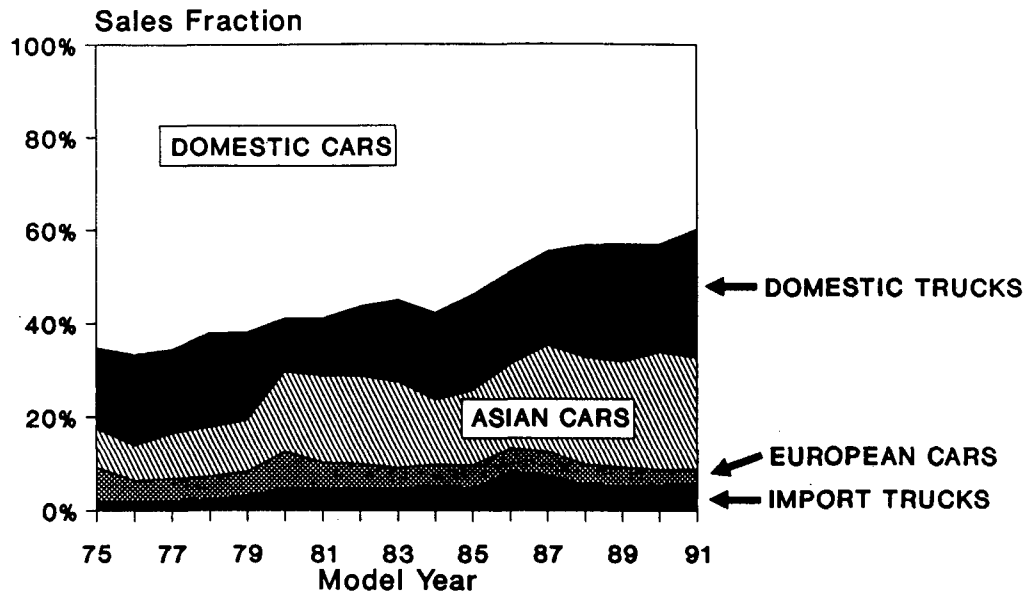


Figure 23

MPG, 1975 to 1991 Cars

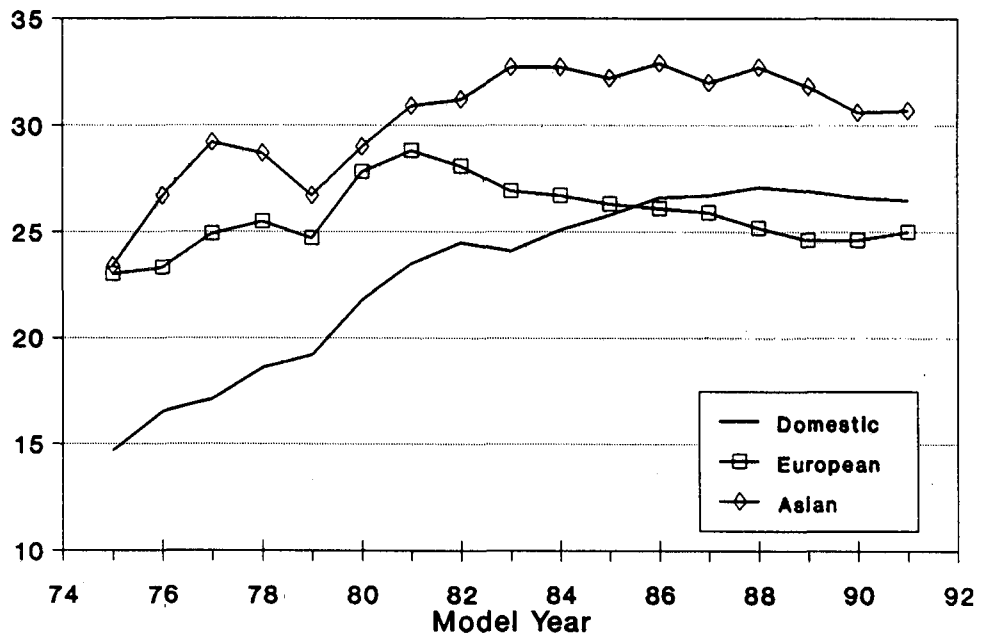


Figure 24

Passenger Car Interior Volume

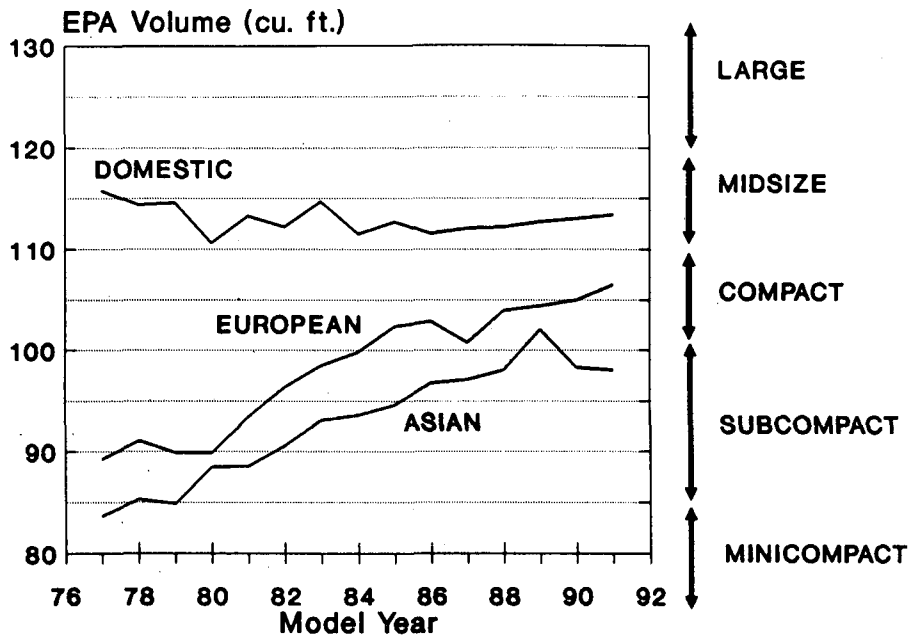


Figure 25

Weight, 1975 to 1991 Cars

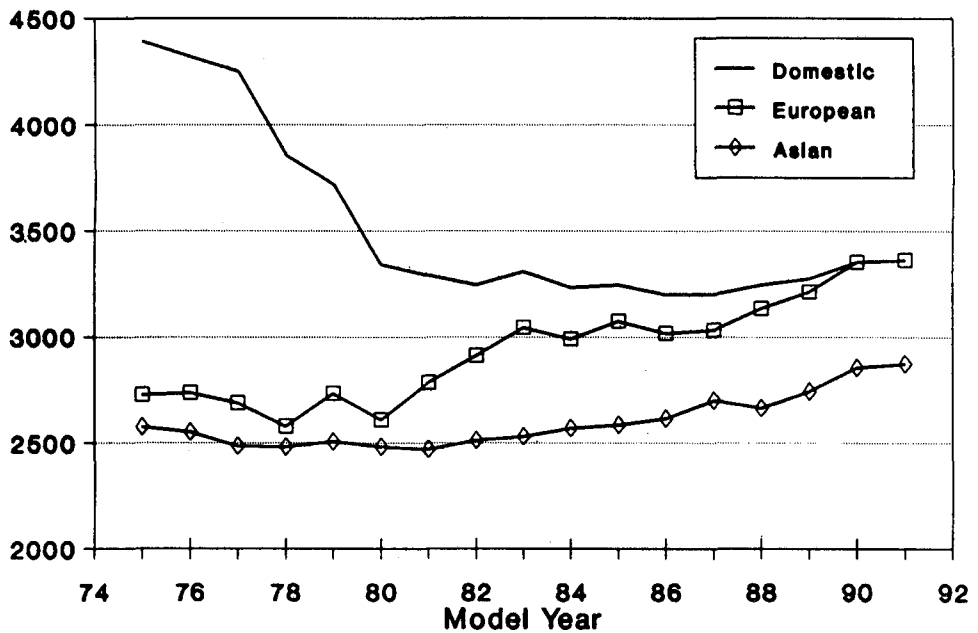


Figure 26

0 to 60 Time, 1975 to 1991 Cars

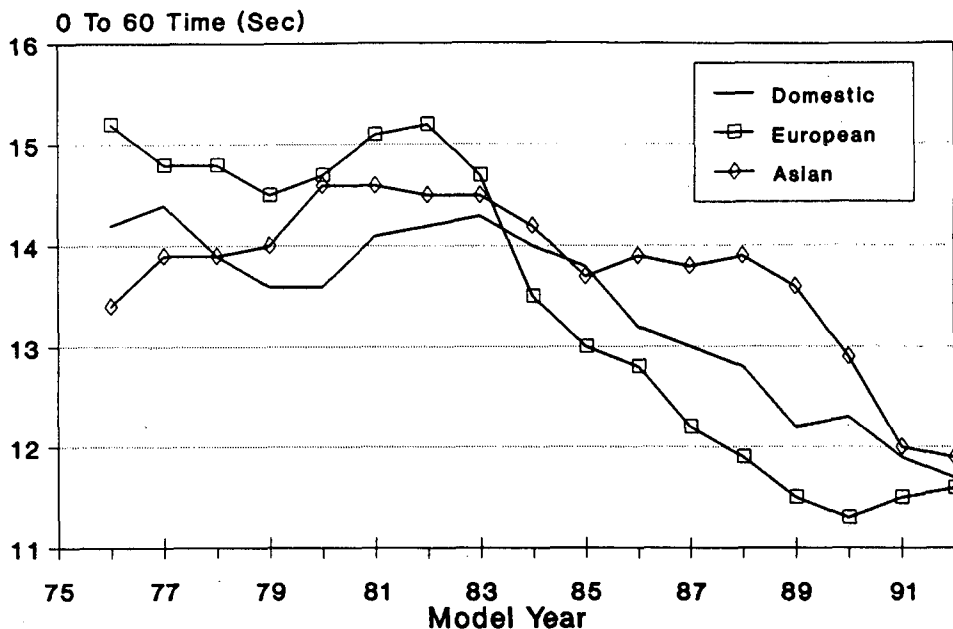


Figure 27

Horsepower per CID, 1975 to 1991 Cars

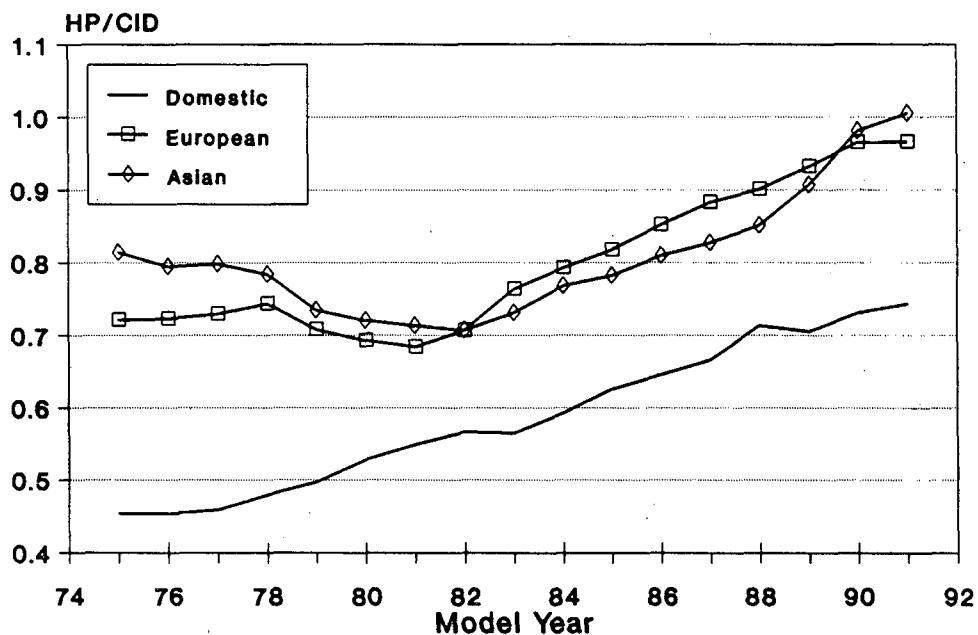


Figure 28

Appendix A -- Light Duty Vehicle Classification Convention

<u>Manufacturer/Vehicles</u>	<u>Model Years</u>	<u>Are Classified As:</u>
American Motors	1975 - 1987	American Motors
American Motors	1988 - 1991	Chrysler
Chrysler Vehicles by Diamond Star	All	Chrysler/Asian
Chrysler Vehicles by Maserati	All	Chrysler/European
Chrysler Vehicles by Mitsubishi	All	Chrysler/Asian
Chrysler Colt 4WD Wagon	All	Small Wagon
Chrysler Colt Vista	All	Small Van
Mitsubishi Space Wagon	All	Mitsubishi Small Van
Dodge Monaco	1975 - 1977	Domestic
Dodge Monaco	1990 - 1991	Chrysler/European
Eagle Premier	All	Chrysler/European
Eagle 4WD Wagon	All	Passenger Cars
Dodge Trucks (Ramcharger)	All	Chrysler/Domestic
Lamborghini	1975 - 1989	Lamborghini
Lamborghini	1990 - 1991	Chrysler/European
Aston Martin	1975 - 1987	Aston Martin
Aston Martin	1988 - 1991	Ford/European
Jaguar	1975 - 1989	Jaguar
Jaguar	1990 - 1991	Ford/European
Ford Vehicles by Mazda	All	Ford/Asian
Ford Merkur/Scorpio	All	Ford/European
Ford Festiva	All	Ford/Asian
Ford Fiesta	All	Ford/European
Ford Probe (4 cylinder)	All	Ford/Asian
Ford Probe (6 cylinder)	All	Ford/Domestic
Mercury Capri	1975 - 1986	Domestic
Mercury Capri	1991	Ford/Asian
Ford Escort (All)	1981 - 1989	Domestic
Ford Escort (1.8 liter)	1990 - 1991	Ford/Asian
Ford Escort (1.9 liter)	1990 - 1991	Ford/Domestic
Mercury Tracer (1.8 liter)	1990 - 1991	Ford/Asian
Mercury Tracer (1.9 liter)	1990 - 1991	Ford/Domestic
Ford Pinto Van	All	Passenger Car
Ferrari	1975 - 1983	Fiat Group
Ferrari	1984 - 1991	Ferrari
Audi	All	VW Group
Porsche	1975 - 1984	VW Group
Porsche	1985 - 1991	Porsche

