NATIONAL ACCIDENT SAMPLING SYSTEM (NASS)

CRASHWORTHINESS DATA SUBSYSTEM

Analytical User's Manual

1989 File

U.S. Department of Transportation
National Highway Traffic Safety Adminstration
National Center for Statistics and Analysis
Washington, D.C. 20590

TABLE OF CONTENTS

SECTION 1

INTRODUCTION

The National Accident Sampling System (NASS) is a continuous nationwide accident data collection program sponsored by the U.S. Department of Transportion. It is operated by the National Center for Statistics and Analysis (NCSA) of the National Highway Traffic Safety Administration (NHTSA).

NASS provides an automated, comprehensive national traffic accident data base. Data collection began in 1979 in 10 geographic sites, called Primary Sampling Units (PSU's). The 1989 NASS file contains data from 36 PSU's. These data are weighted to represent all police reported motor vehicle accidents occurring in the USA during the year involving passenger cars, light trucks and vans that were towed due to damage.

The structure of the NASS was changed in 1988, therefore comparing the 1988-1989 files with files from years prior to 1988 is not recommended. The changes in the NASS 1988-1989 files include: focusing on accidents involving automobiles and automobile derivatives, light trucks and vans with gross vehicle weight less than 10,000 pounds; giving special consideration to late model vehicles (the most recent five model years); emphasizing the more serious injury accidents; eliminating the pedestrian and non-motorist record, the driver record and vehicle registration information. A revised set of data collection forms was designed in 1988 for the crashworthiness data system. Some features are: the introduction of an Accident Event Record to capture all events in the accident; the creation of three new vehicle records (General Vehicle, External Vehicle, Internal Vehicle); and the separation of occupant records into an Occupant Assessment Record and an Occupant Injury Record, wherein all injuries are coded.

The 1989 NASS file is available in two automated formats: a sequential data set or a Statistical Analysis System (SAS) data set. Hardcopy data collection records, sanitized to protect privacy, are available for review. These records contain photographic slides, scene diagrams, and vehicle damage diagrams.

This Manual and the NASS Data Collection, Coding and Editing Manual - 1989 Crashworthiness Data Subsystem are the primary documentation supporting the automated file. When using this file one should be careful to understand the coding conventions of all variables used thoroughly. In addition, the user may find the following documents helpful:

CRASH3 User's Guide and Technical Manual (DOT-HS-805-732)

Collision Deformation Classification (SAE J224 MAR 84)

Injury Coding Manual 1988

NASS Design for Crashworthiness Research, April 1986 (Internal Working Paper)

General Description of the NASS Crashworthiness Data System Sample Design, April 1987 (Internal Working Paper)

The first document is available from the DOT/Transportation Systems Center (DTS-44), Kendall Square, Cambridge, Massachusetts 02142. The second document is available from the Society of Automotive Engineers (SAE), Warrendale, Pennsylvania 15096. The last three documents are available from National Highway Traffic Safety Administration at the address below.

Comments on the content and utility of the files and primary documentation are appreciated. Please address them to the National Center for Statistics and Analysis - NRD-30, National Highway Traffic Safety Administration, U.S. Department of Transportation, 400 Seventh St., S.W., Washington, D.C. 20590.

SECTION 2

THE SAMPLING SYSTEM AND SAMPLE DESIGN

The accidents investigated in the NASS for 1989 were based on the new design of the NASS Crashworthiness Data System which began in 1988. The new design specifications included reducing the number of PSU's from 50 to 36 and focusing the accident investigations to include only towed automobiles, automobile derivatives, and light trucks and vans with an emphasis on late model year vehicles and with a concentration on more serious injury accidents. Of the 50 PSU's that existed in 1986, 30 were reselected as part of the redesign and 6 new ones were chosen. These 36 PSU's provided the data for the 1988 and 1989 NASS.

The accidents investigated in NASS CDS are a probability sample of all police reported accidents in the U.S. A NASS CDS accident must fulfill the following requirements: must be police reported, must involve a harmful event (property damage and/or personal injury) resulting from an accident and must involve a towed passenger car or light truck or van in transport on a trafficway. Every accident which meets these conditions has a chance of being selected. This type of sample design makes it possible to compute estimates which are representative of the entire country.

The selection of sample accidents in NASS is accomplished in three stages: (1) selection of PSU's, (2) selection of police jurisdictions and (3) selection of accidents.

Stage 1 - Select PSU's

For the first stage of selection, the country was divided into 1195 geographic areas called Primary Sampling Units (PSU's). Each PSU consisted either of a large city, a county, a group of contiguous counties, a central city or the balance of a county which was not part of a central city. The PSU's were defined so that their minimum population was approximately 50,000.

The 1195 PSU's were grouped into 12 strata based on geographic region and type, e.g., large central city, other central cities and suburban counties, and other PSU's. The 36 PSU's to be sampled were allocated to each stratum roughly proportional to the number of accidents in each stratum. At least two PSU's were selected from each stratum.

Stage 2 - Select Police Jurisdictions

If every accident in each PSU were investigated, a national estimate could be obtained by weighting each accident by the inverse of the probability of selecting the PSU. Because it is uneconomical and impractical to investigate every accident in each sample PSU, a second and third stage of sampling are performed. Each PSU contains a number of police jurisdictions which process reports of accidents that occur within the PSU's boundaries. These police jurisdictions form the frame of the second stage of sampling. Each jurisdiction is assigned a measure of size based on the number, severity and type of its accidents. A sample of jurisdictions is selected which oversamples those having a larger measure of size.

Stage 3 - Select Accidents

The final stage of sampling is the selection of accidents within the sampled jurisdictions. On specified days of the week, the police jurisdictions are contacted and all accidents that qualify for the NASS for which a police accident report has been filed since the last date that jurisdiction was contacted are listed. While being listed, each accident is classified into a stratum based on type of vehicle, most severe police reported injury, disposition of the injured, tow status of the vehicles and model year of the vehicles. All qualifying accidents are listed, except in a few of the largest police jurisdictions. In these jurisdictions only accidents with either an even or an odd police accident report number are listed.

To select accidents, each team is assigned a fixed sampling interval for each of the strata. The number of accidents a team selects for investigation is governed by the number of accidents a team lists and the sampling intervals. Sampling intervals for the strata are assigned so that a larger percentage of the higher severity accidents is selected than of the lower severity accidents. Also, accidents in the same stratum have a similar probability of being selected, regardless of their PSU. However, because the number of listed accidents varies greatly between PSU's and because of the operational restrictions of the current investigator assignments, equal probabilities within each stratum could not be achieved and the resulting sampling weights may vary by as much as a factor of three.

To select the sample, each accident is assigned a weight equal to the inverse of the probability of selecting the police jurisdiction in which it was listed. Within each stratum the weighted accidents are sorted by police jurisdictions, accident date and time. A systematic sample then is selected within each stratum. Except for the first contact day when a random number is used, the starting point for each contact day is equal to the carry over from the previous contact day, that is, the sum of the weights of the listed accidents from last selected accident to the end of the previous contact day.

SAMPLING VARIABLES

The stratification category (1) by type of vehicle is "CDS applicable"---passenger cars, light trucks and vans and "other vehicles"---all other vehicle types; (2) by injury is "fatal injury"---K, "serious injury"---A or "minor injury, not injured or unknown"---B,C,O,U; (3) by disposition of the injured is "transported to a medical facility" or "not transported"; (4) by tow status is "towed due to damage" or "not towed"; (5) by model year of the vehicle is "late model year"---1985 through 1990 or "nonlate model year"---1984 or before.

SAMPLING STRATA

The eight PAR sampling Strata used by the CDS are listed below and shown in Table 2:

Stratum A-NASS accidents in which at least one occupant of a towed CDS applicable late model year vehicle had a police reported injury of "K" (fatal injury).
Stratum B-NASS accidents not qualifying for Stratum A in which at least one occupant of a towed CDS applicable nonlate model year vehicle had a police reported injury of "K" (fatal injury).
Stratum C-NASS accidents not qualifying for Strata A or B in which at least one occupant of a towed CDS applicable late model year vehicle had a police reported injury of "A" (incapacitating injury) AND was transported to a treatment facility for treatment. If the accident involved more than one CDS applicable vehicle, then at least two CDS applicable vehicles must be towed.
Stratum D-NASS accidents not qualifying for Strata A, B or C in which at least one occupant of a towed CDS applicable nonlate model year vehicle had a police reported injury of "A" (incapacitating injury) AND was transported to a treatment facility for treatment. If the accident involved more than one CDS applicable vehicle, then at least two CDS applicable vehicles must be towed.
Stratum E-NASS accidents not qualifying for Strata A, B, C or D in which at least one occupant of towed CDS applicable late model vehicle was transported from the scene to a treatment facility for treatment.
Stratum F-NASS accidents not qualifying for Strata A, B, C, D or E in which at least one occupant of a towed CDS applicable nonlate model vehicle was transported from the scene to a treatment facility for treatment.
Stratum G-NASS accidents not qualifying for Strata A, B, C, D, E or F which involve at least one CDS applicable late model vehicle that was towed, according to the police report, from the scene due to damage.
Stratum H-NASS accidents not qualifying for Strata A, B, C, D, E, F or G which involve at least one CDS applicable nonlate model vehicle that was towed, according to the police report, from the scene due to damage.

Example of Accident Stratification:
A CDS applicable nonlate model vehicle and a bicycle crash. The CDS applicable vehicle is towed with minor injuries to the occupants, who are not transported. The bicyclist receives a serious injury---"A". The accident is classified as Stratum H because of the minor injuries to the occupants of the towed CDS applicable nonlate model vehicle.

Table 2
1989 NASS CDS Strata

Late Model Year (LMV) Vehicle Involvement	Most Severe Police Reported Injury						
	Transported				Nontransported		
	Fatal Injury "K"	Serious Injury "A"		Minor Injury or Unk. "B", "C", or "U"	Minor Injury, Not Injured or Unknown		
		Single CDS Veh. Towed	Multiple CDS Applicable Vehicles		At Least One Towed CDS Applic. Veh.	No Towed CDS. Appli. Veh.	
			Two or More Towed	Only One Towed			
Injury in Towed, LMY, CDS Veh.	A	C		E	G	NOT IN SCOPE	
Injury not in Towed, LMY, CDS Vehicle	B	D		F	H	See Table 2-2	

Note: Late Model Year refers to 1985 through 1990 model years.

Sampling Weights

Because the accidents selected in NASS are a probability sample of all accidents occurring in the survey year, the data from these accidents can be "weighted" to produce either PSU or National Estimates. The weights or "Inflation Factors" result from the stages of selection, reflecting that accident's probability of selection. There are two weights on this analysis file.

PSU Inflation Factor

The PSU Inflation Factor is the within PSU sampling weight for each accident in that PSU's sample and is equal to the inverse of that accident's probability of selection within the PSU. It is equal to the product of the inverse of the probability of selecting that accident from the other accidents and the inverse of the probability of selecting the police jurisdiction in which the accident occcurred from among all police jurisdictions listed in the PSU (Stage 2).

The sum of the PSU Inflation Factors for all accidents sampled within a PSU is an unbiased estimate of the number of accidents which occurred during the year in that PSU. Unbiased estimates of accident characteristics for a PSU can be obtained by multiplying the value of the characteristic for each accident sampled in the PSU by that accident's PSU Inflation Factor and summing.

National Inflation Factor

The National Inflation Factor is the overall sampling weight for each accident selected in the NASS sample and the inverse of the probability of selection of that accident. It is equal to product of the PSU Inflation Factor and the inverse of the the probability of selection of the PSU (Stage 1).

The sum of the National Inflation Factors for all sampled NASS accidents in a year is an unbiased estimate of the total number of accidents which occurred during the year in the U.S. If restricted to an accident stratum, the sum is an estimate of the total number of that type of accident which occurred in that year. Unbiased estimates of National totals of accident characteristics can be obtained by multiplying the value of the characteristic for each accident in the NASS sample by the National Inflation Factor for that accident.

SECTION 3

DERIVED VARIABLES

Most of the data presented in the NASS record layout can be identified easily as coming from accident investigation and other activities of NASS field teams. The following data elements, however, are by-products of sampling procedures used by NASS or are derived from data processing applications, such as totaling the number of injured persons in a given accident. The following list identifies the specific data elements, gives their location in the Sequential File Record Layout and explains their derivation:

SPECIFICATION FOR DERIVED VARIABLES

VARIABLE NAME - LOCATION - DESCRIPTION

MAXIMUM TREATMENT(AC29)(SAS Label: ATREAT)

This single place numeric value indicates the most intensive treatment given to any occupant of a towed CDS applicable vehicle or nontowed CDS applicable AOPS vehicle in the accident, using the following order of codes:

1 FATAL
3 HOSPITALIZED
4 TRANSPORTED AND RELEASED
5 TREATMENT AT SCENE
6 TREATMENT LATER
8 TREATMENT - OTHER
2 FATAL - RULED DISEASE
9 UNKNOWN
0 NO TREATMENT

This variable is derived by scanning the TREATMENT-MORTALITY (OA35) variable in each occupant assessment record in the accident.

Source: TREATMENT-MORTALITY(OA35).

Missing Values: None(should have at least one occupant assessment record in each accident). Occupant assessment records will be missing for: (1) Non CDS applicable vehicles-BODY TYPE(GV07) equals 50-99; (2) Nontowed CDS applicable Non AOPS vehicles-BODY TYPE(GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION(GV09) equals 0 or 9 and IS THIS AN AOPS VEHICLE?(GV36) equals 0 or BLANK(.N on SAS file).

SAS Codes: .U for 9(Unknown).

MAXIMUM KNOWN A.I.S.(AC30)(SAS Label: AAIS)

This single place numeric value indicates the single most severe injury level reported for any occupant of a towed CDS applicable vehicle or nontowed CDS applicable AOPS vehicle in the accident, using the following order of codes:

6 MAXIMUM (UNTREATABLE) INJURY
5 CRITICAL INJURY
4 SEVERE INJURY
3 SERIOUS INJURY
2 MODERATE INJURY
1 MINOR INJURY
7 INJURY, UNKNOWN SEVERITY
9 UNKNOWN IF INJURED
0 NOT INJURED

This variable is derived by scanning the A.I.S. SEVERITY(OI010...OI200) variable on each occupant injury record in the accident. If none of the occupants in the accident has an occupant injury record, then scan the NUMBER OF RECORDED INJURIES FOR THIS OCCUPANT(OA43) variable on the occupant assessment record. Use the following order of codes: if "97", then code "7"; if "99", then code "9"; if "00", then code "0".

Source: A.I.S. SEVERITY(OI010...OI200) and NUMBER OF RECORDED INJURIES FOR THIS OCCUPANT(OA43).

Missing Values: None(should have at least one occupant injury record or one occupant assessment record in each accident). Occupant injury and occupant assessment records will be missing for: (1) Non CDS applicable vehicles-BODY TYPE(GV07) equals 50-99; (2) Nontowed CDS applicable Non AOPS vehicles-BODY TYPE(GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION(GV09) equals 0 or 9 and IS THIS AN AOPS VEHICLE?(GV36) equals 0 or BLANK(.N on SAS file). Occupant injury records will be missing for: (1) Towed CDS applicable vehicles with no known occupant injuries-BODY TYPE (GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION(GV09) equals 1 and NUMBER OF RECORDED INJURIES THIS OCCUPANT(OA43) equals 97, 99 or 00; (2) Nontowed CDS applicable AOPS vehicles with no known occupant injuries-BODY TYPE(GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION(GV09) equals 0 or 9, IS THIS AN AOPS VEHICLE?(GV36) equals 1 and NUMBER OF RECORDED INJURIES THIS OCCUPANT(OA43) equals 97, 99 or 00.
SAS Codes: .U for 9(Unknown).

NUMBER OF SERIOUSLY INJURED OCCUPANTS(AC31-32)(SAS Label: AINJSER)

This two place numeric value indicates the total number of fatally and other seriously injured occupants of towed CDS applicable vehicles or nontowed CDS applicable AOPS vehicles involved in the accident. It is derived by totaling for the accident either the number of occupant assessment records in which the TREATMENT-MORTALITY(OA35) value is coded "1" (Fatal) or the number of occupant injury records in which the A.I.S. SEVERITY(OI010...OI200) value is coded "3-6". (Add together "1"s in OA35 and if the code in OA35 is not equal to "1", add one injury per occupant where OI010...OI200 is "3-6").
Source: TREATMENT-MORTALITY(OA35) and A.I.S. SEVERITY (OI010...OI200).
Missing Values: Occupant injury and occupant assessment records will be missing for: (1) Non CDS applicable vehicles-BODY TYPE(GV07) equals 50-99; (2) Nontowed CDS applicable Non AOPS vehicles-BODY TYPE(GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION(GV09) equals 0 or 9 and IS THIS AN AOPS VEHICLE?(GV36) equals 0 or BLANK(.N on SAS file). Occupant injury records will be missing for: (1) Towed CDS applicable vehicles with no known occupant injuries-BODY TYPE (GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION(GV09) equals 1 and NUMBER OF RECORDED INJURIES THIS OCCUPANT(OA43) equals 97, 99 or 00; (2) Nontowed CDS applicable AOPS vehicles with no known occupant injuries-BODY TYPE(GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION(GV09) equals 0 or 9, IS THIS AN AOPS VEHICLE?(GV36) equals 1 and NUMBER OF RECORDED INJURIES THIS OCCUPANT(OA43) equals 97, 99 or 00. If none of the occupants in the accident has an occupant injury record or if, on all the occupant assessment records the only codes in OA43 are equal to "97, 99 or 00", then use code "0" (None) for this derived variable.
SAS Codes: None. Unknown is not a valid code.

