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DOT HS-803 446

# ENGINEERING MODEL OF FUTURE MOTOR VEHICLES VOLUME II: DATA BOOK

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//

Volkswagenwerk AG  
Research Division  
3180 Wolfsburg, Germany

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FINAL REPORT

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Technical Report Documentation Page

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| 16. Abstract<br><br>The Engineering Model of Future Motor Vehicles, previously reported in February 1977 in DOT-HS-802209 provided the safety engineer with a computerized data base including passenger car information such as configuration, geometric, weight, performance, and registration data with a program for statistical analysis and retrieval of the data in various formats including time series trends. This report gives a brief introduction to the program system and the contents of the data base as updated January 1978 (see also "Final Report"). This "Data Book" is intended to be a handy reference guide for the user to operate the program at the terminal. |  |                                                      |  |                                                                                                                                                        |           |
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# METRIC CONVERSION FACTORS

## Approximate Conversions to Metric Measures

| Symbol        | When You Know | Multiply by | To Find     | Symbol |
|---------------|---------------|-------------|-------------|--------|
| <b>LENGTH</b> |               |             |             |        |
| in            | inches        | 2.5         | centimeters | cm     |
| ft            | feet          | 30          | centimeters | cm     |
| yd            | yards         | 0.9         | meters      | m      |
| mi            | miles         | 1.6         | kilometers  | km     |

## AREA

|                 |               |      |                    |                 |
|-----------------|---------------|------|--------------------|-----------------|
| m <sup>2</sup>  | square inches | 6.5  | square centimeters | cm <sup>2</sup> |
| ft <sup>2</sup> | square feet   | 0.09 | square meters      | m <sup>2</sup>  |
| yd <sup>2</sup> | square yards  | 0.8  | square meters      | m <sup>2</sup>  |
| mi <sup>2</sup> | square miles  | 2.6  | square kilometers  | km <sup>2</sup> |
| acre            | acres         | 0.4  | hectares           | ha              |

## MASS (weight)

|    |            |      |           |    |
|----|------------|------|-----------|----|
| oz | ounces     | 28   | grams     | g  |
| lb | pounds     | 0.45 | kilograms | kg |
|    | short tons | 0.9  | tonnes    | t  |
|    | (2000 lb)  |      |           |    |

## VOLUME

|                 |              |      |              |                |
|-----------------|--------------|------|--------------|----------------|
| tsp             | teaspoons    | 5    | milliliters  | ml             |
| Tbsp            | tablespoons  | 15   | milliliters  | ml             |
| fl oz           | fluid ounces | 30   | milliliters  | ml             |
| c               | cups         | 0.24 | liters       | l              |
| pt              | pints        | 0.47 | liters       | l              |
| qt              | quarts       | 0.95 | liters       | l              |
| gal             | gallons      | 3.8  | liters       | l              |
| ft <sup>3</sup> | cubic feet   | 0.03 | cubic meters | m <sup>3</sup> |
| yd <sup>3</sup> | cubic yards  | 0.76 | cubic meters | m <sup>3</sup> |

## TEMPERATURE (exact)

|    |                        |                            |                     |    |
|----|------------------------|----------------------------|---------------------|----|
| °F | Fahrenheit temperature | 5/9 (after subtracting 32) | Celsius temperature | °C |
|----|------------------------|----------------------------|---------------------|----|

## Approximate Conversions from Metric Measures

| Symbol        | When You Know | Multiply by | To Find | Symbol |
|---------------|---------------|-------------|---------|--------|
| <b>LENGTH</b> |               |             |         |        |
| mm            | millimeters   | 0.04        | inches  | in     |
| cm            | centimeters   | 0.4         | inches  | in     |
| m             | meters        | 3.3         | feet    | ft     |
| m             | meters        | 1.1         | yards   | yd     |
| km            | kilometers    | 0.6         | miles   | mi     |

## AREA

|                 |                                   |      |               |                 |
|-----------------|-----------------------------------|------|---------------|-----------------|
| cm <sup>2</sup> | square centimeters                | 0.16 | square inches | in <sup>2</sup> |
| m <sup>2</sup>  | square meters                     | 1.2  | square yards  | yd <sup>2</sup> |
| km <sup>2</sup> | square kilometers                 | 0.4  | square miles  | mi <sup>2</sup> |
| ha              | hectares (10,000 m <sup>2</sup> ) | 2.5  | acres         | acres           |

## MASS (weight)

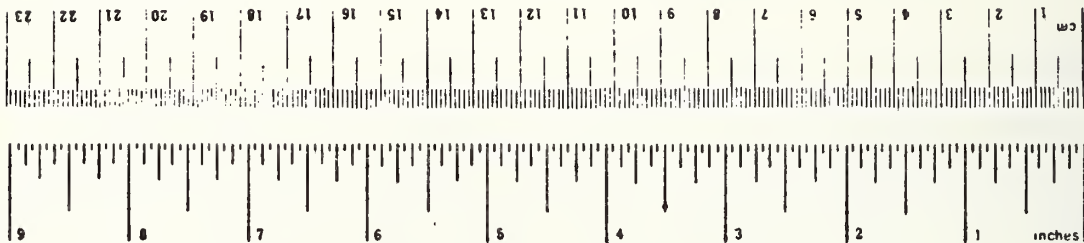
|    |                  |       |            |    |
|----|------------------|-------|------------|----|
| g  | grams            | 0.035 | ounces     | oz |
| kg | kilograms        | 2.2   | pounds     | lb |
| t  | tonnes (1000 kg) | 1.1   | short tons |    |

## VOLUME

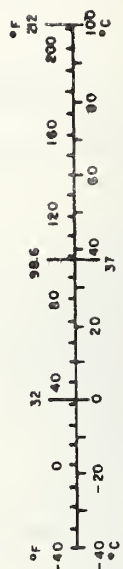
|                |              |      |              |                 |
|----------------|--------------|------|--------------|-----------------|
| ml             | milliliters  | 0.03 | fluid ounces | fl oz           |
| l              | liters       | 2.1  | pints        | pt              |
| l              | liters       | 1.06 | quarts       | qt              |
| l              | liters       | 0.26 | gallons      | gal             |
| m <sup>3</sup> | cubic meters | 35   | cubic feet   | ft <sup>3</sup> |
| m <sup>3</sup> | cubic meters | 1.3  | cubic yards  | yd <sup>3</sup> |

## TEMPERATURE (exact)

|    |                     |                   |                        |    |
|----|---------------------|-------------------|------------------------|----|
| °C | Celsius temperature | 9/5 (then add 32) | Fahrenheit temperature | °F |
|----|---------------------|-------------------|------------------------|----|



inches



\* 1 in = 2.54 (exact). For other exact conversions and more detailed tables, see *Units, Weights, and Measures*, Page 52, 53, 54, 55. Metric Box, C-11 to C-20.

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## 1. Introduction

The Engineering Model of Future Motor Vehicles (EMFMV) consists of a computer program and a data base. It was developed to give the safety engineer a tool to get quickly the data he needs for his work.

This book intends to give a brief introduction of the program system and the contents of the data base to the user and to be a handy reference guide for operating the program at the terminal. For full and detailed information see Final Report, Engineering Model of Future Motor Vehicles, February 1977, DOT-HS-802 209.

## 2. Description of the Program System

The EMFMV consists of a computer program system and passenger vehicle related data stored in a data base. The program has access to the data and gives information to the user of the system in a compressed form, e. g. mean values, standard deviation, regression functions, etc. The user of the system can handle the data of the data base by selecting specific subsets of data out of the whole data collection and/or the items he judges meaningful for his work.

The program system is designed for working on-line with the computer via a terminal (teletype or scope). It runs on an IBM



computer under the control of the IBM Time Sharing Option (TSO) System. For using the program system it has to be known how to handle the terminal, how to start the session and how to call the program.

The following check list may be used as a guide line:

1. switch on power (terminal and modem)
2. dial terminal line (e.g. (9)-573-5272)
3. put the telephone on the modem
4. wait until line light is flashing
5. enter LOGON
6. enter userid and password
7. enter EX'TSØCFØ8.EVALUPGM.CLIST'
8. enter LOGØFF if the work is finished.

Under 7. a command list is executed which allocates the data set reference numbers used in the program to the data files. Following allocations will be executed.



| Ref.<br>No. | Data Set Name         | Purpose                         |
|-------------|-----------------------|---------------------------------|
| 5           | * (Terminal)          | Input                           |
| 6           | * (Terminal)          | Output                          |
| 9           | TSØCF08. WORK1.DATA   | Workfile                        |
| 10          | TSØCF08. WORK2.DATA   | Workfile                        |
| 7           | TSØCF08. GENERAL.DATA | Data file for general<br>data   |
| 8           | TSØCF08. DIRGEN.DATA  | Directory for general<br>data   |
| 11          | TSØCF08. WEIGHT.DATA  | Data file for weight<br>data    |
| 12          | TSØCF08. DIRWEI.DATA  | Directory for weight<br>data    |
| 13          | TSØCF08. GEØM.DATA    | Data file for geometric<br>data |
| 14          | TSØCF08. DIRGEØM.DATA | Directory for geometric<br>data |

Reference no. 5, 6, 9, 10 are connected to scratch files resident only as long as the session lasts. The other reference numbers are related to permanent data sets. Always two of them are logically connected. This is true for the couples (7, 8), (11, 12) and 13, 14).

After the program has been called the user is offered a menu which lists the possible options with the appropriate codes. The menu looks like follows:

#### MENU

|                        |                        |                        |
|------------------------|------------------------|------------------------|
| 1 DATA BASE ACCESS     | 2 TABLE PRINTOUT       | 3 FREQUENCY PRINTOUT   |
| 4 CUMULATIVE PRINTOUT  | 5 CHI-SQUARE TEST      | 6 KOLMO-SMIRNOV TEST   |
| 7 CORRELATION COEFF.   | 8 STEPWISE MULT. REGR. | 9 DATA TRANSFORMATIONS |
| 10 WEIGHT INTERACTIONS | 11 ASSIGN DB FILES     | /* RETURN              |
| 12 TO GET A DIAGRAM    |                        |                        |

Option 1 calls the retrieval program to search for specific records and select items as chosen by the user. Per record up to 30 items may be chosen and written on the scratch file 9. When using option 7 or 8 only 10 items per record should be chosen for limited program storage capacity.

By option 2 a table is listed giving information of the selected items; e. g., sample size, minimum, maximum, mean value, standard deviation, for each item of descriptive data (wheel base, hip room, etc.). A frequency printout of a sample is performed under option 3. The sample members\* are classified into a maximum of 15 classes and the resulting distribution printed on the terminal. A cumulative distribution printout of a sample is performed if option 4 was selected.

(\*Selected records, each representing one make and model.)

A test on normality of a sample may be performed by choosing option 5 or 6. Option 5 is chosen if the sample size exceeds 30, else 6 is chosen. A correlation matrix for up to 10 items is given by choosing option 7. Only the first 10 items of the scratch file record no. 9 or 10 can be processed by the program.

Option 8 offers the possibility to perform a stepwise multiple regression. If the sample is not normally distributed, the results may be interpreted as a least square fit. In that case the statistical confidence level cannot be applied. The first 10 items on the scratch files 9 or 10 may be processed.

A transformation of data on scratch file 9 may be performed by selecting option 9. It is possible to create new variables, e. g. by mixing variables on file 9 in a predefined manner. Transformation is done by entering the name (up to 8 characters) of the new variable followed by an equal sign (=) and the formula how the new variable is to be computed. The formula is build up in the usual way. Allowed operations are +, -, \*, /, (, ) ( plus, minus, multiply, divide, bracket) and the functions exp, log (natural logarithm), log10 (logarithm for base 10), sqrt (square root), \*\* (exponentiation).

Constants may be entered directly, variables related to items on scratch file 9 are to be used by the prefix V. Example: NEW = 3 + V12\*\*2 + exp(V9).

By option 10 weight-weight interactions for changing weights of components are performed. Using this option the weight data file must be allocated (files 11 and 12, see option 11). All items must be transferred on scratch files for proper operation.

Here exp means the particular exponential function to the base e, such that  $\exp(V9)$  is used to represent  $e^{(V9)}$ .

The actual selection of the different data files for computation is done by selecting option 11. Default allocation when calling the program is for 7 and 8 (general data). If this is the wanted file start with option 1. If weight data or geometric data shall be processed start with option 11, designate files 11 and 12 for weight data, then proceed to option 1, else enter 13 and 14 for geometric data and proceed to option 1 or enter 7 and 8 to reallocate general data file and proceed to option 1.

By option 12 a diagram is printed which demonstrates the relation of two variables. So it may be judged if and what relationship between variables exist. Examples of selected options are given below.

### 3. Examples of Output Lists, Tables and Diagrams

In the following some examples are given to demonstrate how to work with the program system and to give an impression of the contents of the data base.

Example 1 shows how to perform the retrieval of records and of the general data base and to get a sample of specific items. The input, given by the user, is underscored. After the input is finished a control output is given.

Examples 2 to 6 present a table printout of the retrieved items in condensed form for different model years. For two cases the items are weighed by registration figures.

Examples 7 and 8 demonstrate the use of the frequency function printout in one case not weighed in the other case weighed by registration figures.

Example 9 shows how to perform transformation of variables to create new items, in the example the new item 'room-ind' is composed of 7 other items stored in the data base.

Example 10 shows how to perform a simple linear regression. The relationship between the roominess index 'roomind' and the luggage capacity 'luggage', for example, is given by the equation.

$\text{'roomind'} = 194.42 + 1.55 \text{'luggage'}$ , the correlation coefficient between the items is 0.88 and the sample size was 282.

Example 11 documents the use of the stepwise multiple regression feature. A comment is given in the example.