Appendix A: Light Duty Vehicle Classification Convention (continued)

<u>Manufacturer/Vehicles</u>	<u>Model Years</u>	<u>Are Classified As:</u>
General Motors Vehicles by Isuzu	All	GM/Asian
General Motors Vehicles by Nummi	All	GM/Asian
General Motors Vehicles by Suzuki	All	GM/Asian
Pontiac LeMans	1975 - 1981	GM/Domestic
Pontiac LeMans	1990 - 1991	GM/Asian
Cadillac Allante	All	Domestic
Saab	1975 - 1989	Saab
Saab	1990 - 1991	GM/European
Lotus	1975 - 1987	Lotus
Lotus	1988 - 1991	GM/European
Sterling	All	Honda/Asian
Subaru 4WD Sedans/Wagons	All	Passenger Cars

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

APPENDIX B -- 1991 NAMEPLATE AVERAGE MPG, BY VEHICLE SIZE CLASS

TWO SEATERS ***** MPG	55/45	MINICOMPACT SEDANS ***** MPG	55/45	SUBCOMPACT SEDANS ***** MPG	55/45
HONDA CRX HF	58.0			GM METRO XFI	65.3
GM METRO LSI CONVERTIBLE.....	44.7			GM METRO LSI	48.3
HONDA CRX.....	37.0			GM METRO	47.7
				GM FIREFLY	46.1
				SUZUKI SPRINT	46.0
				SUZUKI SWIFT	45.1
				FORD FESTIVA	42.4
				DAIHATSU CHARADE	40.9
				SUBARU JUSTY	40.7
				HONDA CIVIC	37.1
				NISSAN SENTRA	37.0
				CHRYSLER COLT	36.7
				SUBARU JUSTY 4WD	36.0
				SUZUKI SWIFT GT	35.9
				HYUNDAI EXCEL	35.7
				TOYOTA TERCEL	35.3
				MITSUBISHI MIRAGE	34.8
		NISSAN NX COUPE.....	34.3	GM STORM	34.0
				YUGO GV/GVX/CABRIO	33.9
				HYUNDAI SCOUPE	33.5
				VW/AUDI FOX	32.8
				GM PRIZM	32.5
				TOYOTA COROLLA	32.3
				ISUZU IMPULSE	31.9
				TOYOTA CELICA	31.6
				GM SATURN SC	31.4
MAZDA MX-5 MIATA.....	31.3	VW/AUDI CABRIOLET	31.1	HONDA INTEGRA	29.9
LOTUS ELAN	31.0	TOYOTA CELICA CONVERTIBLE	30.2	GM CAVALIER	28.9
		FORD CAPRI	29.8	GM SUNBIRD	28.8
				CHRYSLER SHADOW CONVERTIBLE ..	28.8
				CHRYSLER LASER	28.6
				MITSUBISHI ECLIPSE	28.4
				SUBARU XT	28.4
				TOYOTA MR2.....	28.3
				GM SUNBIRD CONVERTIBLE	28.2
		NISSAN 240SX	27.9	BMW 318IS	27.8
				CHRYSLER DAYTONA	27.8
				HONDA PRELUDE	27.1
				BMW 318IS CONVERTIBLE	27.0
				MERCEDES-BENZ 190E2.3	26.8
				CHRYSLER TALON	26.7
				CHRYSLER LEBARON CONVERTIBLE..	26.1
				GM CAVALIER CONVERTIBLE	26.1
				VW/AUDI CORRADO	25.6
				SUBARU XT 4WD	25.3
GM REATTA.....	25.1			VW/AUDI 80/90	25.0
				FORD MUSTANG	24.8
				MERCEDES-BENZ 190E2.6	24.7
				NISSAN M30	24.7
				VW/AUDI 80 QUATTRO	24.1
				CHRYSLER SUNDANCE CONVERTIBLE.	24.0
				SAAB 900 CONVERTIBLE	24.0
				CHRYSLER STEALTH	23.7
				BMW M3	23.7
				NISSAN 300ZX 2+2	23.7
		PORSCHE 944 S2	23.6	GM FIREBIRD/TRANS AM/CAMARO...	23.5
				MITSUBISHI 3000 GT	23.5
				BMW 325I CONVERTIBLE	23.3
				VW/AUDI 90 QUATTRO 20V	23.2
				VW/AUDI COUPE QUATTRO	23.2
				BMW 325	23.2
				TOYOTA SUPRA	23.0
				MERCEDES-BENZ 300CE	22.6
MAZDA RX-7	22.9	PORSCHE 911 CARRERA 4/2	21.3	MASERATI 430	18.6
GM CORVETTE	22.5	PORSCHE 928 S4	19.2	JAGUAR XJ-S COUPE	17.5
MERCEDES-BENZ 300SL	21.7	PORSCHE 911 TURBO	18.3	FERRARI MONDIAL	16.7
GM ALLANTE	20.4			BMW 850I	16.6
				VIRAGE SALOON	15.2
				ROLLS-ROYCE BENTLEY	13.3
				ROLLS-ROYCE CORNICHE III	13.3
MASERATI SPYDER	18.8				
MERCEDES-BENZ 500SL	18.3				
FERRARI 348 TB/TS	17.5				
JAGUAR XJ-S CONVERTIBLE	17.0				
FERRARI F40	16.0				
FERRARI TESTAROSSA	13.4				
CHRYSLER DB132/DIABLO	12.8				

SMALL WAGONS 55/45
 ***** MPG

HONDA CIVIC 36.5
 FORD ESCORT 33.7
 FORD TRACER 33.6
 TOYOTA COROLLA 32.7
 SUBARU LOYALE 30.5
 HONDA CIVIC 4WD 29.9
 TOYOTA COROLLA AWD..... 29.1
 SUBARU LOYALE 4WD 29.1
 GM CAVALIER 28.8
 TOYOTA CAMRY 28.4
 SUBARU LEGACY 27.9

HONDA ACCORD 26.8

SUBARU LEGACY 4WD 26.1

MIDSIZE WAGONS 55/45
 ***** MPG

VW/AUDI PASSAT 27.2
 FORD TAURUS 27.1
 FORD SABLE 27.1

GM 6000 26.7
 GM CUTLASS CRUISER 26.4
 PEUGEOT 405 26.3

VOLVO 240 25.8
 GM CENTURY 25.6
 VOLVO 740 25.1
 FORD SABLE V6 23.9
 FORD TAURUS V6 23.9
 VOLVO 940 GLE 16-VALVE 23.8
 VOLVO 940 TURBO 23.6
 VOLVO 940 SE 23.6
 VW/AUDI 200 QUATTRO 20V 23.5

PEUGEOT 505..... 23.0

MERCEDES-BENZ 300TE..... 21.9
 MERCEDES-BENZ 300TE-4MATIC ... 20.5

LARGE WAGONS 55/45
 ***** MPG

FORD LTD CROWN VICTORIA 23.3
 FORD GRAND MARQUIS 23.3

GM CUSTOM CRUISER 22.4
 GM CAPRICE 22.4
 GM ROADMASTER 22.4

SMALL PICKUPS 55/45
 ***** MPG

NISSAN TRUCK 2WD 28.0

FORD RANGER PICKUP 2WD 26.2

ISUZU PICKUP 2WD 25.7
 GM S10 PICKUP 2WD 25.5
 GM SONOMA PICKUP 2WD 25.4
 MITSUBISHI TRUCK 2WD 24.7
 CHRYSLER RAM 50 2WD 24.6

SMALL VANS 55/45
 ***** MPG

CHRYSLER COLT VISTA..... 28.7

MITSUBISHI SPACE WAGON..... 26.3

NISSAN AXCESS 25.9

CHRYSLER COLT VISTA 4WD 24.7

NISSAN AXCESS AWD 23.8
 CHRYSLER CARAVAN 2WD 23.7
 CHRYSLER VOYAGER 2WD 23.7
 GM APV 2WD 23.6
 GM SILHOUETTE 2WD 23.5
 GM TRANS SPORT 2WD 23.5
 TOYOTA PREVIA 23.2
 CHRYSLER TOWN & COUNTRY 23.2

FORD AEROSTAR VAN..... 22.8
 MAZDA MPV 22.4
 TOYOTA PREVIA ALL-TRAC 22.3
 GM ASTRO 2WD (CARGO) 22.2
 GM SAFARI 2WD (CARGO) 22.2
 GM ASTRO AWD (CARGO) 21.7
 GM SAFARI AWD (CARGO) 21.7
 FORD AEROSTAR 21.7
 CHRYSLER CARAVAN 4WD 21.7
 CHRYSLER VOYAGER 4WD 21.7

FORD RANGER PICKUP 4WD 21.7

FORD AEROSTAR VAN..... 22.8
 MAZDA MPV 22.4
 TOYOTA PREVIA ALL-TRAC 22.3
 GM ASTRO 2WD (CARGO) 22.2
 GM SAFARI 2WD (CARGO) 22.2
 GM ASTRO AWD (CARGO) 21.7
 GM SAFARI AWD (CARGO) 21.7
 FORD AEROSTAR 21.7
 CHRYSLER CARAVAN 4WD 21.7
 CHRYSLER VOYAGER 4WD 21.7

GM ASTRO 2WD (PASS)..... 21.2
 GM SAFARI 2WD (PASS) 21.2

VOLKSWAGEN VANAGON 2WD..... 20.5
 FORD AEROSTAR AWD 20.4

GRUMMAN-OLSON POSTAL CAB CHAS. 20.1

GM ASTRO AWD (PASS) 20.0
 GM SAFARI AWD (PASS) 20.0

MAZDA MPV 4X4 19.8

VOLKSWAGEN VANAGON SYNCRO 18.5

SMALL UTILITY 55/45
 ***** MPG

SUZUKI SAMURAI 2WD 33.5
 SUZUKI SIDEKICK 2WD 30.1
 SUZUKI SIDEKICK SOFT-TOP..... 29.3
 GM TRACKER 28.8

SUZUKI SIDEKICK HARDTOP..... 27.7
 DAIHATSU ROCKY 4WD 26.9

GM JIMMY SONOMA 2WD 23.0
 GM S10 BLAZER 2WD 23.0

ISUZU AMIGO 2WD 22.4

GM BRAVADA AWD 21.7
 TOYOTA 4-RUNNER 2WD 21.7

GM JIMMY SONOMA 4WD 21.6
 GM S10 BLAZER 4WD 21.6
 CHRYSLER WRANGLER 4WD 21.4

FORD EXPLORER 2WD 21.0
 CHRYSLER CHEROKEE 2WD 20.8
 ISUZU AMIGO 4WD 20.7

NISSAN PATHFINDER 2WD 20.4
 MAZDA NAVAJO 20.3
 FORD EXPLORER 4WD 20.3
 ISUZU RODEO 2WD 20.3

CHRYSLER CHEROKEE 4WD 19.9
 MITSUBISHI MONTERO 19.8
 ISUZU RODEO 4WD 19.3
 NISSAN PATHFINDER 4WD 19.3
 TOYOTA 4-RUNNER 4WD 19.3
 ISUZU TROOPER 19.3

LARGE PICKUPS 55/45

 MPG

TOYOTA TRUCK 2WD	26.9
MAZDA B2200/B2600I	26.5
TOYOTA 1-TON TRUCK 2WD	23.3
CHRYSLER POWER RAM 50 4WD	22.6
MAZDA B2600I 4X4	22.2
MINI TRUCK 4WD	22.1
TOYOTA TRUCK 4WD	21.8
NISSAN TRUCK 4WD	21.8
CHRYSLER COMANCHE PICKUP	21.7
ISUZU PICKUP 2WD 1TON	21.3
GM SONOMA PICKUP 4WD	21.2
GM S10 PICKUP 4WD	21.2
CHRYSLER DAKOTA PICKUP 2WD ...	21.1
GM COMMERCIAL CHAS	20.3
ISUZU PICKUP 4WD	20.3
GM C1500 SIERRA 2WD	20.3
GM C1500 PICKUP 2WD	19.6
FORD F150 PICKUP 2WD	18.8
CHRYSLER DAKOTA PICKUP 4WD ...	18.6
GM C2500 PICKUP 2WD	18.5
GM C2500 SIERRA 2WD	18.5
FORD F250 PICKUP 2WD	18.1
GM K1500 SIERRA 4WD	17.3
GM K1500 PICKUP 4WD	17.2
CHRYSLER D100/D150 PICKUP	17.2
FORD F150 PICKUP 4WD	17.1
GM K2500 PICKUP 4WD	16.4
GM K2500 SIERRA 4WD	16.4
FORD F250 PICKUP 4WD	16.2
CHRYSLER D250 PICKUP 2WD	15.7
CHRYSLER DAKOTA CAB CHAS	15.4
CHRYSLER W100/W150 PICKUP	14.6
CHRYSLER W250 PICKUP 4WD	14.1
CHRYSLER D250 CAB CHASSIS	13.5
TOYOTA CAB/CHASSIS 2WD	13.2

LARGE VANS 55/45

 MPG

GM G35 VANDURA 2WD	21.2
GM G30 VAN 2WD	21.1
GM G10/20 VAN 2WD	19.3
GM G15/25 VANDURA	19.3
GM G10/20 SPORTVAN	18.5
GM G15/25 RALLY 2WD	18.4
CHRYSLER B150/B250 VAN 2WD ...	17.3
GM G35 RALLY 2WD	17.2
GM G30 SPORTVAN 2WD	17.2
FORD E150 ECONOLINE	16.9
CHRYSLER B150/B250	16.5
FORD E150 CLUB WAGON	16.4
CHRYSLER B350 VAN 2WD	16.2
FORD E250 ECONOLINE	16.1
CHRYSLER B350 2WD	15.3

LARGE UTILITY 55/45

 MPG

GM R1500 SUBURBAN	17.3
GM V1500 JIMMY 4WD	16.6
GM V1500 BLAZER 4WD	16.5
RANGE ROVER	16.3
CHRYSLER AD150 RAMCHARGER	16.2
FORD BRONCO 4WD	16.1
GM V1500 SUBURBAN	15.9
TOYOTA LAND CRUISER	14.8
CHRYSLER AW150 RAMCHARGER	14.5
CHRYSLER GRAND WAGONEER	13.6