NUMBER OF INJURED OCCUPANTS(AC33-34)(SAS Label: AINJURED)
This two place numeric value indicates the total number of injured occupants of towed CDS applicable vehicles or nontowed CDS applicable AOPS vehicles involved in the accident. It is derived by totaling the number of occupant assessment records in which the variable NUMBER OF RECORDED INJURIES FOR THIS OCCUPANT(OA43) has a value of 01-97.
Source: NUMBER OF RECORDED INJURIES FOR THIS OCCUPANT(OA43).
Missing Values: Occupant assessment records will be missing for: (1) Non CDS applicable vehicles-BODY TYPE(GV07) equals 50-99; (2) Nontowed CDS applicable Non AOPS vehicles-BODY TYPE(GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION (GV09) equals 0 or 9 and IS THIS AN AOPS VEHICLE?(GV36) equals 0 or BLANK(.N on SAS file). Towed CDS applicable vehicles with no known occupant injuries will have codes-BODY TYPE (GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION(GV09) equals 1 and NUMBER OF RECORDED INJURIES THIS OCCUPANT(OA43) equals 99 or 00. Nontowed CDS applicable AOPS vehicles with no known occupant injuries will have codes-BODY TYPE(GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION(GV09) equals 0 or 9, IS THIS AN AOPS VEHICLE(GV36) equals 1 and NUMBER OF RECORDED INJURIES THIS OCCUPANT(OA43) equals 99 or 00. If, on all the occupant assessment records in the accident, the only codes in OA43 are equal to "99 or 00", then use code "0"(None) for this derived variable.
SAS Codes: None. Unknown is not a valid code.

ALCOHOL OR DRUG INVOLVED(AC35)(SAS Label: ALCDRUG)
This single place numeric value indicates if any involved driver were reported to have had some alcohol or drug involvement at the time of the accident, using the following order of codes:

1 YES
2 NO
9 UNKNOWN

This variable is derived by scanning the POLICE REPORTED ALCOHOL OR DRUG PRESENCE(GV11) and ALCOHOL TEST RESULT FOR DRIVER(GV12) variables on each general vehicle record in the accident. The ALCOHOL OR DRUG INVOLVED codes are derived as follows:

(YES) 1 - If POLICE REPORTED ALCOHOL OR DRUG PRESENCE equals 1 (YES- ALCOHOL PRESENT) or 2 (YES-DRUGS PRESENT) or 3 (YES-ALCOHOL AND DRUGS PRESENT) or 4 (YES-ALCOHOL OR DRUGS PRESENT-SPECIFICS UNKNOWN) or ALCOHOL TEST RESULT FOR DRIVER equals 01-49 (positive result).

(NO) 2 - If POLICE REPORTED ALCOHOL OR DRUG PRESENCE equals 0 (NEITHER ALCOHOL NOR DRUGS PRESENT) and ALCOHOL TEST RESULT FOR DRIVER equals 00 (NONE) or 96 (NONE GIVEN)

(UNKNOWN) 9 - If the variables shown above have any other combination of values.

Source: POLICE REPORTED ALCOHOL OR DRUG PRESENCE(GV11) and ALCOHOL TEST RESULT FOR DRIVER(GV12).
Missing Values: None(must have at least one general vehicle record coded through the variable ACCIDENT TYPE(GV15) in the accident).
SAS Codes: .U for 9(Unknown).

DAY OF WEEK(AC36-37)(SAS Label: DAYWEEK)
This two place numeric value indicates on which day of the week the accident occurred. To protect the confidentiality of records concerning specific accidents used by NASS, the accident date is not provided. Instead, the accident record indicates year, month and DAY OF WEEK of accident occurrence. DAY OF WEEK values are coded as follows:

01	Sunday	05	Thursday
02	Monday	06	Friday
03	Tuesday	07	Saturday
04	Wednesday		

Source: DATE OF ACCIDENT(AC04).
Missing Values: None.
SAS codes: None. Unknown is not a valid code.

PSU INFLATION FACTOR(AC38-45)(SAS Label: PSUWGT)
This eight place numeric value has three implied decimal places. It indicates the within PSU sampling weight for each accident in that PSU's sample.
Source: Computed by NHTSA Headquarters.
Missing Values: None.
SAS Codes: None.

NATIONAL INFLATION FACTOR(AC46-53)(SAS Label: NATWGT)
This eight place numeric value has three implied decimal places. It indicates the overall sampling weight for each accident selected in the NASS sample.
Source: Computed by NHTSA Headquarters.
Missing Values: None.
SAS Codes: None.

MAXIMUM TREATMENT IN THIS VEHICLE(GV88)(SAS Label: VTREAT)
This single place numeric value indicates the most intensive treatment given to any occupant of this towed CDS applicable vehicle or nontowed CDS applicable AOPS vehicle using the following order of codes:

1 FATAL
3 HOSPITALIZED
4 TRANSPORTED AND RELEASED
5 TREATMENT AT SCENE
6 TREATMENT LATER
8 TREATMENT - OTHER
2 FATAL - RULED DISEASE
9 UNKNOWN
0 NO TREATMENT

This variable is derived by scanning the TREATMENT-MORTALITY (OA35) variable in each occupant assessment record in this vehicle.
Source: TREATMENT-MORTALITY(OA35).
Missing Values: Occupant assessment records will be missing for: (1) Non CDS applicable vehicles-BODY TYPE(GV07) equals 50-99; (2) Nontowed CDS applicable Non AOPS vehicles-BODY TYPE (GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION(GV09) equals 0 or 9 and IS THIS AN AOPS VEHICLE?(GV36) equals 0 or BLANK(.N on SAS file). If none of the occupants in the vehicle has an occupant assessment record, then use code "BLANK"(Not Collected) on the Flat file and ".N"(Not Collected) on the SAS file.
SAS Codes: .N for Blank(Not Collected) and .U for 9(Unknown).

MAXIMUM KNOWN A.I.S. IN THIS VEHICLE(GV89)(SAS Label: VAIS)
This single place numeric value indicates the single most severe injury level reported for any occupant in this towed CDS applicable vehicle or nontowed CDS appplicable AOPS vehicle using the following order of codes:

6 MAXIMUM (UNTREATABLE) INJURY
5 CRITICAL INJURY
4 SEVERE INJURY
3 SERIOUS INJURY
2 MODERATE INJURY
1 MINOR INJURY
7 INJURY, UNKNOWN SEVERITY
9 UNKNOWN IF INJURED
0 NOT INJURED

This variable is derived by scanning the A.I.S. SEVERITY (OI010...OI200) variable on each occupant injury record in this towed CDS applicable vehicle or nontowed CDS applicable AOPS vehicle. If none of the occupants in this vehicle has an occupant injury record, then scan the NUMBER OF RECORDED INJURIES FOR THIS OCCUPANT(OA43) variable on the occupant assessment record. Use the following order of codes: if "97", then code "7"; if "99", then code "9"; if "00", then code "0".
Source: A.I.S. SEVERITY(OI010...OI200) and NUMBER OF RECORDED INJURIES FOR THIS OCCUPANT(OA43).

Missing Values: Occupant injury and occupant assessment records will be missing for: (1) Non CDS applicable vehicles-BODY TYPE(GV07) equals 50-99; (2) Non towed CDS applicable Non AOPS vehicles-BODY TYPE(GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION(GV09) equals 0 or 9 and IS THIS AN AOPS VEHICLE?(GV36) equals 0 or BLANK(.N on SAS file). Occupant injury records will be missing for: (1) Towed CDS applicable vehicles with no known occupant injuries-BODY TYPE (GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION(GV09) equals 1 and NUMBER OF RECORDED INJURIES THIS OCCUPANT(OA43) equals 97, 99 or 00; (2) Nontowed CDS applicable AOPS vehicles with no known occupant injuries-BODY TYPE(GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION(GV09) equals 0 or 9, IS THIS AN AOPS VEHICLE?(GV36) equals 1 and NUMBER OF RECORDED INJURIES THIS OCCUPANT(OA43) equals 97, 99 or 00. If none of the occupants in the vehicle has an occupant assessment record, then use code "BLANK"(Not Collected) on the Flat file and use ".N"(Not Collected) on the SAS file.
SAS Codes: .N for Blank(Not Collected) and .U for 9(Unknown).

NUMBER SERIOUSLY INJURED IN THIS VEHICLE(GV90-91)(SAS Label: VINJSER)
This two place numeric value indicates the total number of fatally and other seriously injured occupants of this towed CDS applicable vehicle or nontowed CDS applicable AOPS vehicle. It is derived by totaling for the vehicle either the number of occupant assessment records in which the TREATMENT-MORTALITY (OA35) value is coded "1" (Fatal) or the number of occupant injury records in which the A.I.S. SEVERITY (OI010...OI200) value is coded "3-6". (Add together "1"s in OA35 and if the code in OA35 is not equal to "1", add one injury per occupant where OI010...OI200 is "3-6").
Source: TREATMENT-MORTALITY(OA35) and A.I.S. SEVERITY (OI010...OI200).
Missing Values: Occupant injury and occupant assessment records will be missing for: (1) Non CDS applicable vehicles-BODY TYPE(GV07) equals 50-99; (2) Non towed CDS applicable Non AOPS vehicles-BODY TYPE(GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION(GV09) equals 0 or 9 and IS THIS AN AOPS VEHICLE?(GV36) equals 0 or BLANK(.N on SAS file). Occupant injury records will be missing for: (1)Towed CDS applicable vehicles with no known occupant injuries-BODY TYPE(GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION(GV09) equals 1 and NUMBER OF RECORDED INJURIES THIS OCCUPANT(OA43) equals 97, 99 or 00; (2) Non towed CDS applicable AOPS vehicles with no known occupant injuries-BODY TYPE(GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION (GV09) equals 0 or 9, IS THIS AN AOPS VEHICLE?(GV36) equals 1 and NUMBER OF RECORDED INJURIES THIS OCCUPANT(OA43) equals 97, 99 or 00.

If none of the occupants in the vehicle has an occupant assessment record, then use code "BLANK"(Not Collected) on the Flat file and use ".N"(Not Collected) on the SAS file. If, on all the occupant assessment records in the vehicle, the only codes in OA43 are equal to "97, 99 or 00", then use code "0"(None) for this derived variable.
SAS Codes: .N for Blank(Not Collected). Unknown is not a valid code.

NUMBER INJURED IN THIS VEHICLE(GV92-93)(SAS Label: VINJURED)
This two place numeric value indicates the total number of injured occupants of this towed CDS applicable vehicle or nontowed CDS applicable AOPS vehicle. It is derived by totaling the number of occupant assessment records in which the variable NUMBER OF RECORDED INJURIES FOR THIS OCCUPANT (OA43) has a value of 01-97.
Source: NUMBER OF RECORDED INJURIES FOR THIS OCCUPANT(OA43).
Missing Values: Occupant assessment records will be missing for: (1) Non CDS applicable vehicles-BODY TYPE(GV07) equals 50-99; (2) Nontowed CDS applicable Non AOPS vehicles-BODY TYPE(GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION (GV09) equals 0 or 9 and IS THIS AN AOPS VEHICLE?(GV36) equals 0 or BLANK(.N on SAS file). Towed CDS applicable vehicles with no known occupant injuries will have codes-BODY TYPE (GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION(GV09) equals 1 and NUMBER OF RECORDED INJURIES THIS OCCUPANT(OA43) equals 99 or 00. Nontowed CDS applicable AOPS vehicles with no known occupant injuries will have codes-BODY TYPE(GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION(GV09) equals 0 or 9, IS THIS AN AOPS VEHICLE?(GV36) equals 1 and NUMBER OF RECORDED INJURIES THIS OCCUPANT(OA43) equals 99 or 00. If none of the occupants in the vehicle has an occupant assessment record, then use code "BLANK"(Not Collected) on the Flat file and ".N"(Not Collected) on the SAS file. If, on all the occupant assessment records in the vehicle, the only codes in OA43 are equal to "99 or 00", then use code "0"(None) for this derived variable.
SAS Codes: .N for Blank(Not Collected). Unknown is not a valid code.

FRONT/REAR WHEEL DRIVE(GV94)(SAS Label: DRIVE)
This single place numeric value indicates which wheels of a passenger car are powered. Values are coded as follows:

1 REAR WHEEL DRIVE
2 FRONT WHEEL DRIVE
8 NOT APPLICABLE, NOT A PASSENGER CAR
9 UNKNOWN (FOUR WHEEL DRIVE POTENTIAL)

This variable is derived by scanning a coded table consisting of vehicle make, vehicle model and vehicle model year, to which a "drive" code has been appended.

Source: VEHICLE MODEL YEAR(GV04), VEHICLE MAKE(GV05), VEHICLE MODEL(GV06), BODY TYPE(GV07) and coded table.
Missing Values: None.
SAS Codes: .U for 9(Unknown).

VIN LENGTH(GV95-96)(SAS Label: VINLNGTH)
This two place numeric value indicates the number of characters in the Vehicle Identification Number (VIN) as originally recorded. 99 denotes unknown (on the FLAT file).
Source: VEHICLE IDENTIFICATION NUMBER(GV08).
Missing Values: None.
SAS Codes: .U for 99(Unknown).

WEIGHT OF THE OTHER VEHICLE(GV97-99)(SAS Label: OTVEHWGT)
This three place numeric value indicates the weight (in pounds) of the other vehicle, if the most severe impact is with another CDS applicable vehicle. (This vehicle must be an inspected CDS applicable vehicle, the other vehicle need only be a CDS applicable vehicle). Values are coded as follows:

010	LESS THAN 1,050 POUNDS
011 - 134	1,050-13,449 POUNDS
135	13,450 OR MORE
998	NOT APPLICABLE (MOST SEVERE IMPACT NOT WITH ANOTHER VEHICLE OR WITH VEHICLE HITTING ITSELF)
999	UNKNOWN

This variable is derived by scanning the OBJECT CONTACTED (EV05) variable from the HIGHEST DELTA "V" as coded on the exterior vehicle record. If the object contacted is another CDS applicable vehicle, then the weight is derived by scanning the VEHICLE CURB WEIGHT(GV19) variable as coded on the general vehicle record for the other CDS applicable vehicle.
Source: OBJECT CONTACTED(EV05), BODY TYPE(GV07) & VEHICLE CURB WEIGHT(GV19).
Missing Values: Exterior vehicle records will be missing and variables GV16-35 on general vehicle records will not be coded for Non CDS applicable vehicles-BODY TYPE(GV07) equals 50-99. If the most severe impact is between an inspected CDS applicable vehicle and a non CDS applicable vehicle, then use code "BLANK"(Not Collected) on the Flat file and use ".N"(Not Collected) on the SAS file. Exterior vehicle records will be missing for CDS applicable vehicles which are not inspected-BODY TYPE(GV07) equals 01-49 and TYPE OF VEHICLE INSPECTION GV35) equals 0. Use code "BLANK"(Not Collected) on the Flat file and use ".N"(Not Collected) on the SAS file. If the OBJECT CONTACTED(EV05) variable is blank(non collision event) for an inspected CDS applicable vehicle, then use code 998(Not Applicable).
SAS Codes: .N for Blank(Not Collected) and .U for 999(Unknown)

BODY TYPE OF THE OTHER VEHICLE(GV100-102)(SAS Label: OTBDYTYP)
This two place numeric value indicates the body type of the other vehicle if the most severe impact is with another vehicle. (This vehicle must be an inspected CDS applicable vehicle, the other vehicle may be any vehicle type). If the impact is not with another vehicle, the value is coded as follows:

98 - NOT APPLICABLE (MOST SEVERE IMPACT NOT WITH ANOTHER VEHICLE OR WITH VEHICLE HITTING ITSELF).

This variable is derived by scanning the OBJECT CONTACTED (EV05) variable from the HIGHEST DELTA "V" as coded on the exterior vehicle record. If the object contacted is another vehicle, then the body type is derived by scanning the BODY TYPE(GV07) variable as coded on the general vehicle record for the other vehicle.
Source: OBJECT CONTACTED(EV05) and BODY TYPE(GV07).
Missing Values: Exterior vehicle records will be missing for: (1) Non CDS applicable vehicles-BODY TYPE(GV07) equals 50-99; (2) Not Inspected CDS applicable vehicles-BODY TYPE(GV07) equals 01-49 and TYPE OF VEHICLE INSPECTION(GV35) equals 0. For these vehicle types, use code "BLANK"(Not Collected) on the Flat file and ".N"(Not Collected) on the SAS file. If the OBJECT CONTACTED(EV05) variable is blank(non collision event) for an inspected CDS applicable vehicle, then use code 98(Not Applicable).
SAS Codes: .N for Blank(Not Collected) and .U for 99(Unknown).

MAXIMUM KNOWN OCCUPANT A.I.S.(OA73)(SAS Label: MAIS)
This single place numeric value indicates the single most severe injury level reported for this occupant of a towed CDS applicable vehicle or nontowed CDS applicable AOPS vehicle using the following order of codes:

6 MAXIMUM (UNTREATABLE) INJURY
5 CRITICAL INJURY
4 SEVERE INJURY
3 SERIOUS INJURY
2 MODERATE INJURY
1 MINOR INJURY
7 INJURY, UNKNOWN SEVERITY
9 UNKNOWN IF INJURED
0 NOT INJURED

This variable is derived by scanning the A.I.S. SEVERITY (OI010...OI200) variable on the occupant injury record. If this occupant does not have an occupant injury record, then scan the NUMBER OF RECORDED INJURIES FOR THIS OCCUPANT(OA43) variable on the occupant assessment record. Use the following order of codes: if "97", then code "7"; if "99", then code "9"; if "00", then code "0".
Source: A.I.S. SEVERITY(OI010...OI200) and NUMBER OF RECORDED INJURIES FOR THIS OCCUPANT(OA43).