Example 12 shows a diagram of the sample used in example 11, where the roominess index is plotted over the curb weight. The diagram may lead to the conclusion that the functional relationship between roominess index and curb weight of vehicles is represented not too bad by a linear function. The sample is composed out 77'th domestic and imported passenger cars without station wagons.



# Example 1: Retrieval process

TO GET THE MENU ENTER 1

?

1

MENU

|                        |                        |                        |
|------------------------|------------------------|------------------------|
| 1 DATA BASE ACCESS     | 2 TABLE PRINTOUT       | 3 FREQUENCY PRINTOUT   |
| 4 CUMULATIVE PRINTOUT  | 5 CHI-SQUARE TEST      | 6 KOLMO-SMIRNOV TEST   |
| 7 SIMPLE REGRESSION    | 8 STEPWISE MULT. REGR. | 9 DATA TRANSFORMATIONS |
| 10 WEIGHT INTERACTIONS | 11 ASSIGN DB FILES     | /* RETURN              |
| 12 TO GET A DIAGRAM    |                        |                        |

ENTER OPTION

?

1

IF THIS SEARCH SHALL BE A CONTINUATION ENTER 1

?

0

ENTER THE DISTINCTIONS OF THE KEYS

| ITEM                                                     | 2                   | MOD.YEAR            | CLASS               | TYPE                          |
|----------------------------------------------------------|---------------------|---------------------|---------------------|-------------------------------|
| ---                                                      | TO---               | ---                 | TO---               | ---                           |
|                                                          | <u>75</u>           | <u>75</u>           |                     |                               |
| WRITE FOLLOWING ITEM(S) OF DATA BASE RECORD(S) ON FILE 9 |                     |                     |                     |                               |
| ITEM TO                                                  | ITEM*ITEM TO        | ITEM*ITEM TO        | ITEM*ITEM TO        | ITEM*ITEM TO                  |
| ----                                                     | ----- -----         | ----- -----         | ----- -----         | ----- -----                   |
| <u>9</u>                                                 | <u>11</u> <u>15</u> | <u>14</u> <u>16</u> | <u>16</u> <u>21</u> | <u>22</u> <u>32</u> <u>32</u> |
| ----                                                     | ----- -----         | ----- -----         | ----- -----         | ----- -----                   |
| <u>37</u>                                                | <u>37</u> <u>49</u> | <u>50</u> <u>90</u> | <u>98</u>           |                               |

UNDER THE CONDITION(S) THAT THE VALUE(S) OF

ITEM\* .GE. \*AND\* .LE. \*\*ITEM\* .GE. \*AND\* .LE. \*\*  
 ----|-----,---| |-----,---| |-----,---| |-----,---|

TASK CONTROL

FIND THE SUBSET(S) HAVING THE DISTINCTIONS OF THE KEYS

| ITEM                                                     | 2            | MOD.YEAR     | CLASS        | TYPE         |
|----------------------------------------------------------|--------------|--------------|--------------|--------------|
| ---                                                      | TO---        | ---          | TO---        | ---          |
| 1                                                        | 2            | 75           | 75           | 1 5 1 6      |
| WRITE FOLLOWING ITEM(S) OF DATA BASE RECORD(S) ON FILE 9 |              |              |              |              |
| ITEM TO                                                  | ITEM*ITEM TO | ITEM*ITEM TO | ITEM*ITEM TO | ITEM*ITEM TO |
| 9                                                        | 11 14        | 14 16        | 16 21        | 22 32 32     |
| 37                                                       | 37 49        | 50 97        | 98           |              |

UNDER THE CONDITION(S) THAT THE VALUE(S) OF

NO CONDITIONS SPECIFIED

IN THIS QUERY WERE FOUND 474 RECORD(S) WITH THE REQUIRED CONSTRAINT(S).  
 EACH RECORD WAS SELECTED FOR 13 ITEM(S).

Example 2: Output list for different MY 75 passenger vehicle  
items (not weighed by reg. fig.)

TO GET THE MENU ENTER 1

?

0

ENTER OPTION

?

2

ENTER OUTPUTFILE FOR LIST

?

6

IF THE ITEM(S) SHALL BE WEIGHTED BY REGISTRATION FIGURES

ENTER THE ITEM# OF THE REG. FIG., ELSE ENTER 0

?

0

| ITEM     | ITEM# | NUMBER | MINIMUM  | MAXIMUM    | MEAN VALUE | STD. DEV. |
|----------|-------|--------|----------|------------|------------|-----------|
| PRICE    | 9     | 451    | 2499.000 | 22715.000  | 4865.602   | 2438.106  |
| REG. NO. | 10    | 466    | 60.000   | 127092.000 | 13899.934  | 18346.246 |
| CURB-W   | 11    | 463    | 1687.000 | 6008.000   | 3661.086   | 905.992   |
| TREAD-FR | 14    | 469    | 46.100   | 64.300     | 59.319     | 4.295     |
| WIDTH    | 16    | 471    | 53.900   | 80.250     | 73.085     | 6.262     |
| WHEELBAS | 21    | 471    | 79.900   | 151.800    | 110.655    | 11.136    |
| LENGTH   | 22    | 471    | 140.900  | 252.200    | 201.152    | 22.479    |
| DOOR-GR. | 32    | 291    | 8.000    | 12.400     | 10.404     | 0.954     |
| BUMP-GR. | 37    | 372    | 9.900    | 16.300     | 12.301     | 1.118     |
| SHOULDER | 49    | 390    | 43.500   | 64.300     | 57.713     | 4.206     |
| HIP ROOM | 50    | 360    | 46.900   | 62.500     | 56.671     | 3.247     |
| EPA CITY | 97    | 332    | 9.000    | 27.000     | 14.181     | 3.608     |
| EPA HWY  | 98    | 332    | 14.000   | 39.000     | 20.012     | 5.309     |



Example 3: Output list for different MY 75 passenger vehicle  
items (weighed by reg. fig.)

TO GET THE MENU ENTER 1

?

0

ENTER OPTION

?

2

ENTER OUTPUTFILE FOR LIST

?

6

IF THE ITEM(S) SHALL BE WEIGHTED BY REGISTRATION FIGURES

ENTER THE ITEM# OF THE REG. FIG., ELSE ENTER 0

?

10

ITEM(S) WEIGHTED BY REGISTRATION FIGURES  
(WITHOUT REG. FIG. ITSELF)

| ITEM     | ITEM# | NUMBER  | MINIMUM  | MAXIMUM    | MEAN VALUE | STD. DEV. |
|----------|-------|---------|----------|------------|------------|-----------|
| PRICE    | 9     | 5991708 | 2499.000 | 22715.000  | 4550.297   | 1794.746  |
| REG. NO. | 10    | 466     | 60.000   | 127092.000 | 13899.934  | 18346.246 |
| CURB-W   | 11    | 6228176 | 1687.000 | 6008.000   | 3551.578   | 971.965   |
| TREAD-FR | 14    | 6380874 | 46.100   | 64.300     | 58.847     | 4.590     |
| WIDTH    | 16    | 6408760 | 53.900   | 80.250     | 72.530     | 6.691     |
| WHEELBAS | 21    | 6408760 | 79.900   | 151.800    | 109.075    | 11.630    |
| LENGTH   | 22    | 6408760 | 140.900  | 252.200    | 197.700    | 24.135    |
| DOOR-GR. | 32    | 3553517 | 8.000    | 12.400     | 10.107     | 1.047     |
| BUMP-GR. | 37    | 5163877 | 9.900    | 16.300     | 12.642     | 1.386     |
| SHOULDER | 49    | 5469650 | 43.500   | 64.300     | 57.188     | 4.642     |
| HIP ROOM | 50    | 5065086 | 46.900   | 62.500     | 56.171     | 3.772     |
| EPA CITY | 97    | 4627554 | 9.000    | 27.000     | 15.426     | 4.558     |
| EPA HWY  | 98    | 4627554 | 14.000   | 39.000     | 22.336     | 7.139     |

Example 4: Output list for different MY 76 passenger vehicle items (not weighed by reg. fig.)

TO GET THE MENU ENTER 1

?

0

ENTER OPTION

?

2

ENTER OUTPUTFILE FOR LIST

?

6

IF THE ITEM(S) SHALL BE WEIGHTED BY REGISTRATION FIGURES  
ENTER THE ITEM# OF THE REG. FIG., ELSE ENTER 0

?

0

| ITEM     | ITEM# | NUMBER | MINIMUM  | MAXIMUM    | MEAN VALUE | STD. DEV. |
|----------|-------|--------|----------|------------|------------|-----------|
| PRICE    | 9     | 465    | 2729.000 | 25850.000  | 5118.242   | 2894.058  |
| REG. NO. | 10    | 444    | 79.000   | 336346.000 | 19288.676  | 29525.371 |
| CURB-W   | 11    | 477    | 1339.000 | 5892.000   | 3546.883   | 897.550   |
| TREAD-FR | 14    | 477    | 38.700   | 64.300     | 58.971     | 4.549     |
| WIDTH    | 16    | 477    | 54.000   | 80.000     | 72.372     | 6.366     |
| WHEELBAS | 21    | 477    | 80.000   | 151.500    | 109.857    | 10.783    |
| LENGTH   | 22    | 477    | 141.000  | 252.200    | 199.695    | 22.044    |
| DOOR-GR. | 32    | 293    | 7.400    | 35.400     | 10.586     | 2.308     |
| BUMP-GR. | 37    | 372    | 7.200    | 18.000     | 12.188     | 1.354     |
| SHOULDER | 49    | 372    | 47.900   | 64.000     | 57.757     | 3.866     |
| HIP ROOM | 50    | 372    | 46.900   | 60.400     | 55.725     | 3.226     |
| EPA COMB | 96    | 404    | 11.000   | 34.000     | 19.151     | 5.014     |
| EPA CITY | 97    | 404    | 9.000    | 29.000     | 16.562     | 4.295     |
| EPA HWY  | 98    | 404    | 14.000   | 43.000     | 23.837     | 6.348     |

Example 5: Output list for different MY 76 passenger vehicle items (weighed by reg. fig.)

TO GET THE MENU ENTER 1

?

0

ENTER OPTION

?

2

ENTER OUTPUTFILE FOR LIST

?

6

IF THE ITEM(S) SHALL BE WEIGHTED BY REGISTRATION FIGURES  
ENTER THE ITEM# OF THE REG. FIG., ELSE ENTER 0

?

10

ITEM(S) WEIGHTED BY REGISTRATION FIGURES  
(WITHOUT REG. FIG. ITSELF)

| ITEM     | ITEM# | NUMBER  | MINIMUM  | MAXIMUM    | MEAN VALUE | STD. DEV. |
|----------|-------|---------|----------|------------|------------|-----------|
| PRICE    | 9     | 8441753 | 2729.000 | 25850.000  | 4678.258   | 1827.045  |
| REG. NO. | 10    | 444     | 79.000   | 336346.000 | 19288.676  | 29525.371 |
| CURB-W   | 11    | 8564173 | 1339.000 | 5892.000   | 3654.549   | 887.210   |
| TREAD-FR | 14    | 8564173 | 46.000   | 64.300     | 59.670     | 4.169     |
| WIDTH    | 16    | 8564173 | 54.000   | 80.000     | 73.611     | 6.089     |
| WHEELBAS | 21    | 8564173 | 80.000   | 151.500    | 110.711    | 10.735    |
| LENGTH   | 22    | 8564173 | 141.000  | 252.200    | 201.289    | 22.346    |
| DOOR-GR. | 32    | 5402705 | 7.400    | 35.400     | 10.081     | 1.827     |
| BUMP-GR. | 37    | 7484866 | 7.200    | 15.700     | 12.315     | 1.250     |
| SHOULDER | 49    | 7484866 | 47.900   | 64.000     | 58.000     | 3.824     |
| HIP ROOM | 50    | 7484866 | 46.900   | 60.400     | 55.469     | 3.155     |
| EPA COMB | 96    | 8022691 | 11.000   | 34.000     | 19.076     | 5.429     |
| EPA CITY | 97    | 8022691 | 9.000    | 29.000     | 16.559     | 4.538     |
| EPA HWY  | 98    | 8022691 | 14.000   | 43.000     | 23.764     | 7.021     |

Example 6: Output list for different MY 77 passenger vehicle items (not weighed by reg. fig.)

TO GET THE MENU ENTER 1

?

0

ENTER OPTION

?

2

ENTER OUTPUTFILE FOR LIST

?

6

IF THE ITEM(S) SHALL BE WEIGHTED BY REGISTRATION FIGURES  
ENTER THE ITEM# OF THE REG. FIG., ELSE ENTER 0

?

0

| ITEM     | ITEM# | NUMBER | MINIMUM  | MAXIMUM   | MEAN VALUE | STD. DEV. |
|----------|-------|--------|----------|-----------|------------|-----------|
| PRICE    | 9     | 480    | 2779.000 | 90000.000 | 6114.551   | 6626.320  |
| CURB-W   | 11    | 475    | 1665.000 | 5175.000  | 3449.789   | 755.047   |
| TREAD-FR | 14    | 494    | 46.300   | 64.300    | 59.023     | 3.851     |
| WIDTH    | 16    | 494    | 54.000   | 80.000    | 72.525     | 5.608     |
| WHEELBAS | 21    | 492    | 80.000   | 144.500   | 109.142    | 9.723     |
| LENGTH   | 22    | 492    | 141.500  | 244.200   | 198.483    | 20.390    |
| DOOR-GR. | 32    | 287    | 8.090    | 35.400    | 10.723     | 2.328     |
| BUMP-GR. | 37    | 377    | 7.200    | 20.800    | 12.480     | 1.965     |
| SHOULDER | 49    | 378    | 47.900   | 63.700    | 57.535     | 3.077     |
| HIP ROOM | 50    | 378    | 46.900   | 59.900    | 55.037     | 2.812     |
| EPA COMB | 96    | 474    | 11.000   | 44.000    | 20.027     | 5.626     |
| EPA CITY | 97    | 474    | 9.000    | 40.000    | 17.665     | 5.027     |
| EPA HWY  | 98    | 462    | 12.000   | 52.000    | 24.807     | 7.082     |



Example 7: Frequency function of Item 96 for 1976 model  
year (not weighed by reg. fig.)