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TABLE C-1 -- 1990 PASSENGER CAR MPG TECHNOLOGY ROLE MODELS

Weight	Make	Model	Size Class	Volume Cu.Ft	Eng. HP	Tran	MPG	Top Speed (mph)
1750	GM/Geo	Metro XFI	Subcompact	89	49	M5	65.4	96
2000	GM/Geo	Metro	Subcompact	92	55	M5	56.0	97
2000	GM/Geo	Metro LSI	Subcompact	92	55	M5	55.9	97
2000	Suzuki	Swift	Subcompact	92	70	M5	49.0	105
2000	Daihatsu	Charade	Subcompact	92	53	M5	46.5	96
2000	GM/Geo	Sprint turbo	Subcompact	89	70	M5	46.2	105
2000	GM/Geo	Sprint	Subcompact	92	55	M5	45.4	97
2250	Honda	Civic CRX HF	2-Seater	50	62	M5	59.2	98
2250	Honda	Civic CRX HF	2-Seater	50	62	M5	53.3	98
2250	Daihatsu	Charade	Subcompact	94	80	M5	43.4	107
2250	Subaru	Justy	Subcompact	89	73	M5	41.1	103
2250	Honda	Civic CRX	2-Seater	50	92	M5	40.9	113
2250	Honda	Civic	Subcompact	99	92	M4	40.9	113
2250	Subaru	Justy	Subcompact	89	73	AV	40.4	103
2250	Subaru	Justy	Subcompact	89	66	M5	39.6	100
2250	Subaru	Justy 4wd	Subcompact	89	73	AV	39.3	103
2250	Toyota	Tercel	Subcompact	91	78	M4	38.9	106
2250	Honda	Civic CRX	2-Seater	50	92	L4	38.8	113
2250	Toyota	Tercel	Subcompact	91	78	M5	38.2	106
2500	Ford	Escort	Compact	103	90	M4	42.2	109
2500	Honda	Civic	Subcompact	99	92	M4	40.9	110
2500	Pontiac	Lemans	Compact	107	74	M5	40.7	101
2500	Isuzu	Stylus	Compact	101	95	M5	40.0	111
2500	Dodge	Colt	Subcompact	96	81	M4	39.3	105
2500	GM/Geo	Storm	Subcompact	89	95	M4	38.8	111
2500	Honda	Civic CRX	2-Seater	50	92	M5	38.4	110
2500	Honda	Civic Wagon	Sm.Wagon	117	92	M5	38.4	110
2500	Honda	Civic	Subcompact	99	92	M5	38.4	110
2500	Subaru	Loyale	Compact	102	90	L3	29.5	109
2750	Volkswagen	Jetta Diesel	Compact	104	52	M5	46.9	90
2750	Mazda	323/Protege	Compact	107	103	M5	36.3	112
2750	Ford	Escort Wagon	Small Wagon	114	84	M5	36.1	103
2750	Ford	Escort	Compact	101	84	M5	36.1	103
2750	GM/Geo	Prizm	Subcompact	97	102	M5	35.4	111
2750	Toyota	Corolla	Small Wagon	113	102	M5	35.3	111
2750	Eagle	Summit	Compact	101	81	M5	35.1	102
2750	Nissan	Sentra Coupe	Subcompact	98	90	M5	35.1	106
2750	Nissan	Sentra Wagon	Small Wagon	88	90	M5	35.0	106
3000	Toyota	Celica	Subcompact	86	102	M5	33.2	109
3000	Toyota	Celica	Subcompact	86	102	L4	32.9	109
3000	Toyota	Corolla	Subcompact	92	130	M5	32.3	120
3000	Chevrolet	Corsica	Midsize	113	95	M5	32.2	106
3000	Chevrolet	Beretta	Compact	106	95	M5	32.2	106
3000	Toyota	Corolla	Subcompact	92	102	M5	32.2	109
3000	Pontiac	Sunbird Convert	Subcompact	88	95	M5	32.2	106
3000	Dodge	Shadow	Compact	102	93	M5	31.5	105
3000	Dodge	Daytona	Subcompact	99	100	M5	31.5	108
3000	Eagle	Spirit	Midsize	111	100	M5	31.4	108
3000	Ford	Tempo	Compact	103	98	M5	31.4	107
3000	Toyota	Celica	Subcompact	86	130	L4	31.2	120

TABLE C-1, continued -- 1990 PASSENGER CAR MPG TECHNOLOGY ROLE MODELS

Weight	Make	Model	Size Class	Volume Cu.Ft	Eng. HP	Tran	MPG	Top Speed (mph)
3500	Toyota	Camry	Compact	101	115	M5	33.7	109
3500	Toyota	Camry	Compact	101	115	L4	32.6	109
3500	Toyota	Camry	Compact	101	115	L4	31.3	109
3500	Toyota	Camry Wagon	Small Wagon	124	115	L4	31.3	109
3500	Oldsmobile	Cutlass Supreme	Midsize	113	180	M5	30.4	133
3500	Oldsmobile	Cutlass Supreme	Midsize	113	160	L3	28.9	125
3500	Saab	9000	Large	124	130	M5	28.0	115
3500	Ford	Mustang	Subcompact	92	96	M5	28.0	102
3500	Toyota	Camry	Compact	101	115	M5	28.0	109
3500	Chrysler	Lebaron Convert	Subcompact	94	100	L3	28.0	104
3500	Dodge	Dynasty	Midsize	115	100	L3	28.0	104
3500	Volvo	740	Midsize	111	145	M5	27.7	120
4000	Ford	Thunderbird	Midsize	116	120	L4	25.6	107
4000	Chevrolet	Caprice	Large	131	140	L4	25.3	114
4000	Lincoln	Continental	Large	123	140	L4	23.9	114
4000	Chrysler	New Yorker	Large	121	150	L4	23.6	117
4000	Buick	Reatta	2-Seater	50	165	L4	23.6	122
4000	Oldsmobile	Trofeo/Toronado	Midsize	114	165	L4	23.6	122
4000	Oldsmobile	Ninety-eight	Large	127	165	L4	23.6	122
4000	Pontiac	Bonneville	Large	123	165	L4	23.6	122
4000	Lexus	LS400	Midsize	112	245	L4	23.5	148
4000	Nissan	300ZX	2-Seater	50	280	L4	23.4	160
4000	Volvo	760 Wagon	Midsize Wagon	135	162	A4	23.4	121
4000	Audi	200 Quattro Wagon	Midsize Wagon	132	162	M5	23.1	121
4500	Buick	Electra Wagon	Large Wagon	160	140	L4	22.9	110
4500	Cadillac	Brougham	Large	129	140	L4	22.9	110
4500	Cadillac	Brougham	Large	129	175	L4	19.5	121
4500	Mercedes	500 SL	2-Seater	50	322	A4	18.1	165
4500	Mercedes	560 SEL	Midsize	115	238	A4	17.2	140
4500	Jaguar	XJS Convert	2-Seater	50	263	A3	17.0	147
4500	BMW	750 IL	Midsize	119	295	L4	16.7	157
5500	Rolls-Royce	Various	Various	107	236	A3	13.2	130

TABLE C-2 -- 1990 LIGHT TRUCK MPG TECHNOLOGY ROLE MODELS

Weight	Make	Model	Size Class	Payload lbs	Eng. HP	Tran	MPG	Top Speed (mph)
2500	Suzuki	SAMURAI 4WD	Small Utility	807	66	M5	33.5	98
2500	Suzuki	SIDEKICK 2WD	Small Utility	854	80	M5	32.2	104
2500	Suzuki	SIDEKICK 4WD	Small Utility	854	80	M5	32.2	104
2500	GM/Geo	TRACKER 4WD	Small Utility	880	80	M5	31.3	104
2750	Suzuki	SIDEKICK 4WD	Small Utility	946	80	L3	29.3	102
2750	GM/Geo	TRACKER 4WD	Small Utility	880	80	L3	28.7	102
2750	Toyota	TRUCK 2WD	Large Pickup	1640	102	M5	26.6	111
2750	Toyota	TRUCK 2WD	Large Pickup	1640	102	M4	26.0	111
3000	Ford	RANGER 2WD	Small Pickup	1200	104	M5	31.3	109
3000	Dodge	COLT VISTA FWD	Small Van	1186	102	M5	29.4	109
3000	GM	S10 2WD	Small Pickup	582	92	M5	29.1	105
3000	Mazda	B2200/B2600I 2WD	Large Pickup	1400	91	M5	29.1	104
3000	Dodge	CARAVAN 2WD	Small Van	1215	96	M5	28.9	106
3000	Nissan	HARDBODY 2WD	Small Pickup	1400	133	M5	28.9	121
3000	Toyota	TRUCK 2WD	Small Pickup	1640	116	M5	27.8	114
3000	Nissan	AXXESS 2WD	Small Van	1186	138	M5	27.6	123
3000	Nissan	HARDBODY 2WD	Small Pickup	1400	133	L4	27.6	121
3000	GM	S10 2WD	Small Pickup	582	96	L4	27.6	106
3000	Daihatsu	ROCKY 4WD	Small Utility	650	94	M5	27.3	105
3000	Jeep	COMANCHE 2WD	Large Pickup	1475	117	M4	27.1	115
3500	Dodge	CARAVAN FWD	Small Van	1215	96	M5	28.3	102
3500	Ford	RANGER 2WD	Small Pickup	1700	104	M5	28.0	105
3500	Dodge	DAKOTA 2WD	Large Pickup	1250	96	M5	27.9	102
3500	Nissan	AXXESS 2WD	Small Van	1186	138	M5	27.0	117
3500	GM	ASTRO 2WD (CARGO)	Small Van	1186	92	M5	27.0	101
3500	Ford	RANGER 4WD	Small Pickup	1700	104	M5	26.9	105
3500	Nissan	HARDBODY 2WD	Small Pickup	2000	133	L4	26.8	116
3500	Jeep	COMANCHE 4WD	Large Pickup	2205	117	M4	26.5	110
3500	Mazda	MPV 2WD	Small Van	1186	121	M5	25.9	111
3500	Dodge	CARAVAN 2WD	Small Van	1215	96	L3	25.8	102
3500	Jeep	COMANCHE 2WD	Large Pickup	2205	117	M5	25.8	110
3500	Jeep	CHEROKEE 4WD	Small Utility	1150	117	M5	25.8	110
4000	Mazda	MPV 2WD	Small Van	1186	121	M5	25.1	107
4000	Dodge	CARAVAN 2WD	Small Van	1215	141	L4	24.7	114
4000	Plymouth	VOYAGER 2WD	Small Van	1215	141	L3	24.5	114
4000	Mazda	MPV 2WD	Small Van	1186	121	L4	24.3	107
4000	Dodge	CARAVAN 2WD	Small Van	1215	146	A3	24.3	116
4000	Toyota	TRUCK 4WD	Large Pickup	1640	116	M5	24.1	106
4000	Dodge	CARAVAN 2WD	Small Van	1215	151	L4	23.7	117
4000	Toyota	4-RUNNER 4WD	Small Utility	300	116	M5	23.6	106
4000	Nissan	HARDBODY 4WD	Large Pickup	2000	133	M5	23.6	111
4000	GM	LUMINA APV 2WD	Small Van	1186	120	L3	23.4	107
4000	GM	C1500 SIERRA 2WD	Large Pickup	1711	150	M5	23.3	117
4000	Mazda	MPV 2WD	Small Van	1186	150	M5	22.9	117
4500	GM	D- G10/20 VAN 2WD	Large Van	1126	145	L4	24.1	112
4500	GM	D- C1500 SIERRA 2WD	Large Pickup	2647	145	L4	24.1	112
4500	GM	D- C1500 SIERRA 2WD	Large Pickup	2647	135	C4	23.8	109
4500	GM	C1500 SIERRA 2WD	Large Pickup	2647	150	M5	23.0	113
4500	GM	C1500 SIERRA 2WD	Large Pickup	2647	160	L4	21.4	116
4500	GM	G15/25 VANDURA 2WD	Large Van	1126	160	L4	21.4	116
4500	GM	ASTRO 2WD (PASS)	Small Van	1186	160	L4	21.4	116
4500	GM	K1500 SIERRA 4WD	Large Pickup	2647	160	M5	21.0	116
4500	GM	K2500 SIERRA 4WD	Large Pickup	2647	160	L4	20.4	116
4500	GM	ASTRO AWD (PASS)	Small Van	1186	160	L4	20.4	116

TABLE C-2, continued -- 1990 LIGHT TRUCK MPG TECHNOLOGY ROLE MODELS

Weight	Make	Model	Size Class	Payload lbs	Eng. HP	Tran	MPG	Top Speed (mph)
5000	GM	D- G15/25 VANDURA 2WD	Large Van	3676	145	L4	22.8	109
5000	GM	D- C1500 SIERRA 2W	Large Pickup	2647	145	L4	22.8	109
5000	GM	D- C1500 SIERRA 2W	Large Pickup	2647	135	C4	22.6	106
5000	GM	D- K1500 SIERRA 4WD	Large Pickup	2647	145	L4	21.1	109
5000	GM	D- K1500 SIERRA 4WD	Large Pickup	2647	135	C4	21.1	106
5000	GM	K1500 SIERRA 4WD	Large Pickup	2647	160	M5	20.5	113
5000	GM	K1500 SIERRA 4WD	Large Pickup	2647	160	L4	19.7	113
5000	Ford	F150 4WD	Large Pickup	2240	150	C4	19.5	110
5500	GM	D- V1500 BLAZER 4WD	Large Utility	1560	145	L4	21.3	106
5500	GM	D- K2500 SIERRA 4WD	Large Pickup	3958	145	L4	21.3	106
5500	GM	D- K2500 SIERRA 4WD	Large Pickup	3958	135	C4	21.1	103
5500	GM	D- C2500 SIERRA 2WD	Large Pickup	3958	135	C4	20.8	103
5500	GM	D- G15/25 RALLY 2WD	Large Van	3676	145	L4	20.7	106
5500	GM	D- R1500 SUBURBAN 2WD	Large Utility	3099	145	L4	20.7	106
5500	GM	D- C2500 SIERRA 2WD	Large Pickup	3958	145	L4	20.7	106
5500	GM	R1500 SUBURBAN 2WD	Large Utility	3099	210	L4	17.4	123
5500	GM	G30 SPORTVAN 2WD	Large Van	3676	210	L4	17.4	123
5500	GM	V1500 SUBURBAN 4WD	Large Utility	3099	210	L4	16.4	123
5500	Ford	E250 ECONOLINE 2WD	Large Van	4070	145	L4	16.2	106
5500	GM	V1500 SUBURBAN 4WD	Large Utility	3099	210	C4	15.3	123
6000	GM	D- G15/25 RALLY 2WD	Large Van	3676	145	L4	21.9	104
6000	GM	D- R1500 SUBURBAN 2WD	Large Utility	3099	145	L4	21.9	104
6000	GM	D- K2500 SIERRA 4WD	Large Pickup	3958	135	C4	20.5	101
6000	GM	D- V1500 BLAZER 4WD	Large Utility	3099	145	L4	20.3	104
6000	GM	V1500 SUBURBAN 4WD	Large Utility	3099	210	L4	16.2	120