Missing Values: None(if you do not have an occupant injury record, you will have an occupant assessment record for each occupant of a towed CDS applicable vehicle or a nontowed CDS applicable AOPS vehicle). Occupant injury and occupant assessment records will be missing for: (1) Non CDS applicable vehicles-BODY TYPE(GV07) equals 50-99; (2) Nontowed CDS applicable Non AOPS vehicles-BODY TYPE(GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION(GV09) equals 0 or 9 and IS THIS AN AOPS VEHICLE?(GV36) equals 0 or BLANK(.N on SAS file). Occupant injury records will be missing for: (1)Towed CDS applicable vehicles with no known occupant injuries-BODY TYPE (GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION(GV09) equals 1 and NUMBER OF RECORDED INJURIES THIS OCCUPANT(OA43) equals 97, 99 or 00; (2)Nontowed CDS applicable AOPS vehicles with no known occupant injuries-BODY TYPE(GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION(GV09) equals 0 or 9, IS THIS AN AOPS VEHICLE?(GV36) equals 1 and NUMBER OF REPORTED INJURIES THIS OCCUPANT(OA43) equals 97, 99 or 00.
SAS Codes: .U for 9(Unknown).

OCCUPANT I.S.S(OA74-75)(SAS Label: ISS)

This two place numeric value provides an index score indicating the relative severity of overall injury to the individual vehicle occupant of a towed CDS applicable vehicle or a nontowed CDS applicable AOPS vehicle using the following order of codes:

6 MAXIMUM (UNTREATABLE) INJURY
5 CRITICAL INJURY
4 SEVERE INJURY
3 SERIOUS INJURY
2 MODERATE INJURY
1 MINOR INJURY
0 NOT INJURED

It is derived by scanning the BODY REGION(OI006...OI196) and the A.I.S. SEVERITY(OI010...OI200) variables on the occupant injury record. The I.S.S. score is calculated by adding the squares of the highest A.I.S. SEVERITY entries for each of the three most severely injured body regions. For A.I.S. Code "7"(Injury, Unknown Severity), use code "0". If the occupant injury record is missing, scan the NUMBER OF RECORDED INJURIES FOR THIS OCCUPANT (OA43) variable on the occupant assessment record. If the codes in OA43 are "97, 99 or 00", then use code "0".

An example of calculating an I.S.S. score is the following:

An Occupant suffered serious injury (A.I.S.=3) to the legs (Body Region 5), moderate injury (A.I.S.=2) to the pelvic area (Body Region 4) and moderate to minor injuries elsewhere (A.I.S.=2). The resulting I.S.S. is the sum of the squares of these three A.I.S. Severity scores: (3**2) + (2**2) + (2**2) or 17.

VARIABLE NAME - LOCATION - DESCRIPTION

Source: BODY REGION(OI006...OI196) and A.I.S. SEVERITY (OI010...OI200).
Missing Values: None(if you do not have an occupant injury record, you will have an occupant assessment record for each occupant of a towed CDS applicable vehicle or a nontowed CDS applicable AOPS vehicle). Occupant injury and occupant assessment records will be missing for: (1) Non CDS applicable vehicles-BODY TYPE(GV07) equals 50-99; (2) Nontowed CDS applicable Non AOPS vehicles-BODY TYPE(GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION(GV09) equals 0 or 9 and IS THIS AN AOPS VEHICLE?(GV36) equals 0 or BLANK(.N on SAS file). Occupant injury records will be missing for: (1)Towed CDS applicable vehicles with no known occupant injuries-BODY TYPE (GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION(GV09) equals 1 and NUMBER OF RECORDED INJURIES THIS OCCUPANT (OA43) equals 97, 99 or 00; (2)Nontowed CDS applicable AOPS vehicles with no known occupant injuries-BODY TYPE(GV07) equals 01-49, POLICE REPORTED VEHICLE DISPOSITION (GV09) equals 0 or 9, IS THIS AN AOPS VEHICLE?(GV36) equals 1 and NUMBER OF RECORDED INJURIES THIS OCCUPANT(OA43) equals 97, 99 or 00.
SAS Codes: None.

SECTION 4
SEQUENTIAL ANALYTICAL FILE RECORD LAYOUTS

1	PSU NUMBER
2	
3	
4	CASE NUMBER
5	
6	
7	RECORD NUMBER
8	
9	VERSION NUMBER
10	NUMBER OF GENERAL
11	VEHICLE FORMS SUBMITTED
12	MONTH OF ACCIDENT
13	
14	
15	
16	YEAR OF ACCIDENT
17	
18	
19	TIME OF ACCIDENT
20	
21	
22	ANTI-LACERATIVE WINDSHIELDS
23	
24	
25	
26	
27	NUMBER OF RECORDED
28	EVENTS IN THIS ACCIDENT
29	MAXIMUM TREATMENT
30	MAXIMUM KNOWN AIS
31	NUMBER OF SERIOUSLY
32	INJURED OCCUPANTS
33	NUMBER OF INJURED OCCUPANTS
34	
35	ALCOHOL/DRUG INVOLVEMENT
36	DAY OF WEEK OF ACCIDENT
37	
38	
39	
40	
41	PSU INFLATION FACTOR
42	
43	
44	
45	
46	
47	
48	
49	NATIONAL INFLATION FACTOR
50	
51	
52	
53	
54	
55	
56	
57	
58	
59	
60	
61	

ACCIDENT RECORD

1 2	PSU NUMBER
3 4 5 6	CASE NUMBER
7 8	RECORD NUMBER
9	VERSION NUMBER
10 11	ACCIDENT EVENT SEQUENCE NUMBER
12 13	VEHICLE NUMBER (1)
14 15	CLASS OF VEHICLE (1)
16	GENERAL AREA OF DAMAGE (1)
17 18	VEHICLE NUMBER (2) OR OBJECT CONTACTED
19 20	CLASS OF VEHICLE (2)
21	GENERAL AREA OF DAMAGE (2)

ACCIDENT EVENT RECORD

1 2 PSU NUMBER	53 54 NUMBER OF OCCUPANT FORMS SUBMITTED
3 4 5 6 CASE NUMBER	55 56 57 VEHICLE CURB WEIGHT
7 8 RECORD NUMBER	58 59 VEHICLE CARGO WEIGHT
9 VERSION NUMBER	60 TOWED TRAILING UNIT
10 11 VEHICLE NUMBER	61 DOC. OF TRAJECTORY DATA
12 13 VEHICLE MODEL YEAR	62 CONDITION OF TREE OR POLE
14 15 VEHICLE MAKE	63 ROLLOVER
16 17 18 VEHICLE MODEL	64 FRONT OVERRIDE/UNDERRIDE
19 20 BODY TYPE	65 REAR OVERRIDE/UNDERRIDE
21 22 23 24 25 26 27 28 29 30 VEHICLE IDENTIFICATION NUMBER	66 67 68 HEADING ANGLE FOR THIS VEHICLE
31 32 33 34 35 36 37	69 70 71 HEADING ANGLE FOR OTHER VEHICLE
	72 BASIS FOR TOTAL DELTA V
	73 74 TOTAL DELTA V
	75 76 77 LONGITUDINAL COMPONENT OF DELTA V
	78 79 80 LATERAL COMPONENT OF DELTA V
	81 82 83 84 ENERGY ABSORPTION
38 VEHICLE DISPOSITION	85 CONFIDENCE IN RECONS. PGM.
39 40 TRAVEL SPEED	86 TYPE OF VEHICLE INSPECTION
41 ALCOHOL/DRUG PRESENCE	87 AOPS VEHICLE
42 43 ALCOHOL TEST RESULT	88 MAXIMUM TREATMENT
44 45 SPEED LIMIT	89 MAXIMUM KNOWN AIS
46 47 ATTEMPTED AVOIDANCE MANEUVER	90 91 NUMBER OF SERIOUSLY INJURED IN THIS VEHICLE
48 49 ACCIDENT TYPE	92 93 NUMBER INJURED IN THIS VEHICLE
50 DRIVER PRESENCE	94 FRONT/REAR WHEEL DRIVE
51 52 NUMBER OF OCCUPANTS THIS VEHICLE	95 96 VIN LENGTH
	97 98 99 WEIGHT OF THE OTHER VEHICLE
	100 101 102 BODY TYPE OF THE OTHER VEHICLE

GENERAL VEHICLE FORM

1 2	PSU NUMBER
3 4 5 6	CASE NUMBER
7 8	RECORD NUMBER
9	VERSION NUMBER
10 11	VEHICLE NUMBER
12 13	ACCIDENT SEQUENCE - 1
14 15	OBJECT CONTACTED - 1
16 17	DIRECTION OF FORCE - 1
18	DEFORMATION LOCATION - 1
19	LONG./LATERAL LOCATION - 1
20	VERT./LATERAL LOCATION - 1
21	TYPE OF DAMAGE DIST. - 1
22 23	DEFORMATION EXTENT - 1
24 25	ACCIDENT SEQUENCE - 2
26 27	OBJECT CONTACTED - 2
28 29	DIRECTION OF FORCE - 2
30	DEFORMATION LOCATION - 2
31	LONG./LATERAL LOCATION - 2
32	VERT./LATERAL LOCATION - 2
33	TYPE OF DAMAGE DIST. - 2
34 35	DEFORMATION EXTENT - 2
36 37 38	CRASH DAMAGE DATA FOR HIGHEST DELTA "V" - L
39 40	CRASH DAMAGE DATA FOR HIGHEST DELTA "V" - C1
41 42	CRASH DAMAGE DATA FOR HIGHEST DELTA "V" - C2
43 44	CRASH DAMAGE DATA FOR HIGHEST DELTA "V" - C3
45 46	CRASH DAMAGE DATA FOR HIGHEST DELTA "V' - C4
47 48	CRASH DAMAGE DATA FOR HIGHEST DELTA "V" - C5
49 50	CRASH DAMAGE DATA FOR HIGHEST DELTA "V" - C6
51 52 53 54	CRASH DAMAGE DATA FOR HIGHEST DELTA "V" - D
55 56 57	CRASH DAMAGE DATA FOR 2ND HIGHEST DELTA "V" - L
58 59	CRASH DAMAGE DATA FOR 2ND HIGHEST DELTA "V" - C1
60 61	CRASH DAMAGE DATA FOR 2ND HIGHEST DELTA "V" - C2
62 63	CRASH DAMAGE DATA FOR 2ND HIGHEST DELTA "V" - C3
64 65	CRASH DAMAGE DATA FOR 2ND HIGHEST DELTA "V" - C4
66 67	CRASH DAMAGE DATA FOR 2ND HIGHEST DELTA "V" - C5
68 69	CRASH DAMAGE DATA FOR 2ND HIGHEST DELTA "V" - C6
70 71 72 73	CRASH DAMAGE DATA FOR 2ND HIGHEST DELTA "V" - D
74	CDCS DOCUMENTED-NOT CODED
75	VEHICLE DISPOSITION (RES.)
76	ORIGINAL WHEELBASE

EXTERIOR VEHICLE FORM

1 2	PSU NUMBER
3 4 5 6	CASE NUMBER
7 8	RECORD NUMBER
9	VERSION NUMBER
10 11	VEHICLE NUMBER
12 13	PASSENGER COMPARTMENT INTEGRITY
14	DOOR/GATE/HATCH OPENING-LF
15	DOOR/GATE/HATCH OPENING-RF
16	DOOR/GATE/HATCH OPENING-LR
17	DOOR/GATE/HATCH OPENING-RR
18	DOOR/GATE/HATCH OPENING-TG
19	DOOR/GATE/HATCH DAMAGE-LF
20	DOOR/GATE/HATCH DAMAGE-RF
21	DOOR/GATE/HATCH DAMAGE-LR
22	DOOR/GATE/HATCH DAMAGE-RR
23	DOOR/GATE/HATCH DAMAGE-TG
24	GLAZING DAMAGE-IMPACT-WS
25	GLAZING DAMAGE-IMPACT-LF
26	GLAZING DAMAGE-IMPACT-RF
27	GLAZING DAMAGE-IMPACT-LR
28	GLAZING DAMAGE-IMPACT-RR
29	GLAZING DAMAGE-IMPACT-BL
30	GLAZING DAMAGE-IMPACT-RO
31	GLAZING DAMAGE-IMPACT-OT
32	GLAZING DAMAGE-CONTACT-WS
33	GLAZING DAMAGE-CONTACT-LF
34	GLAZING DAMAGE-CONTACT-RF
35	GLAZING DAMAGE-CONTACT-LR
36	GLAZING DAMAGE-CONTACT-RR
37	GLAZING DAMAGE-CONTACT-BL
38	GLAZING DAMAGE-CONTACT-RO
39	GLAZING DAMAGE-CONTACT-OT
40	TYPE OF GLAZING-WS
41	TYPE OF GLAZING-LF
42	TYPE OF GLAZING-RF
43	TYPE OF GLAZING-LR
44	TYPE OF GLAZING-RR
45	TYPE OF GLAZING-BL
46	TYPE OF GLAZING-RO
47	TYPE OF GLAZING-OT
48	PRECRASH GLAZING STATUS-WS
49	PRECRASH GLAZING STATUS-LF
50	PRECRASH GLAZING STATUS-RF
51	PRECRASH GLAZING STATUS-LR
52	PRECRASH GLAZING STATUS-RR
53	PRECRASH GLAZING STATUS-BL
54	PRECRASH GLAZING STATUS-RO
55	PRECRASH GLAZING STATUS-OT

INTERIOR VEHICLE FORM

1 2	PSU NUMBER
3 4 5 6	CASE NUMBER
7 8	RECORD NUMBER
9	VERSION NUMBER
10 11	VEHICLE NUMBER
12 13	LOCATION OF INTRUSION-1ST
14 15	INTRUDING COMPONENT-1ST
16	MAGNITUDE OF INTRUSION-1ST
17	CRUSH DIRECTION-1ST
18 19	LOCATION OF INTRUSION-2ND
20 21	INTRUDING COMPONENT-2ND
22	MAGNITUDE OF INTRUSION-2ND
23	CRUSH DIRECTION-2ND
24 25	LOCATION OF INTRUSION-3RD
26 27	INTRUDING COMPONENT-3RD
28	MAGNITUDE OF INTRUSION-3RD
29	CRUSH DIRECTION-3RD
30 31	LOCATION OF INTRUSION-4TH
32 33	INTRUDING COMPONENT-4TH
34	MAGNITUDE OF INTRUSION-4TH
35	CRUSH DIRECTION-4TH
36 37	LOCATION OF INTRUSION-5TH
38 39	INTRUDING COMPONENT-5TH
40	MAGNITUDE OF INTRUSION-5TH
41	CRUSH DIRECTION-5TH
42 43	LOCATION OF INTRUSION-6TH
44 45	INTRUDING COMPONENT-6TH
46	MAGNITUDE OF INTRUSION-6TH
47	CRUSH DIRECTION-6TH
48 49	LOCATION OF INTRUSION-7TH
50 51	INTRUDING COMPONENT-7TH
52	MAGNITUDE OF INTRUSION-7TH
53	CRUSH DIRECTION-7TH
54 55	LOCATION OF INTRUSION-8TH
56 57	INTRUDING COMPONENT-8TH
58	MAGNITUDE OF INTRUSION-8TH
59	CRUSH DIRECTION-8TH
60 61	LOCATION OF INTRUSION-9TH
62 63	INTRUDING COMPONENT-9TH
64	MAGNITUDE OF INTRUSION-9TH
65	CRUSH DIRECTION-9TH
66 67	LOCATION OF INTRUSION-10TH
68 69	INTRUDING COMPONENT-10TH
70	MAGNITUDE OF INTRUSION-10TH
71	CRUSH DIRECTION-10TH
72	STEERING COLUMN TYPE
73 74	STEERING COLUMN COLLAPSE
75 76 77	DIRECTION AND MAGNITUDE OF STEERING COLUMN MOVEMENT-VERTICAL
78 79 80	DIRECTION AND MAGNITUDE OF STEERING COLUMN MOVEMENT-LATERAL
81 82 83	DIRECTION AND MAGNITUDE OF STEERING COLUMN MOVEMENT-LONGITUDINAL
84	RIM/SPOKE DEFORMATION
85 86	LOCATION OF STEERING RIM/SPOKE DEFORMATION
87 88 89	ODOMETER READING
90	INSTRUMENT PANEL DAMAGE
91	KNEE BOLSTERS DEFORMED
92	GLOVE COMPARTMENT DOOR OPEN

INTERIOR VEHICLE FORM
(CONTINUED)

1 2	PSU NUMBER
3 4 5 6	CASE NUMBER
7 8	RECORD NUMBER
9	VERSION NUMBER
10 11	VEHICLE NUMBER
12 13	OCCUPANT NUMBER
14 15	OCCUPANT'S AGE
16	OCCUPANT'S SEX
17 18	OCCUPANT'S HEIGHT
19 20 21	OCCUPANT'S WEIGHT
22	OCCUPANT'S ROLE
23 24	OCCUPANT'S SEAT POSITION
25	OCCUPANT'S POSTURE
26	EJECTION
27	EJECTION AREA
28	EJECTION MEDIUM
29	MEDIUM STATUS
30	ENTRAPMENT
31	MANUAL BELT AVAILABILITY
32 33	MANUAL BELT USE
34	PROPER USE OF MANUAL BELT
35	MANUAL BELT FAILURE
36	AUTOMATIC RESTRAINT AVAIL.
37	AUTOMATIC REST. FUNCTION
38	AUTOMATIC REST. FAILURE
39	POLICE REP. RESTRAINT USE
40	HEAD REST. TYPE/DAMAGE
41 42	SEAT TYPE
43	SEAT PERFORMANCE
44 45 46	CHILD SAFETY SEAT MAKE/MODEL
47	TYPE OF CHILD SAFETY SEAT
48 49	CHILD SAFETY SEAT ORIENTATION
50 51	CHILD SAFETY SEAT HARNESS USAGE
52 53	CHILD SAFETY SEAT SHIELD USAGE
54 55	CHILD SAFETY SEAT TETHER USAGE
56	INJURY SEVERITY
57	TREATMENT-MORTALITY
58	TYPE OF MEDICAL FACILITY
59 60	HOSPITAL STAY
61 62	WORKING DAYS LOST
63 64	TIME TO DEATH
65 66	1ST MEDICALLY REPORTED CAUSE OF DEATH
67 68	2ND MEDICALLY REPORTED CAUSE OF DEATH
69 70	3RD MEDICALLY REPORTED CAUSE OF DEATH
71 72	NUMBER OF RECORDED INJURIES FOR THIS OCCUPANT
73	MAXIMUM KNOWN AIS
74 75	INJURY SEVERITY SCORE

OCCUPANT ASSESSMENT FORM

1 2	PSU NUMBER
3 4 5 6	CASE NUMBER
7 8	RECORD NUMBER
9	VERSION NUMBER
10 11	VEHICLE NUMBER
12 13	OCCUPANT NUMBER
14 15	INJURY NUMBER
16	SOURCE OF INJURY DATA
17	BODY REGION
18	ASPECT
19	LESION
20	SYSTEM ORGAN
21	AIS SEVERITY
22 23	INJURY SOURCE
24	CONFIDENCE LEVEL
25	DIRECT/INDIRECT INJURY
26 27	OCCUPANT AREA INTRUSION NUMBER

OCCUPANT INJURY FORM

SECTION 5

SAS FILE

NASS data are available in the form of a Statistical Analysis System (SAS) file. SAS is a highly flexible statistical package that provides a high level programmming language for effective matrix manipulation and data management facilities.