TO GET THE MENU ENTER 1

?

0

ENTER OPTION

?

3

ENTER ITEM #

?

96

IF THE ITEM(S) SHALL BE WEIGHTED BY REGISTRATION FIGURES

ENTER THE ITEM# OF THE REG. FIG., ELSE ENTER 0

?

0

PARAMETER FOR VARIABLE EPA COMB

MINIMUM

MAXIMUM

MEAN

STD.-DEV.

NUMBER

11.000

34.000

19.151

5.014

404

ENTER BOUNDS

LOWER

UPPER

INOI

(NO = 12 classification intervals)

10.

34.

12

ENTER 0 TO CLASSIFY FOR SAMPLE SIZE, ELSE ENTER ITEM # THE VALUES OF WHICH  
SHALL BE ACCUMULATED IN THE CLASSES.

?

0

FREQUENCY FUNCTION OF EPA COMB SAMPLE SIZE

404

FREQUENCIES

VALUE

ABSOLUT

PER CENT

|    |       |       |       |
|----|-------|-------|-------|
|    |       | 10.00 | +     |
| 4  | 0.99  |       | **    |
|    |       | 12.00 | +     |
| 68 | 16.83 |       | ***** |
|    |       | 14.00 | +     |
| 54 | 13.37 |       | ***** |
|    |       | 16.00 | +     |
| 88 | 21.78 |       | ***** |
|    |       | 18.00 | +     |
| 64 | 15.84 |       | ***** |
|    |       | 20.00 | +     |
| 53 | 13.12 |       | ***** |
|    |       | 22.00 | +     |
| 9  | 2.23  |       | ***** |
|    |       | 24.00 | +     |
| 19 | 4.70  |       | ***** |
|    |       | 26.00 | +     |
| 20 | 4.95  |       | ***** |
|    |       | 28.00 | +     |
| 10 | 2.48  |       | ***** |
|    |       | 30.00 | +     |
| 3  | 0.74  |       | **    |
|    |       | 32.00 | +     |
| 12 | 2.97  |       | ***** |
|    |       | 34.00 | +     |

Example 8: Frequency function of Item 96 for 1976  
model year (weighed by reg. fig.)

TO GET THE MENU ENTER 1

?

0

ENTER OPTION

?

3

ENTER ITEM #

?

96

IF THE ITEM(S) SHALL BE WEIGHTED BY REGISTRATION FIGURES

ENTER THE ITEM# OF THE REG. FIG., ELSE ENTER 0

?

10

PARAMETER FOR VARIABLE EPA COMB

| MINIMUM | MAXIMUM | MEAN   | STD.-DEV. | NUMBER  |
|---------|---------|--------|-----------|---------|
| 11.000  | 34.000  | 19.076 | 5.429     | 8022691 |

ENTER BOUNDS

| LOWER | UPPER | NOI |
|-------|-------|-----|
| 10.   | 34.   | 12  |

FREQUENCY FUNCTION OF EPA COMB SAMPLE SIZE 8022691

FREQUENCIES VALUE

ABSOLUT PER CENT

| ABSOLUT | PER CENT | VALUE   |
|---------|----------|---------|
| 4187    | 0.05     | 10.00 + |
|         |          | *       |
| 1469095 | 18.31    | 12.00 + |
|         |          | *****   |
| 1420889 | 17.71    | 14.00 + |
|         |          | *****   |
| 1972564 | 24.59    | 16.00 + |
|         |          | *****   |
| 700235  | 8.73     | 18.00 + |
|         |          | *****   |
| 764765  | 9.53     | 20.00 + |
|         |          | *****   |
| 112791  | 1.41     | 22.00 + |
|         |          | ***     |
| 504567  | 6.29     | 24.00 + |
|         |          | *****   |
| 548656  | 6.84     | 26.00 + |
|         |          | *****   |
| 58011   | 0.72     | 28.00 + |
|         |          | **      |
| 160554  | 2.00     | 30.00 + |
|         |          | *****   |
| 306377  | 3.82     | 32.00 + |
|         |          | *****   |
|         |          | 34.00 + |



Example 9: Usage of transformation feature to create new items

TO GET THE MENU ENTER 1

?

0

ENTER OPTION

?

9

ENTER FORMULA

$\text{room-ind} = v44 + v46 + v47 + v49 + v55 + v57 + v61$

ENTER FORMULA

$\text{curb-wt} = v11$

ENTER FORMULA

$\text{height} = v28$

ENTER FORMULA

$\text{luggage} = v64$

ENTER FORMULA

$\text{epa comb} = v96$

ENTER FORMULA

Example 10: Simple linear regression

TO GET THE MENU ENTER 1

?

0

ENTER OPTION

?

7

ENTER 1 TO USE TRANSFORMED DATA

?

1

IF THE ITEM(S) SHALL BE WEIGHTED BY REGISTRATION FIGURES  
ENTER THE ITEM# OF THE REG. FIG., ELSE ENTER 0

?

0

INTERCEPTS, REGRESSION-, CORRELATION COEFFICIENTS AND SAMPLE SIZE.  
DEPENDENT VARIABLE = COLUMN ITEM, INDEP. VAR. = ROW ITEM

|          | ROOMIND | EPA-COMB | LUGGAGE | HEIGHT | CURB-WT  |
|----------|---------|----------|---------|--------|----------|
| ROOMIND  | 0.0     | 73.61    | -93.91  | 15.25  | -7381.63 |
|          | 1.00    | -0.25    | 0.50    | 0.17   | 50.64    |
|          | 1.00    | -0.52    | 0.88    | 0.83   | 0.73     |
|          | 320     | 320      | 282     | 320    | 307      |
| EPA-COMB | 237.85  | 0.0      | 27.42   | 54.53  | 5557.93  |
|          | -1.09   | 1.00     | -0.65   | -0.06  | -105.59  |
|          | -0.52   | 1.00     | -0.50   | -0.14  | -0.83    |
|          | 320     | 402      | 283     | 401    | 389      |
| LUGGAGE  | 194.42  | 24.45    | 0.0     | 48.77  | 2438.02  |
|          | 1.55    | -0.38    | 1.00    | 0.30   | 81.58    |
|          | 0.88    | -0.50    | 1.00    | 0.80   | 0.70     |
|          | 282     | 283      | 283     | 283    | 275      |
| HEIGHT   | 9.93    | 37.39    | -96.97  | 0.0    | -1537.63 |
|          | 3.89    | -0.32    | 2.10    | 1.00   | 92.88    |
|          | 0.83    | -0.14    | 0.80    | 1.00   | 0.33     |
|          | 320     | 401      | 283     | 419    | 406      |
| CURB-WT  | 179.24  | 42.32    | -6.61   | 49.24  | 0.0      |
|          | 0.01    | -0.01    | 0.01    | 0.00   | 1.00     |
|          | 0.73    | -0.83    | 0.70    | 0.33   | 1.00     |
|          | 307     | 389      | 275     | 406    | 407      |

# Example 11: Stepwise multiple regression

TO GET THE MENU ENTER 1

?

0

ENTER OPTION

?

8

ENTER 1 TO USE TRANSFORMED DATA

?

1

STEP-WISE MULTIPLE REGRESSION

IF THE ITEM(S) SHALL BE WEIGHTED BY REGISTRATION FIGURES  
ENTER THE ITEM# OF OF THE REG. FIG., ELSE ENTER 0

?

0

NUMBER OF OBSERVATIONS 274

NUMBER OF VARIABLES 5

| VARIABLE | ITEM# | MEAN     | STANDARD<br>DEVIATION | MINIMUM  | MAXIMUM  |
|----------|-------|----------|-----------------------|----------|----------|
| ROOMIND  | 1     | 218.016  | 7.353                 | 197.651  | 233.351  |
| EPA-COMB | 2     | 18.602   | 3.262                 | 12.000   | 35.000   |
| LUGGAGE  | 3     | 15.274   | 4.172                 | 6.000    | 22.700   |
| HEIGHT   | 4     | 53.418   | 1.557                 | 49.100   | 56.900   |
| CURB-WT  | 5     | 3682.377 | 491.805               | 2024.000 | 5101.000 |

CORRELATION MATRIX

| ITEM# | 1     | 2     | 3     | 4     | 5     |
|-------|-------|-------|-------|-------|-------|
| 1     | 1.00  | -0.47 | 0.88  | 0.80  | 0.68  |
| 2     | -0.47 | 1.00  | -0.53 | -0.27 | -0.79 |
| 3     | 0.88  | -0.53 | 1.00  | 0.79  | 0.70  |
| 4     | 0.80  | -0.27 | 0.79  | 1.00  | 0.46  |
| 5     | 0.68  | -0.79 | 0.70  | 0.46  | 1.00  |

SELECTION..... 1

ENTER SELECTION CODE FOR FOLLOWING ITEM# ON WORKFILE

11 21 31 41 51

3

# Example 11: Stepwise multiple regression

DEPENDANT VARIABLE.....ROOMIND

NUMBER OF VARIABLES FORCED.... 0

NUMBER OF VARIABLES DELETED... 0

## STEP 1

VARIABLE ENTERED.....LUGGAGE

SUM OF SQUARES REDUCED IN THIS STEP.... .114E+05

PROPORTION REDUCED IN THIS STEP..... .771

CUMULATIVE SUM OF SQUARES REDUCED..... .114E+05 OF .148E+05

CUMULATIVE PROPORTION REDUCED..... .771

FOR 1 VARIABLES ENTERED

MULTIPLE CORRELATION COEFFICIENT... 0.878

| VARIABLE                                    | REGRESSION<br>COEFFICIENT | STD. ERROR OF<br>REG. COEFF. | COMPUTED<br>T-VALUE |
|---------------------------------------------|---------------------------|------------------------------|---------------------|
| LUGGAGE                                     | 1.54748                   | 0.05117                      | 30.243              |
| INTERCEPT                                   | 194.37978                 |                              |                     |
| CRITICAL T-VALUE (SIGNIFICANCE NIVEAU 0.95) |                           |                              | 1.969               |

## STEP 2

VARIABLE ENTERED.....HEIGHT

SUM OF SQUARES REDUCED IN THIS STEP.... 450.

PROPORTION REDUCED IN THIS STEP..... .311E-01

CUMULATIVE SUM OF SQUARES REDUCED..... .118E+05 OF .148E+05

CUMULATIVE PROPORTION REDUCED..... .802

FOR 2 VARIABLES ENTERED

MULTIPLE CORRELATION COEFFICIENT... 0.895

| VARIABLE                                    | REGRESSION<br>COEFFICIENT | STD. ERROR OF<br>REG. COEFF. | COMPUTED<br>T-VALUE |
|---------------------------------------------|---------------------------|------------------------------|---------------------|
| LUGGAGE                                     | 1.14446                   | 0.07806                      | 14.660              |
| HEIGHT                                      | 1.36340                   | 0.20916                      | 6.519               |
| INTERCEPT                                   | 127.70558                 |                              |                     |
| CRITICAL T-VALUE (SIGNIFICANCE NIVEAU 0.95) |                           |                              | 1.970               |

## STEP 3

VARIABLE ENTERED.....CURB-WT

SUM OF SQUARES REDUCED IN THIS STEP.... 257.

PROPORTION REDUCED IN THIS STEP..... .174E-01

CUMULATIVE SUM OF SQUARES REDUCED..... .121E+05 OF .148E+05

CUMULATIVE PROPORTION REDUCED..... .819

FOR 3 VARIABLES ENTERED

MULTIPLE CORRELATION COEFFICIENT... 0.905

| VARIABLE                                    | REGRESSION<br>COEFFICIENT | STD. ERROR OF<br>REG. COEFF. | COMPUTED<br>T-VALUE |
|---------------------------------------------|---------------------------|------------------------------|---------------------|
| LUGGAGE                                     | 0.84415                   | 0.09507                      | 8.879               |
| HEIGHT                                      | 1.59231                   | 0.20507                      | 7.765               |
| CURB-WT                                     | 0.00283                   | 0.00055                      | 5.105               |
| INTERCEPT                                   | 109.65628                 |                              |                     |
| CRITICAL T-VALUE (SIGNIFICANCE NIVEAU 0.95) |                           |                              | 1.970               |

# Example 11: Stepwise multiple regression

## STEP 4

VARIABLE ENTERED.....EPA-COMB

|                                         |          |    |          |
|-----------------------------------------|----------|----|----------|
| SUM OF SQUARES REDUCED IN THIS STEP.... | 37.2     |    |          |
| PROPORTION REDUCED IN THIS STEP.....    | .252E-02 |    |          |
| CUMULATIVE SUM OF SQUARES REDUCED.....  | .121E+05 | OF | .148E+05 |
| CUMULATIVE PROPORTION REDUCED.....      | .822     |    |          |
| FOR 4 VARIABLES ENTERED                 |          |    |          |
| MULTIPLE CORRELATION COEFFICIENT...     | 0.907    |    |          |

| VARIABLE                                    | REGRESSION<br>COEFFICIENT | STD. ERROR OF<br>REG. COEFF. | COMPUTED<br>T-VALUE |
|---------------------------------------------|---------------------------|------------------------------|---------------------|
| LUGGAGE                                     | 0.86042                   | 0.09495                      | 9.062               |
| HEIGHT                                      | 1.52153                   | 0.20722                      | 7.343               |
| CURB-WT                                     | 0.00383                   | 0.00075                      | 5.079               |
| EPA-COMB                                    | 0.18969                   | 0.09726                      | 1.950               |
| INTERCEPT                                   | 105.95523                 |                              |                     |
| CRITICAL T-VALUE (SIGNIFICANCE NIVEAU 0.95) |                           |                              | 1.970               |

ENTER 1 TO GET A TABLE OF RESIDUALS  
?  
0

SELECTION..... 2

ENTER SELECTION CODE FOR FOLLOWING ITEM# ON WORKFILE

|    |    |    |    |    |
|----|----|----|----|----|
| 11 | 21 | 31 | 41 | 51 |
| -  | -  | -  | -  | -  |

As result by the stepwise multiple regression the best linear approximation for the item roominess index ('roomind') as dependent variable and the independent variables luggage capacity ('luggage'), overall vehicle height ('height'), vehicle curb weight ('curb-wt'), and the fuel economy of the combined EPA cycles ('epa-comb') the equation is found

$$\text{roomind} = 105.96 + 0.86 \text{ luggage} + 1.52 \text{ height} + 0.0038 \text{ curb-wt} + 0.19 \text{ epa.comb}$$

(The last variable is not within the significance niveau of 0.95 %. It was not tested if the conditions for statistical relevance were given).