TABLE D-1 -- WEIGHT MIX SCENARIOS

PASSENGER CARS:					LIGHT TRUCKS:				
Weight Class	As-is Weight Mix	Re-mix #1	Re-mix #2	Top Speed	Weight Class	As-is Weight Mix	Re-mix #1	Re-mix #2	Top Speed
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1750	0.01	0.7	1.4	96	2500	1.0	1.7	4.8	103
2000	1.3	1.3	4.7	100	2750	1.4	6.2	11.4	108
2250	1.4	7.5	9.6	104	3000	10.9	16.7	22.9	110
2500	12.6	11.4	17.0	108	3500	22.5	29.1	28.0	119
2750	10.4	21.7	26.9	110	4000	35.7	26.8	20.1	116
3000	31.0	31.2	25.1	117	4500	17.8	13.4	9.2	118
3500	31.3	20.2	12.1	123	5000	8.9	5.0	2.9	118
4000	11.0	5.6	2.8	121	5500	1.1	0.8	0.6	122
4500	1.07	0.49	0.22	119	6000	0.59	0.29	0.15	117
5500	0.013	0.006	0.003	130					
Avg Weight:	3171	2974	2802		Avg Weight:	3952	3720	3502	
Chg from status quo:		-6.2%	-11.7%		Chg from status quo:		-5.9%	-11.4%	

TABLE D-2 -- TOP SPEED INDEX VS. MODEL YEAR

PASSENGER CARS:				LIGHT TRUCKS:			
	Average Weight	Engine HP	Top mph		Average Weight	Engine HP	Top mph
	-----	-----	-----		-----	-----	-----
1975	4058	136	111	1975	4072	142	114
1976	4059	134	110	1976	4155	141	113
1977	3944	133	107	1977	4135	147	115
1978	3588	124	109	1978	4151	146	114
1979	3485	119	108	1979	4252	138	111
1980	3101	100	106	1980	3869	121	108
1981	3076	99	106	1981	3806	119	108
1982	3054	99	106	1982	3806	120	108
1983	3112	104	107	1983	3763	118	108
1984	3099	106	108	1984	3782	118	108
1985	3093	111	110	1985	3795	124	110
1986	3041	111	111	1986	3738	123	110
1987	3030	112	111	1987	3713	131	113
1988	3051	116	112	1988	3841	141	115
1989	3115	123	114	1989	3936	146	116
1990	3171	130	117	1990	3952	148	116

APPENDIX E -- CHARACTERISTICS OF PASSENGER CARS BY WEIGHT CLASS

TABLE E-1 CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

1750 LB. CARS

MODEL YEAR	SALES (000)	FRACT	FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/CID	HP/WT	CID/WT	CU-FT -MPG
			CITY	HWY	55/45									
1985	37	.003	51.9	66.1	57.4	1750	82.6	16.1	61	48	.787	.0274	.0349	4756
1986	81	.007	50.8	63.7	55.9	1750	84.6	16.3	61	46	.759	.0264	.0349	4809
1987	38	.004	51.3	65.4	56.8	1750	84.4	16.2	61	46	.756	.0264	.0349	4828
1988	55	.005	47.0	58.7	51.6	1750	84.6	16.3	61	47	.766	.0267	.0349	4443
1989	25	.003	54.1	67.4	59.4	1750	90.9	15.4	61	49	.806	.0281	.0349	5400
1990	1	.000	59.3	74.7	65.4	1750	89.1	15.4	61	49	.803	.0280	.0349	5823
1991	3	.000	59.2	74.7	65.3	1750	89.1	15.4	61	49	.803	.0280	.0349	5815

PERCENT OF 1750 LB. CARS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN
1985	100.0		90.1					100.0			100.0
1986	100.0		64.7					100.0			100.0
1987	100.0		100.0					100.0			100.0
1988	100.0		59.5	2.8	2.8			97.2			100.0
1989	100.0		100.0	100.0	100.0						100.0
1990	100.0		100.0	100.0	100.0						100.0
1991	100.0		100.0	100.0	100.0						100.0

TABLE E-2 CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

2000 LB. CARS

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
1975	105	.013	27.3	38.5	31.4	2000		15.9	83	54	.655	.0272	.0417	
1976	154	.016	28.4	39.8	32.6	2000		15.6	83	56	.670	.0279	.0418	
1977	157	.014	31.3	44.0	36.0	2000	73.7	14.4	84	61	.739	.0307	.0420	2709
1978	270	.024	30.9	41.7	34.9	2000	80.3	14.3	90	62	.695	.0312	.0450	2847
1979	234	.022	28.2	38.3	32.0	2000	80.1	14.4	88	62	.712	.0312	.0439	2594
1980	280	.030	29.0	39.6	33.0	2000	85.7	14.3	90	63	.696	.0314	.0451	2860
1981	209	.024	34.3	44.9	38.4	2000	86.7	14.0	86	64	.744	.0321	.0431	3362
1982	157	.020	35.9	47.3	40.3	2000	87.3	14.5	86	61	.715	.0308	.0430	3554
1983	94	.012	38.7	51.6	43.6	2000	86.0	14.4	84	61	.728	.0308	.0422	3783
1984	92	.009	39.4	52.3	44.3	2000	73.5	13.5	86	67	.776	.0335	.0431	3297
1985	62	.006	39.5	52.4	44.4	2000	60.2	13.6	89	69	.782	.0348	.0444	2757
1986	58	.005	31.7	45.0	36.6	2000	72.3	15.4	76	56	.750	.0281	.0382	2658
1987	106	.010	35.7	46.8	40.0	2000	79.9	15.9	70	55	.799	.0276	.0349	3256
1988	164	.015	40.9	51.6	45.1	2000	91.6	14.8	78	59	.767	.0296	.0389	4143
1989	133	.013	40.0	49.3	43.7	2000	92.5	15.2	76	59	.782	.0295	.0379	4072
1990	109	.011	43.2	55.2	47.9	2000	93.6	15.2	68	58	.868	.0292	.0339	4539
1991	130	.016	41.9	53.4	46.4	2000	90.1	15.7	64	56	.883	.0281	.0319	4246

PERCENT OF 2000 LB. CARS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING				MANUFACTURED			
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN
1975	100.0		100.0					100.0		2.3	97.7
1976	92.5		89.7					100.0		10.1	89.9
1977	100.0		87.0					100.0		6.0	94.0
1978	100.0		100.0					100.0		53.9	46.1
1979	100.0		100.0					100.0		39.8	60.2
1980	100.0		83.9					100.0		43.3	56.7
1981	82.7		90.6					100.0		5.4	94.6
1982	85.1		93.0					100.0		15.3	84.7
1983	91.9		100.0	8.1		8.1		91.9		9.4	90.6
1984	98.7		96.7	1.3		1.3		98.7			100.0
1985	100.0		94.7	11.9		11.9		88.1			100.0
1986	100.0		100.0					100.0		61.2	38.8
1987	100.0		80.5	6.3		6.3		93.7		45.9	54.1
1988	93.1	6.9	98.8	15.8	.0	15.8		84.2		3.3	96.7
1989	100.0		64.5	58.0	19.5	38.5		42.0		.3	99.7
1990	100.0		71.7	97.9	64.8	33.0		2.1		.8	99.2
1991	100.0		50.8	96.5	81.3	15.2		3.5		2.8	97.2

TABLE E-3 CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

2250 LB. CARS

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/CID	HP/WT	CID/WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
1975	375	.046	24.0	36.4	28.3	2250		15.3	89	66	.749	.0294	.0397	
1976	570	.059	25.8	36.1	29.6	2250		15.3	91	66	.736	.0296	.0403	
1977	851	.075	27.8	39.5	32.1	2250	85.5	14.8	90	68	.762	.0303	.0400	2799
1978	886	.079	28.1	38.3	31.9	2250	85.6	15.0	89	67	.758	.0298	.0395	2814
1979	699	.065	27.5	37.9	31.4	2250	88.0	15.2	88	65	.745	.0291	.0392	2813
1980	1162	.123	28.4	38.9	32.4	2250	89.6	15.0	92	67	.722	.0296	.0411	2956
1981	1191	.136	30.2	41.5	34.4	2250	91.3	14.8	96	68	.710	.0302	.0425	3187
1982	884	.113	31.3	42.7	35.6	2250	92.5	15.0	94	66	.703	.0294	.0419	3328
1983	985	.123	31.8	43.7	36.2	2250	96.4	14.9	94	67	.709	.0298	.0420	3528
1984	899	.084	32.6	44.6	37.1	2250	97.2	14.8	94	68	.721	.0303	.0420	3657
1985	840	.078	33.2	44.7	37.5	2250	96.9	14.6	94	70	.748	.0312	.0417	3678
1986	745	.068	34.2	45.3	38.5	2250	93.1	14.8	93	68	.737	.0304	.0412	3627
1987	461	.043	34.8	45.7	39.0	2250	89.7	14.6	90	69	.766	.0308	.0402	3534
1988	389	.036	34.9	46.0	39.1	2250	91.8	13.9	91	74	.808	.0328	.0405	3625
1989	279	.028	34.6	45.4	38.8	2250	93.4	13.3	89	78	.876	.0347	.0397	3656
1990	107	.011	35.5	45.9	39.6	2250	88.3	13.6	86	76	.892	.0339	.0381	3484
1991	100	.013	34.1	44.9	38.3	2250	90.1	12.9	87	81	.928	.0358	.0387	3458

PERCENT OF 2250 LB. CARS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN
1975	46.1		90.3	22.6		22.6	77.4			65.0	35.0
1976	37.5		72.2	5.7		5.7	94.3		32.9	36.9	30.2
1977	43.0		78.9	14.4		14.4	83.7	1.9	15.7	33.6	50.7
1978	41.6		80.6	16.7		16.7	79.2	4.1	13.9	26.6	59.5
1979	44.8		87.0	15.6		15.6	79.0	5.5	11.3	27.5	61.2
1980	57.9		80.7	14.9		14.9	75.7	9.3	20.5	26.2	53.3
1981	69.8		82.7	6.5		6.5	84.3	9.2	33.3	15.7	51.0
1982	79.8		74.9	5.7		5.7	89.6	4.7	27.0	11.2	61.9
1983	93.2	1.6	72.6	20.1	12.1	8.0	78.5	1.4	29.4	7.5	63.0
1984	91.1		71.8	23.3	16.5	6.8	74.1	2.6	36.9	8.4	54.7
1985	97.1	.3	65.3	10.2	8.6	1.6	89.7	.1	20.9		79.1
1986	96.3		65.5	14.0	6.3	7.7	85.9	.0	10.0		90.0
1987	96.3		70.5	13.2	3.4	9.9	86.8		7.1		92.9
1988	100.0		69.0	38.7	28.9	9.7	61.3				100.0
1989	100.0		63.5	33.2	28.0	5.1	66.8				100.0
1990	94.7	5.3	68.5	63.5	20.1	43.4	36.5			.2	99.8
1991	100.0		72.5	98.7	16.2	82.5	1.3			.8	99.2

TABLE E-4 CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

2500 LB. CARS

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/CID	HP/WT	CID/WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
1975	406	.049	20.9	30.5	24.4	2500		15.2	95	73	.774	.0292	.0380	
1976	349	.036	22.4	33.1	26.2	2500		15.1	97	73	.755	.0294	.0390	
1977	465	.041	25.5	35.8	29.3	2500	90.3	14.9	98	75	.764	.0299	.0391	2674
1978	782	.070	24.6	33.5	27.9	2500	91.6	15.1	101	74	.734	.0297	.0403	2582
1979	1078	.100	24.7	33.1	27.9	2500	90.6	15.4	101	72	.710	.0287	.0404	2543
1980	1172	.124	24.8	33.3	28.0	2500	92.3	15.6	104	71	.680	.0283	.0416	2607
1981	1531	.175	25.8	35.3	29.4	2500	94.8	14.8	108	76	.711	.0305	.0431	2816
1982	1442	.184	27.1	38.1	31.2	2500	91.5	15.4	106	72	.683	.0289	.0423	2898
1983	1240	.155	28.1	39.1	32.2	2500	94.8	15.0	106	75	.705	.0300	.0426	3104
1984	1529	.143	28.4	40.0	32.7	2500	96.3	14.7	107	78	.726	.0312	.0429	3194
1985	1699	.157	28.5	40.4	32.8	2500	98.3	14.2	109	82	.760	.0330	.0435	3284
1986	1622	.147	29.4	40.9	33.7	2500	100.0	14.3	106	80	.759	.0321	.0423	3399
1987	1975	.184	29.3	40.5	33.4	2500	98.9	14.6	104	78	.749	.0311	.0417	3330
1988	1802	.168	30.1	40.9	34.1	2500	99.5	14.5	100	78	.785	.0314	.0401	3418
1989	1335	.133	30.1	41.5	34.4	2500	98.0	13.6	98	85	.865	.0339	.0394	3384
1990	1183	.123	31.0	42.1	35.2	2500	94.9	12.9	98	90	.926	.0361	.0392	3374
1991	650	.082	31.5	43.8	36.1	2500	94.5	12.7	96	92	.962	.0369	.0386	3443

PERCENT OF 2500 LB. CARS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN
1975	36.0		75.3	20.4		20.4	79.6			47.2	52.8
1976	18.3		67.5	12.9		12.9	87.1			27.1	72.9
1977	20.7		69.3	12.5		12.5	86.3	1.2		15.8	84.2
1978	34.3		53.2	8.0		8.0	92.0		41.6	10.0	48.5
1979	43.7	3.5	56.8	2.3		2.3	97.2	.6	46.3	5.6	48.0
1980	47.9	3.9	52.5	3.8		3.8	93.5	2.8	38.0	8.2	53.7
1981	53.6	2.7	52.4	4.1		4.1	93.4	2.5	49.8	5.3	44.9
1982	69.3	.6	57.3	4.6		4.6	92.4	3.0	50.3	5.9	43.8
1983	68.9	13.1	57.2	3.2	.1	3.2	96.3	.4	42.3	2.4	55.3
1984	75.4	2.4	47.3	13.5	1.6	11.9	84.4	2.2	46.5	8.2	45.2
1985	77.1	9.2	58.5	19.9	4.2	15.7	78.4	1.7	46.6	10.5	42.8
1986	94.3	.9	49.5	22.2	5.3	16.9	76.8	1.0	42.7	11.7	45.6
1987	97.7	.8	47.7	33.2	19.5	13.6	66.8		28.2	8.9	62.9
1988	99.7	.3	48.3	63.4	51.5	11.9	36.6		17.1	5.7	77.2
1989	97.8	2.2	52.0	72.0	47.3	24.7	28.0		14.7	4.6	80.7
1990	95.5	.0	51.4	96.5	46.9	49.6	3.5		16.2	2.8	81.0
1991	95.5		67.1	99.9	29.7	70.1	.1		12.7	2.5	84.8