SAS is a non-hierarchial data base. The SAS data base for NASS consists of seven individual data sets, corresponding to the six NASS data collection records. The Accident record is broken into Accident and Accident Event data sets. The other data sets are General Vehicle, External Vehicle, Internal Vehicle, Occupant Assessment and Occupant Injury. Using modified relational database concepts, SAS allows the natural hierarchial structure of NASS data to be fully explored by the analyst. An analyst can create a new SAS data set by merging data from several levels of the NASS hierarchy--e. g., vehicle and occupant levels--through use of an appropriate set of SAS commands within the DATA step.

SAS Date Base Contents

The variable names in the NASS/SAS data base are from the data collection forms or derived variables and are limited to eight characters. The SAS data base is generally an exact representation of the data contained on the NASS master file. The only exceptions are the following:

- Numeric variables for which 9, 99, etc. represent "unknown" are recoded to the SAS special missing value .J ("dot-u") and are not included in percentage tabulations;

- The value of 95 ("test refused") for Alcohol Test Result For Driver (ALCTEST) has been recoded to .B; the value of 96 ("none given ") has been recoded to .C; the value of 97 ("performed, results unknown") has been recoded to .D; the value of 98 ("no driver present") has been recoded to .E; and the value of 99 ("unknown") has been recoded to .U; these values are not included in percentage tabulations;

- Missing data for numeric values are recoded as "." in SAS and are not included in percentage tabulations;

- Values for derived variables which cannot be computed due to conditions where a form is not completed e.g., non CDS applicable vehicle, non towed CDS applicable non AOPS vehicle, have been recoded to .N ("not coded");

- Hour of Day (Time) is stored as a SAS time value and has an output format of HHMM5.

PSU NUMBER (PSU), CASE NUMBER-STRATUM (CASEID) and CASE SEQUENCE NUMBER (CASENO) are identical variables across all NASS records. CASENO is the first three digits of CASEID. Therefore, PSU and either CASENO or CASEID can be used to merge NASS record levels. Similarly, VEHICLE NUMBER (VEHNO) is identical in the General Vehicle, External Vehicle, Internal Vehicle, Occupant Assessment and Occupant Injury record levels and can be used to merge these records in the DATA step.

The remainder of this Section presents the SAS layout for the 1989 NASS Analysis file. In general, the order of variables in the SAS data sets follows the order of data fields on the master file (and thus the order of items on the data collection forms used by NASS investigation teams). The user can invoke PROC CONTENTS to produce the following list of SAS variables:

SAS

CONTENTS PROCEDURE
SAS DATA LIBRARY DIRECTORY

NAME	MEMTYPE	#OBS
ACCIDENT	DATA	4648
EVENT	DATA	8551
GV	DATA	8189
OA	DATA	10811
OI	DATA	31285
VE	DATA	5710
VI	DATA	5184

CONTENTS OF SAS MEMBER SAS89.ACCIDENT
----ALPHABETIC LIST OF VARIABLES AND ATTRIBUTES-----

#	VARIABLE	TYPE	LENGTH	POSITION	FORMAT	INFORMAT	LABEL
13	AAIS	NUM	2	32			MAXIMUM KNOWN AIS IN ACCIDENT
15	AINJSER	NUM	2	36			NUMBER OF SERIOUSLY INJURED OCCUPANTS
16	AINJURED	NUM	2	38			TOTAL NUMBER OF INJURED OCCUPANTS
14	ALCDRUG	NUM	2	34			ALCOHOL OR DRUG INVOLVED IN ACCIDENT
5	AOPSCASE	NUM	2	14			AOPS STUDY CASE
12	ATREAT	NUM	2	30			MAXIMUM TREATMENT IN ACCIDENT
2	CASEID	CHAR	4	6			CASE NUMBER - STRATUM
3	CASENO	NUM	3	10			CASE SEQUENCE NUMBER
17	DAYWEEK	NUM	2	40			DAY OF WEEK OF ACCIDENT
11	EVENTS	NUM	2	28			NUMBER OF RECORDED EVENTS IN ACCIDENT
8	MONTH	NUM	2	20			MONTH OF ACCIDENT
19	NATWGT	NUM	6	48			NATIONAL INFLATION FACTOR
1	PSU	NUM	2	4			PRIMARY SAMPLING UNIT NUMBER
18	PSUWGT	NUM	6	42			PSU INFLATION FACTOR
4	STRATIF	CHAR	1	13			CASE STRATUM
10	TIME	NUM	4	24			TIME OF ACCIDENT
7	VEHFORMS	NUM	2	18			NUMBER GENERAL VEHICLE FORMS SUBMITTED
6	VERSION	NUM	2	16			VERSION NUMBER
9	YEAR	NUM	2	22			YEAR OF ACCIDENT

----LIST OF VARIABLES AND ATTRIBUTES BY POSITION----

#	VARIABLE	TYPE	LENGTH	POSITION	FORMAT	INFORMAT	LABEL
1	PSU	NUM	2	4			PRIMARY SAMPLING UNIT NUMBER
2	CASEID	CHAR	4	6			CASE NUMBER - STRATUM
3	CASENO	NUM	3	10			CASE SEQUENCE NUMBER
4	STRATIF	CHAR	1	13			CASE STRATUM
5	AOPSCASE	NUM	2	14			AOPS STUDY CASE
6	VERSION	NUM	2	16			VERSION NUMBER
7	VEHFORMS	NUM	2	18			NUMBER GENERAL VEHICLE FORMS SUBMITTED
8	MONTH	NUM	2	20			MONTH OF ACCIDENT
9	YEAR	NUM	2	22			YEAR OF ACCIDENT
10	TIME	NUM	4	24			TIME OF ACCIDENT
11	EVENTS	NUM	2	28			NUMBER OF RECORDED EVENTS IN ACCIDENT
12	ATREAT	NUM	2	30			MAXIMUM TREATMENT IN ACCIDENT
13	AAIS	NUM	2	32			MAXIMUM KNOWN AIS IN ACCIDENT
14	ALCDRUG	NUM	2	34			ALCOHOL OR DRUG INVOLVED IN ACCIDENT
15	AINJSER	NUM	2	36			NUMBER OF SERIOUSLY INJURED OCCUPANTS
16	AINJURED	NUM	2	38			TOTAL NUMBER OF INJURED OCCUPANTS
17	DAYWEEK	NUM	2	40			DAY OF WEEK OF ACCIDENT
18	PSUWGT	NUM	6	42			PSU INFLATION FACTOR
19	NATWGT	NUM	6	48			NATIONAL INFLATION FACTOR

CONTENTS OF SAS MEMBER SAS89.EVENT

----ALPHABETIC LIST OF VARIABLES AND ATTRIBUTES-----

#	VARIABLE	TYPE	LENGTH	POSITION	FORMAT	INFORMAT	LABEL
6	ACCSEQ	NUM	2	16			ACCIDENT EVENT SEQUENCE NUMBER
2	CASEID	CHAR	4	6			CASE NUMBER - STRATUM
3	CASENO	NUM	3	10			CASE SEQUENCE NUMBER
8	CLASS1	NUM	2	20			CLASS OF FIRST VEHICLE
11	CLASS2	NUM	2	25			CLASS OF OTHER VEHICLE
9	GADEV1	CHAR	1	22			GENERAL AREA OF DAMAGE FIRST VEHICLE
12	GADEV2	CHAR	1	27			GENERAL AREA OF DAMAGE OTHER VEHICLE
13	NATWGT	NUM	6	28			NATIONAL INFLATION FACTOR
10	OBJCONT	NUM	2	23			OTHER VEHICLE NUMBER OR OBJECT CONTACTED
1	PSU	NUM	2	4			PRIMARY SAMPLING UNIT NUMBER
14	PSUWGT	NUM	6	34			PSU INFLATION FACTOR
4	STRATIF	CHAR	1	13			CASE STRATUM
7	VEHNUM	NUM	2	18			VEHICLE NUMBER
5	VERSION	NUM	2	14			VERSION NUMBER

----LIST OF VARIABLES AND ATTRIBUTES BY POSITION----

#	VARIABLE	TYPE	LENGTH	POSITION	FORMAT	INFORMAT	LABEL
1	PSU	NUM	2	4			PRIMARY SAMPLING UNIT NUMBER
2	CASEID	CHAR	4	6			CASE NUMBER - STRATUM
3	CASENO	NUM	3	10			CASE SEQUENCE NUMBER
4	STRATIF	CHAR	1	13			CASE STRATUM
5	VERSION	NUM	2	14			VERSION NUMBER
6	ACCSEQ	NUM	2	16			ACCIDENT EVENT SEQUENCE NUMBER
7	VEHNUM	NUM	2	18			VEHICLE NUMBER
8	CLASS1	NUM	2	20			CLASS OF FIRST VEHICLE
9	GADEV1	CHAR	1	22			GENERAL AREA OF DAMAGE FIRST VEHICLE
10	OBJCONT	NUM	2	23			OTHER VEHICLE NUMBER OR OBJECT CONTACTED
11	CLASS2	NUM	2	25			CLASS OF OTHER VEHICLE
12	GADEV2	CHAR	1	27			GENERAL AREA OF DAMAGE OTHER VEHICLE
13	NATWGT	NUM	6	28			NATIONAL INFLATION FACTOR
14	PSUWGT	NUM	6	34			PSU INFLATION FACTOR

CONTENTS OF SAS MEMBER SAS89.GV

----ALPHABETIC LIST OF VARIABLES AND ATTRIBUTES-----

#	VARIABLE	TYPE	LENGTH	POSITION	FORMAT	INFORMAT	LABEL
21	ACCTYPE	NUM	2	63			ACCIDENT TYPE
18	ALCTEST	NUM	2	57			ALCOHOL TEST RESULT FOR DRIVER
33	ANGOTHER	NUM	3	89			HEADING ANGLE FOR OTHER VEHICLE
32	ANGTHIS	NUM	3	86			HEADING ANGLE FOR THIS VEHICLE
4	AOPSVEH	NUM	2	18			AOPS VEHICLE
13	BODYTYPE	NUM	2	39			VEHICLE BODY TYPE
49	CARGOWGT	NUM	2	124			VEHICLE CARGO WEIGHT
5	CASEID	CHAR	4	20			CASE NUMBER - STRATUM
6	CASENO	NUM	3	24			CASE SEQUENCE NUMBER
28	CONDTREE	NUM	2	78			POST COLLISION CONDITION OF TREE OR POLE
25	CURBWGT	NUM	3	71			VEHICLE CURB WEIGHT
27	DOCTRAJ	NUM	2	76			DOCUMENTATION OF TRAJECTORY DATA
17	DRINKDRG	NUM	2	55			POLICE REPORTED ALCOHOL OR DRUG PRESENCE
44	DRIVE	NUM	2	113			FRONT/REAR WHEEL DRIVE
22	DRPRES	NUM	2	65			DRIVER PRESENCE IN VEHICLE
34	DVBASIS	NUM	2	92			BASIS FOR TOTAL DELTA V (HIGHEST)
39	DVCONFID	NUM	2	103			CONFIDENCE IN RECONSTRUCTION
37	DVLAT	NUM	2	98			LATERAL COMPONENT OF DELTA V
36	DVLONG	NUM	2	96			LONGITUDINAL COMPONENT OF DELTA V
35	DVTOTAL	NUM	2	94			TOTAL DELTA V
38	ENERGY	NUM	3	100			ENERGY ABSORPTION
30	FOVERIDE	NUM	2	82			FRONT OVERRIDE/UNDERRIDE THIS VEHICLE
40	INSPTYPE	NUM	2	105			TYPE OF VEHICLE INSPECTION
11	MAKE	NUM	2	34			VEHICLE MAKE
20	MANEUVER	NUM	2	61			ATTEMPTED AVOIDANCE MANEUVER
12	MODEL	NUM	3	36			VEHICLE MODEL
10	MODELYR	NUM	2	32			VEHICLE MODEL YEAR
2	NATWGT	NUM	6	10			NATIONAL INFLATION FACTOR
24	OCCFORMS	NUM	2	69			NUMBER OF OCCUPANT FORMS SUBMITTED
23	OCUPANTS	NUM	2	67			NUMBER OF OCCUPANTS THIS VEHICLE
47	OTBDYTYP	NUM	2	120			BODY TYPE OF THE OTHER VEHICLE
46	OTVEHWGT	NUM	3	117			WEIGHT OF THE OTHER VEHICLE
3	PSU	NUM	2	16			PRIMARY SAMPLING UNIT NUMBER
1	PSUWGT	NUM	6	4			PSU INFLATION FACTOR
29	ROLLOVER	NUM	2	80			ROLLOVER
31	ROVERIDE	NUM	2	84			REAR OVERRIDE/UNDERRIDE THIS VEHICLE
19	SPLIMIT	NUM	2	59			SPEED LIMIT
7	STRATIF	CHAR	1	27			CASE STRATUM
26	TOWHITCH	NUM	2	74			TOWED TRAILING UNIT
15	TOWPAR	NUM	2	51			POLICE REPORTED VEHICLE DISPOSITION
16	TRAVELSP	NUM	2	53			POLICE REPORTED TRAVEL SPEED
48	VAIS	NUM	2	122			MAXIMUM KNOWN AIS IN THIS VEHICLE
9	VEHNO	NUM	2	30			VEHICLE NUMBER
8	VERSION	NUM	2	28			VERSION NUMBER
14	VIN	CHAR	10	41			VEHICLE IDENTIFICATION NUMBER
42	VINJSER	NUM	2	109			NUMBER SERIOUSLY INJURED IN THIS VEHICLE
43	VINJURED	NUM	2	111			NUMBER INJURED IN THIS VEHICLE
41	VINLNGTH	NUM	2	107			VIN LENGTH
45	VTREAT	NUM	2	115			MAXIMUM TREATMENT IN THIS VEHICLE