Example 12: Diagram of the sample of example 11

TO GET THE MENU ENTER 1

?

0

ENTER OPTION

?

12

ENTER 1 TO USE TRANSFORMED DATA

?

1

ENTER ITEM# FOR ORDINATE AND ABSCISSA

?

1 2

ROOMIND | LEGEND 1 LE \* LE 5, 6 LE + LE 10, X GE 11

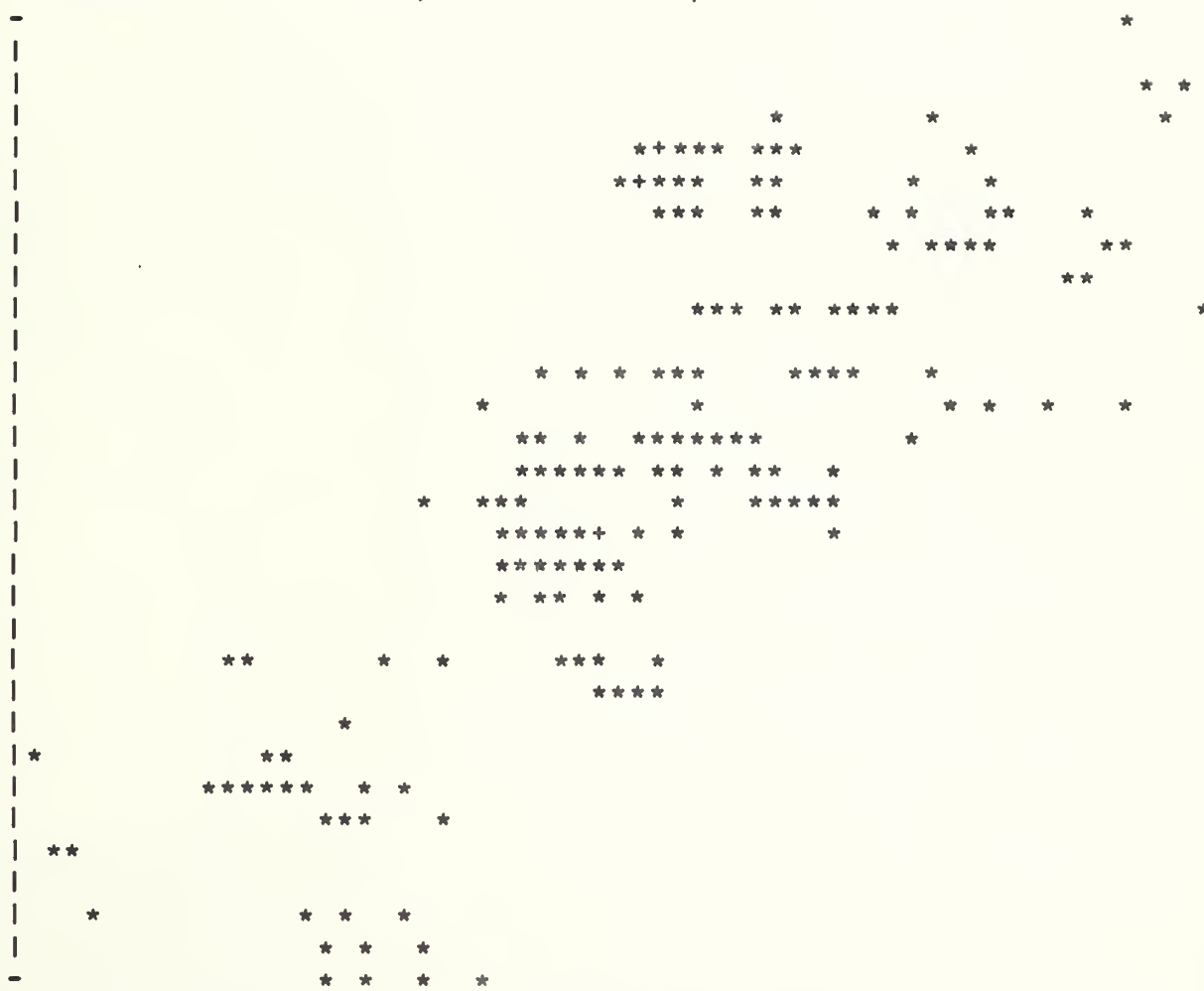
233.35 -

CURB-WT

1994.00

5101.00

197.65 -





## Appendix

# DATA CATALOG FOR GENERAL DATA

## DESCRIPTIVE DATA

- 1 TYPE OF VEHICLE
- 2 MANUFACTURER COUNTRY
- 3 MODEL YEAR
- 4 MARKET CLASS
- 5 BODY TYPE
- 6 MANUFACTURER
- 7 MODEL
- 8 NUMBER OF PASSENGERS
- 9 RETAIL PRICE (CURRENT DOLLAR)
- 10 SALES OF MODEL YEAR (REGISTRATION FIGURES)

PASSENGER CAR=1  
 USA=1, ELSE=2  
 E. G. 1976=76  
 TABLE 1, p. 27  
 TABLE 2 p. 27  
 TABLE 3, pp. 28-43  
 TABLE 4, pp. 28-43

## VEHICLE WEIGHT

- 11 CURB WEIGHT (LBS)
- 12 INERTIA WEIGHT (LBS)
- 13 LOAD DISTRIBUTION FRONT/REAR

VEHICLE DIMENSIONS (ALL DIMENSIONS ARE IN  
 ACCORDANCE WITH MVMA SPECIFICATIONS  
 AND SAE J 1100)

## WIDTH (IN)

- |    |                            |       |
|----|----------------------------|-------|
| 14 | TREAD FRONT                | W 101 |
| 15 | TREAD REAR                 | W 102 |
| 16 | MAXIMUM OVERALL CAR WIDTH  | W 103 |
| 17 | BODY WIDTH AT NO. 2 PILLAR | W 117 |
| 18 | MAXIMUM FRONT DOORS OPEN   | W 120 |
| 19 | MAXIMUM REAR DOORS OPEN    | W 121 |

## LENGTH (IN)

- |    |                                  |       |
|----|----------------------------------|-------|
| 20 | BODY 0 TO FRONT OF DASH          | L 30  |
| 21 | WHEELBASE                        | L 101 |
| 22 | OVERALL CAR LENGTH               | L 103 |
| 23 | OVERHANG FRONT                   | L 104 |
| 24 | OVERHANG REAR                    | L 105 |
| 25 | BODY UPPER STRUCTURE LENGTH      | L 123 |
| 26 | BODY 0 LINE TO C/L OF REAR WHEEL | L 127 |
| 27 | BODY 0 LINE TO W/S COWL POINT    | L 130 |

## HEIGHT (IN)

- |    |                                                      |       |
|----|------------------------------------------------------|-------|
| 28 | OVERALL HEIGHT                                       | H 101 |
| 29 | COWL HEIGHT                                          | H 114 |
| 30 | DECK HEIGHT                                          | H 138 |
| 31 | ROCKER PANEL FRONT TO GROUND FROM<br>FRONT WHEEL C/L | H 112 |
| 32 | BOTTOM OF FRONT DOOR TO GROUND                       | H 133 |
| 33 | ROCKER PANEL REAR TO GROUND FROM<br>REAR WHEEL C/L   | H 111 |
| 34 | BOTTOM OF REAR DOOR TO GROUND                        | H 135 |
| 35 | WINDSHIELD SLOPE ANGLE (DEGREES)                     | H 122 |
| 36 | HEADLAMPS TO GROUND                                  | H 125 |

## GROUND CLEARANCE (IN)

|    |                                  |   |     |
|----|----------------------------------|---|-----|
| 37 | BUMPER TO GROUND FRONT           | H | 102 |
| 38 | BUMPER TO GROUND REAR            | H | 104 |
| 39 | ANGLE OF APPROACH (DEGREES)      | H | 106 |
| 40 | ANGLE OF DEPARTURE (DEGREES)     | H | 107 |
| 41 | REAR AXLE DIFFERENTIAL TO GROUND | H | 153 |
| 42 | MINIMUM RUNNING CLEARANCE        | H | 156 |

## FRONT COMPARTMENT (IN)

|    |                                         |   |    |
|----|-----------------------------------------|---|----|
| 43 | H POINT TO BODY O LINE                  | L | 31 |
| 44 | EFFECTIVE HEAD ROOM                     | H | 61 |
| 45 | EFFECTIVE T POINT HEAD ROOM             | H | 75 |
| 46 | MAXIMUM EFFECTIVE LEG ROOM-ACCELERATOR  | L | 34 |
| 47 | H POINT TO HEEL POINT                   | H | 30 |
| 48 | H POINT TRAVEL                          | L | 17 |
| 49 | SHOULDER ROOM                           | W | 3  |
| 50 | HIP ROOM                                | W | 5  |
| 51 | UPPER BODY OPENING TO GROUND            | H | 50 |
| 52 | STEERING WHEEL ANGLE VERTICAL (DEGREES) | H | 18 |
| 53 | BACK ANGLE FRONT (DEGREES)              | L | 40 |

## REAR COMPARTMENT (IN)

|    |                              |   |    |
|----|------------------------------|---|----|
| 54 | H POINT COUPLE DISTANCE      | L | 50 |
| 55 | EFFECTIVE HEAD ROOM          | H | 63 |
| 56 | EFFECTIVE T POINT HEAD ROOM  | H | 76 |
| 57 | MINIMUM EFFECTIVE LEG ROOM   | L | 51 |
| 58 | H POINT TO HEEL POINT        | H | 31 |
| 59 | MINIMUM KNEE ROOM            | L | 48 |
| 60 | REAR COMPARTMENT ROOM        | L | 3  |
| 61 | SHOULDER ROOM                | W | 4  |
| 62 | HIP ROOM                     | W | 6  |
| 63 | UPPER BODY OPENING TO GROUND | H | 51 |

## LUGGAGE COMPARTMENT, TANK CAPACITY

|    |                                   |   |   |
|----|-----------------------------------|---|---|
| 64 | USABLE LUGGAGE CAPACITY (CU. FT.) | V | 1 |
| 65 | TANK CAPACITY (US GALS.)          |   |   |

## CONFIGURATION

|    |                  |                     |
|----|------------------|---------------------|
| 66 | BODY CONSRUCTION | UNIT BODY=1, ELSE=2 |
|----|------------------|---------------------|

## POWER PLANT

|    |                                |                                          |
|----|--------------------------------|------------------------------------------|
| 67 | TYPE OF ENGINE                 | PISTON=1, ROTARY=2                       |
| 68 | WORKING PROCESS                | OTTO=1, DIESEL=2,<br>STRATIFIED CHARGE=3 |
| 69 | TRANSVERSE ENGINE              | NO=0, YES=1                              |
| 70 | INSTALLATION IN CHASSIS        | FRONT=1, MIDDLE=2,<br>REAR=3             |
| 71 | CYLINDER ARRANGEMENT           | ROW=1, V=2                               |
| 72 | NUMBER OF CYLINDERS            |                                          |
| 73 | BORE (IN)                      |                                          |
| 74 | STROKE (IN)                    |                                          |
| 75 | DISPLACEMENT (CU IN)           |                                          |
| 76 | COMPRESSION RATIO              |                                          |
| 77 | MAXIMUM HORSE POWER (SAE NET)  |                                          |
| 78 | ROTATIONS PER MINUTE @ HP MAX. |                                          |