TABLE E-5 CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

2750 LB. CARS

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
1975	281	.034	18.5	27.7	21.7	2750		12.8	127	100	.799	.0365	.0462	
1976	203	.021	21.1	30.4	24.5	2750		13.4	121	95	.794	.0348	.0442	
1977	349	.031	21.3	30.9	24.8	2750	80.3	13.3	126	96	.765	.0350	.0459	2026
1978	498	.045	21.4	30.9	24.8	2750	88.6	13.4	129	94	.740	.0344	.0468	2220
1979	459	.043	20.5	30.3	24.0	2750	82.2	13.6	132	94	.710	.0341	.0481	2017
1980	973	.103	22.1	33.3	26.1	2750	96.0	13.6	141	93	.665	.0339	.0515	2549
1981	714	.082	24.0	34.2	27.7	2750	107.2	13.8	136	92	.678	.0333	.0497	2972
1982	961	.123	24.5	36.5	28.8	2750	104.3	14.4	124	87	.707	.0316	.0450	3006
1983	863	.108	26.2	37.0	30.2	2750	106.3	14.2	124	88	.712	.0320	.0453	3235
1984	2050	.192	25.9	37.5	30.1	2750	102.7	14.1	127	89	.705	.0324	.0463	3112
1985	1878	.174	26.4	37.9	30.6	2750	102.9	13.6	128	93	.735	.0340	.0466	3163
1986	1899	.172	26.4	38.2	30.6	2750	102.0	13.4	125	95	.769	.0347	.0456	3140
1987	1896	.177	26.5	38.4	30.8	2750	101.7	13.3	124	96	.790	.0350	.0450	3142
1988	1519	.142	27.1	39.3	31.5	2750	102.1	13.1	123	97	.804	.0354	.0446	3225
1989	1204	.120	27.3	39.7	31.8	2750	101.7	13.3	118	96	.820	.0349	.0431	3240
1990	999	.104	27.5	39.8	31.9	2750	98.9	13.0	114	99	.884	.0360	.0416	3168
1991	1196	.151	27.7	40.4	32.2	2750	100.5	12.9	110	101	.929	.0367	.0402	3257

PERCENT OF 2750 LB. CARS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN
1975	.4		70.7	3.9		3.9	96.1		9.2	17.4	73.3
1976	.9		63.5	3.6		3.6	96.4		15.3	27.3	57.4
1977	2.0		67.5	9.4		9.4	90.6		21.2	26.8	52.0
1978	.9		66.7	5.5		5.5	94.5		27.7	13.9	58.4
1979	5.4		59.6	6.1		6.1	93.9		60.1	16.1	23.7
1980	47.9		53.6	13.8		13.8	86.2		69.0	6.8	24.2
1981	70.0		36.0	18.3		18.3	81.1	.6	69.8	7.5	22.7
1982	77.9	3.1	33.7	12.2	5.8	6.4	87.4	.4	73.8	6.5	19.8
1983	89.4	4.0	31.2	52.9	40.6	12.3	46.5	.6	76.3	7.2	16.6
1984	87.7	2.2	30.5	54.7	42.4	12.2	44.3	1.0	80.6	2.3	17.1
1985	93.3	2.8	21.8	74.0	59.5	14.5	25.6	.4	72.9	3.2	23.9
1986	92.7	2.9	34.7	84.7	52.6	32.1	15.0	.3	59.6	1.6	38.8
1987	95.7	1.9	31.5	83.2	58.4	24.7	16.6	.2	61.0	1.6	37.4
1988	97.4	1.8	31.0	78.6	59.8	18.9	21.4		60.7	6.3	32.9
1989	97.5	1.1	29.6	85.6	63.8	21.8	14.1	.3	64.3	6.2	29.5
1990	98.9	1.0	24.2	99.4	55.0	44.5	.4	.2	51.5	6.5	42.0
1991	99.1	.3	28.8	99.6	23.6	76.0	.2	.2	45.6	5.8	48.6

TABLE E-6 CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

3000 LB. CARS

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
1975	828	.100	18.4	26.8	21.4	3000		14.4	147	98	.674	.0329	.0491	
1976	884	.091	20.1	29.7	23.5	3000		14.6	147	95	.657	.0317	.0490	
1977	584	.052	20.2	28.6	23.2	3000	87.6	13.7	146	104	.715	.0347	.0488	2078
1978	903	.081	19.7	27.3	22.5	3000	97.3	13.9	164	102	.637	.0339	.0547	2215
1979	1286	.119	19.1	27.4	22.1	3000	96.3	13.9	162	100	.634	.0333	.0540	2152
1980	2026	.215	20.3	29.4	23.6	3000	100.9	13.8	164	100	.624	.0334	.0546	2392
1981	1626	.186	21.1	30.0	24.4	3000	103.8	13.9	165	101	.619	.0335	.0551	2544
1982	1554	.199	21.9	32.6	25.7	3000	104.2	13.6	163	103	.640	.0343	.0544	2717
1983	1515	.189	22.0	32.8	25.8	3000	105.4	13.4	161	104	.658	.0349	.0538	2749
1984	1994	.187	22.5	33.6	26.4	3000	104.9	13.3	157	107	.689	.0357	.0525	2789
1985	2037	.189	23.0	34.5	27.1	3000	106.4	13.0	153	110	.727	.0366	.0512	2906
1986	2829	.257	23.4	34.9	27.5	3000	106.6	13.2	151	108	.723	.0359	.0503	2956
1987	2743	.256	23.8	35.4	27.9	3000	106.3	12.9	147	111	.765	.0371	.0491	2997
1988	3146	.294	24.2	36.1	28.4	3000	105.3	12.6	145	114	.796	.0380	.0483	3017
1989	3402	.340	24.1	36.2	28.4	3000	108.3	12.3	146	118	.815	.0393	.0487	3092
1990	3071	.319	24.4	36.6	28.7	3000	103.9	12.0	143	121	.861	.0405	.0478	3000
1991	2529	.319	24.1	36.3	28.4	3000	103.4	11.6	147	126	.874	.0422	.0492	2949

PERCENT OF 3000 LB. CARS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN
1975	3.5		48.6	17.1		17.1	82.9		63.1	13.7	23.3
1976	2.5		50.4	9.8		9.8	90.2		63.1	7.4	29.4
1977	3.6		51.3	22.4		22.4	77.6		47.8	12.6	39.6
1978	4.4		35.2	18.0		18.0	82.0		71.0	8.2	20.8
1979	2.6		39.7	14.1		14.1	85.8	.1	63.5	11.8	24.7
1980	32.0		30.9	7.5		7.5	92.0	.5	78.7	7.5	13.8
1981	45.4		21.6	11.9		11.9	87.8	.4	75.2	7.0	17.8
1982	53.2		17.0	45.5	26.9	18.6	53.8	.7	75.4	6.6	18.0
1983	63.0		17.2	49.2	26.5	22.7	50.1	.7	74.4	8.6	17.0
1984	73.9	.2	16.3	57.2	29.6	27.6	42.1	.8	79.0	11.8	9.2
1985	77.9	.5	14.4	72.2	34.7	37.5	27.4	.4	81.0	11.5	7.5
1986	82.2	1.0	15.1	84.8	49.0	35.7	15.0	.2	80.2	9.7	10.1
1987	84.1	1.9	15.7	99.1	49.5	49.6	.9	.0	71.9	8.9	19.2
1988	90.6	1.2	17.2	100.0	30.1	69.9		.0	71.5	6.5	22.0
1989	91.3	1.4	16.4	97.4	24.0	73.4	2.6		63.3	5.1	31.7
1990	95.6	.5	25.2	99.9	27.7	72.2	.1		55.7	1.8	42.6
1991	94.8	.9	19.2	100.0	21.0	79.0	.0		58.1	1.7	40.2

TABLE E-7 CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

3500 LB. CARS

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
1975	1029	.125	15.9	22.0	18.2	3500		15.6	227	102	.463	.0292	.0648	
1976	933	.096	17.2	23.1	19.4	3500		15.8	231	100	.447	.0286	.0659	
1977	724	.064	17.9	24.1	20.2	3500	102.4	15.3	232	104	.458	.0297	.0663	2104
1978	2991	.268	17.6	24.6	20.2	3500	111.1	13.8	257	119	.468	.0342	.0734	2253
1979	2684	.249	17.8	24.1	20.2	3500	112.3	13.7	252	120	.477	.0342	.0721	2273
1980	2147	.227	18.1	25.3	20.7	3500	111.3	14.1	244	115	.477	.0329	.0696	2325
1981	1829	.209	19.2	27.4	22.2	3500	113.3	14.3	234	113	.487	.0322	.0668	2534
1982	1421	.182	19.3	27.9	22.4	3500	112.0	14.0	237	118	.505	.0338	.0678	2546
1983	1669	.209	19.4	29.0	22.8	3500	111.8	13.6	238	122	.524	.0348	.0681	2577
1984	2220	.208	19.4	29.2	22.9	3500	109.6	13.1	236	127	.556	.0363	.0675	2538
1985	2461	.228	19.7	30.3	23.4	3500	111.9	12.7	228	133	.603	.0379	.0650	2629
1986	2760	.251	20.3	32.4	24.4	3500	113.5	12.0	225	141	.654	.0404	.0644	2787
1987	2520	.235	20.3	33.2	24.6	3500	114.0	11.6	217	147	.703	.0421	.0621	2818
1988	2693	.252	20.9	34.4	25.4	3500	113.5	11.3	212	152	.737	.0435	.0607	2902
1989	2687	.268	20.7	34.1	25.1	3500	114.2	11.4	207	151	.751	.0430	.0592	2887
1990	2877	.299	20.8	34.3	25.3	3500	112.5	10.9	198	161	.836	.0459	.0565	2862
1991	2074	.262	21.0	34.3	25.4	3500	112.5	11.1	196	156	.816	.0447	.0560	2880

PERCENT OF 3500 LB. CARS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN
1975			19.3	6.5	6.5	91.6	1.9	91.4	8.6		
1976			17.2	5.7	5.7	92.9	1.4	92.1	7.9		
1977			16.2	6.1	6.1	91.1	2.7	90.6	9.4		
1978			4.7	1.4	1.4	98.1	.5	98.0	2.0		
1979			4.0	1.3	1.3	97.9	.8	97.4	2.6		
1980	.2	.4	3.1	2.2	2.2	96.2	1.7	96.1	3.9		
1981		.5	3.4	3.0	3.0	94.5	2.5	94.5	5.2	.3	
1982	.5	.6	6.9	9.5	4.4	5.1	85.6	4.9	90.5	6.7	2.7
1983	.9	.8	8.7	14.4	5.3	9.1	83.0	2.6	89.8	5.0	5.2
1984	8.2	.2	7.7	35.6	12.1	23.5	63.0	1.4	89.9	4.5	5.6
1985	35.2	.0	8.3	69.9	32.3	37.6	29.5	.7	85.9	4.5	9.5
1986	49.2	.5	8.6	80.1	20.7	59.4	19.9	.1	87.0	5.1	8.0
1987	64.1	.4	8.8	92.1	15.0	77.1	7.4	.4	80.3	6.2	13.5
1988	72.8	.2	7.9	99.7	11.4	88.2	.3		84.4	5.2	10.4
1989	80.7	.2	6.9	100.0	12.2	87.7		.0	83.6	5.8	10.6
1990	82.9	1.4	12.6	100.0	3.4	96.5		.0	78.7	7.5	13.8
1991	83.8	2.1	8.7	99.9	2.7	97.3		.1	74.8	7.6	17.6

TABLE E-8 CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

4000 LB. CARS

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
1975	1089	.132	13.8	18.6	15.6	4000		14.5	292	130	.443	.0325	.0730	
1976	1977	.203	15.6	21.2	17.7	4000		15.4	280	122	.433	.0305	.0700	
1977	3323	.294	15.8	21.4	17.9	4000	113.5	14.2	293	133	.453	.0333	.0732	2044
1978	2235	.200	15.7	21.9	18.0	4000	114.9	13.1	305	145	.474	.0362	.0764	2092
1979	2643	.245	15.6	21.5	17.8	4000	119.6	13.0	311	147	.472	.0367	.0778	2150
1980	1316	.139	16.2	23.5	18.8	4000	122.4	13.9	302	136	.453	.0339	.0756	2349
1981	1312	.150	17.2	26.0	20.3	4000	123.2	14.0	295	133	.458	.0334	.0739	2542
1982	1215	.155	17.3	26.7	20.6	4000	126.4	13.8	287	135	.479	.0339	.0717	2626
1983	1445	.181	17.1	26.4	20.3	4000	126.7	13.4	287	139	.490	.0348	.0717	2588
1984	1702	.159	17.3	26.8	20.6	4000	126.3	13.4	289	139	.485	.0347	.0723	2603
1985	1671	.155	18.2	28.6	21.7	4000	125.3	12.8	294	148	.508	.0371	.0735	2733
1986	918	.083	18.4	29.1	22.1	4000	124.9	12.4	299	154	.520	.0384	.0747	2774
1987	912	.085	18.3	28.4	21.7	4000	122.2	12.3	294	157	.551	.0392	.0735	2676
1988	829	.077	18.5	29.4	22.2	4000	125.8	10.3	289	198	.696	.0496	.0724	2819
1989	860	.086	19.1	30.6	23.0	4000	125.1	12.5	275	154	.576	.0386	.0687	2892
1990	1217	.126	18.9	31.2	23.0	4000	125.2	12.1	273	161	.608	.0404	.0682	2892
1991	1156	.146	19.1	31.7	23.3	4000	124.3	11.1	264	180	.700	.0449	.0660	2903