----LIST OF VARIABLES AND ATTRIBUTES BY POSITION----

#	VARIABLE	TYPE	LENGTH	POSITION	FORMAT	INFORMAT	LABEL
1	PSUWGT	NUM	6	4			PSU INFLATION FACTOR
2	NATWGT	NUM	6	10			NATIONAL INFLATION FACTOR
3	PSU	NUM	2	16			PRIMARY SAMPLING UNIT NUMBER
4	AOPSVEH	NUM	2	18			AOPS VEHICLE
5	CASEID	CHAR	4	20			CASE NUMBER - STRATUM
6	CASENO	NUM	3	24			CASE SEQUENCE NUMBER
7	STRATIF	CHAR	1	27			CASE STRATUM
8	VERSION	NUM	2	28			VERSION NUMBER
9	VEHNO	NUM	2	30			VEHICLE NUMBER
10	MODELYR	NUM	2	32			VEHICLE MODEL YEAR
11	MAKE	NUM	2	34			VEHICLE MAKE
12	MODEL	NUM	3	36			VEHICLE MODEL
13	BODYTYPE	NUM	2	39			VEHICLE BODY TYPE
14	VIN	CHAR	10	41			VEHICLE IDENTIFICATION NUMBER
15	TOWPAR	NUM	2	51			POLICE REPORTED VEHICLE DISPOSITION
16	TRAVELSP	NUM	2	53			POLICE REPORTED TRAVEL SPEED
17	DRINKDRG	NUM	2	55			POLICE REPORTED ALCOHOL OR DRUG PRESENCE
18	ALCTEST	NUM	2	57			ALCOHOL TEST RESULT FOR DRIVER
19	SPLIMIT	NUM	2	59			SPEED LIMIT
20	MANEUVER	NUM	2	61			ATTEMPTED AVOIDANCE MANEUVER
21	ACCTYPE	NUM	2	63			ACCIDENT TYPE
22	DRPRES	NUM	2	65			DRIVER PRESENCE IN VEHICLE
23	OCUPANTS	NUM	2	67			NUMBER OF OCCUPANTS THIS VEHICLE
24	OCCFORMS	NUM	2	69			NUMBER OF OCCUPANT FORMS SUBMITTED
25	CURBWGT	NUM	3	71			VEHICLE CURB WEIGHT
26	TOWHITCH	NUM	2	74			TOWED TRAILING UNIT
27	DOCTRAJ	NUM	2	76			DOCUMENTATION OF TRAJECTORY DATA
28	CONDTREE	NUM	2	78			POST COLLISION CONDITION OF TREE OR POLE
29	ROLLOVER	NUM	2	80			ROLLOVER
30	FOVERIDE	NUM	2	82			FRONT OVERRIDE/UNDERRIDE THIS VEHICLE
31	ROVERIDE	NUM	2	84			REAR OVERRIDE/UNDERRIDE THIS VEHICLE
32	ANGTHIS	NUM	3	86			HEADING ANGLE FOR THIS VEHICLE
33	ANGOTHER	NUM	3	89			HEADING ANGLE FOR OTHER VEHICLE
34	DVBASIS	NUM	2	92			BASIS FOR TOTAL DELTA V (HIGHEST)
35	DVTOTAL	NUM	2	94			TOTAL DELTA V
36	DVLONG	NUM	2	96			LONGITUDINAL COMPONENT OF DELTA V
37	DVLAT	NUM	2	98			LATERAL COMPONENT OF DELTA V
38	ENERGY	NUM	3	100			ENERGY ABSORPTION
39	DVCONFID	NUM	2	103			CONFIDENCE IN RECONSTRUCTION
40	INSPTYPE	NUM	2	105			TYPE OF VEHICLE INSPECTION
41	VINLNGTH	NUM	2	107			VIN LENGTH
42	*VINJSER*	NUM	2	109			NUMBER SERIOUSLY INJURED IN THIS VEHICLE
43	VINJURED	NUM	2	111			NUMBER INJURED IN THIS VEHICLE
44	DRIVE	NUM	2	113			FRONT/REAR WHEEL DRIVE
45	VTREAT	NUM	2	115			MAXIMUM TREATMENT IN THIS VEHICLE
46	OTVEHWGT	NUM	3	117			WEIGHT OF THE OTHER VEHICLE
47	OTBDYTYP	NUM	2	120			BODY TYPE OF THE OTHER VEHICLE
48	VAIS	NUM	2	122			MAXIMUM KNOWN AIS IN THIS VEHICLE
49	CARGOWGT	NUM	2	124			VEHICLE CARGO WEIGHT

CONTENTS OF SAS MEMBER SAS89.VE

----ALPHABETIC LIST OF VARIABLES AND ATTRIBUTES-----

#	VARIABLE	TYPE	LENGTH	POSITION	FORMAT	INFORMAT	LABEL
7	ACCSEQ1	NUM	2	18			ACCIDENT EVENT SEQUENCE (HIGHEST)
15	ACCSEQ2	NUM	2	30			ACCIDENT EVENT SEQUENCE (2ND HIGHEST)
2	CASEID	CHAR	4	6			CASE NUMBER - STRATUM
3	CASENO	NUM	3	10			CASE SEQUENCE NUMBER
39	DOCCDC	NUM	2	90			CDCs DOCUMENTED BUT NOT CODED ON FILE?
9	DOF1	NUM	2	22			DIRECTION OF FORCE (HIGHEST)
17	DOF2	NUM	2	34			DIRECTION OF FORCE (2ND HIGHEST)
24	DVC1	NUM	3	45			CRUSH PROFILE C1 (HIGHEST)
25	DVC2	NUM	3	48			CRUSH PROFILE C2 (HIGHEST)
26	DVC3	NUM	3	51			CRUSH PROFILE C3 (HIGHEST)
27	DVC4	NUM	3	54			CRUSH PROFILE C4 (HIGHEST)
28	DVC5	NUM	3	57			CRUSH PROFILE C5 (HIGHEST)
29	DVC6	NUM	3	60			CRUSH PROFILE C6 (HIGHEST)
30	DVD	NUM	3	63			CRUSH PROFILE D (HIGHEST)
23	DVL	NUM	3	42			CRUSH PROFILE L (HIGHEST)
14	EXTENT1	NUM	2	28			DEFORMATION EXTENT (HIGHEST)
22	EXTENT2	NUM	2	40			DEFORMATION EXTENT (2ND HIGHEST)
10	GAD1	CHAR	1	24			DEFORMATION LOCATION (HIGHEST)
18	GAD2	CHAR	1	36			DEFORMATION LOCATION (2ND HIGHEST)
42	NATWGT	NUM	6	102			NATIONAL INFLATION FACTOR
8	OBJCONT1	NUM	2	20			OBJECT CONTACTED (HIGHEST)
16	OBJCONT2	NUM	2	32			OBJECT CONTACTED (2ND HIGHEST)
1	PSU	NUM	2	4			PRIMARY SAMPLING UNIT NUMBER
43	PSUWGT	NUM	6	108			PSU INFLATION FACTOR
32	SDVC1	NUM	3	69			CRUSH PROFILE C1 (2ND HIGHEST)
33	SDVC2	NUM	3	72			CRUSH PROFILE C2 (2ND HIGHEST)
34	SDVC3	NUM	3	75			CRUSH PROFILE C3 (2ND HIGHEST)
35	SDVC4	NUM	3	78			CRUSH PROFILE C4 (2ND HIGHEST)
36	SDVC5	NUM	3	81			CRUSH PROFILE C5 (2ND HIGHEST)
37	SDVC6	NUM	3	84			CRUSH PROFILE C6 (2ND HIGHEST)
38	SDVD	NUM	3	87			CRUSH PROFILE D (2ND HIGHEST)
31	SDVL	NUM	3	66			CRUSH PROFILE L (2ND HIGHEST)
11	SHL1	CHAR	1	25			SPECIFIC LONGITUDINAL LOCATION (HIGHEST)
19	SHL2	CHAR	1	37			SPECIFIC LONGITUDINAL LOC. (2ND HIGHEST)
4	STRATIF	CHAR	1	13			CASE STRATUM
12	SVL1	CHAR	1	26			SPECIFIC VERTICAL LOCATION (HIGHEST)
20	SVL2	CHAR	1	38			SPECIFIC VERTICAL LOCATION (2ND HIGHEST)
13	TDD1	CHAR	1	27			TYPE OF DAMAGE DISTRIBUTION (HIGHEST)
21	TDD2	CHAR	1	39			TYPE OF DAMAGE DISTRIBUTION(2ND HIGHEST)
40	TOWRES	NUM	2	92			RESEARCHER ASSESSMNT VEHICLE DISPOSITION
6	VEHNO	NUM	2	16			VEHICLE NUMBER
5	VERSION	NUM	2	14			VERSION NUMBER
41	WHEELBAS	NUM	8	94			ORIGINAL WHEELBASE

----LIST OF VARIABLES AND ATTRIBUTES BY POSITION----

#	VARIABLE	TYPE	LENGTH	POSITION	FORMAT	INFORMAT	LABEL
1	PSU	NUM	2	4			PRIMARY SAMPLING UNIT NUMBER
2	CASEID	CHAR	4	6			CASE NUMBER - STRATUM
3	CASENO	NUM	3	10			CASE SEQUENCE NUMBER
4	STRATIF	CHAR	1	13			CASE STRATUM
5	VERSION	NUM	2	14			VERSION NUMBER
6	VEHNO	NUM	2	16			VEHICLE NUMBER
7	ACCSEQ1	NUM	2	18			ACCIDENT EVENT SEQUENCE (HIGHEST)
8	OBJCONT1	NUM	2	20			OBJECT CONTACTED (HIGHEST)
9	DOF1	NUM	2	22			DIRECTION OF FORCE (HIGHEST)
10	GAD1	CHAR	1	24			DEFORMATION LOCATION (HIGHEST)
11	SHL1	CHAR	1	25			SPECIFIC LONGITUDINAL LOCATION (HIGHEST)
12	SVL1	CHAR	1	26			SPECIFIC VERTICAL LOCATION (HIGHEST)
13	TDD1	CHAR	1	27			TYPE OF DAMAGE DISTRIBUTION (HIGHEST)
14	EXTENT1	NUM	2	28			DEFORMATION EXTENT (HIGHEST)
15	ACCSEQ2	NUM	2	30			ACCIDENT EVENT SEQUENCE (2ND HIGHEST)
16	OBJCONT2	NUM	2	32			OBJECT CONTACTED (2ND HIGHEST)
17	DOF2	NUM	2	34			DIRECTION OF FORCE (2ND HIGHEST)
18	GAD2	CHAR	1	36			DEFORMATION LOCATION (2ND HIGHEST)
19	SHL2	CHAR	1	37			SPECIFIC LONGITUDINAL LOC. (2ND HIGHEST)
20	SVL2	CHAR	1	38			SPECIFIC VERTICAL LOCATION (2ND HIGHEST)
21	TDD2	CHAR	1	39			TYPE OF DAMAGE DISTRIBUTION(2ND HIGHEST)
22	EXTENT2	NUM	2	40			DEFORMATION EXTENT (2ND HIGHEST)
23	DVL	NUM	3	42			CRUSH PROFILE L (HIGHEST)
24	DVC1	NUM	3	45			CRUSH PROFILE C1 (HIGHEST)
25	DVC2	NUM	3	48			CRUSH PROFILE C2 (HIGHEST)
26	DVC3	NUM	3	51			CRUSH PROFILE C3 (HIGHEST)
27	DVC4	NUM	3	54			CRUSH PROFILE C4 (HIGHEST)
28	DVC5	NUM	3	57			CRUSH PROFILE C5 (HIGHEST)
29	DVC6	NUM	3	60			CRUSH PROFILE C6 (HIGHEST)
30	DVD	NUM	3	63			CRUSH PROFILE D (HIGHEST)
31	SDVL	NUM	3	66			CRUSH PROFILE L (2ND HIGHEST)
32	SDVC1	NUM	3	69			CRUSH PROFILE C1 (2ND HIGHEST)
33	SDVC2	NUM	3	72			CRUSH PROFILE C2 (2ND HIGHEST)
34	SDVC3	NUM	3	75			CRUSH PROFILE C3 (2ND HIGHEST)
35	SDVC4	NUM	3	78			CRUSH PROFILE C4 (2ND HIGHEST)
36	SDVC5	NUM	3	81			CRUSH PROFILE C5 (2ND HIGHEST)
37	SDVC6	NUM	3	84			CRUSH PROFILE C6 (2ND HIGHEST)
38	SDVD	NUM	3	87			CRUSH PROFILE D (2ND HIGHEST)
39	DOCCDC	NUM	2	90			CDCs DOCUMENTED BUT NOT CODED ON FILE?
40	TOWRES	NUM	2	92			RESEARCHER ASSESSMNT VEHICLE DISPOSITION
41	WHEELBAS	NUM	8	94			ORIGINAL WHEELBASE
42	NATWGT	NUM	6	102			NATIONAL INFLATION FACTOR
43	PSUWGT	NUM	6	108			PSU INFLATION FACTOR

CONTENTS OF SAS MEMBER SAS89.VI

----ALPHABETIC LIST OF VARIABLES AND ATTRIBUTES-----

#	VARIABLE	TYPE	LENGTH	POSITION	FORMAT	INFORMAT	LABEL
99	BOLSTDEF	NUM	2	203			KNEE BOLSTER DEFORMED - OCCUPANT CONTACT
2	CASEID	CHAR	4	6			CASE NUMBER - STRATUM
3	CASENO	NUM	3	10			CASE SEQUENCE NUMBER
53	CDRIR1	NUM	2	110			1ST DOMINANT CRUSH DIRECTION
57	CDRIR2	NUM	2	118			2ND DOMINANT CRUSH DIRECTION
61	CDRIR3	NUM	2	126			3RD DOMINANT CRUSH DIRECTION
65	CDRIR4	NUM	2	134			4TH DOMINANT CRUSH DIRECTION
69	CDRIR5	NUM	2	142			5TH DOMINANT CRUSH DIRECTION
73	CDRIR6	NUM	2	150			6TH DOMINANT CRUSH DIRECTION
77	CDRIR7	NUM	2	158			7TH DOMINANT CRUSH DIRECTION
81	CDRIR8	NUM	2	166			8TH DOMINANT CRUSH DIRECTION
85	CDRIR9	NUM	2	174			9TH DOMINANT CRUSH DIRECTION
89	CDRIR10	NUM	2	182			10TH DOMINANT CRUSH DIRECTION
93	COLLAT	NUM	2	190			STEERING COLUMN LATERAL MOVEMENT
94	COLLONG	NUM	2	192			STEERING COLUMN LONGITUDINAL MOVEMENT
91	COLMOVE	NUM	2	186			STEERING COLUMN COLLAPSE - OCCUPANT LOAD
90	COLUMTYP	NUM	2	184			STEERING COLUMN TYPE
92	COLVERT	NUM	2	188			STEERING COLUMN VERTICAL MOVEMENT
13	FAILLF	NUM	2	30			LF DAMAGE/FAILURE ASSOCIATED W
15	FAILLR	NUM	2	34			LR DAMAGE/FAILURE - OPENING IN COLLISION
14	FAILRF	NUM	2	32			RF DAMAGE/FAILURE - OPENING IN COLLISION
16	FAILRR	NUM	2	36			RR DAMAGE/FAILURE - OPENING IN COLLISION
17	FAILTG	NUM	2	38			TG DAMAGE/FAILURE - OPENING IN COLLISION
23	GLIMPBL	NUM	2	50			BL GLAZING DAMAGE FROM IMPACT FORCES
19	GLIMPLF	NUM	2	42			LF GLAZING DAMAGE FROM IMPACT FORCES
21	GLIMPLR	NUM	2	46			LR GLAZING DAMAGE FROM IMPACT FORCES
25	GLIMPOTH	NUM	2	54			OTHER GLAZING DAMAGE FROM IMPACT FORCES
20	GLIMPRF	NUM	2	44			RF GLAZING DAMAGE FROM IMPACT FORCES
22	GLIMPRR	NUM	2	48			RR GLAZING DAMAGE FROM IMPACT FORCES
24	GLIMPRUF	NUM	2	52			ROOF GLAZING DAMAGE FROM IMPACT FORCES
18	GLIMPWS	NUM	2	40			WS GLAZING DAMAGE FROM IMPACT FORCES
31	GLOCCBL	NUM	2	66			BL GLAZING DAMAGE FROM OCCUPANT CONTACT
27	GLOCCLF	NUM	2	58			LF GLAZING DAMAGE FROM OCCUPANT CONTACT
29	GLOCCLR	NUM	2	62			LR GLAZING DAMAGE FROM OCCUPANT CONTACT
33	GLOCCOTH	NUM	2	70			OTHER GLAZING DAMAGE FROM OCC. CONTACT
28	GLOCCRF	NUM	2	60			RF GLAZING DAMAGE FROM OCCUPANT CONTACT
30	GLOCCRR	NUM	2	64			RR GLAZING DAMAGE FROM OCCUPANT CONTACT
32	GLOCCRUF	NUM	2	68			ROOF GLAZING DAMAGE FROM OCC. CONTACT
26	GLOCCWS	NUM	2	56			WS GLAZING DAMAGE FROM OCCUPANT CONTACT
100	GLOVOPEN	NUM	2	205			DID GLOVE COMPARTMENT DOOR OPEN
47	GLPREBL	NUM	2	98			BL WINDOW PRECRASH GLAZING STATUS
43	GLPRELF	NUM	2	90			LF WINDOW PRECRASH GLAZING STATUS
45	GLPRELR	NUM	2	94			LR WINDOW PRECRASH GLAZING STATUS
49	GLPREOTH	NUM	2	102			OTHER WINDOW PRECRASH GLAZING STATUS
44	GLPRERF	NUM	2	92			RF WINDOW PRECRASH GLAZING STATUS
46	GLPRERR	NUM	2	96			RR WINDOW PRECRASH GLAZING STATUS
48	GLPRERUF	NUM	2	100			ROOF WINDOW PRECRASH GLAZING STATUS