## TRANSMISSION AND DRIVETRAIN

79 TRANSMISSION

MANUEL=NO. OF FORW.  
SPEEDS, AUTOMATIC=  
10+NO. FORW. SPEEDS

80 AXLE RATIO (STANDARD)

81 FRONT OR REAR WHEEL DRIVE

FRONT=1, REAR=2

## TIRES AND WHEELS

82 TIRE LOAD RANGE

83 TIRE TYPE

TABLE 4, p. 44  
BIAS=0, RADIAL=1

84 TIRE PRESSURE FRONT (PSI)

85 TIRE PRESSURE REAR (PSI)

86 WHEEL DIAMETER (IN)

## BRAKES

87 SERVICE BRAKE TYPE FRONT

88 SERVICE BRAKE TYPE REAR

89 BRAKE CIRCUIT

90 BOOSTER

91 BRAKE POWER PROPORTIONING VALVE, FRONT AXLE

92 BRAKE POWER PROPORTIONING VALVE, REAR AXLE

93 BRAKE BALANCE FRONT/REAR

94 EFFECTIVE AREA

TABLE 5, p. 44

TABLE 5, p. 44

TABLE 6, p. 45

NO=0, YES=1

TABLE 7, p. 45

TABLE 7, p. 45

## STEERING

95 STEERING RATIO (OVERALL)

## FUEL ECONOMY (MILES PER GALLON)

96 EPA COMBINED

97 EPA CITY

98 EPA HIGHWAY

## AERODYNAMICS AND ACCELERATION

99 VEHICLE DRAG COEFFICIENT

100 FRONTAL AREA OF CAR (SQ FT)

101 VEHICLE ACCELERATION (0-60 MPH) (SEC)

## ACCESSORIES AND AUXILIARIES

102 AIR CONDITIONING (STANDARD)

103 POWER STEERING (STANDARD)

104 POWER BRAKING (STANDARD)

NO=0, YES=1

NO=0, YES=1

NO=0, YES=1

| 4 | Market Class | Code |
|---|--------------|------|
|   | Sub-Compact  | 1    |
|   | Compact      | 2    |
|   | Intermediate | 3    |
|   | Standard     | 4    |
|   | Luxury       | 5    |

Table 1 Coding Table for Market Class

| 5 | Body Type      | Code |
|---|----------------|------|
|   | 4 Door Sedan   | 1    |
|   | 2 Door Sedan   | 2    |
|   | 2 Door Hardtop | 3    |
|   | 4 Door Hardtop | 4    |
|   | Convertible    | 5    |
|   | Station Wagon  | 6    |

Table 2 Coding Table for Body Type

Table 3 Coding Table for Makes and Models

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DOMESTIC MAKES AND MODELS

| MANUFACTURER    | CODE | MODEL               | CODE |
|-----------------|------|---------------------|------|
| AMERICAN MOTORS | 1    | AMBASSADOR          | 8    |
|                 |      | AMBASSADOR BROUGHAM | 25   |
|                 |      | AMBASSADOR DPL      | 13   |
|                 |      | AMBASSADOR SST      | 14   |
|                 |      | AMBASSADOR 880      | 20   |
|                 |      | AMBASSADOR 990      | 18   |
|                 |      | AMX                 | 7    |
|                 |      | GREMLIN             | 1    |
|                 |      | HORNET              | 3    |
|                 |      | JAVELIN             | 9    |
|                 |      | JAVELIN AMX         | 22   |
|                 |      | JAVELIN SST         | 10   |
|                 |      | MARLIN              | 19   |
|                 |      | MATADOR             | 4    |
|                 |      | MATADOR BROUGHAM    | 23   |
|                 |      | MATADOR X           | 24   |
|                 |      | PACER               | 2    |
|                 |      | RAMBLER             | 5    |
|                 |      | RAMBLER ROGUE       | 12   |
|                 |      | RAMBLER CLASSIC     | 21   |
|                 |      | RAMBLER 220         | 17   |
|                 |      | RAMBLER 440         | 11   |
|                 |      | REBEL               | 6    |
|                 |      | REBEL SST           | 16   |
|                 |      | REBEL 770           | 15   |

| MANUFACTURER | CODE | MODEL                   | CODE |
|--------------|------|-------------------------|------|
| BULCK        | 2    | APOLLO                  | 2    |
|              |      | APOLLO S/R              | 14   |
|              |      | CENTURION               | 10   |
|              |      | CENTURY                 | 3    |
|              |      | CENTURY CUSTOM          | 13   |
|              |      | CENTURY REGAL           | 12   |
|              |      | CENTURY SPECIAL         | 31   |
|              |      | ELECTRA                 | 5    |
|              |      | ELECTRA CUSTOM          | 11   |
|              |      | ELECTRA LIMITED         | 28   |
|              |      | ESTATE                  | 6    |
|              |      | GRAN SPORT RIVIERA      | 26   |
|              |      | GS 350                  | 19   |
|              |      | GS 400                  | 20   |
|              |      | LE SABRE                | 4    |
|              |      | LE SABRE CUSTOM         | 9    |
|              |      | REGAL                   | 8    |
|              |      | RIVIERA                 | 7    |
|              |      | SKYHAWK                 | 1    |
|              |      | SKYHAWK S               | 29   |
|              |      | SKYLARK                 | 16   |
|              |      | SKYLARK CUSTOM          | 22   |
|              |      | SKYLARK GRAN SPORT      | 24   |
|              |      | SKYLARK S               | 30   |
|              |      | SKYLARK SPECIAL DE LUXE | 21   |
|              |      | SKYLARK S/R             | 15   |
|              |      | SPECIAL                 | 25   |
|              |      | SPORTWAGON              | 23   |
|              |      | WILDCAT                 | 17   |
|              |      | WILDCAT CUSTOM          | 18   |
|              |      | WILDCAT DE LUXE         | 27   |

| MANUFACTURER | CODE | MODEL                | CODE |
|--------------|------|----------------------|------|
| CADILLAC     | 3    | CALAIS               | 3    |
|              |      | DE VILLE             | 4    |
|              |      | ELDORADO             | 2    |
|              |      | FLEETWOOD BROUGHAM   | 5    |
|              |      | FLEETWOOD 60 SPECIAL | 7    |
|              |      | FLEETWOOD 75         | 6    |
|              |      | SEVILLE              | 1    |

Table 3 (continued)

| MANUFACTURER | CODE | MODEL                  | CODE |
|--------------|------|------------------------|------|
| CHEVROLET    | 4    | BELAIR                 | 11   |
|              |      | BISCANE                | 26   |
|              |      | BROOKWOOD              | 46   |
|              |      | CAMARO                 | 4    |
|              |      | CAMARO LT              | 16   |
|              |      | CAPRICE                | 27   |
|              |      | CAPRICE CLASSIC        | 13   |
|              |      | CAPRICE CLASSIC CUSTOM | 20   |
|              |      | CAPRICE CLASSIC SPORT  | 29   |
|              |      | CAPRICE ESTATE         | 14   |
|              |      | CHEVELLE               | 5    |
|              |      | CHEVELLE DE LUXE       | 23   |
|              |      | CHEVELLE SS            | 38   |
|              |      | CHEVELLE 300           | 31   |
|              |      | CHEVELLE 300 DE LUXE   | 32   |
|              |      | CHEVETTE               | 54   |
|              |      | CHEVROLET              | 7    |
|              |      | CHEVY 2                | 36   |
|              |      | CONCOUR                | 52   |
|              |      | CONCOURS ESTATE        | 35   |
|              |      | CORSA                  | 39   |
|              |      | CORVAIR MONZA          | 25   |
|              |      | CORVAIR 500            | 24   |
|              |      | CORVETTE               | 8    |
|              |      | GREENBRIA              | 51   |
|              |      | IMPALA                 | 12   |
|              |      | IMPALA CUSTOM          | 19   |
|              |      | IMPALA SPORT           | 28   |
|              |      | IMPALA SUPER SPORT     | 53   |
|              |      | KINGSWOOD              | 48   |
|              |      | KINGSWOOD ESTATE       | 49   |
|              |      | LAGUNA                 | 9    |
|              |      | LAGUNA ESTATE          | 22   |
|              |      | LAGUNA TYPE S 3        | 30   |
|              |      | MALIBU                 | 10   |
|              |      | MALIBU CLASSIC         | 18   |
|              |      | MALIBU CLASSIC ESTATE  | 17   |
|              |      | MALIBU ESTATE          | 21   |
|              |      | MALIBU SUPER SPORT     | 43   |
|              |      | MONTE CARLO            | 6    |
|              |      | MONZA                  | 1    |
|              |      | NOMAD                  | 33   |
|              |      | NOMAD CUSTOM           | 34   |
|              |      | NOVA                   | 3    |
|              |      | NOVA CONCOURS          | 56   |
|              |      | NOVA CUSTOM            | 15   |
|              |      | NOVA SS                | 37   |
|              |      | SCOOTER                | 55   |
|              |      | SPORTVAN               | 40   |
|              |      | SPORTVAN CUSTOM        | 41   |
|              |      | SPORTVAN DE LUXE       | 42   |
|              |      | TOWNSMAN               | 47   |
|              |      | VEGA                   | 2    |
|              |      | VEGA COUPE             | 50   |



TABLE 3 (continued)

| MANUFACTURER | CODE | MODEL               | CODE |
|--------------|------|---------------------|------|
| CHRYSLER     | 5    | CORDOBA             | 1    |
|              |      | IMPERIAL CROWN      | 7    |
|              |      | IMPERIAL LE BARON   | 5    |
|              |      | LE BARON MEDAILLON  | 11   |
|              |      | NEWPORT             | 2    |
|              |      | NEWPORT CUSTOM      | 8    |
|              |      | NEWPORT ROYAL       | 10   |
|              |      | NEW YORKER          | 3    |
|              |      | NEW YORKER BROUGHAM | 9    |
|              |      | TOWN AND COUNTRY    | 4    |
|              |      | 300                 | 6    |

| MANUFACTURER | CODE | MODEL                   | CODE |
|--------------|------|-------------------------|------|
| DODGE        | 6    | ASPEN                   | 31   |
|              |      | ASPEN CUSTOM            | 32   |
|              |      | ASPEN SPECIAL EDITION   | 43   |
|              |      | CHALLENGER              | 5    |
|              |      | CHALLENGER R/T          | 18   |
|              |      | CHARGER                 | 3    |
|              |      | CHARGER R/T             | 11   |
|              |      | CHARGER SE              | 23   |
|              |      | CHARGER SPECIAL EDITION | 35   |
|              |      | CHARGER SPORT           | 42   |
|              |      | CHARGER 500             | 20   |
|              |      | CORONET                 | 2    |
|              |      | CORONET BROUGHAM        | 36   |
|              |      | CUSTOM 880              | 39   |
|              |      | CORONET CRESTWOOD       | 21   |
|              |      | CORONET CUSTOM          | 22   |
|              |      | CORONET DE LUXE         | 19   |
|              |      | CORONET R/T             | 10   |
|              |      | CORONET SUPERBEE        | 7    |
|              |      | CORONET 440             | 8    |
|              |      | CORONET 500             | 9    |
|              |      | DAKT                    | 1    |
|              |      | DART CUSTOM             | 28   |
|              |      | DART GT                 | 15   |
|              |      | DART GTS                | 16   |
|              |      | DAKT SPORT              | 26   |
|              |      | DART SPORT 340          | 27   |
|              |      | DART SWINGER            | 24   |
|              |      | DART SWINGER SPECIAL    | 25   |
|              |      | DART SPECIAL EDITION    | 34   |
|              |      | DART SPORT 360          | 33   |
|              |      | DART 270                | 14   |
|              |      | DIPLOMAT                | 47   |
|              |      | DIPLOMAT MEDAILLON      | 45   |
|              |      | MONACO                  | 6    |
|              |      | MONACO BROUGHAM         | 40   |
|              |      | MONACO CRESTWOOD        | 46   |
|              |      | MONACO CUSTOM           | 41   |
|              |      | MONACO 500              | 17   |
|              |      | POLARA                  | 12   |
|              |      | POLARA BROUGHAM         | 44   |
|              |      | POLARA CUSTOM           | 29   |
|              |      | POLARA 500              | 13   |
|              |      | ROYAL MONACO            | 4    |
|              |      | ROYAL MONACO BROUGHAM   | 30   |
|              |      | SPORTSMAN               | 38   |



| MANUFACTURER | CODE | MODEL                 | CODE |
|--------------|------|-----------------------|------|
| FORD         | 7    | COBRA                 | 15   |
|              |      | COUNTRY SEDAN         | 22   |
|              |      | COUNTRY SQUIRE        | 23   |
|              |      | CUSTOM                | 16   |
|              |      | CUSTOM 500            | 19   |
|              |      | ELITE                 | 6    |
|              |      | FAIRLANE              | 14   |
|              |      | FAIRLANE GT           | 32   |
|              |      | FAIRLANE 500          | 25   |
|              |      | FAIRLANE 500 FASTBACK | 26   |
|              |      | FALCON                | 13   |
|              |      | FUTURA                | 24   |
|              |      | FUTURA SPORT          | 30   |
|              |      | FUTURA SPORT COUPE    | 48   |
|              |      | GALAXIE               | 17   |
|              |      | GALAXIE 500           | 45   |
|              |      | GALAXIE 500 FASTBACK  | 29   |
|              |      | GALAXIE 500 LTD       | 47   |
|              |      | GALAXIE 500 XL        | 46   |
|              |      | GRANADA               | 4    |
|              |      | GRANADA GHIA          | 38   |
|              |      | GRAN TORINO           | 12   |
|              |      | GRAN TORINO BROUGHAM  | 39   |
|              |      | GRAN TORINO ELITE     | 49   |
|              |      | GRAN TORINO SPORT     | 43   |
|              |      | GRAN TORINO SQUIRE    | 44   |
|              |      | LTD                   | 7    |
|              |      | LTD BROUGHAM          | 33   |
|              |      | LTD COUNTRY SQUIRE    | 41   |
|              |      | LTD LANDAU            | 40   |
|              |      | LTD 2                 | 52   |
|              |      | LTD 2 BROUGHAM        | 54   |
|              |      | LTS 2 S               | 53   |
|              |      | MAVERICK              | 3    |
|              |      | MAVERICK GRABBER      | 34   |
|              |      | MUSTANG               | 10   |
|              |      | MUSTANG FASTBACK      | 31   |
|              |      | MUSTANG GRANDE        | 36   |
|              |      | MUSTANG MACH 1        | 35   |
|              |      | MUSTANG 2             | 2    |
|              |      | MUSTANG 2 GHIA        | 37   |
|              |      | MUSTANG 2 MACH 1      | 42   |
|              |      | RANCH WAGON           | 21   |
|              |      | PINTO                 | 1    |
|              |      | THUNDERBIRD           | 9    |
|              |      | THUNDERBIRD LANDAU    | 20   |
|              |      | TORINO                | 5    |
|              |      | TORINO GT             | 27   |
|              |      | TORINO GT FASTBACK    | 28   |
|              |      | TORINO SQUIRE         | 51   |
|              |      | VILLAGER              | 50   |
|              |      | WAGON                 | 8    |
|              |      | XL                    | 18   |