PERCENT OF 4000 LB. CARS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN
1975			7.6	.6	.6	99.4			98.4	1.6	
1976			6.9	.4	.4	99.0	.6		98.6	1.4	
1977			3.3	.5	.5	99.1	.4		99.1	.9	
1978	.0		3.0	.9	.9	98.4	.7		98.4	1.6	
1979	5.3		2.2	2.8	2.8	94.8	2.3		98.3	1.7	
1980	10.9	2.3	.9	7.4	4.9	2.5	83.0	9.6	97.4	2.6	
1981	11.1	.9	.9	11.5	10.3	1.2	75.3	13.2	97.5	2.5	
1982	11.1	1.3		20.5	18.7	1.8	70.0	9.4	95.2	4.8	
1983	12.5	1.3		39.9	38.0	2.0	55.7	4.4	95.0	5.0	
1984	12.8	1.1		43.2	41.1	2.1	53.9	2.8	95.8	4.2	
1985	13.0	.0	.1	45.2	41.4	3.8	52.7	2.0	94.3	5.7	
1986	.2	.7	.2	52.7	4.4	48.3	46.8	.5	91.9	7.1	1.0
1987	1.1	.4	4.0	54.1	3.2	50.9	44.7	1.2	86.2	9.6	4.3
1988	6.3	.3	1.6	77.2	2.2	75.0	22.8		86.7	10.9	2.4
1989	8.9	.0	2.5	98.0	13.6	84.4	2.0		89.2	8.7	2.1
1990	23.8	.1	1.5	98.8	18.2	80.5	1.2	.1	88.5	5.0	6.6
1991	43.1	.9	2.1	99.2	7.0	92.3	.6	.2	88.4	4.8	6.8

TABLE E-9 CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

4500 LB. CARS

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/CID	HP/WT	CID/WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
1975	1791	.217	12.4	17.6	14.3	4500		13.6	347	158	.455	.0351	.0770	
1976	2223	.229	13.6	19.3	15.7	4500		13.5	346	157	.454	.0349	.0769	
1977	3496	.309	14.5	20.0	16.5	4500	118.7	13.4	346	157	.454	.0349	.0768	1973
1978	1997	.179	14.0	20.6	16.3	4500	123.8	13.1	356	161	.453	.0358	.0792	2038
1979	1527	.142	14.3	20.3	16.5	4500	127.6	13.4	353	157	.445	.0349	.0785	2122
1980	363	.038	16.0	24.4	19.0	4500	137.3	15.1	350	137	.394	.0305	.0777	2661
1981	318	.036	17.1	26.8	20.4	4500	137.1	16.1	343	127	.374	.0282	.0761	2876
1982	183	.023	17.5	27.7	21.0	4500	148.3	16.1	323	127	.401	.0283	.0717	3153
1983	188	.023	16.4	26.7	19.9	4500	146.6	14.4	311	143	.463	.0318	.0692	2935
1984	185	.017	16.7	26.9	20.2	4500	152.0	14.0	308	148	.482	.0329	.0684	3074
1985	104	.010	17.3	28.4	21.0	4500	160.2	13.8	306	150	.490	.0333	.0680	3369
1986	101	.009	17.7	28.9	21.5	4500	156.5	14.0	308	150	.485	.0333	.0684	3398
1987	78	.007	18.3	30.4	22.3	4500	160.2	14.6	306	140	.458	.0311	.0679	3570
1988	105	.010	18.8	30.3	22.6	4500	144.8	14.4	305	144	.474	.0321	.0678	3296
1989	87	.009	18.1	28.9	21.8	4500	141.1	14.1	306	151	.494	.0336	.0679	3118
1990	71	.007	16.9	27.6	20.5	4500	131.5	12.7	322	176	.548	.0392	.0717	2778
1991	86	.011	16.6	27.9	20.3	4500	132.4	11.3	321	201	.631	.0446	.0713	2762

PERCENT OF 4500 LB. CARS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN
1975	.9		.6	1.6		1.6	98.4		98.9	1.1	
1976	2.0		.1	2.3		2.3	97.7		99.4	.6	
1977	1.3		.1	1.6		1.6	98.4		99.7	.3	
1978	2.7			3.1		3.1	95.3	1.5	99.6	.4	
1979	4.4		.0	3.4		3.4	91.1	5.5	99.3	.7	
1980	7.5		.0	.0		.0	71.3	28.7	99.9	.1	
1981	8.6			29.7	29.7		26.1	44.2	100.0		
1982	6.3		.0				54.7	45.3	100.0	.0	
1983	1.4		.0				87.7	12.3	99.7	.3	
1984	.6		.0				95.8	4.2	100.0	.0	
1985	.1		.0	.0	.0		98.9	1.1	100.0	.0	
1986			.0	8.7		8.7	91.3		91.2	8.8	
1987			.0	.1		.1	99.9		99.9	.1	
1988			.0	2.9		2.9	97.1		97.1	2.9	
1989			.0	8.0		8.0	92.0		92.0	8.0	
1990				49.6	30.6	19.0	50.4		81.0	19.0	
1991			.5	100.0	77.8	22.2			77.8	19.4	2.8

TABLE E-10 CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

5000 LB. CARS

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT	CU-FT -MPG
	(000)	FRACT	CITY	HWY	55/45									
1975	1505	.183	11.1	16.0	12.9	5000		14.0	388	166	.429	.0333	.0777	
1976	1494	.154	12.8	17.8	14.6	5000		13.9	378	166	.440	.0333	.0756	
1977	1051	.093	12.1	17.7	14.1	5000	129.7	13.3	387	175	.453	.0351	.0774	1843
1978	477	.043	12.4	18.6	14.6	5000	132.3	13.1	403	179	.445	.0358	.0806	1947
1979	182	.017	12.3	18.2	14.4	5000	126.5	13.7	396	169	.426	.0339	.0793	1861
1980	2	.000	11.0	15.2	12.5	5000	121.9	14.6	382	156	.409	.0312	.0763	1549
1981	2	.000	10.3	14.2	11.7	5000	122.2	14.6	387	156	.402	.0311	.0773	1446
1982	2	.000	9.7	13.6	11.2	5000	121.4	13.7	378	176	.482	.0353	.0756	1362
1983	1	.000	10.1	14.0	11.5	5000	126.4	14.7	373	157	.426	.0314	.0746	1463
1984	2	.000	9.8	13.6	11.2	5000	122.1	13.7	374	176	.485	.0351	.0748	1375
1985	1	.000	9.5	13.2	10.9	5000	113.5	12.9	394	187	.494	.0375	.0789	1234
1986	1	.000	9.3	13.1	10.7	5000	114.2	12.2	378	205	.574	.0409	.0757	1223
1987	1	.000	10.1	13.6	11.4	5000	113.0	12.4	410	191	.466	.0382	.0821	1295
1988	1	.000	10.7	15.1	12.3	5000	112.0	11.6	408	207	.509	.0413	.0816	1384
1989	1	.000	10.8	15.2	12.4	5000	112.9	11.6	410	206	.502	.0411	.0820	1400

PERCENT OF 5000 LB. CARS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED				
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN		
1975								100.0			100.0		
1976	.3							100.0			100.0		
1977	3.3			.7		.7	99.3				100.0		
1978	4.9			.4		.4	98.7	.9			100.0		
1979				.9		.9	90.0	9.1			100.0		
1980				6.7		6.7	93.3			68.8	31.2		
1981				100.0	57.4	42.6				57.4	42.6		
1982				85.8	41.5	44.2	14.2			41.5	58.5		
1983				93.5	74.2	19.3	6.5			74.2	25.8		
1984				84.2	46.8	37.4	15.8			46.8	53.2		
1985				83.7		83.7	16.3				100.0		
1986				69.4		69.4	30.6				100.0		
1987				100.0		100.0					100.0		
1988				100.0		100.0					100.0		
1989				100.0		100.0					100.0		

TABLE E-11 CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

5500 LB. CARS

MODEL YEAR	SALES (000)	FRACT	FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/CID	HP/WT	CID/WT	CU-FT -MPG
			CITY	HWY	55/45									
1975	828	.100	10.5	15.1	12.2	5500		12.6	458	208	.454	.0378	.0834	
1976	934	.096	11.6	16.2	13.3	5500		12.7	460	203	.443	.0370	.0836	
1977	298	.026	10.7	16.1	12.6	5500	131.8	13.2	447	194	.435	.0353	.0813	1664
1978	134	.012	10.8	16.6	12.8	5500	130.7	13.3	445	191	.429	.0348	.0810	1682
1979	2	.000	9.8	12.9	11.0	5500	112.7	14.4	417	174	.417	.0317	.0759	1247
1980		.000	9.6	12.6	10.7	5500	100.7	14.7	412	170	.413	.0309	.0749	1084
1981		.000	9.2	12.6	10.5	5500	98.8	14.7	412	170	.413	.0309	.0749	1043
1982		.000	8.9	12.2	10.1	5500	92.5	14.7	412	170	.413	.0309	.0749	937
1983		.000	9.4	13.7	10.9	5500	92.3	14.7	412	170	.413	.0309	.0749	1010
1984		.000	9.4	13.8	11.0	5500	92.6	14.7	412	170	.413	.0309	.0749	1015
1985		.000	9.4	13.8	11.0	5500	92.5	14.7	412	170	.413	.0309	.0749	1015
1986		.000	9.4	13.8	11.0	5500	92.4	14.7	412	170	.413	.0309	.0749	1012
1987		.000	9.5	13.2	10.9	5500	92.0	13.7	412	187	.454	.0340	.0749	1007
1988		.000	10.6	14.8	12.2	5500	91.3	12.6	412	205	.498	.0373	.0749	1109
1989		.000	10.8	15.4	12.5	5500	103.8	10.7	412	259	.630	.0472	.0749	1300
1990	1	.000	11.4	16.3	13.2	5500	107.1	11.4	412	236	.573	.0429	.0749	1411
1991	1	.000	11.4	16.2	13.1	5500	108.4	11.2	412	242	.588	.0440	.0749	1424

PERCENT OF 5500 LB. CARS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED			
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN	
1975	8.2							100.0		99.9	.1	
1976	7.4			2.9		2.9	97.1			99.9	.1	
1977	15.9			3.1		3.1	96.9			99.6	.4	
1978	33.7			30.0		30.0	70.0			99.3	.7	
1979							100.0			41.2	58.8	
1980					5.0		5.0	95.0			100.0	
1981					100.0		100.0				100.0	
1982					100.0		100.0				100.0	
1983					100.0		100.0				100.0	
1984					100.0		100.0				100.0	
1985					100.0		100.0				100.0	
1986					100.0		100.0				100.0	
1987					100.0		100.0				100.0	
1988					100.0		100.0				100.0	
1989					100.0		100.0				100.0	
1990					100.0		100.0				100.0	
1991					100.0		100.0				100.0	

TABLE E-12 CHARACTERISTICS OF 1975 TO 1991 PASSENGER CARS

6000 LB. CARS

MODEL YEAR	SALES (000) FRACT	FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT	CU-FT -MPG
		CITY	HWY	55/45									
1985		8.9	12.2	10.1	6000	157.5	15.7	412	170	.413	.0283	.0687	1595
1986		8.9	12.2	10.1	6000	157.5	15.7	412	170	.413	.0283	.0687	1595
1987		9.3	12.3	10.4	6000	157.5	15.5	412	173	.420	.0288	.0687	1645
1988		10.5	14.0	11.8	6000	157.5	13.5	412	205	.498	.0341	.0686	1863

PERCENT OF 6000 LB. CARS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED				
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	EUR	ASIAN		
1985				100.0							100.0		
1986				100.0							100.0		
1987				100.0							100.0		
1988				100.0							100.0		

APPENDIX F -- CHARACTERISTICS OF LIGHT TRUCKS BY WEIGHT CLASS

TABLE F-1 CHARACTERISTICS OF 1975 TO 1991 LIGHT TRUCKS

2000 LB. TRUCKS

MODEL YEAR	SALES (000)	FRACT	FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/CID	HP/WT	CID/WT
			CITY	HWY	55/45								
1979	1	.000	23.2	29.5	25.7	2000		19.7	49	41	.837	.0205	.0245
1980	3	.002	22.5	29.4	25.2	2000		19.7	49	41	.837	.0205	.0245
1981	1	.000	22.5	29.4	25.2	2000		19.7	49	41	.837	.0205	.0245
1982	1	.001	23.7	27.3	25.2	2000		18.3	59	45	.763	.0225	.0295
1983	1	.001	23.7	27.3	25.2	2000		18.3	59	45	.763	.0225	.0295

PERCENT OF 2000 LB. TRUCKS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED	
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	IMPORTED
1979		100.0	100.0							100.0
1980		100.0	100.0							100.0
1981		100.0	100.0							100.0
1982		100.0	100.0							100.0
1983		100.0	100.0							100.0

TABLE F-2 CHARACTERISTICS OF 1975 TO 1991 LIGHT TRUCKS

2250 LB. TRUCKS

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT
	(000)	FRACT	CITY	HWY	55/45								
1979		.000	22.3	29.3	25.0	2250		21.6	49	41	.837	.0182	.0218
1980	25	.013	28.1	38.5	32.0	2250		15.9	94	64	.677	.0284	.0417
1981	24	.013	36.9	48.9	41.5	2250		17.9	97	52	.536	.0231	.0431
1982	13	.007	36.1	43.5	39.1	2250		18.2	91	51	.570	.0226	.0406
1983	4	.002	26.6	31.0	28.4	2250		19.4	71	47	.692	.0210	.0315
1984	7	.002	30.2	32.1	31.1	2250		19.5	70	47	.697	.0209	.0311
1985	6	.002	28.1	29.6	28.8	2250		20.8	61	45	.738	.0200	.0271
1986	37	.008	30.2	37.5	33.1	2250		15.3	81	64	.790	.0284	.0360
1987	63	.015	30.2	37.5	33.1	2250		15.3	81	64	.790	.0284	.0360
1988	83	.018	30.6	37.3	33.3	2250		15.3	81	64	.790	.0284	.0360
1989	5	.001	30.9	37.0	33.4	2250		15.3	80	64	.797	.0284	.0357

PERCENT OF 2250 LB. TRUCKS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED	
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	IMPORTED
1979		100.0	100.0				100.0			100.0
1980	100.0		100.0	54.6				45.4		100.0
1981	100.0		100.0					100.0		100.0
1982	85.0	15.0	100.0				15.0	85.0		100.0
1983	31.3	68.7	91.1				68.7	31.3	13.3	86.7
1984	28.9	71.1	82.7				71.1	28.9	28.9	71.1
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				100.0			100.0