CONTENTS OF SAS MEMBER SAS89.VI

----ALPHABETIC LIST OF VARIABLES AND ATTRIBUTES----- CONT'D

#	VARIABLE	TYPE	LENGTH	POSITION	FORMAT	INFORMAT	LABEL
42	GLPREWS	NUM	2	88			WS WINDOW PRECRASH GLAZING STATUS
39	GLTYPBL	NUM	2	82			BL TYPE OF WINDOW/WINDSHIELD GLAZING
35	GLTYPLF	NUM	2	74			LF TYPE OF WINDOW/WINDSHIELD GLAZING
37	GLTYPLR	NUM	2	78			LR TYPE OF WINDOW/WINDSHIELD GLAZING
41	GLTYPOTH	NUM	2	86			OTHER TYPE OF WINDOW/WINDSHIELD GLAZING
36	GLTYPRF	NUM	2	76			RF TYPE OF WINDOW/WINDSHIELD GLAZING
38	GLTYPRR	NUM	2	80			RR TYPE OF WINDOW/WINDSHIELD GLAZING
40	GLTYPRUF	NUM	2	84			ROOF TYPE OF WINDOW/WINDSHIELD GLAZING
34	GLTYPWS	NUM	2	72			WS TYPE OF WINDOW/WINDSHIELD GLAZING
51	INCOMP1	NUM	2	106			1ST INTRUDING COMPONENT
55	INCOMP2	NUM	2	114			2ND INTRUDING COMPONENT
59	INCOMP3	NUM	2	122			3RD INTRUDING COMPONENT
63	INCOMP4	NUM	2	130			4TH INTRUDING COMPONENT
67	INCOMP5	NUM	2	138			5TH INTRUDING COMPONENT
71	INCOMP6	NUM	2	146			6TH INTRUDING COMPONENT
75	INCOMP7	NUM	2	154			7TH INTRUDING COMPONENT
79	INCOMP8	NUM	2	162			8TH INTRUDING COMPONENT
83	INCOMP9	NUM	2	170			9TH INTRUDING COMPONENT
87	INCOMP10	NUM	2	178			10TH INTRUDING COMPONENT
50	INLOC1	NUM	2	104			1ST LOCATION OF INTRUSION
54	INLOC2	NUM	2	112			2ND LOCATION OF INTRUSION
58	INLOC3	NUM	2	120			3RD LOCATION OF INTRUSION
62	INLOC4	NUM	2	128			4TH LOCATION OF INTRUSION
66	INLOC5	NUM	2	136			5TH LOCATION OF INTRUSION
70	INLOC6	NUM	2	144			6TH LOCATION OF INTRUSION
74	INLOC7	NUM	2	152			7TH LOCATION OF INTRUSION
78	INLOC8	NUM	2	160			8TH LOCATION OF INTRUSION
82	INLOC9	NUM	2	168			9TH LOCATION OF INTRUSION
86	INLOC10	NUM	2	176			10TH LOCATION OF INTRUSION
52	INMAG1	NUM	2	108			1ST MAGNITUDE OF INTRUSION
56	INMAG2	NUM	2	116			2ND MAGNITUDE OF INTRUSION
60	INMAG3	NUM	2	124			3RD MAGNITUDE OF INTRUSION
64	INMAG4	NUM	2	132			4TH MAGNITUDE OF INTRUSION
68	INMAG5	NUM	2	140			5TH MAGNITUDE OF INTRUSION
72	INMAG6	NUM	2	148			6TH MAGNITUDE OF INTRUSION
76	INMAG7	NUM	2	156			7TH MAGNITUDE OF INTRUSION
80	INMAG8	NUM	2	164			8TH MAGNITUDE OF INTRUSION
84	INMAG9	NUM	2	172			9TH MAGNITUDE OF INTRUSION
88	INMAG10	NUM	2	180			10TH MAGNITUDE OF INTRUSION
101	NATWGT	NUM	6	207			NATIONAL INFLATION FACTOR
97	ODOMETER	NUM	3	198			ODOMETER READING
8	OPENLF	NUM	2	20			LF DOOR, TAILGATE OR HATCH OPENING
10	OPENLR	NUM	2	24			LR DOOR, TAILGATE OR HATCH OPENING
9	OPENRF	NUM	2	22			RF DOOR, TAILGATE OR HATCH OPENING
11	OPENRR	NUM	2	26			RR DOOR, TAILGATE OR HATCH OPENING
12	OPENTG	NUM	2	28			TG DOOR, TAILGATE OR HATCH OPENING
98	PANELDAM	NUM	2	201			INSTRUMENT PANEL DAMAGE - OCC. CONTACT
7	PASINTEG	NUM	2	18			PASSENGER COMPARTMENT INTEGRITY
1	PSU	NUM	2	4			PRIMARY SAMPLING UNIT NUMBER
102	PSUWGT	NUM	6	213			PSU INFLATION FACTOR
96	RDEFLOC	NUM	2	196			LOCATION STEERING RIM/SPOKE DEFORMATION
95	RIMDEF	NUM	2	194			STEERING RIM/SPOKE DEFORMATION
4	STRATIF	CHAR	1	13			CASE STRATUM
6	VEHNO	NUM	2	16			VEHICLE NUMBER
5	VERSION	NUM	2	14			VERSION NUMBER

CONTENTS OF SAS MEMBER SAS89.VI

----LIST OF VARIABLES AND ATTRIBUTES BY POSITION----

#	VARIABLE	TYPE	LENGTH	POSITION	FORMAT	INFORMAT	LABEL
1	PSU	NUM	2	4			PRIMARY SAMPLING UNIT NUMBER
2	CASEID	CHAR	4	6			CASE NUMBER - STRATUM
3	CASENO	NUM	3	10			CASE SEQUENCE NUMBER
4	STRATIF	CHAR	1	13			CASE STRATUM
5	VERSION	NUM	2	14			VERSION NUMBER
6	VEHNO	NUM	2	16			VEHICLE NUMBER
7	PASINTEG	NUM	2	18			PASSENGER COMPARTMENT INTEGRITY
8	OPENLF	NUM	2	20			LF DOOR, TAILGATE OR HATCH OPENING
9	OPENRF	NUM	2	22			RF DOOR, TAILGATE OR HATCH OPENING
10	OPENLR	NUM	2	24			LR DOOR, TAILGATE OR HATCH OPENING
11	OPENRR	NUM	2	26			RR DOOR, TAILGATE OR HATCH OPENING
12	OPENTG	NUM	2	28			TG DOOR, TAILGATE OR HATCH OPENING
13	FAILLF	NUM	2	30			LF DAMAGE/FAILURE ASSOCIATED W
14	FAILRF	NUM	2	32			RF DAMAGE/FAILURE - OPENING IN COLLISION
15	FAILLR	NUM	2	34			LR DAMAGE/FAILURE - OPENING IN COLLISION
16	FAILRR	NUM	2	36			RR DAMAGE/FAILURE - OPENING IN COLLISION
17	FAILTG	NUM	2	38			TG DAMAGE/FAILURE - OPENING IN COLLISION
18	GLIMPWS	NUM	2	40			WS GLAZING DAMAGE FROM IMPACT FORCES
19	GLIMPLF	NUM	2	42			LF GLAZING DAMAGE FROM IMPACT FORCES
20	GLIMPRF	NUM	2	44			RF GLAZING DAMAGE FROM IMPACT FORCES
21	GLIMPLR	NUM	2	46			LR GLAZING DAMAGE FROM IMPACT FORCES
22	GLIMPRR	NUM	2	48			RR GLAZING DAMAGE FROM IMPACT FORCES
23	GLIMPBL	NUM	2	50			BL GLAZING DAMAGE FROM IMPACT FORCES
24	GLIMPRUF	NUM	2	52			ROOF GLAZING DAMAGE FROM IMPACT FORCES
25	GLIMPOTH	NUM	2	54			OTHER GLAZING DAMAGE FROM IMPACT FORCES
26	GLOCCWS	NUM	2	56			WS GLAZING DAMAGE FROM OCCUPANT CONTACT
27	GLOCCLF	NUM	2	58			LF GLAZING DAMAGE FROM OCCUPANT CONTACT
28	GLOCCRF	NUM	2	60			RF GLAZING DAMAGE FROM OCCUPANT CONTACT
29	GLOCCLR	NUM	2	62			LR GLAZING DAMAGE FROM OCCUPANT CONTACT
30	GLOCCRR	NUM	2	64			RR GLAZING DAMAGE FROM OCCUPANT CONTACT
31	GLOCCBL	NUM	2	66			BL GLAZING DAMAGE FROM OCCUPANT CONTACT
32	GLOCCRUF	NUM	2	68			ROOF GLAZING DAMAGE FROM OCC. CONTACT
33	GLOCCOTH	NUM	2	70			OTHER GLAZING DAMAGE FROM OCC. CONTACT
34	GLTYPWS	NUM	2	72			WS TYPE OF WINDOW/WINDSHIELD GLAZING
35	GLTYPLF	NUM	2	74			LF TYPE OF WINDOW/WINDSHIELD GLAZING
36	GLTYPRF	NUM	2	76			RF TYPE OF WINDOW/WINDSHIELD GLAZING
37	GLTYPLR	NUM	2	78			LR TYPE OF WINDOW/WINDSHIELD GLAZING
38	GLTYPRR	NUM	2	80			RR TYPE OF WINDOW/WINDSHIELD GLAZING
39	GLTYPBL	NUM	2	82			BL TYPE OF WINDOW/WINDSHIELD GLAZING
40	GLTYPRUF	NUM	2	84			ROOF TYPE OF WINDOW/WINDSHIELD GLAZING
41	GLTYPOTH	NUM	2	86			OTHER TYPE OF WINDOW/WINDSHIELD GLAZING
42	GLPREWS	NUM	2	88			WS WINDOW PRECRASH GLAZING STATUS
43	GLPRELF	NUM	2	90			LF WINDOW PRECRASH GLAZING STATUS
44	GLPRERF	NUM	2	92			RF WINDOW PRECRASH GLAZING STATUS
45	GLPRELR	NUM	2	94			LR WINDOW PRECRASH GLAZING STATUS
46	GLPRERR	NUM	2	96			RR WINDOW PRECRASH GLAZING STATUS
47	GLPREBL	NUM	2	98			BL WINDOW PRECRASH GLAZING STATUS
48	GLPRERUF	NUM	2	100			ROOF WINDOW PRECRASH GLAZING STATUS
49	GLPREOTH	NUM	2	102			OTHER WINDOW PRECRASH GLAZING STATUS
50	INLOC1	NUM	2	104			1ST LOCATION OF INTRUSION
51	INCOMP1	NUM	2	106			1ST INTRUDING COMPONENT
52	INMAG1	NUM	2	108			1ST MAGNITUDE OF INTRUSION
53	CDRIR1	NUM	2	110			1ST DOMINANT CRUSH DIRECTION
54	INLOC2	NUM	2	112			2ND LOCATION OF INTRUSION

CONTENTS OF SAS MEMBER SAS89.VI

----LIST OF VARIABLES AND ATTRIBUTES BY POSITION---- CONT'D

#	VARIABLE	TYPE	LENGTH	POSITION	FORMAT	INFORMAT	LABEL
55	INCOMP2	NUM	2	114			2ND INTRUDING COMPONENT
56	INMAG2	NUM	2	116			2ND MAGNITUDE OF INTRUSION
57	CDRIR2	NUM	2	118			2ND DOMINANT CRUSH DIRECTION
58	INLOC3	NUM	2	120			3RD LOCATION OF INTRUSION
59	INCOMP3	NUM	2	122			3RD INTRUDING COMPONENT
60	INMAG3	NUM	2	124			3RD MAGNITUDE OF INTRUSION
61	CDRIR3	NUM	2	126			3RD DOMINANT CRUSH DIRECTION
62	INLOC4	NUM	2	128			4TH LOCATION OF INTRUSION
63	INCOMP4	NUM	2	130			4TH INTRUDING COMPONENT
64	INMAG4	NUM	2	132			4TH MAGNITUDE OF INTRUSION
65	CDRIR4	NUM	2	134			4TH DOMINANT CRUSH DIRECTION
66	INLOC5	NUM	2	136			5TH LOCATION OF INTRUSION
67	INCOMP5	NUM	2	138			5TH INTRUDING COMPONENT
68	INMAG5	NUM	2	140			5TH MAGNITUDE OF INTRUSION
69	CDRIR5	NUM	2	142			5TH DOMINANT CRUSH DIRECTION
70	INLOC6	NUM	2	144			6TH LOCATION OF INTRUSION
71	INCOMP6	NUM	2	146			6TH INTRUDING COMPONENT
72	INMAG6	NUM	2	148			6TH MAGNITUDE OF INTRUSION
73	CDRIR6	NUM	2	150			6TH DOMINANT CRUSH DIRECTION
74	INLOC7	NUM	2	152			7TH LOCATION OF INTRUSION
75	INCOMP7	NUM	2	154			7TH INTRUDING COMPONENT
76	INMAG7	NUM	2	156			7TH MAGNITUDE OF INTRUSION
77	CDRIR7	NUM	2	158			7TH DOMINANT CRUSH DIRECTION
78	INLOC8	NUM	2	160			8TH LOCATION OF INTRUSION
79	INCOMP8	NUM	2	162			8TH INTRUDING COMPONENT
80	INMAG8	NUM	2	164			8TH MAGNITUDE OF INTRUSION
81	CDRIR8	NUM	2	166			8TH DOMINANT CRUSH DIRECTION
82	INLOC9	NUM	2	168			9TH LOCATION OF INTRUSION
83	INCOMP9	NUM	2	170			9TH INTRUDING COMPONENT
84	INMAG9	NUM	2	172			9TH MAGNITUDE OF INTRUSION
85	CDRIR9	NUM	2	174			9TH DOMINANT CRUSH DIRECTION
86	INLOC10	NUM	2	176			10TH LOCATION OF INTRUSION
87	INCOMP10	NUM	2	178			10TH INTRUDING COMPONENT
88	INMAG10	NUM	2	180			10TH MAGNITUDE OF INTRUSION
89	CDRIR10	NUM	2	182			10TH DOMINANT CRUSH DIRECTION
90	COLUMTYP	NUM	2	184			STEERING COLUMN TYPE
91	COLMOVE	NUM	2	186			STEERING COLUMN COLLAPSE - OCCUPANT LOAD
92	COLVERT	NUM	2	188			STEERING COLUMN VERTICAL MOVEMENT
93	COLLAT	NUM	2	190			STEERING COLUMN LATERAL MOVEMENT
94	COLLONG	NUM	2	192			STEERING COLUMN LONGITUDINAL MOVEMENT
95	RIMDEF	NUM	2	194			STEERING RIM/SPOKE DEFORMATION
96	RDEFLOC	NUM	2	196			LOCATION STEERING RIM/SPOKE DEFORMATION
97	ODOMETER	NUM	3	198			ODOMETER READING
98	PANELDAM	NUM	2	201			INSTRUMENT PANEL DAMAGE - OCC. CONTACT
99	BOLSTDEF	NUM	2	203			KNEE BOLSTER DEFORMED - OCCUPANT CONTACT
100	GLOVOPEN	NUM	2	205			DID GLOVE COMPARTMENT DOOR OPEN
101	NATWGT	NUM	6	207			NATIONAL INFLATION FACTOR
102	PSUWGT	NUM	6	213			PSU INFLATION FACTOR

CONTENTS OF SAS MEMBER SAS89.OA

----ALPHABETIC LIST OF VARIABLES AND ATTRIBUTES-----

#	VARIABLE	TYPE	LENGTH	POSITION	FORMAT	INFORMAT	LABEL
8	AGE	NUM	2	20			AGE OF OCCUPANT
24	AUTAVAIL	NUM	2	53			AUTOMATIC RESTRAINT SYSTEM AVAILABILITY
26	AUTFAIL	NUM	2	57			AUTOMATIC RESTRAINT SYSTEM FAILURE
25	AUTFNCT	NUM	2	55			AUTOMATIC RESTRAINT SYSTEM FUNCTION
2	CASEID	CHAR	4	6			CASE NUMBER - STRATUM
3	CASENO	NUM	3	10			CASE SEQUENCE NUMBER
43	CAUSE1	NUM	2	92			1ST MEDICALLY REPORTED CAUSE OF DEATH
44	CAUSE2	NUM	2	94			2ND MEDICALLY REPORTED CAUSE OF DEATH
45	CAUSE3	NUM	2	96			3RD MEDICALLY REPORTED CAUSE OF DEATH
34	CHHARNES	NUM	2	74			CHILD SAFETY SEAT HARNESS USAGE
31	CHMAKE	NUM	3	67			CHILD SAFETY SEAT MAKE/MODEL
33	CHORIENT	NUM	2	72			CHILD SAFETY SEAT ORIENTATION
35	CHSHIELD	NUM	2	76			CHILD SAFETY SEAT SHIELD USAGE
36	CHTETHER	NUM	2	78			CHILD SAFETY SEAT TETHER USAGE
32	CHTYPE	NUM	2	70			TYPE OF CHILD SAFETY SEAT
42	DEATH	NUM	2	90			TIME TO DEATH
16	EJCTAREA	NUM	2	37			EJECTION AREA
17	EJCTMED	NUM	2	39			EJECTION MEDIUM
15	EJECTION	NUM	2	35			EJECTION
19	ENTRAP	NUM	2	43			ENTRAPMENT
28	HEADREST	NUM	2	61			HEAD RESTRAINT TYPE/DAMAGE BY OCCUPANT
10	HEIGHT	NUM	2	24			HEIGHT OF OCCUPANT
40	HOSPSTAY	NUM	2	86			HOSPITAL STAY
46	INJNUM	NUM	2	98			NUMBER RECORDED INJURIES THIS OCCUPANT
37	INJSEV	NUM	2	80			INJURY SEVERITY (POLICE RATING)
48	ISS	NUM	2	102			INJURY SEVERITY SCORE
47	MAIS	NUM	2	100			MAXIMUM KNOWN OCCUPANT AIS
20	MANAVAIL	NUM	2	45			MANUAL BELT SYSTEM AVAILABILITY
23	MANFAIL	NUM	2	51			MANUAL BELT FAILURE MODE DURING ACCIDENT
22	MANPROPR	NUM	2	49			PROPER USE OF MANUAL BELTS
21	MANUSE	NUM	2	47			MANUAL BELT SYSTEM USE
39	MEDFACIL	NUM	2	84			TYPE MEDICAL FACILITY INITIAL TREATMENT
18	MEDSTA	NUM	2	41			MEDIUM STATUS (PRIOR TO IMPACT)
49	NATWGT	NUM	6	104			NATIONAL INFLATION FACTOR
7	OCCNO	NUM	2	18			OCCUPANT NUMBER
27	PARUSE	NUM	2	59			POLICE REPORTED RESTRAINT USE
14	POSTURE	NUM	2	33			OCCUPANT'S POSTURE
1	PSU	NUM	2	4			PRIMARY SAMPLING UNIT NUMBER
50	PSUWGT	NUM	6	110			PSU INFLATION FACTOR
12	ROLE	NUM	2	29			OCCUPANT'S ROLE
30	SEATPERF	NUM	2	65			SEAT PERFORMANCE (THIS POSITION)
13	SEATPOS	NUM	2	31			OCCUPANT'S SEAT POSITION
29	SEATTYPE	NUM	2	63			SEAT TYPE (THIS OCCUPANT POSITION)
9	SEX	NUM	2	22			OCCUPANT'S SEX
4	STRATIF	CHAR	1	13			CASE STRATUM
38	TREATMNT	NUM	2	82			TREATMENT - MORTALITY
6	VEHNO	NUM	2	16			VEHICLE NUMBER
5	VERSION	NUM	2	14			VERSION NUMBER
11	WEIGHT	NUM	3	26			OCCUPANT'S WEIGHT
41	WORKDAYS	NUM	2	88			WORKING DAYS LOST