| MANUFACTURER    | CODE | MODEL               | CODE |
|-----------------|------|---------------------|------|
| LINCOLN-MERCURY | 8    | BOBCAT              | 3    |
|                 |      | BROUGHAM            | 17   |
|                 |      | CALIENTE            | 29   |
|                 |      | CAPRI               | 31   |
|                 |      | COLONY PARK         | 11   |
|                 |      | COMET               | 4    |
|                 |      | COMET 202           | 30   |
|                 |      | COMMUTER            | 19   |
|                 |      | CONTINENTAL         | 1    |
|                 |      | CONTINENTAL MARK 3  | 13   |
|                 |      | CONTINENTAL MARK 4  | 2    |
|                 |      | COUGAR              | 7    |
|                 |      | COUGAR BROUGHAM     | 37   |
|                 |      | COUGAR ELIMINATOR   | 25   |
|                 |      | COUGAR VILLAGER     | 38   |
|                 |      | COUGAR XR 7         | 24   |
|                 |      | CYCLONE             | 12   |
|                 |      | CYCLONE FASTBACK    | 27   |
|                 |      | CYCLONE GT          | 22   |
|                 |      | CYCLONE GT FASTBACK | 28   |
|                 |      | CYCLONE SPOILER     | 23   |
|                 |      | GRAN MARQUIS        | 10   |
|                 |      | MARANDA             | 15   |
|                 |      | MARK 5              | 39   |
|                 |      | MARQUIS             | 8    |
|                 |      | MARQUIS BROUGHAM    | 9    |
|                 |      | MONARCH             | 5    |
|                 |      | MONARCH GHIA        | 34   |
|                 |      | MONTCLAIRE          | 18   |
|                 |      | MONTEGO             | 6    |
|                 |      | MONTEGO BROUGHAM    | 35   |
|                 |      | MONTEGO GT          | 32   |
|                 |      | MONTEGO MX          | 20   |
|                 |      | MONTEGO MX BROUGHAM | 21   |
|                 |      | MONTEGO VILLAGER    | 36   |
|                 |      | MONTERY             | 14   |
|                 |      | MONTERY CUSTOM      | 26   |
|                 |      | PARK LANE           | 16   |
|                 |      | S 55                | 33   |
|                 |      | VERSAILLES          | 40   |

Table 3 (continued)

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| 1 | MANUFACTURER | 1 | CODE | 1 | MODEL                    | 1 | CODE | 1 |
|---|--------------|---|------|---|--------------------------|---|------|---|
| 1 | OLDSMOBILE   | 1 | 9    | 1 | CUSTOM CRUISER           | 1 | 5    | 1 |
| 1 |              | 1 |      | 1 | CUTLASS                  | 1 | 3    | 1 |
|   |              |   |      | 1 | CUTLASS CRUISER          | 1 | 18   | 1 |
|   |              |   |      | 1 | CUTLASS S                | 1 | 21   | 1 |
|   |              |   |      | 1 | CUTLASS SUPREME          | 1 | 10   | 1 |
|   |              |   |      | 1 | CUTLASS SUPREME BROUGHAM | 1 | 27   | 1 |
|   |              |   |      | 1 | DELMONT 88               | 1 | 15   | 1 |
|   |              |   |      | 1 | DELTA CUSTOM             | 1 | 16   | 1 |
|   |              |   |      | 1 | DELTA CUSTOM CRUISER     | 1 | 19   | 1 |
|   |              |   |      | 1 | DELTA 88                 | 1 | 4    | 1 |
|   |              |   |      | 1 | DELTA 88 CUSTOM          | 1 | 20   | 1 |
|   |              |   |      | 1 | DELTA 88 ROYAL           | 1 | 9    | 1 |
|   |              |   |      | 1 | DYNAMIC 88               | 1 | 11   | 1 |
|   |              |   |      | 1 | F 85                     | 1 | 12   | 1 |
|   |              |   |      | 1 | JETSTAR 1                | 1 | 23   | 1 |
|   |              |   |      | 1 | JETSTAR 88               | 1 | 22   | 1 |
|   |              |   |      | 1 | NINETY-EIGHT             | 1 | 6    | 1 |
|   |              |   |      | 1 | NINETY-EIGHT REGENCY     | 1 | 25   | 1 |
|   |              |   |      | 1 | OMEGA                    | 1 | 2    | 1 |
|   |              |   |      | 1 | OMEGA BROUGHAM           | 1 | 24   | 1 |
|   |              |   |      | 1 | OMEGA SALON              | 1 | 13   | 1 |
|   |              |   |      | 1 | STAREFIRE                | 1 | 1    | 1 |
|   |              |   |      | 1 | STAREFIRE SX             | 1 | 27   | 1 |
|   |              |   |      | 1 | TORONADO                 | 1 | 7    | 1 |
|   |              |   |      | 1 | TORONADO BROUGHAM        | 1 | 14   | 1 |
|   |              |   |      | 1 | VISTA CRUISER            | 1 | 8    | 1 |
| 1 |              |   |      | 1 | 4-4-2                    | 1 | 17   | 1 |

| MANUFACTURER | CODE | MODEL                     | CODE |
|--------------|------|---------------------------|------|
| PLYMOUTH     | 10   | AAR-CUDA                  | 20   |
|              |      | BARACUDA                  | 9    |
|              |      | BELVEDERE                 | 11   |
|              |      | BELVEDERE GTX             | 14   |
|              |      | BELVEDERE 2               | 39   |
|              |      | CUDA                      | 15   |
|              |      | FURY                      | 4    |
|              |      | FURY CUSTOM               | 33   |
|              |      | FURY CUSTOM SUBURBAN      | 34   |
|              |      | FURY SALON                | 26   |
|              |      | FURY SPORT                | 19   |
|              |      | FURY SPORT SUBURBAN       | 27   |
|              |      | FURY SUBURBAN             | 25   |
|              |      | FURY 2                    | 16   |
|              |      | FURY 3                    | 17   |
|              |      | FURY 3 FAST TOP           | 22   |
|              |      | GRAN COUPE                | 24   |
|              |      | GRAN FURY                 | 5    |
|              |      | GRAN FURY BROUGHAM        | 6    |
|              |      | GRAN FURY CUSTOM          | 30   |
|              |      | GRAN FURY CUSTOM SUBURBAN | 31   |
|              |      | GRAN FURY SPORT SUBURBAN  | 32   |
|              |      | GRAN FURY SUBURBAN        | 29   |
|              |      | ROAD RUNNER               | 8    |
|              |      | SATELLITE                 | 12   |
|              |      | SATELLITE CUSTOM          | 43   |
|              |      | SATELLITE REGENT          | 46   |
|              |      | SATELLITE SEBRING         | 44   |
|              |      | SATELLITE SEBRING PLUS    | 45   |
|              |      | SPORT FURY FAST TOP       | 21   |
|              |      | SPORT SATELLITE           | 13   |
|              |      | VALIANT                   | 3    |
|              |      | VALIANT BROUGHAM          | 7    |
|              |      | VALIANT CUSTOM            | 36   |
|              |      | VALIANT DUSTER            | 1    |
|              |      | VALIANT DUSTER CUSTOM     | 35   |
|              |      | VALIANT DUSTER 340        | 23   |
|              |      | VALIANT DUSTER 360        | 37   |
|              |      | VALIANT SCAMP             | 2    |
|              |      | VALIANT SCAMP SPECIAL     | 28   |
|              |      | VALIANT SIGNET            | 10   |
|              |      | VALIANT 100               | 38   |
|              |      | VIP                       | 18   |
|              |      | VOLARE                    | 40   |
|              |      | VOLARE CUSTOM             | 41   |
|              |      | VOLARE PREMIER            | 42   |

Table 3 (continued)

| MANUFACTURER | CODE | MODEL                 | CODE |
|--------------|------|-----------------------|------|
| PONTIAC      | 11   | ASTRE                 | 1    |
|              |      | ASTRE SAFARI          | 2    |
|              |      | ASTRE SJ              | 25   |
|              |      | BONNEVILLE            | 9    |
|              |      | CATALINA              | 8    |
|              |      | CATALINA BROUGHAM     | 30   |
|              |      | CATALINA SAFARI       | 20   |
|              |      | EXECUTIVE             | 22   |
|              |      | FIREBIRD              | 4    |
|              |      | FIREBIRD ESPRIT       | 14   |
|              |      | FIREBIRD FORMULA      | 13   |
|              |      | FIREBIRD TRANS AM     | 15   |
|              |      | GRAND AM              | 6    |
|              |      | GRAND LE MANS         | 36   |
|              |      | GRAND PRIX            | 12   |
|              |      | GRAND PRIX SJ         | 38   |
|              |      | GRAND SAFARI          | 19   |
|              |      | GRAND VILLE           | 21   |
|              |      | GRAND VILLE BROUGHAM  | 10   |
|              |      | GTO                   | 28   |
|              |      | LE MANS               | 5    |
|              |      | LE MANS LUXURY        | 18   |
|              |      | LE MANS SAFARI        | 7    |
|              |      | LE MANS SPORT         | 34   |
|              |      | LE MANS SPORT COUPE   | 17   |
|              |      | SAFARI WAGON          | 11   |
|              |      | SUNBIRD               | 37   |
|              |      | STAR CHIEF            | 31   |
|              |      | STAR CHIEF EXECUTIVE  | 33   |
|              |      | TEMPEST               | 23   |
|              |      | TEMPEST CUSTOM        | 26   |
|              |      | TEMPEST CUSTOM SAFARI | 32   |
|              |      | TEMPEST SAFARI        | 27   |
|              |      | T-37                  | 39   |
|              |      | VENTURA               | 3    |
|              |      | VENTURA CUSTOM        | 16   |
|              |      | VENTURA SJ            | 24   |
|              |      | VENTURA 2             | 29   |
|              |      | 2 + 2                 | 35   |



IMPORTED MAKES AND MODELS  
from EUROPE

| MANUFACTURER | CODE | MODEL   | CODE |
|--------------|------|---------|------|
| ALPHA ROMEO  | 21   | ALFETTA | 1    |
|              |      | BERLINA | 3    |
|              |      | VELOCE  | 2    |

| MANUFACTURER | CODE | MODEL    | CODE |
|--------------|------|----------|------|
| AUDI         | 22   | AUDI 100 | 1    |
|              |      | FOX      | 2    |

| MANUFACTURER    | CODE | MODEL     | CODE |
|-----------------|------|-----------|------|
| BAYER.MOT.WERKL | 24   | BMW 1600  | 4    |
|                 |      | BMW 2002  | 1    |
|                 |      | BMW 2500  | 5    |
|                 |      | BMW 3.0   | 3    |
|                 |      | BMW 320 I | 6    |
|                 |      | BMW 530 I | 2    |
|                 |      | BMW 630 I | 7    |

| MANUFACTURER    | CODE | MODEL            | CODE |
|-----------------|------|------------------|------|
| BRITISH LEYLAND | 23   | AUSTIN AMERICA   | 15   |
|                 |      | AUSTIN MARINA    | 1    |
|                 |      | AUSTIN MARTIN    | 17   |
|                 |      | JAGUAR E         | 13   |
|                 |      | JAGUAR XJ-S      | 14   |
|                 |      | JAGUAR XJ6C      | 4    |
|                 |      | JAGUAR XJ6L      | 5    |
|                 |      | JAGUAR XJ12C     | 6    |
|                 |      | JAGUAR XJ12L     | 7    |
|                 |      | LAGONDA          | 16   |
|                 |      | MG-B             | 2    |
|                 |      | MIDGET 1500      | 3    |
|                 |      | TRIUMPH GT-6     | 12   |
|                 |      | TRIUMPH STACK    | 11   |
|                 |      | TRIUMPH SPITFIRE | 8    |
|                 |      | TR 6             | 9    |
|                 |      | TR 7             | 10   |

| MANUFACTURER | CODE | MODEL         | CODE |
|--------------|------|---------------|------|
| CITROEN      | 35   | CITROEN DS 21 | 1    |

| MANUFACTURER | CODE | MODEL        | CODE |
|--------------|------|--------------|------|
| FERRARI      | 38   | DINO 308 GT  | 1    |
|              |      | DINO 308 GTB | 2    |

| MANUFACTURER | CODE | MODEL     | CODE |
|--------------|------|-----------|------|
| FIAT         | 25   | FIAT X1/9 | 1    |
|              |      | FIAT 124  | 3    |
|              |      | FIAT 128  | 2    |
|              |      | FIAT 131  | 4    |
|              |      | FIAT 850  | 5    |

| MANUFACTURER | CODE | MODEL      | CODE |
|--------------|------|------------|------|
| FORD ENGLAND | 36   | CORTINA    | 1    |
|              |      | CORTINA GT | 2    |

| MANUFACTURER | CODE | MODEL        | CODE |
|--------------|------|--------------|------|
| FORD KOELN   | 26   | CAPRI 1600   | 3    |
|              |      | CAPRI 2 2300 | 1    |
|              |      | CAPRI 2 2800 | 2    |

| MANUFACTURER | CODE | MODEL    | CODE |
|--------------|------|----------|------|
| LANCIA       | 39   | BETA     | 1    |
|              |      | BETA HPE | 2    |
|              |      | SCORPION | 3    |