TABLE F-3 CHARACTERISTICS OF 1975 TO 1991 LIGHT TRUCKS

2500 LB. TRUCKS

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT
	(000)	FRACT	CITY	HWY	55/45								
1978	23	.007	23.5	33.7	27.2	2500		16.0	97	67	.691	.0268	.0388
1979	39	.013	24.1	33.5	27.5	2500		16.0	97	67	.691	.0268	.0388
1980	16	.009	22.1	32.3	25.8	2500		15.8	97	68	.701	.0272	.0388
1981	27	.015	24.9	34.2	28.4	2500		14.9	108	73	.683	.0294	.0431
1982	36	.019	24.8	32.0	27.6	2500		13.9	132	81	.625	.0326	.0527
1983	33	.014	25.4	32.8	28.2	2500		13.3	137	86	.636	.0346	.0547
1984	18	.005	24.2	31.4	27.0	2500		15.8	110	74	.686	.0295	.0440
1985	4	.001	26.2	35.2	29.6	2500		15.3	109	73	.670	.0292	.0436
1986	5	.001	26.4	36.0	30.0	2500		14.9	109	73	.670	.0292	.0436
1987	1	.000	26.3	35.5	29.8	2500		14.9	109	73	.670	.0292	.0436
1989	39	.009	28.8	34.9	31.3	2500		14.1	97	80	.825	.0320	.0388
1990	34	.009	29.1	35.9	31.8	2500		14.3	94	78	.826	.0312	.0377
1991	10	.002	28.6	35.0	31.2	2500		14.7	91	75	.828	.0301	.0364

PERCENT OF 2500 LB. TRUCKS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED	
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	IMPORTED
1978		100.0	100.0					100.0		100.0
1979		100.0	100.0					100.0		100.0
1980	9.5	90.5	90.5	9.5				90.5	9.5	90.5
1981	34.2	65.8	100.0	34.2				65.8	34.2	65.8
1982	49.7	20.1	58.4	9.4				90.6	30.1	9.4
1983	48.9	13.2	59.4	2.6				97.4	37.9	2.6
1984	29.9	53.1	79.8					100.0	46.9	27.6
1985		100.0	95.6					100.0		100.0
1986		100.0	100.0					100.0		100.0
1987		100.0	100.0					100.0		100.0
1989		100.0	56.2	100.0	100.0					100.0
1990		82.5	100.0	100.0	100.0					100.0
1991		27.4	100.0	100.0	100.0					100.0

TABLE F-4 CHARACTERISTICS OF 1975 TO 1991 LIGHT TRUCKS

2750 LB. TRUCKS

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT
	(000)	FRACT	CITY	HWY	55/45								
1975	204	.102	18.1	26.0	21.0	2750	12.9	155	101	.713	.0367	.0565	
1976	202	.078	19.6	27.5	22.5	2750	13.0	150	98	.727	.0358	.0545	
1977	270	.096	21.1	29.3	24.2	2750	13.0	146	98	.732	.0356	.0530	
1978	241	.074	21.0	27.3	23.5	2750	12.9	157	98	.700	.0357	.0571	
1979	250	.081	19.8	27.4	22.6	2750	13.7	126	90	.720	.0329	.0459	
1980	324	.174	22.3	30.0	25.2	2750	13.6	126	91	.728	.0333	.0459	
1981	222	.122	24.7	33.3	27.9	2750	13.8	130	90	.695	.0329	.0474	
1982	227	.119	24.9	33.8	28.3	2750	13.7	130	91	.699	.0331	.0474	
1983	340	.148	25.4	34.3	28.8	2750	14.2	132	87	.658	.0315	.0481	
1984	328	.098	25.1	33.5	28.3	2750	14.2	130	87	.672	.0318	.0472	
1985	246	.067	26.3	35.7	29.9	2750	14.1	130	90	.693	.0328	.0473	
1986	316	.073	26.0	35.2	29.5	2750	13.6	132	92	.695	.0334	.0480	
1987	244	.059	26.1	35.8	29.7	2750	13.5	133	93	.695	.0338	.0485	
1988	120	.026	24.6	33.1	27.8	2750	12.9	136	98	.721	.0356	.0494	
1989	76	.017	24.5	32.7	27.6	2750	12.9	135	97	.721	.0354	.0492	
1990	45	.012	24.3	30.6	26.8	2750	13.3	129	95	.744	.0346	.0471	
1991	27	.007	26.3	32.1	28.6	2750	15.2	97	80	.825	.0291	.0353	

PERCENT OF 2750 LB. TRUCKS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED	
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	IMPORTED
1975		23.2	91.3				100.0		23.2	76.8
1976		20.2	82.0				100.0		20.2	79.8
1977		16.3	81.9				100.0		16.3	83.7
1978		24.0	86.9				100.0		24.0	76.0
1979			82.7				100.0		3.7	96.3
1980			86.9				100.0			100.0
1981			90.3				98.6	1.4		100.0
1982	1.4		87.1				98.3	1.7	22.3	77.7
1983	4.0	.1	89.4	.1			99.1	.9	43.0	57.0
1984	6.5	.1	86.1	1.1			98.2	.7	15.4	84.6
1985	3.4		92.0	1.4			98.1	.4	25.4	74.6
1986	1.7	.0	88.3				99.6	.4	14.8	85.2
1987	1.6		89.9				100.0		18.1	81.9
1988			99.4	.6		.6	99.4			100.0
1989		.0	100.0	.0	.0		100.0			100.0
1990		30.9	69.1	30.9	30.9		69.1			100.0
1991		100.0	44.3	100.0	100.0					100.0

TABLE F-5 CHARACTERISTICS OF 1975 TO 1991 LIGHT TRUCKS

3000 LB. TRUCKS

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT
	(000)	FRACT	CITY	HWY	55/45								
1975	60	.030	18.2	24.9	20.7	3000		18.2	107	70	.667	.0234	.0358
1976	73	.028	18.3	25.4	21.0	3000		17.4	136	77	.628	.0258	.0453
1977	91	.032	22.9	31.3	26.0	3000		16.4	147	81	.596	.0270	.0491
1978	144	.044	22.4	29.9	25.2	3000		16.0	148	83	.599	.0278	.0494
1979	226	.073	19.6	25.7	21.9	3000		15.2	154	89	.607	.0297	.0515
1980	212	.114	20.2	26.7	22.7	3000		15.3	146	86	.620	.0286	.0488
1981	249	.137	23.0	30.8	25.9	3000		15.7	150	86	.591	.0287	.0499
1982	379	.198	22.6	31.4	25.9	3000		14.3	162	97	.604	.0323	.0541
1983	414	.180	22.5	31.2	25.7	3000		14.5	158	94	.610	.0315	.0526
1984	575	.172	22.7	31.6	26.0	3000		14.5	153	94	.626	.0313	.0509
1985	658	.179	22.9	31.8	26.2	3000		13.9	151	100	.662	.0332	.0504
1986	840	.193	23.4	32.5	26.8	3000		13.8	143	99	.691	.0331	.0478
1987	799	.193	23.4	32.9	26.9	3000		13.8	145	100	.690	.0334	.0483
1988	740	.162	23.9	33.4	27.4	3000		14.0	145	98	.675	.0329	.0485
1989	609	.137	24.0	33.2	27.4	3000		13.4	145	102	.704	.0341	.0484
1990	428	.110	24.2	33.1	27.6	3000		12.7	143	110	.772	.0368	.0476
1991	393	.098	24.4	33.8	27.8	3000		12.9	145	109	.755	.0364	.0482

PERCENT OF 3000 LB. TRUCKS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED	
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	IMPORTED
1975			69.3					100.0		100.0
1976		14.3	80.2					100.0	14.3	85.7
1977		14.0	86.2					100.0	14.0	86.0
1978		13.8	85.6					100.0	13.8	86.2
1979		47.4	88.2					100.0	22.9	77.1
1980		65.7	94.6					100.0	20.4	79.6
1981		52.6	93.2					78.4	21.6	16.5
1982		26.2	75.1					84.2	15.8	53.4
1983		23.8	75.1					92.0	8.0	56.8
1984	3.7	19.7	72.7	4.4				91.7	3.9	57.9
1985	4.3	11.4	64.7	30.9				67.5	1.6	58.0
1986	2.6	5.7	78.0	51.5	31.7	19.8	47.7	.8	34.4	65.6
1987	2.8	6.6	74.3	61.5	37.9	23.6	38.2	.3	41.5	58.5
1988	1.6	2.3	77.3	66.4	36.8	29.6	33.6		61.0	39.0
1989	1.6	3.6	82.2	77.5	46.0	31.5	22.5		51.9	48.1
1990	.8	6.6	83.1	81.6	14.7	66.9	18.4		36.7	63.3
1991	.9	2.3	82.8	86.2	22.2	64.0	13.8		39.8	60.2

TABLE F-6 CHARACTERISTICS OF 1975 TO 1991 LIGHT TRUCKS

3500 LB. TRUCKS

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT
	(000)	FRACT	CITY	HWY	55/45								
1975	55	.028	13.9	19.9	16.1	3500		12.5	308	138	.453	.0395	.0880
1976	83	.032	14.9	20.3	16.9	3500		12.9	303	132	.443	.0377	.0867
1977	74	.026	15.5	20.7	17.5	3500		12.7	311	136	.446	.0389	.0889
1978	100	.031	16.4	22.4	18.6	3500		13.2	267	128	.498	.0367	.0762
1979	69	.022	15.4	19.2	16.9	3500		14.7	251	110	.463	.0315	.0716
1980	82	.044	16.4	21.4	18.3	3500		15.3	211	106	.526	.0302	.0603
1981	122	.067	18.5	24.9	20.9	3500		14.7	238	108	.474	.0308	.0680
1982	145	.076	19.5	26.4	22.1	3500		15.2	205	104	.533	.0297	.0586
1983	275	.120	20.2	28.9	23.3	3500		14.8	174	105	.620	.0301	.0498
1984	738	.221	19.9	27.6	22.7	3500		15.2	164	102	.634	.0292	.0470
1985	953	.260	20.0	28.1	23.0	3500		15.0	168	106	.647	.0302	.0480
1986	1125	.259	20.2	27.9	23.0	3500		14.0	164	114	.704	.0327	.0469
1987	1236	.299	19.9	28.4	23.0	3500		13.2	178	125	.711	.0358	.0510
1988	1166	.256	19.5	28.1	22.6	3500		12.5	189	134	.721	.0384	.0540
1989	999	.225	19.5	27.8	22.5	3500		12.5	197	136	.704	.0389	.0564
1990	784	.202	19.8	28.5	23.0	3500		12.3	193	138	.726	.0396	.0553
1991	660	.165	19.7	28.3	22.8	3500		11.8	206	145	.715	.0416	.0590

PERCENT OF 3500 LB. TRUCKS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED	
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	IMPORTED
1975			9.7	1.8			98.2		97.0	3.0
1976			13.7	1.9			98.1		94.6	5.4
1977			11.8	3.0			97.0		93.3	6.7
1978			21.4	2.7			97.3		88.3	11.7
1979		55.5	64.8	12.2			87.8		80.3	19.7
1980		15.1	46.7	14.6			85.4		66.8	33.2
1981		6.7	61.7	6.5			93.5		80.5	19.5
1982		26.1	77.0	4.3			93.2	2.6	63.4	36.6
1983		54.6	66.0	3.7			94.9	1.5	68.3	31.7
1984	15.3	53.3	48.4	7.0			91.8	1.2	74.4	25.6
1985	23.3	46.7	44.5	14.7	.7		84.9	.4	74.1	25.9
1986	20.2	54.0	45.6	49.4	19.7	29.7	50.4	.1	70.8	29.2
1987	20.2	49.4	39.9	64.9	20.7	44.2	35.0	.1	74.3	25.7
1988	18.1	49.9	36.4	93.7	30.2	63.5	6.3		82.5	17.5
1989	22.3	35.7	32.2	95.0	37.5	57.6	5.0		83.6	16.4
1990	25.1	33.5	35.0	96.2	21.3	74.9	3.8		83.0	17.0
1991	7.9	34.2	39.9	99.8	37.0	62.8	.2		82.6	17.4

TABLE F-7 CHARACTERISTICS OF 1975 TO 1991 LIGHT TRUCKS

4000 LB. TRUCKS

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT
	(000)	FRACT	CITY	HWY	55/45								
1975	1021	.514	12.3	17.2	14.1	4000		13.5	324	141	.433	.0353	.0811
1976	1234	.473	13.2	17.9	15.0	4000		13.7	326	137	.419	.0342	.0815
1977	1165	.413	14.7	19.3	16.5	4000		13.1	322	144	.447	.0361	.0805
1978	1317	.402	14.3	18.3	15.9	4000		13.1	319	144	.449	.0359	.0798
1979	702	.227	14.4	18.5	15.9	4000		13.4	301	140	.465	.0350	.0752
1980	536	.288	16.5	22.2	18.6	4000		14.5	279	125	.453	.0314	.0697
1981	675	.371	16.9	22.8	19.1	4000		14.3	282	127	.452	.0317	.0706
1982	490	.256	16.5	22.4	18.7	4000		14.5	286	127	.446	.0318	.0716
1983	501	.218	16.7	22.9	19.0	4000		14.8	269	123	.469	.0309	.0673
1984	688	.206	16.4	23.0	18.9	4000		15.0	265	121	.471	.0303	.0663
1985	742	.202	17.1	23.8	19.6	4000		14.2	259	132	.523	.0330	.0649
1986	935	.215	17.5	24.5	20.1	4000		14.0	243	132	.572	.0330	.0607
1987	856	.207	17.8	25.3	20.5	4000		13.3	227	141	.649	.0354	.0568
1988	1189	.261	18.1	26.2	21.1	4000		12.8	230	148	.668	.0369	.0575
1989	1391	.314	18.5	26.9	21.5	4000		12.7	225	149	.686	.0373	.0563
1990	1260	.324	18.3	26.7	21.3	4000		12.8	221	148	.687	.0370	.0554
1991	1671	.417	18.4	27.1	21.5	4000		12.3	229	154	.687	.0386	.0574