----LIST OF VARIABLES AND ATTRIBUTES BY POSITION----

#	VARIABLE	TYPE	LENGTH	POSITION	FORMAT	INFORMAT	LABEL
1	PSU	NUM	2	4			PRIMARY SAMPLING UNIT NUMBER
2	CASEID	CHAR	4	6			CASE NUMBER - STRATUM
3	CASENO	NUM	3	10			CASE SEQUENCE NUMBER
4	STRATIF	CHAR	1	13			CASE STRATUM
5	VERSION	NUM	2	14			VERSION NUMBER
6	VEHNO	NUM	2	16			VEHICLE NUMBER
7	OCCNO	NUM	2	18			OCCUPANT NUMBER
8	AGE	NUM	2	20			AGE OF OCCUPANT
9	SEX	NUM	2	22			OCCUPANT'S SEX
10	HEIGHT	NUM	2	24			HEIGHT OF OCCUPANT
11	WEIGHT	NUM	3	26			OCCUPANT'S WEIGHT
12	ROLE	NUM	2	29			OCCUPANT'S ROLE
13	SEATPOS	NUM	2	31			OCCUPANT'S SEAT POSITION
14	POSTURE	NUM	2	33			OCCUPANT'S POSTURE
15	EJECTION	NUM	2	35			EJECTION
16	EJCTAREA	NUM	2	37			EJECTION AREA
17	EJCTMED	NUM	2	39			EJECTION MEDIUM
18	MEDSTA	NUM	2	41			MEDIUM STATUS (PRIOR TO IMPACT)
19	ENTRAP	NUM	2	43			ENTRAPMENT
20	MANAVAIL	NUM	2	45			MANUAL BELT SYSTEM AVAILABILITY
21	MANUSE	NUM	2	47			MANUAL BELT SYSTEM USE
22	MANPROPR	NUM	2	49			PROPER USE OF MANUAL BELTS
23	MANFAIL	NUM	2	51			MANUAL BELT FAILURE MODE DURING ACCIDENT
24	AUTAVAIL	NUM	2	53			AUTOMATIC RESTRAINT SYSTEM AVAILABILITY
25	AUTFNCT	NUM	2	55			AUTOMATIC RESTRAINT SYSTEM FUNCTION
26	AUTFAIL	NUM	2	57			AUTOMATIC RESTRAINT SYSTEM FAILURE
27	PARUSE	NUM	2	59			POLICE REPORTED RESTRAINT USE
28	HEADREST	NUM	2	61			HEAD RESTRAINT TYPE/DAMAGE BY OCCUPANT
29	SEATTYPE	NUM	2	63			SEAT TYPE (THIS OCCUPANT POSITION)
30	SEATPERF	NUM	2	65			SEAT PERFORMANCE (THIS POSITION)
31	CHMAKE	NUM	3	67			CHILD SAFETY SEAT MAKE/MODEL
32	CHTYPE	NUM	2	70			TYPE OF CHILD SAFETY SEAT
33	CHORIENT	NUM	2	72			CHILD SAFETY SEAT ORIENTATION
34	CHHARNES	NUM	2	74			CHILD SAFETY SEAT HARNESS USAGE
35	CHSHIELD	NUM	2	76			CHILD SAFETY SEAT SHIELD USAGE
36	CHTETHER	NUM	2	78			CHILD SAFETY SEAT TETHER USAGE
37	INJSEV	NUM	2	80			INJURY SEVERITY (POLICE RATING)
38	TREATMNT	NUM	2	82			TREATMENT - MORTALITY
39	MEDFACIL	NUM	2	84			TYPE MEDICAL FACILITY INITIAL TREATMENT
40	HOSPSTAY	NUM	2	86			HOSPITAL STAY
41	WORKDAYS	NUM	2	88			WORKING DAYS LOST
42	DEATH	NUM	2	90			TIME TO DEATH
43	CAUSE1	NUM	2	92			1ST MEDICALLY REPORTED CAUSE OF DEATH
44	CAUSE2	NUM	2	94			2ND MEDICALLY REPORTED CAUSE OF DEATH
45	CAUSE3	NUM	2	96			3RD MEDICALLY REPORTED CAUSE OF DEATH
46	INJNUM	NUM	2	98			NUMBER RECORDED INJURIES THIS OCCUPANT
47	MAIS	NUM	2	100			MAXIMUM KNOWN OCCUPANT AIS
48	ISS	NUM	2	102			INJURY SEVERITY SCORE
49	NATWGT	NUM	6	104			NATIONAL INFLATION FACTOR
50	PSUWGT	NUM	6	110			PSU INFLATION FACTOR

CONTENTS OF SAS MEMBER SAS89.01

----ALPHABETIC LIST OF VARIABLES AND ATTRIBUTES-----

#	VARIABLE	TYPE	LENGTH	POSITION	FORMAT	INFORMAT	LABEL
14	AIS	NUM	2	28			A.I.S. SEVERITY (O.I.C. - A.I.S.)
11	ASPECT	CHAR	1	25			ASPECT (O.I.C. - A.I.S.)
10	BODYREG	CHAR	1	24			BODY REGION (O.I.C. - A.I.S.)
2	CASEID	CHAR	4	6			CASE NUMBER - STRATUM
3	CASENO	NUM	3	10			CASE SEQUENCE NUMBER
17	DIRINJ	NUM	2	34			DIRECT/INDIRECT INJURY
8	INJNO	NUM	2	20			INJURY NUMBER
15	INJSOU	NUM	2	30			INJURY SOURCE
18	INTRUNO	NUM	2	36			OCCUPANT AREA INTRUSION NO.
12	LESION	CHAR	1	26			LESION (O.I.C. - A.I.S.)
19	NATWGT	NUM	6	38			NATIONAL INFLATION FACTOR
7	OCCNO	NUM	2	18			OCCUPANT NUMBER
1	PSU	NUM	2	4			PRIMARY SAMPLING UNIT NUMBER
20	PSUWGT	NUM	6	44			PSU INFLATION FACTOR
16	SOUCON	NUM	2	32			INJURY SOURCE CONFIDENCE LEVEL
9	SOUDAT	NUM	2	22			SOURCE OF INJURY DATA
4	STRATIF	CHAR	1	13			CASE STRATUM
13	SYSORG	CHAR	1	27			SYSTEM/ORGAN (O.I.C. - A.I.S.)
6	VEHNO	NUM	2	16			VEHICLE NUMBER
5	VERSION	NUM	2	14			VERSION NUMBER

----LIST OF VARIABLES AND ATTRIBUTES BY POSITION----

#	VARIABLE	TYPE	LENGTH	POSITION	FORMAT	INFORMAT	LABEL
1	PSU	NUM	2	4			PRIMARY SAMPLING UNIT NUMBER
2	CASEID	CHAR	4	6			CASE NUMBER - STRATUM
3	CASENO	NUM	3	10			CASE SEQUENCE NUMBER
4	STRATIF	CHAR	1	13			CASE STRATUM
5	VERSION	NUM	2	14			VERSION NUMBER
6	VEHNO	NUM	2	16			VEHICLE NUMBER
7	OCCNO	NUM	2	18			OCCUPANT NUMBER
8	INJNO	NUM	2	20			INJURY NUMBER
9	SOUDAT	NUM	2	22			SOURCE OF INJURY DATA
10	BODYREG	CHAR	1	24			BODY REGION (O.I.C. - A.I.S.)
11	ASPECT	CHAR	1	25			ASPECT (O.I.C. - A.I.S.)
12	LESION	CHAR	1	26			LESION (O.I.C. - A.I.S.)
13	SYSORG	CHAR	1	27			SYSTEM/ORGAN (O.I.C. - A.I.S.)
14	AIS	NUM	2	28			A.I.S. SEVERITY (O.I.C. - A.I.S.)
15	INJSOU	NUM	2	30			INJURY SOURCE
16	SOUCON	NUM	2	32			INJURY SOURCE CONFIDENCE LEVEL
17	DIRINJ	NUM	2	34			DIRECT/INDIRECT INJURY
18	INTRUNO	NUM	2	36			OCCUPANT AREA INTRUSION NO.
19	NATWGT	NUM	6	38			NATIONAL INFLATION FACTOR
20	PSUWGT	NUM	6	44			PSU INFLATION FACTOR

APPENDIX A

DATA COLLECTION FORMS

The data collection forms used in NASS during the years 1979-1987 were completely redesigned to enhance the objectives of the new NASS Crashworthiness Data System beginning in 1988. The accident form now contains information on all events in the accident and is split, in the automated file, into an Accident record and an Accident Event record. The previous vehicle record has been replaced by three records, a General Vehicle record, an External Vehicle record and an Internal Vehicle record. The driver record has been eliminated. The previous occupant record has been split into an Occupant Assessment record and an Occupant Injury record, in which all injuries to an occupant are coded rather than just the eight most serious.

ACCIDENT FORM

US Department of Transportation
National Highway Traffic Safety Administration

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number ___ ___

2 Case Number – Stratum ___ ___ ___ ___

IDENTIFICATION

3 Number of General Vehicle Forms Submitted ___ ___

4 Date of Accident (Month, Day, Year) ___ ___ / ___ ___ / 8 9

5. Time of Accident ___ ___ ___ ___

Code reported military time of accident

NOTE Midnight = 2400
Unknown = 9999

SPECIAL STUDIES INDICATORS

Check (✓) each special study (SS12-SS16 below) that has been completed, code 1 for the checked special studies and 0 for the special studies not checked

6 ___SS12 Anti-lacerative Windshields ___

7 ___SS13 ___

8 ___SS14 ___

9. ___SS15 ___

10 ___SS16 ___

NUMBER OF EVENTS

11 Number of Recorded Events in This Accident ___ ___

Code the number of events which occurred in this accident.

ACCIDENT EVENTS

For each event that occurred in the accident, code the lowest numbered vehicle in the left columns and the other involved vehicle or object on the right

Accident Event Sequence Number	Vehicle Number	Class of Vehicle	General Area of Damage	Vehicle Number or Object Contacted	Class of Vehicle	General Area of Damage
12 01	13 ___ ___	14 ___ ___	15 ___	16 ___ ___	17 ___ ___	18 ___
19 02	20 ___ ___	21 ___ ___	22 ___	23 ___ ___	24 ___ ___	25 ___
26 03	27 ___ ___	28 ___ ___	29 ___	30 ___ ___	31 ___ ___	32 ___
33 04	34 ___ ___	35 ___ ___	36 ___	37 ___ ___	38 ___ ___	39 ___
40 05	41 ___ ___	42 ___ ___	43 ___	44 ___ ___	45 ___ ___	46 ___
47 06	48 ___ ___	49 ___ ___	50 ___	51 ___ ___	52 ___ ___	53 ___
54 07	55 ___ ___	56 ___ ___	57 ___	58 ___ ___	59 ___ ___	60 ___
61 08	62 ___ ___	63 ___ ___	64 ___	65 ___ ___	66 ___ ___	67 ___
68 09	69 ___ ___	70 ___ ___	71 ___	72 ___ ___	73 ___ ___	74 ___
75 10	76 ___ ___	77 ___ ___	78 ___	79 ___ ___	80 ___ ___	81 ___

IF GREATER THAN TEN EVENTS, CONTINUE CODING ON THE ACCIDENT EVENTS SUPPLEMENT

HS Form 434
1/89

CODES FOR CLASS OF VEHICLE

(00) Not a motor vehicle
(01) Subcompact/mini (wheelbase < 100 ")
(02) Compact (wheelbase = 100 "–104 ")
(03) Intermediate (wheelbase = 105 "–109 ")
(04) Full size (wheelbase = 110 –114 ")
(05) Largest (wheelbase ≥ 115 ")
(09) Unknown passenger car size
(11) Short utility vehicle
(12) Truck based utility (≤ 10,000 lbs GVWR)
(13) Passenger van (≤ 10,000 lbs GVWR)
(14) Other van (≤ 10,000 lbs GVWR)
(15) Pickup truck (≤ 10,000 lbs GVWR)
(18) Other truck (≤ 10,000 lbs GVWR)
(19) Unknown light truck type
(20) School bus
(21) Other bus
(22) Truck (10,000 lbs GVWR)
(23) Tractor without trailer
(24) Tractor-trailer(s)
(25) Motored cycle
(28) Other vehicle
(99) Unknown

CODES FOR GENERAL AREA OF DAMAGE (GAD)

CDC APPLICABLE AND OTHER VEHICLES

(0) Not a motor vehicle
(N) Noncollision
(F) Front
(R) Right side
(L) Left side
(B) Back
(T) Top
(U) Undercarriage
(9) Unknown

TDC APPLICABLE VEHICLES

(0) Not a motor vehicle
(N) Noncollision
(F) Front
(R) Right side
(L) Left side
(B) Back of unit with cargo area (rear of trailer or straight truck)
(D) Back (rear of tractor)
(C) Rear of cab
(V) Front of cargo area
(T) Top
(U) Undercarriage
(9) Unknown

CODES FOR VEHICLE NUMBER OR OBJECT CONTACTED

(01-30) – Vehicle number

Noncollision
(31) Overturn – rollover
(32) Fire or explosion
(33) Jackknife
(34) Other intraunit damage (specify)

_____

(35) Noncollision injury
(38) Other noncollision (specify)

_____

(39) Noncollision – details unknown

Collision with Fixed Object
(41) Tree (≤ 4 inches in diameter)
(42) Tree (4 inches in diameter)
(43) Shrubbery or bush
(44) Embankment

(45) Breakaway pole or post (any diameter)

Nonbreakaway Pole or Post
(50) Pole or post (≤ 4 inches in diameter)
(51) Pole or post (4 but ≤ 12 inches in diameter)
(52) Pole or post (12 inches in diameter)
(53) Pole or post (diameter unknown)

(54) Concrete traffic barrier
(55) Impact attenuator
(56) Other traffic [illegible] (specify)

_____

(57) Fence
(58) Wall
(59) Building
(60) Ditch or culvert
(61) Ground
(62) Fire hydrant
(63) Curb
(64) Bridge
(68) Other fixed object (specify)

_____

(69) Unknown fixed object

Collision with Nonfixed Object
(71) Motor vehicle not in transport
(72) Pedestrian
(73) Cyclist or cycle
(74) Other nonmotorist or conveyance (specify)

_____

(75) Vehicle occupant
(76) Animal
(77) Train
(78) Trailer, disconnected in transport
(88) Other nonfixed object (specify)

_____

(89) Unknown nonfixed object

(98) Other event (specify)

_____

(99) Unknown event or object

U.S. Department of Transportation
National Highway Traffic Safety Administration

GENERAL VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1 Primary Sampling Unit Number ___ ___

2 Case Number – Stratum ___ ___ ___ ___

3 Vehicle Number ___ ___

VEHICLE IDENTIFICATION

4 Vehicle Model Year ___ ___
Code the last two digits of the model year
(99) Unknown

5 Vehicle Make (specify): ___ ___

_____

Applicable codes are found in your NASS CDS Data Collection Coding and Editing Manual
(99) Unknown

6 Vehicle Model (specify) ___ ___ ___

_____

Applicable codes are found in your NASS CDS Data Collection, Coding, and Editing Manual
(999) Unknown

7 Body Type ___ ___
Note Applicable codes are found on the back of this page

8 Vehicle Identification Number

_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Left justify, Slash zeros and letter Z (0 and Z)
No VIN – Code all zeros
Unknown – Code all nine s

OFFICIAL RECORDS

9 Police Reported Vehicle Disposition ___
(0) Not towed due to vehicle damage
(1) Towed due to vehicle damage
(9) Unknown

10 Police Reported Travel Speed ___ ___

Code to the nearest mph (NOTE 00 means less than 0.5 mph)
(97) 96.5 mph and above
(99) Unknown

11. Police Reported Alcohol or Drug Presence ___
(0) Neither alcohol nor drugs present
(1) Yes (alcohol present)
(2) Yes (drugs present)
(3) Yes (alcohol and drugs present)
(4) Yes (alcohol or drugs present – specifics unknown)
(7) Not reported
(8) No driver present
(9) Unknown

12. Alcohol Test Result for Driver ___ ___
Code actual value (decimal implied before first digit – 0.xx)
(95) Test refused
(96) None given
(97) AC test performed, results unknown
(98) No driver present
(99) Unknown

Source _____

ACCIDENT RELATED

13 Speed Limit ___ ___
(00) No statutory limit
Code posted or statutory speed limit
(99) Unknown

14 Attempted Avoidance Maneuver ___ ___
(00) No impact
(01) No avoidance actions
(02) Braking (no lockup)
(03) Braking (lockup)
(04) Braking (lockup unknown)
(05) Releasing brakes
(06) Steering left
(07) Steering right
(08) Braking and steering left
(09) Braking and steering right
(10) Accelerating
(11) Accelerating and steering left
(12) Accelerating and steering right
(97) No driver present
(98) Other action (specify)

_____

(99) Unknown

15 Accident Type ___ ___
Applicable codes may be found on the back of page two of this field form
(00) No impact
Code the number of the diagram that best describes the accident circumstance
(98) Other accident type (specify)