| MANUFACTURER | CODE | MODEL        | CODE |
|--------------|------|--------------|------|
| LOTUS        | 40   | ELITE        | 1    |
|              |      | ESPRITE      | 2    |
|              |      | ELITE SPRINT | 3    |

| MANUFACTURER | CODE | MODEL    | CODE |
|--------------|------|----------|------|
| MASERATI     | 41   | KHAMSIN  | 1    |
|              |      | BORA     | 2    |
|              |      | MERAK SS | 3    |

| MANUFACTURER | CODE | MODEL            | CODE |
|--------------|------|------------------|------|
| MERCEDES     | 27   | MERCEDES 220     | 10   |
|              |      | MERCEDES 230     | 2    |
|              |      | MERCEDES 240     | 1    |
|              |      | MERCEDES 250     | 15   |
|              |      | MERCEDES 280     | 3    |
|              |      | MERCEDES 280 C   | 14   |
|              |      | MERCEDES 280 S   | 6    |
|              |      | MERCEDES 280 SE  | 13   |
|              |      | MERCEDES 280 SEL | 11   |
|              |      | MERCEDES 280 SL  | 16   |
|              |      | MERCEDES 300     | 5    |
|              |      | MERCEDES 300 SEL | 12   |
|              |      | MERCEDES 450 SE  | 7    |
|              |      | MERCEDES 450 SEL | 4    |
|              |      | MERCEDES 450 SL  | 9    |
|              |      | MERCEDES 450 SLC | 8    |

| MANUFACTURER | CODE | MODEL         | CODE |
|--------------|------|---------------|------|
| OPEL         | 28   | MANTA         | 1    |
|              |      | KADETT DELUXE | 4    |
|              |      | OPEL GT       | 3    |
|              |      | OPEL 1900     | 2    |

| MANUFACTURER | CODE | MODEL       | CODE |
|--------------|------|-------------|------|
| PEUGEOT      | 29   | PEUGEOT 504 | 1    |
|              |      | PEUGOT 604  | 2    |

| MANUFACTURER | CODE | MODEL                 | CODE |
|--------------|------|-----------------------|------|
| PORSCHE      | 30   | PORSCHE 911           | 2    |
|              |      | PORSCHE 911 CARRERA   | 3    |
|              |      | PORSCHE 911 S COUPE   | 4    |
|              |      | PORSCHE 911 TURBO     | 6    |
|              |      | PORSCHE 912 E         | 5    |
|              |      | PORSCHE 914           | 1    |
|              |      | PORSCHE 924           | 7    |
|              |      | PORSCHE TURBO CARRERA | 8    |

| MANUFACTURER | CODE | MODEL              | CODE |
|--------------|------|--------------------|------|
| RENAULT      | 31   | RENAULT 5 TL       | 7    |
|              |      | RENAULT 10         | 9    |
|              |      | RENAULT 12         | 1    |
|              |      | RENAULT 14         | 3    |
|              |      | RENAULT 15         | 4    |
|              |      | RENAULT 15 TL      | 2    |
|              |      | RENAULT 16         | 8    |
|              |      | RENAULT 17 GORDINI | 5    |
|              |      | RENAULT 17 TL      | 6    |

| MANUFACTURER | CODE | MODEL         | CODE |
|--------------|------|---------------|------|
| ROLLS ROYCE  | 37   | SILVER SHADOW | 1    |
|              |      | CORNICHE      | 2    |
|              |      | CAMARGUE      | 3    |

| MANUFACTURER | CODE | MODEL   | CODE |
|--------------|------|---------|------|
| SAAB         | 32   | SAAB 95 | 4    |
|              |      | SAAB 96 | 2    |
|              |      | SAAB 97 | 3    |
|              |      | SAAB 99 | 1    |

Table 3 (continued)

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| MANUFACTURER | CODE | MODEL      | CODE |
|--------------|------|------------|------|
| SIMCA        | 37   | SIMCA 1204 | 1    |

| MANUFACTURER | CODE | MODEL            | CODE |
|--------------|------|------------------|------|
| VOLKSWAGEN   | 33   | BEATLE (TYPE 1)  | 1    |
|              |      | DASHER           | 3    |
|              |      | RABBIT           | 2    |
|              |      | SCIROCCO         | 4    |
|              |      | KARMAN GHIA      | 6    |
|              |      | VW 412 (TYPE 4)  | 7    |
|              |      | VW 1600 (TYPE 3) | 5    |

| MANUFACTURER | CODE | MODEL       | CODE |
|--------------|------|-------------|------|
| VOLVO        | 34   | VOLVO 142   | 6    |
|              |      | VOLVO 142 E | 13   |
|              |      | VOLVO 144   | 7    |
|              |      | VOLVO 145   | 5    |
|              |      | VOLVO 164   | 4    |
|              |      | VOLVO 183   | 8    |
|              |      | VOLVO 242   | 1    |
|              |      | VOLVO 244   | 2    |
|              |      | VOLVO 245   | 3    |
|              |      | VOLVO 262   | 10   |
|              |      | VOLVO 264   | 9    |
|              |      | VOLVO 265   | 11   |
|              |      | VOLVO 1800  | 12   |



IMPORTED MAKES AND MODELS  
from JAPAN

| MANUFACTURER | CODE | MODEL       | CODE |
|--------------|------|-------------|------|
| HONDA        | 53   | ACCORD CVCC | 4    |
|              |      | CIVIC       | 1    |
|              |      | CIVIC CVCC  | 2    |
|              |      | CIVIC 600   | 3    |

| MANUFACTURER | CODE | MODEL     | CODE |
|--------------|------|-----------|------|
| MAZDA        | 54   | COSMO     | 6    |
|              |      | MAZDA GLC | 7    |
|              |      | MAZDA RX2 | 1    |
|              |      | MAZDA RX3 | 2    |
|              |      | MAZDA RX4 | 3    |
|              |      | MAZDA 808 | 4    |
|              |      | MIZER     | 5    |

| MANUFACTURER | CODE | MODEL         | CODE |
|--------------|------|---------------|------|
| MITSUBISHI   | 51   | COLT          | 2    |
|              |      | COLT CAROUSEL | 1    |
|              |      | COLT GT       | 3    |
|              |      | ARROW         | 4    |

| MANUFACTURER | CODE | MODEL         | CODE |
|--------------|------|---------------|------|
| NISSAN       | 52   | DATSUN B 210  | 3    |
|              |      | DATSUN F10    | 10   |
|              |      | DATSUN PL 510 | 6    |
|              |      | DATSUN PL 610 | 1    |
|              |      | DATSUN PL 620 | 2    |
|              |      | DATSUN PL 710 | 5    |
|              |      | DATSUN 1200   | 7    |
|              |      | DATSUN 1600   | 9    |
|              |      | DATSUN 200 SX | 12   |
|              |      | DATSUN 240-Z  | 8    |
|              |      | DATSUN 260-Z  | 4    |
|              |      | DATSUN 280-Z  | 13   |
|              |      | DATSUN 810    | 11   |

| MANUFACTURER | CODE | MODEL                | CODE |
|--------------|------|----------------------|------|
| SUBARU       | 55   | SUBARU DL 1400       | 1    |
|              |      | SUBARU DL 1600       | 6    |
|              |      | SUBARU GF 1400       | 3    |
|              |      | SUBARU GF 1600       | 7    |
|              |      | SUBARU GL COUPE 1400 | 2    |
|              |      | SUBARU STANDARD      | 6    |
|              |      | SUBARU STAR          | 5    |
|              |      | SUBARU 4WD           | 4    |

| MANUFACTURER | CODE | MODEL        | CODE |
|--------------|------|--------------|------|
| TOYOTA       | 56   | CARINA       | 5    |
|              |      | CELICA       | 2    |
|              |      | COROLLA 1200 | 6    |
|              |      | COROLLA 1600 | 1    |
|              |      | CORONA       | 3    |
|              |      | CROWN        | 7    |
|              |      | MARK 2       | 4    |

| Load Range for Tires | Code |
|----------------------|------|
| A                    | 1    |
| B                    | 2    |
| C                    | 3    |
| D                    | 4    |
| E                    | 5    |
| F                    | 6    |
| G                    | 7    |
| H                    | 8    |
| J                    | 9    |
| K                    | 10   |
| L                    | 11   |
| M                    | 12   |
| N                    | 13   |

Table 4 Coding Table for  
Load Range for Tires

| Service Brake Type                  | Code |
|-------------------------------------|------|
| Drum (without other Specifications) | 10   |
| Simplex                             | 11   |
| Duplex                              | 12   |
| Servo                               | 13   |
| Disc (without other Specifications) | 20   |
| Fixed Caliper                       | 21   |
| Sliding Caliper                     | 22   |

Table 5 Coding Table for Service Brake Type

| Brake Circuit          |         | Code |
|------------------------|---------|------|
| Front - Rear           | (2 - 2) | 1    |
| Diagonal               | (2 - 2) | 2    |
| (Front - Rear)-Front   | (4 - 2) | 3    |
| Front - 1Rear Wheel    | (3 - 3) | 4    |
| Front-Rear, Front-Rear | (4 - 4) | 5    |

Table 6 Coding Table for Brake Circuit

| Brake Power Proportioning Valve             | Code |
|---------------------------------------------|------|
| None                                        | 0    |
| Proportioning (without other Specification) | 10   |
| Proportioning, Pressuresensitive            | 11   |
| Proportioning, Loadsensitive                | 12   |
| Proportioning, Loadsensitive, Left + Right  | 13   |

Table 7 Coding Table for Brake Power Proportioning Valve

# Weight Data Catalog

| Item | Description                    |
|------|--------------------------------|
| 1    | VEHICLE DESIGNATION TYPE       |
| 2    | Base vehicle curb weight       |
|      | <u>Chassis</u>                 |
| 3    | Engine, oil and coolant        |
| 4    | Engine electric                |
| 5    | Transmission and Oil           |
| 6    | Engine-transmission-suspension |
| 7    | Wheel suspension               |
| 8    | Supporting knuckle             |
| 9    | Front wheel suspension         |
| 10   | Stabilizer                     |
| 11   | Shock absorber                 |
|      | } Suspension of front axle     |
| 12   | Front axle                     |
| 13   | Steering                       |
| 14   | Wishbone                       |
| 15   | Rear wheel suspension          |
| 16   | Stabilizer                     |
| 17   | Shock absorber                 |
|      | } Suspension of rear axle      |



(continued)

| Item | Description                   |
|------|-------------------------------|
| 18   | Rear axle                     |
| 19   | Brakes                        |
| 20   | Foot and hand levers          |
| 21   | Fuel tank and fuel            |
| 22   | Wheels and tires              |
| 23   | Chassis total                 |
|      | <u>Body</u>                   |
| 24   | Body in white (items 41 - 63) |
| 25   | Glass and tracking            |
| 26   | Body components               |
| 27   | Air extractor ventilation     |
| 28   | Heating system                |
| 29   | Bumper system front           |
| 30   | Bumper system rear            |
| 31   | Electric                      |
| 32   | Interior trim and attenuation |
| 33   | Belts and belts attachment    |
| 34   | Equipment                     |
| 35   | Exterior molding              |
| 36   | Seats                         |
| 37   | Other body components         |
| 38   | Body total                    |
| 39   | Passengers                    |
| 40   | Luggage                       |

(continued)

| Item | Description                    |                   |
|------|--------------------------------|-------------------|
|      | <u>Body in white in detail</u> |                   |
| 41   | Body Platform                  |                   |
| 42   | Front end                      | } Front structure |
| 43   | Front side panel               |                   |
| 44   | Front fenders                  |                   |
| 45   | Hood assembly                  |                   |
| 46   | Dashboard                      |                   |
| 47   | Roof                           |                   |
| 48   | Front doors                    |                   |
| 49   | Rear doors                     |                   |
| 50   | Side panel (wheel housing)     |                   |
| 51   | Rear end                       | } Rear structure  |
| 52   | Deck lid assembly              |                   |
| 53   | Glove compartment hinge        |                   |
| 54   | Front door hinge               |                   |
| 55   | Rear door hinge                |                   |
| 56   | Hood hinge                     |                   |
| 57   | Deck lid hinge                 |                   |
| 58   | Paint                          |                   |
| 59   | Air duct in body               |                   |
| 60   | Cover sheet for engine         |                   |
| 61   | Fastening front fender         |                   |
| 62   | Fastening dashboard            |                   |
| 63   | Fastening rear fender          |                   |

Coding Table for Makes and Models (Weight Data)

| C<br>O<br>D<br>E | VEHICLE DESIGNATION     | SOURCE | BODY IN<br>WHITE<br>IN DETAIL | MODEL<br>YEAR |
|------------------|-------------------------|--------|-------------------------------|---------------|
| 1                | VW Rabbit               | VW     | +                             | 71            |
| 2                | VW Beetle 113           | VW     | +                             | 71            |
| 3                | VW K 70                 | VW     | +                             | 70            |
| 4                | Audi Fox                | VW     | +                             | 72            |
| 5                | Ford Pinto              | VW     | +                             | 71            |
| 6                | GM Vega                 | VW     | +                             | 71            |
| 7                | GM Chevrolet Impala     | VW     | +                             | 71            |
| 8                | GM Opel Kadett CL 16    | VW     | +                             | 76            |
| 9                | GM Opel Manta           | VW     | +                             | 71            |
| 10               | GM Opel Rekord II       | VW     | +                             | 72            |
| 11               | GM Opel Comodore        | VW     | +                             | 73            |
| 12               | Ford Taunus TC 1300     | VW     | +                             | 71            |
| 13               | Ford 17 M P7            | VW     | +                             | 69            |
| 14               | Ford Consul             | VW     | +                             | 72            |
| 15               | Fiat 126                | VW     | +                             | 74            |
| 16               | Fiat 127                | VW     | +                             | 71            |
| 17               | Fiat 128 S Coupé        | VW     | +                             | 71            |
| 18               | Fiat 131                | VW     | +                             | 75            |
| 19               | Alfa Sud                | VW     | +                             | 75            |
| 20               | Volvo 244 DL            | -      |                               | 76            |
| 21               | Chrysler Valiant 2-door | [14]   |                               | N.A.          |
| 22               | " 4-door                | "      |                               | "             |
| 23               | Satellite 2-door        | "      |                               | "             |
| 24               | New Yorker 4-door       | "      |                               | "             |
| 25               | Fury                    | [13]   |                               | "             |
| 26               | Newport                 | "      |                               | "             |
| 27               | Fiat 128                | [15]   |                               | "             |
| 28               | Chrysler Simca C6       | "      |                               | "             |
| 29               | GM Chevrolet Nova       | "      |                               | "             |
| 30               | Ford Maverick           | "      |                               | "             |
| 31               | Ford Galaxy             | "      |                               | "             |
| 32               | Ford Falcon             | "      |                               | "             |