PERCENT OF 4000 LB. TRUCKS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED	
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	IMPORTED
1975		2.0	33.8				100.0		99.4	.6
1976		2.7	33.4				100.0		99.4	.6
1977		3.4	29.7				100.0		98.7	1.3
1978		3.8	29.3				99.5	.5	99.0	1.0
1979		6.4	35.0				100.0		99.4	.6
1980		5.8	50.0	.7			99.3		99.0	1.0
1981	.4	7.3	42.9	.5			99.5		99.3	.7
1982		9.1	31.3	.6			99.0	.4	98.6	1.4
1983		16.7	27.6	.7			99.2	.1	99.0	1.0
1984		20.6	29.0	.8			99.2	.0	98.9	1.1
1985	.0	27.4	20.6	8.0		.0	92.0		99.0	1.0
1986	.0	23.2	25.7	59.8	34.8	24.9	39.7	.5	89.3	10.7
1987	3.6	27.9	19.2	87.0	47.5	39.5	13.0	.0	89.6	10.4
1988	15.8	27.5	21.8	100.0	51.9	48.1	.0		86.8	13.2
1989	14.9	34.8	19.3	100.0	48.7	51.3			85.6	14.4
1990	31.0	27.6	18.0	100.0	40.8	59.2			83.3	16.7
1991	21.2	45.4	17.0	100.0	47.6	52.4			84.1	15.9

TABLE F-8 CHARACTERISTICS OF 1975 TO 1991 LIGHT TRUCKS

4500 LB. TRUCKS

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT
	(000)	FRACT	CITY	HWY	55/45								
1975	386	.194	10.7	13.6	11.9	4500		13.3	350	160	.456	.0356	.0778
1976	610	.234	11.6	15.1	12.9	4500		13.5	353	158	.445	.0351	.0785
1977	862	.305	12.5	15.9	13.8	4500		13.0	359	164	.456	.0364	.0799
1978	986	.301	12.3	15.4	13.5	4500		13.1	353	161	.456	.0357	.0784
1979	960	.311	12.8	15.9	13.9	4500		14.3	323	145	.452	.0322	.0718
1980	389	.209	14.0	18.3	15.7	4500		14.3	319	144	.453	.0320	.0710
1981	373	.205	14.9	19.9	16.8	4500		14.4	311	143	.461	.0318	.0692
1982	407	.213	14.9	19.7	16.8	4500		13.9	310	150	.484	.0333	.0689
1983	517	.225	15.0	20.2	17.0	4500		14.0	310	148	.481	.0330	.0689
1984	691	.207	14.7	20.0	16.7	4500		13.9	310	149	.481	.0332	.0690
1985	745	.203	14.5	19.4	16.4	4500		13.4	311	157	.505	.0349	.0691
1986	769	.177	15.3	20.6	17.3	4500		13.8	307	151	.493	.0337	.0683
1987	636	.154	15.0	20.6	17.1	4500		12.9	315	165	.523	.0367	.0700
1988	814	.179	15.4	21.6	17.7	4500		12.5	321	172	.535	.0382	.0713
1989	894	.202	15.3	21.7	17.6	4500		12.4	320	174	.541	.0386	.0712
1990	797	.205	15.5	22.5	18.1	4500		12.5	308	172	.564	.0382	.0684
1991	758	.189	16.1	24.0	18.9	4500		12.4	299	173	.585	.0385	.0666

PERCENT OF 4500 LB. TRUCKS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	FRONT	4WD		F1	TBI	PORT	CARB	DSL	DOM	IMPORTED	
1975		31.9	27.8					100.0		100.0	
1976		44.1	30.3					100.0		99.8	.2
1977		45.0	22.0					100.0		99.9	.1
1978		50.0	21.0					98.0	2.0	99.8	.2
1979		15.7	20.7					99.7	.3	100.0	.0
1980		31.6	27.0					97.3	2.7	100.0	.0
1981	.2	24.7	18.3					99.0	1.0	99.8	.2
1982	.1	20.5	13.7					99.6	.4	99.4	.6
1983		26.7	14.1					99.6	.4	99.3	.7
1984		27.5	14.0					99.8	.2	99.2	.8
1985		25.1	11.9	4.6				95.4	.0	99.2	.8
1986		25.8	12.4	22.1	22.1	77.9	.0	99.7			.3
1987		23.2	13.2	79.3	43.2	36.1	20.7	.0	99.0		1.0
1988		31.3	15.1	97.4	66.4	31.0	2.5	.1	98.7		1.3
1989		29.6	23.5	98.5	59.8	38.7	1.4	.1	98.9		1.1
1990	.0	28.7	15.5	99.1	61.7	37.3	.9	.1	94.2		5.8
1991	.0	32.6	12.3	99.0	52.6	46.4	.5	.5	95.5		4.5

TABLE F-9 CHARACTERISTICS OF 1975 TO 1991 LIGHT TRUCKS

5000 LB. TRUCKS

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/CID	HP/WT	CID/WT
	(000)	FRACT	CITY	HWY	55/45								
1975	201	.101	10.2	12.4	11.1	5000		14.1	365	165	.450	.0330	.0729
1976	297	.114	11.0	13.7	12.1	5000		14.7	364	156	.428	.0313	.0728
1977	256	.091	11.9	14.8	13.1	5000		14.0	372	167	.446	.0333	.0745
1978	324	.099	11.7	14.6	12.8	5000		13.6	371	170	.459	.0340	.0742
1979	673	.218	11.4	13.7	12.3	5000		15.1	363	156	.426	.0311	.0726
1980	242	.130	13.4	17.9	15.1	5000		14.8	347	154	.443	.0307	.0694
1981	122	.067	14.1	18.7	15.8	5000		15.4	330	146	.447	.0293	.0659
1982	170	.089	15.1	20.2	17.0	5000		15.6	331	144	.438	.0288	.0663
1983	173	.075	14.8	20.6	17.0	5000		15.0	332	150	.458	.0301	.0665
1984	260	.078	14.0	19.5	16.0	5000		14.4	327	159	.488	.0318	.0654
1985	277	.076	13.8	19.4	15.9	5000		14.1	326	164	.504	.0328	.0653
1986	289	.067	14.1	20.0	16.3	5000		14.1	323	162	.503	.0325	.0647
1987	235	.057	13.8	19.3	15.9	5000		13.4	327	175	.534	.0351	.0654
1988	366	.080	14.2	20.3	16.4	5000		13.2	330	180	.541	.0360	.0661
1989	340	.077	14.0	19.8	16.1	5000		13.4	322	176	.547	.0352	.0644
1990	457	.118	13.9	20.6	16.3	5000		12.7	332	188	.565	.0375	.0664
1991	406	.101	13.8	20.3	16.1	5000		12.5	328	190	.585	.0381	.0655

PERCENT OF 5000 LB. TRUCKS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED		
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	IMPORTED	
1975		48.9	24.2				100.0			100.0	
1976		50.3	24.6				100.0			100.0	
1977		40.8	22.1				100.0			100.0	
1978		56.5	27.0				100.0	.0		100.0	
1979		22.4	15.5				92.2	7.8		100.0	
1980		51.8	18.5				82.5	17.5		100.0	
1981		50.7	17.4				85.6	14.4		100.0	
1982		42.0	17.9				67.9	32.1		100.0	
1983		48.9	12.1				81.7	18.3		100.0	
1984		60.0	12.6				93.4	6.6		100.0	
1985		63.5	11.8		3.2		94.0	2.8		100.0	
1986		62.7	9.5		16.2	16.2	82.3	1.5		100.0	
1987		70.3	13.0		70.7	40.0	30.7	28.5	.8	100.0	
1988		61.1	9.8		97.4	47.8	49.6	1.4	1.1	100.0	
1989		62.7	12.6		99.3	39.1	60.2		.7	96.6	3.4
1990		57.9	6.8		99.5	46.7	52.8		.5	98.2	1.8
1991		47.1	4.2		98.4	40.0	58.4		1.6	95.6	4.4

TABLE F-10 CHARACTERISTICS OF 1975 TO 1991 LIGHT TRUCKS

5500 LB. TRUCKS

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT
	(000)	FRACT	CITY	HWY	55/45								
1975	59	.030	9.2	11.3	10.0	5500		14.7	380	175	.456	.0317	.0691
1976	109	.042	10.3	13.1	11.4	5500		14.8	385	173	.445	.0315	.0700
1977	101	.036	10.7	13.4	11.8	5500		14.1	398	184	.458	.0334	.0725
1978	133	.041	11.0	13.8	12.1	5500		14.5	380	173	.457	.0315	.0691
1979	158	.051	10.3	12.2	11.1	5500		14.3	400	183	.454	.0333	.0727
1980	28	.015	11.7	15.4	13.1	5500		15.2	353	162	.458	.0294	.0642
1981	6	.003	12.2	16.1	13.7	5500		15.2	350	163	.466	.0296	.0636
1982	41	.022	18.7	26.4	21.5	5500		17.9	350	132	.378	.0240	.0636
1983	35	.015	17.6	25.4	20.4	5500		17.6	373	136	.367	.0248	.0679
1984	34	.010	15.6	22.1	17.9	5500		16.8	367	145	.398	.0264	.0668
1985	28	.008	13.9	20.2	16.1	5500		15.8	359	157	.440	.0286	.0653
1986	28	.006	13.8	20.0	16.0	5500		15.8	341	157	.475	.0286	.0620
1987	58	.014	14.3	21.0	16.7	5500		12.6	351	206	.588	.0374	.0638
1988	77	.017	13.9	20.3	16.2	5500		12.9	350	199	.569	.0362	.0636
1989	47	.011	14.4	22.4	17.2	5500		12.7	350	205	.587	.0374	.0637
1990	46	.012	14.3	22.5	17.1	5500		12.6	351	207	.591	.0377	.0638
1991	54	.014	13.6	20.6	16.0	5500		12.8	348	202	.582	.0367	.0633

PERCENT OF 5500 LB. TRUCKS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED	
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	IMPORTED
1975		84.9	2.6					100.0		100.0
1976		86.1	3.3					100.0		100.0
1977		76.1	1.7					100.0		100.0
1978		89.9	1.1					100.0	.0	100.0
1979		11.9	29.5					100.0	.0	100.0
1980		60.6	22.9					100.0		100.0
1981		73.2	24.3					100.0		100.0
1982		79.9	13.2				7.2	92.8		100.0
1983		67.5	3.6				19.9	80.1		100.0
1984		67.2	4.5				42.1	57.9		100.0
1985		79.8	4.1				70.0	30.0		100.0
1986		76.2	10.1				74.5	25.5		100.0
1987		35.9	.4	92.6	91.6	.9	3.8	3.6		100.0
1988		36.4	1.2	97.7	88.3	9.3	.4	1.9		100.0
1989		4.6	1.0	96.9	89.8	7.1		3.1		100.0
1990		3.9	1.3	96.9	92.1	4.8		3.1		100.0
1991		19.4		94.2	61.0	33.2		5.8		100.0

TABLE F-11 CHARACTERISTICS OF 1975 TO 1991 LIGHT TRUCKS

6000 LB. TRUCKS

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT
	(000)	FRACT	CITY	HWY	55/45								
1975	1	.000	10.0	12.3	10.9	6000		16.9	329	152	.463	.0253	.0548
1976	1	.001	10.6	13.9	11.9	6000		16.3	373	161	.433	.0268	.0622
1977	2	.001	11.2	14.2	12.4	6000		16.0	362	165	.458	.0275	.0603
1978	2	.001	10.7	13.4	11.8	6000		15.6	373	170	.458	.0284	.0621
1979	10	.003	9.7	12.6	10.8	6000		15.7	411	189	.448	.0315	.0686
1980	4	.002	10.8	14.9	12.3	6000		15.8	362	169	.467	.0282	.0603
1982	4	.002	18.2	26.2	21.1	6000		19.5	350	130	.372	.0217	.0583
1983	4	.002	17.4	25.3	20.2	6000		19.4	378	131	.346	.0218	.0631
1984	4	.001	17.4	25.8	20.4	6000		19.4	378	131	.346	.0218	.0631
1985	8	.002	18.0	27.6	21.4	6000		19.3	378	132	.349	.0219	.0629
1986	6	.001	18.8	28.5	22.2	6000		19.5	379	130	.343	.0217	.0632
1987	3	.001	18.1	26.8	21.2	6000		19.0	377	136	.363	.0227	.0628
1988	4	.001	16.0	23.6	18.7	6000		17.3	369	158	.431	.0263	.0616
1989	33	.007	13.5	20.0	15.8	6000		13.7	352	205	.584	.0341	.0586
1990	32	.008	13.6	20.4	16.0	6000		13.6	352	206	.587	.0343	.0586
1991	23	.006	13.6	20.3	16.0	6000		13.6	352	205	.584	.0342	.0587

PERCENT OF 6000 LB. TRUCKS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED	
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	IMPORTED
1975		14.6	74.8					100.0		100.0
1976		64.4	38.8					100.0		100.0
1977		53.5	36.7					100.0		100.0
1978		64.2	33.8					100.0		100.0
1979		43.1						100.0		100.0
1980		2.3						100.0		100.0
1982		99.3					.7	99.3		100.0
1983		95.5					4.5	95.5		100.0
1984		95.4					4.6	95.4		100.0
1985		41.2	2.5				4.7	95.3		100.0
1986		41.5	.3					100.0		100.0
1987		48.5	7.9	7.8	7.8			92.2		100.0
1988		61.9	7.4	32.9	32.9			67.1		100.0
1989		96.3	1.1	93.7	93.7			6.3		100.0
1990		96.8	.7	94.5	94.5			5.5		100.0
1991		93.2		92.8	92.8			7.2		100.0

TABLE F-12 CHARACTERISTICS OF 1975 TO 1991 LIGHT TRUCKS

=6500 LB. TRUCKS

MODEL YEAR	SALES		FUEL ECONOMY			WT	VOL	0-60 TIME	DISP (IN)	HP	HP/ CID	HP/ WT	CID/ WT
	(000)	FRACT	CITY	HWY	55/45								
1975	1	.000	9.9	11.6	10.6	6500		18.6	321	150	.468	.0231	.0494
1976	1	.000	10.4	13.3	11.5	6500		19.2	324	144	.447	.0222	.0498
1977	1	.001	11.4	13.6	12.3	6500		19.3	316	142	.453	.0219	.0486
1978	2	.000	10.7	13.2	11.7	6500		18.1	327	155	.474	.0239	.0503
1980	1	.000	10.6	14.5	12.0	6500		18.5	368	150	.408	.0231	.0566
1991	1	.000	16.8	26.7	20.2	6500		19.6	379	140	.369	.0215	.0583

PERCENT OF 6500 LB. TRUCKS:

MODEL YEAR	DRIVE		MANUAL TRANS	FUEL METERING					MANUFACTURED	
	FRONT	4WD		FI	TBI	PORT	CARB	DSL	DOM	IMPORTED
1975								100.0		100.0
1976			.2					100.0		100.0
1977								100.0		100.0
1978								100.0		100.0
1980								100.0		100.0
1991	100.0							100.0		100.0