# Geometric Data Catalog

| Item <del>X</del> | Node<br>No. | Description                                                           |
|-------------------|-------------|-----------------------------------------------------------------------|
| 1                 |             | Make and Model Code (Table A3-1)                                      |
| 2                 |             | Source (Manufacturer = 1, Measurement = 2)                            |
|                   |             | <u>Interior Pass. Compartment</u>                                     |
| 4 - 6             | 1           | 4 characteristic points of<br>dashbord-driver                         |
| 7 - 9             | 2           |                                                                       |
| 10 - 12           | 3           |                                                                       |
| 13 - 15           | 4           |                                                                       |
| 16 - 18           | 5           | 4 characteristic points of<br>dashbord in front of right<br>passenger |
| 19 - 21           | 6           |                                                                       |
| 22 - 24           | 7           |                                                                       |
| 25 - 27           | 8           |                                                                       |
| 28 - 30           | 9           | steering wheel, upper edge                                            |
| 31 - 33           | 10          | " " lower "                                                           |
| 34 - 36           | 11          | " Column end                                                          |
| 37                | 12          | " wheel, total angular<br>displacement (degrees)                      |
| 38                |             | steering wheel, total longitudinal displacement                       |
| 39                | 13          | steering wheel, diameter                                              |
| 40                |             | seat displacement (1)                                                 |
| 43 - 45           | 14          | H-point, driver (50 % male)                                           |
| 46 - 48           | 15          | T-point, driver (50 % male)                                           |
| 49 - 51           | 16          | H-point driver, foremost position                                     |
| 52 - 54           | 17          | T-" " , " "                                                           |
| 55 - 57           | 18          | H-" " , rearmost "                                                    |
| 58 - 60           | 19          | T-" " , " "                                                           |
| 61 - 63           | 20          | H-" , rear passenger, left<br>(50 % male)                             |
| 64 - 66           | 21          | T-" , rear passenger, left<br>(50 % male)                             |
| 67                | 22          | dashboard to lower edge seatback                                      |
| 70                | 23          | front seatback to rear seatback                                       |

(continued)

| Item <del>X</del> | Node No. | Description                                              |
|-------------------|----------|----------------------------------------------------------|
| 73                | 24       | front seat cushion height above floor                    |
| 76                | 25       | front seat cushion height above ground                   |
| 79                | 26       | rear seat cushion height above floor                     |
| 82                | 27       | rear seat cushion height above ground                    |
| 85                | 28       | seat back edge to heel point front                       |
| 88                | 29       | seat back edge to heel point rear                        |
|                   |          | <u>Belt Anchorage Points</u>                             |
| 91 - 93           | 30       | B-pillar low                                             |
| 94 - 96           | 31       | tunnel                                                   |
| 97 - 99           | 32       | B-pillar high                                            |
|                   |          | } driver                                                 |
|                   |          | <u>Window interior side, intersection of edge curves</u> |
| 100-102           | 33       | } windscreen                                             |
| 103-105           | 34       |                                                          |
| 106-108           | 35       |                                                          |
| 109-111           | 36       | } rear window                                            |
| 112-114           | 37       |                                                          |
| 115-117           | 38       |                                                          |
| 118-120           | 39       | } front side window                                      |
| 121-123           | 40       |                                                          |
| 124-126           | 41       |                                                          |
| 127-129           | 42       | } rear side window                                       |
| 130-132           | 43       |                                                          |
| 133-135           | 44       |                                                          |
| 136-138           | 45       | } rear side window                                       |
| 139-141           | 46       |                                                          |
| 142-144           | 47       |                                                          |
| 145-147           | 48       |                                                          |



(continued)

| Item <del>XX</del> | Node No. | Description                                                                                                     |
|--------------------|----------|-----------------------------------------------------------------------------------------------------------------|
|                    |          | <u>Door Openings</u> (y coordinate should be that of the door frame which is most relevant for occupant impact) |
| 148-150            | 49       | front door opening                                                                                              |
| 151-153            | 50       |                                                                                                                 |
| 154-156            | 51       |                                                                                                                 |
| 157-159            | 52       |                                                                                                                 |
| 160-162            | 53       |                                                                                                                 |
| 163-165            | 54       | rear door opening                                                                                               |
| 166-168            | 55       |                                                                                                                 |
| 169-171            | 56       |                                                                                                                 |
| 172-174            | 57       |                                                                                                                 |
| 175-177            | 58       |                                                                                                                 |
| 178-180            | 59       | lower edge of side door sill (A-pillar)                                                                         |
| 181-183            | 60       |                                                                                                                 |
| 184-186            | 61       |                                                                                                                 |
| 187-189            | 62       | lower edge of side door sill (C-pillar)                                                                         |
|                    |          | <u>Exterior Shape, Engine and Fuel Position</u>                                                                 |
| 190-192            | 63       | 6 characteristic points of front shape at y = 0                                                                 |
| 193-195            | 64       |                                                                                                                 |
| 196-198            | 65       |                                                                                                                 |
| 199-201            | 66       |                                                                                                                 |
| 202-204            | 67       |                                                                                                                 |
| 205-207            | 68       |                                                                                                                 |

(continued)

| Item <del>XX</del> | Node No. | Description                                                                                 |
|--------------------|----------|---------------------------------------------------------------------------------------------|
| 208-210            | 69       | 6 characteristic points of front shape at $y = \frac{W_{103}}{4}$<br>(W 103 see MVMA spec.) |
| 211-213            | 70       |                                                                                             |
| 214-216            | 71       |                                                                                             |
| 217-219            | 72       |                                                                                             |
| 220-222            | 73       |                                                                                             |
| 223-225            | 74       | upper left front corner of engine<br>" " " " " hard engine                                  |
| 226-228            | 75       |                                                                                             |
| 229-231            | 76       |                                                                                             |
| 232-234            | 77       | lower left rear corner of engine                                                            |
| 235-237            | 78       | rearmost point of transmission                                                              |
| 238-240            | 79       | firewall                                                                                    |
| 241-243            | 80       | lower edge of rear bumper                                                                   |
| 244-246            | 81       | upper " " " "                                                                               |
| 247-249            | 82       | rear end of fuel tank                                                                       |
| 250-252            | 83       | center of fuel filling hole                                                                 |
| 253-255            | 84       | rear end of spare wheel                                                                     |
| 256-258            | 85       | rim diameter                                                                                |
|                    |          | <u>Axles</u>                                                                                |
| 259-261            | 86       | front axle                                                                                  |
| 262-264            | 87       | rear axle                                                                                   |
|                    |          | <u>Front beam</u>                                                                           |
| 265-267            | 88       | 3 characteristic points of front beam                                                       |
| 268-270            | 89       |                                                                                             |
| 271-273            | 90       |                                                                                             |
|                    |          | <u>Drivetrain</u>                                                                           |
| 274-276            | 91       | center of gravity of engine-transmission unit                                               |
| 277                | 92       | mass of engine                                                                              |
| 278                |          | mass of transmission                                                                        |
| 280-282            | 93       | inertia moments of engine-transmission unit                                                 |

Coding Table for Makes and Models  
(Geometric Data)

| Code | Vehicle Designation Type                                                                   | Model Year |
|------|--------------------------------------------------------------------------------------------|------------|
| 1    | Plymouth Valiant<br>2-Door Coupé                                                           | 76         |
| 2    | Plymouth Valiant<br>2-Door Hardtop                                                         | 76         |
| 3    | Plymouth Valiant<br>4-Door Sedan                                                           | 76         |
| 4    | Dodge Aspen/Plymouth Volaré<br>2-Door Coupé                                                | 76         |
| 5    | Dodge Aspen, Special Edition<br>Plymouth Volaré Premier<br>4-Door, 2 Seat<br>Station Wagon | 76         |
| 6    | Dodge Aspen Custom<br>4-Door Sedan                                                         | 76         |
| 7    | Plymouth Fury/Dodge Coronet<br>4-Door Sedan                                                | 74 - 75    |
| 8    | Plymouth Fury/Dodge Coronet<br>2-Door Hardtop                                              | 75         |
| 9    | Plymouth Fury/Dodge Coronet<br>2 Seat/3 Seat Station Wagons                                | 74 - 75    |
| 10   | Plymouth Gran Fury<br>2-Door Hardtop                                                       | 75         |

(continued)

| Code | Vehicle Designation Type                                   | Model Year |
|------|------------------------------------------------------------|------------|
| 11   | Plymouth Cordoba/Dodge Charger<br>2-Door Specialty Hardtop | 75         |
| 12   | Plymouth Gran Fury<br>Custom Suburban<br>Station Wagon     | 75 - 76    |
| 13   | Chrysler Imperial                                          | 75         |
| 14   | Volvo 244 DL                                               | 76         |
| 15   | Daimler-Benz Series 200 - 280                              | 75         |
| 16   | BMW 2002                                                   | 76         |
| 17   | BMW 530i                                                   | 76         |
| 18   | BMW 3.0 Si                                                 | 76         |
| 19   | Audi 100 4-Door                                            | 76         |
| 20   | VW Dasher 2-Door                                           | 76         |
| 21   | VW Dasher 4-Door                                           | 76         |
| 22   | VW Rabbit 2-Door                                           | 76         |
| 23   | VW Rabbit 4-Door                                           | 76         |
| 24   | AMERICAN MOTORS CORPORATION<br>Hornet, 2-Door Sedan        | 76         |
| 25   | AMERICAN MOTORS CORPORATION<br>Gremlin, 2-Door Sedan       | 76         |

(continued)

| Code | Vehicle Designation Type                                                 | Model Year |
|------|--------------------------------------------------------------------------|------------|
| 26   | AMERICAN MOTORS CORPORATION<br>Pacer, 2-Door Sedan                       | 76         |
| 27   | AMERICAN MOTORS CORPORATION<br>Matador, 4-Door Sedan                     | 76         |
| 28   | FORD MOTOR COMPANY<br>Pinto, 2-Door Sedan                                | 76         |
| 29   | FORD MOTOR COMPANY<br>Granada, Standard 4-Door Sedan                     | 76         |
| 30   | FORD MOTOR COMPANY<br>Mustang II, 2-Door Ghia                            | 76         |
| 31   | FORD MOTOR COMPANY<br>Gran Torino, 2-Door Hardtop                        | 76         |
| 32   | FORD MOTOR COMPANY<br>Gran Torino, 4-Door Sedan                          | 76         |
| 33   | FORD MOTOR COMPANY<br>Maverick, 4-Door Sedan                             | 76         |
| 34   | FORD MOTOR COMPANY<br>Granada Ghia, 2-Door Sedan                         | 76         |
| 35   | FORD MOTOR COMPANY<br>Thunderbird, 2-Door Hardtop                        | 76         |
| 36   | FORD MOTOR COMPANY<br>Ford LTD Brougham,<br>4-Door Pillard Hardtop       | 76         |
| 37   | GENERAL MOTORS CORPORATION<br>Cadillac Eldorado,<br>2-Door Hardtop Coupé | 76         |



(continued)

| Code | Vehicle Designation Type                                                                 | Model<br>Year |
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| 38   | GENERAL MOTORS CORPORATION<br>Chevrolet Monte Carlo, 2-Door Coupé                        | 76            |
| 39   | GENERAL MOTORS CORPORATION<br>Chevrolet Chevelle, Malibu Classic<br>2-Door Hardtop Coupé | 76            |
| 40   | GENERAL MOTORS CORPORATION<br>Chevrolet Monza 2+2,<br>2-Door Hatchback Coupé             | 76            |
| 41   | GENERAL MOTORS CORPORATION<br>Chevrolet Nova, 4-Door Sedan                               | 76            |
| 42   | GENERAL MOTORS CORPORATION<br>Chevrolet Nova, 2-Door Coupé                               | 76            |
| 43   | GENERAL MOTORS CORPORATION<br>Chevrolet Vega, 2-Door Hatchback<br>Coupé                  | 76            |
| 44   | GENERAL MOTORS CORPORATION<br>Chevrolet Impala, 4-Door Sedan                             | 76            |
| 45   | GENERAL MOTORS CORPORATION<br>Chevrolet Impala, 2-Door Custom<br>Coupé                   | 76            |
| 46   | GENERAL MOTORS CORPORATION<br>Chevrolet Camaro, 2-Door Sport Coupé                       | 76            |
| 47   | GENERAL MOTORS CORPORATION<br>Buick Electra 225 Limited,<br>4-Door Hardtop               | 76            |
| 48   | GENERAL MOTORS CORPORATION<br>Oldsmobile Cutlass Supreme,<br>2-Door Hardtop Coupé        | 76            |



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