_____

(99) Unknown

****** STOP HERE IF GV07 DOES NOT EQUAL 01-49 ******

HS Form 435
1 89

CODES FOR BODY TYPE

CDS APPLICABLE VEHICLES

Automobiles
- (01) Convertible (excludes sun-roof, t-bar)
- (02) 2 door sedan hardtop coupe
- (03) 3-door 2 door hatchback
- (04) 4-door sedan, hardtop
- (05) 5-door 4-door hatchback
- (06) Station wagon (excluding van and truck based)
- (08) Other automobile type (specify)

_____

- (09) Unknown automobile type

Automobile Derivatives
- (10) Auto based pickup (includes El Camino, Caballero, Ranchero, and Brat)
- (11) Auto based panel (cargo station wagon, includes auto based ambulance hearse)
- (12) Large limousine – more than four side doors or stretched chassis

Utility Vehicles
- (13) Short utility – not truck based (includes Jeep CJ-5, Jeep CJ-7, Renegade, Landrover, Pre-78 Bronco, Landcruiser, Thing)
- (14) Truck based utility (2-door, includes Blazer, Bronco – 78 on Bronco II Jimmy Ramcharger Cherokee, Trailduster, Scout)

Van Based Light Trucks (≤ 10,000 lbs GVWR)
- (20) Minivan (Espace, Astro, Caravan, Plymouth Vista, Aerostar Safari Voyager [84 and after], Dodge Vista Mini Ram Van, Toyota Cargo Van Toyota Van Vanagon, VW Bus Kombi)
- (21) Standard van (Sportvan Chevy Van, Club Wagon, Ford Econoline Ram Van, Chateau Ram Wagon, Vandura, Rally, Voyager [83 and before], Beauville, Sportsman)
- (28) Other van type (specify) _____
- (29) Unknown van type

Light Conventional Trucks (Pickup Style Cab, *10,000 lbs GVWR*)
- (30) Compact pickup (≤ 4,500 lbs. GVWR, S-10, LUV Ram 50 Rampage, Courier, Ranger S 5. Pup, Mazda Pickup, Mitsubishi Truck, Nissan Pickup, Arrow Pickup, Scamp, Toyota Pickup, VW Pickup)
- (31) Standard pickup (4 500 to 10,000 lbs GVWR, C10 - C30, K10 - K30, T10, D100 - D350, W150 - W350, F100 F350 Comanche J10 - J30, Dakota)
- (32) Pickup with slide-in camper
- (33) Truck based station wagon (4-door includes Suburban, Travelall Wagoneer)
- 34) Light truck based suburban limousine
- (39) Unknown (pickup style) light conventional truck type

Other Light Trucks (≤ 10,000 lbs GVWR)
- (40) Cab chassis based (includes rescue vehicle, light stake, dump, and tow truck)
- (41) Truck based panel
- (42) Light truck based motorhome (chassis mounted)
- (47) Other light conventional truck type (not a pickup) (specify)

_____

- (48) Unknown other light truck type (not a pickup)
- (49) Unknown light vehicle type (automobile, van, or light truck)

OTHER VEHICLES

Buses (Excludes Van Based)
- (50) School bus (designed to carry students, not cross country or transit)
- (58) Other bus type (e g , transit, intercity, bus based motorhome) (specify)

_____

- (59) Unknown bus type

Medium Heavy Trucks (≥ 10,000 lbs GVWR)
- (60) Step van
- (61) Single unit straight truck (10,000 lbs ≤ GVWR ≤ 26,000 lbs)
- (62) Single unit straight truck (≥ 26,000 lbs GVWR)
- (63) Medium heavy truck based motorhome
- (64) Truck-tractor with no cargo trailer
- (65) Truck-tractor pulling one trailer
- (66) Truck-tractor pulling two or more trailers
- (67) Truck tractor (unknown if pulling trailer)
- (68) Unknown medium/heavy truck type
- (69) Unknown truck type (light/medium/heavy)

Motored Cycles (Does Not Include All-Terrain Vehicles Cycles)
- (70) Motorcycle
- (71) Moped (motorized bicycle)
- (78) Other motored cycle type(minibike motorscooter) (specify)

_____

- (79) Unknown motored cycle type

Other Vehicles
- (80) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
- (88) Other vehicle type (specify)

_____

- (99) Unknown body type

OCCUPANT RELATED

16. Driver Presence in Vehicle ___
(0) Driver not present
(1) Driver present
(9) Unknown

17 Number of Occupants This Vehicle ___ ___
(00-96) Code actual number of occupants for this vehicle
(97) 97 or more
(99) Unknown

18. Number of Occupant Forms Submitted ___ ___

VEHICLE WEIGHT ITEMS

19 Vehicle Curb Weight ___ ___, ___ 0 0
_____Code weight to nearest 100 pounds
(010) Less than 1050 pounds
(135) 13,500 lbs or more
(999) Unknown

Source _____

20. Vehicle Cargo Weight ___ ___ 0 0
_____Code weight to nearest 100 pounds.
(00) Less than 50 pounds
(97) 9,650 lbs or more
(99) Unknown

RECONSTRUCTION DATA

21. Towed Trailing Unit ___
(0) No towed unit
(1) Yes – towed trailing unit
(9) Unknown

22. Documentation of Trajectory Data for This Vehicle ___
(0) No
(1) Yes

23. Post Collision Condition of Tree or Pole (for Highest Delta V) ___
(0) Not collision (for highest delta V) with tree or pole
(1) Not damaged
(2) Cracked/sheared
(3) Tilted 45 degrees
(4) Tilted ≥45 degrees
(5) Uprooted tree
(6) Separated pole from base
(7) Pole replaced
(8) Other (specify)
_____
(9) Unknown

24. Rollover ___
(0) No rollover (no overturning)

Rollover (primarily about the longitudinal axis)
(1) Rollover, 1 quarter turn only
(2) Rollover, 2 quarter turns
(3) Rollover, 3 quarter turns
(4) Rollover, 4 or more quarter turns (specify)
_____

(5) Rollover – end-over-end (i.e., primarily about the lateral axis)
(9) Rollover (overturn), details unknown

OVERRIDE/UNDERRIDE (THIS VEHICLE)

25. Front Override/Underride (this vehicle) ___

26. Rear Override/Underride (this vehicle) ___

(0) No override underride, or not an end-to-end impact

Override (see specific CDC)
(1) 1st CDC
(2) 2nd CDC
(3) Other not automated CDC (specify)
_____

Underride (see specific CDC)
(4) 1st CDC
(5) 2nd CDC
(6) Other not automated CDC (specify)
_____

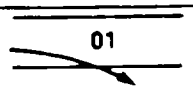
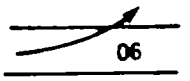
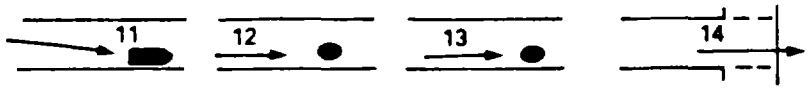
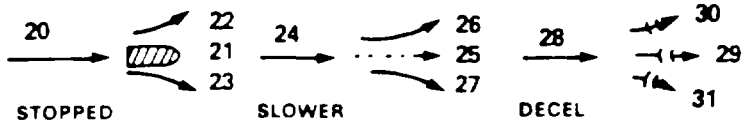
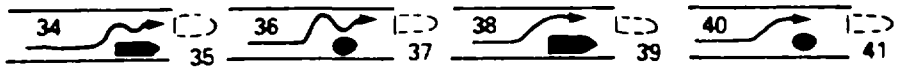
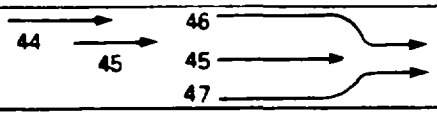
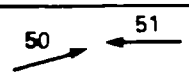
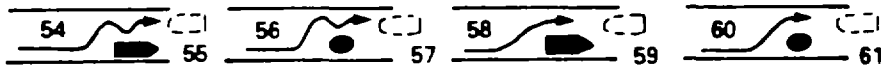
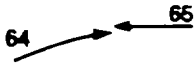
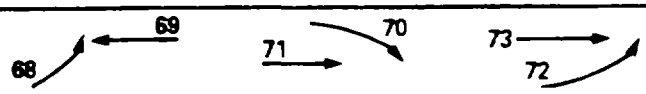
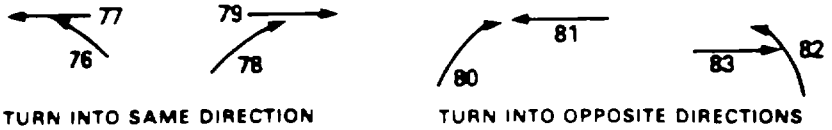
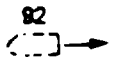
(7) Medium/heavy truck override
(9) Unknown

HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V

Values (000)-(359) Code actual value
(997) Noncollision
(998) Impact with object
(999) Unknown

27 Heading Angle for This Vehicle ___ ___ ___

28. Heading Angle for Other Vehicle ___ ___ ___

Category	Configuration	ACCIDENT TYPES (Includes Intent)
I Single Driver	A Right Roadside Departure	 01 DRIVE OFF ROAD; 02 CONTROL/ TRACTION LOSS; 03 AVOID COLLISION WITH VEH PED . ANIM; 04 SPECIFICS OTHER; 05 SPECIFICS UNKNOWN
	B Left Roadside Departure	 06 DRIVE OFF ROAD; 07 CONTROL/ TRACTION LOSS; 08 AVOID COLLISION WITH VEH PED . ANIM; 09 SPECIFICS OTHER; 10 SPECIFICS UNKNOWN
	C Forward Impact	 11 PARKED VEH; 12 STA OBJECT; 13 PEDESTRIAN/ ANIMAL; 14 END DEPARTURE; 15 SPECIFICS OTHER; 16 SPECIFICS UNKNOWN
II Same Traffic Way Same Direction	D Rear End	 20 22 21 23 STOPPED 21 22 23; 24 26 25 27 SLOWER 25 26 27; 28 30 29 31 DECEL 29 30 31; (EACH • 32) SPECIFICS OTHER; (EACH • 33) SPECIFICS UNKNOWN
	E Forward Impact	 34 35 CONTROL TRACTION LOSS; 36 37 CONTROL TRACTION LOSS; 38 39 AVOID COLLISION WITH VEH; 40 41 AVOID COLLISION WITH OBJECT; (EACH • 42) SPECIFICS OTHER; (EACH • 43) SPECIFICS UNKNOWN
	F Sideswipe Angle	 44 45; 46 45 47; (EACH • 48) SPECIFICS OTHER; (EACH • 49) SPECIFICS UNKNOWN
III Same Traffic Way Opposite Direction	G Head On	 50 51 LATERAL MOVE; (EACH • 52) SPECIFICS OTHER; (EACH • 53) SPECIFICS UNKNOWN
	H Forward Impact	 54 55 CONTROL TRACTION LOSS; 56 57 CONTROL TRACTION LOSS; 58 59 AVOID COLLISION WITH VEH; 60 61 AVOID COLLISION WITH OBJECT; (EACH • 62) SPECIFICS OTHER; (EACH • 63) SPECIFICS UNKNOWN
	J Sideswipe Angle	 64 65 LATERAL MOVE; (EACH • 66) SPECIFICS OTHER; (EACH • 67) SPECIFICS UNKNOWN
V Change Traffic Way Vehicle Turning	J Turn Across Path	 68 69 INITIAL OPPOSITE DIRECTIONS; 71 70 73 72 INITIAL SAME DIRECTIONS; (EACH • 74) SPECIFICS OTHER; (EACH • 75) SPECIFICS UNKNOWN
	K Turn Into Path	 76 77 79 78 TURN INTO SAME DIRECTION; 80 81 83 82 TURN INTO OPPOSITE DIRECTIONS; (EACH • 84) SPECIFICS OTHER; (EACH • 85) SPECIFICS UNKNOWN
V Intersecting Paths (Vehicle Damage)	L Straight Paths	 87 86; 88 89; (EACH • 90) SPECIFICS OTHER; (EACH • 91) SPECIFICS UNKNOWN
VI Miscellaneous	M Backing Etc	 92 BACKING VEH; 93 OTHER VEH OR OBJECT; 98 Other Accident Type; 99 Unknown Accident Type; 00 No Impact

29. Basis for Total Delta V (Highest) ___

Delta V Calculated
(1) CRASH program – damage only routine
(2) CRASH program – damage and trajectory routine
(3) Missing vehicle algorithm

Delta V Not Calculated
(4) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions

(5) All vehicles within scope (CDC applicable) of CRASH program but one of the collision conditions is beyond the scope of the CRASH program or other acceptable reconstruction techniques, regardless of adequacy of damage data

(6) All vehicle and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available.

COMPUTER GENERATED DELTA V

	Secondary	Highest
30. Total Delta V		___ ___
_____ Nearest mph	_____	

(NOTE 00 means less than 0 5 mph)
(97) 96 5 mph and above
(99) Unknown

31. Longitudinal Component of Delta V	+ −	___ ___ ___
_____ Nearest mph	_____	

(NOTE _00 means greater than −0 5 and less than +0.5 mph)
(+97) +96 5 mph and above
(_ 99) Unknown

	Secondary	Highest
32. Lateral Component of Delta V	− +	___ ___
_____ Nearest mph		___ ___

(NOTE _00 means greater than −0.5 and less than +0.5 mph)
(+97) +96 5 mph and above
(_ 99) Unknown

33. Energy Absorption ___ ___ ___, **0 0**

_____ Nearest 100 foot-lbs ___ ___

(NOTE 0000 means less than 50 Foot-Lbs)
(9997) 999,650 foot-lbs or more
(9999) Unknown

34. Confidence in Reconstruction Program Results (for Highest Delta V) ___
(0) No reconstruction
(1) Collision fits model – results appear reasonable
(2) Collision fits model – results appear high
(3) Collision fits model – results appear low
(4) Borderline reconstruction – results appear reasonable

35. Type of Vehicle Inspection ___
(0) No Inspection
(1) Complete inspection
(2) Partial inspection (specify)

_____

*** STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV35 = 0), *** DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS.

U S Department of Transportation
National Highway Traffic Safety Administration

EXTERIOR VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1 Primary Sampling Unit Number ___ ___	3 Vehicle Number ___ ___
2 Case Number – Stratum ___ ___ ___ ___	

VEHICLE IDENTIFICATION

VIN ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ ___ Model Year _____

Vehicle Make (specify) _____ Vehicle Model (specify) _____

LOCATOR

Locate the end of the damage with respect to the vehicle longitudinal center line or bumper corner for end impacts or an undamaged axle for side impacts

Specific Impact No	Location of Direct Damage	Location of Field L

CRUSH PROFILE

NOTES Identify the plane at which the C-measurements are taken (e g at bumper, above bumper, at sill, above sill, etc) and label adjustments (e g free space)

Measure and document on the vehicle diagram the location of maximum crush.

Measure C1 to C6 from driver to passenger side in front or rear impacts and rear to front in side impacts

Free space value is defined as the distance between the baseline and the original body contour taken at the individual C locations This may include the following bumper lead, bumper taper, side protrusion, side taper, etc Record the value for each C measurement and maximum crush

Use as many lines columns as necessary to describe each damage profile.

Specific Impact Number	Plane of C-Measurements	Direct Damage		Field L	C_1	C_2	C_3	C_4	C_5	C_6	±D
		Width (CDC)	Max Crush								

HS Form 435A
1/89

CDC WORKSHEET

CODES FOR OBJECT CONTACTED

01-30 – Vehicle Number

Noncollision
- (31) Overturn – rollover
- (32) Fire or explosion
- (33) Jackknife
- (34) Other intraunit damage (specify)

_____

- (35) Noncollision injury
- (38) Other noncollision (specify)

_____

- (39) Noncollision – details unknown

Collision with Fixed Object
- (41) Tree (≤ 4 inches in diameter)
- (42) Tree (4 inches in diameter)
- (43) Shrubbery or bush
- (44) Embankment

- (45) Breakaway pole or post (any diameter)

Nonbreakaway Pole or Post
- (50) Pole or post (≤ 4 inches in diameter)
- (51) Pole or post (4 but 12 inches in diameter)
- (52) Pole or post (12 inches in diameter)
- (53) Pole or post (diameter unknown)

- (54) Concrete traffic barrier
- (55) Impact attenuator
- (56) Other traffic barrier (specify)

_____

- (57) Fence
- (58) Wall
- (59) Building
- (60) Ditch or Culvert
- (61) Ground
- (62) Fire hydrant
- (63) Curb
- (64) Bridge
- (68) Other fixed object (specify)

_____

- (69) Unknown fixed object

Collision With Nonfixed Object
- (71) Motor vehicle not in transport
- (72) Pedestrian
- (73) Cyclist or cycle
- (74) Other nonmotorist or conveyance (specify)

_____

- (75) Vehicle occupant
- (76) Animal
- (77) Train
- (78) Trailer, disconnected in transport
- (88) Other nonfixed object (specify)

_____

- (89) Unknown nonfixed object

- (98) Other event (specify)

_____

- (99) Unknown event or object

DEFORMATION CLASSIFICATION BY EVENT NUMBER

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force (degrees	Incremental Value of Shift	(3) Deformation Location	(4) Specific Longitudinal or Lateral Location	(5) Specific Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent

COLLISION DEFORMATION CLASSIFICATION

HIGHEST DELTA "V"

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Specific Longitudinal or Lateral Location	(5) Specific Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4 ___	5 ___	6 ___	7 ___	8 ___	9 ___	10 ___	11 ___

Second Highest Delta "V"

12 ___	13 ___	14 ___	15 ___	16 ___	17 ___	18 ___	19 ___

CRUSH PROFILE

(The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below ALL MEASUREMENTS ARE IN INCHES.)

HIGHEST DELTA "V"

20 L	21 C1	C2	C3	C4	C5	C6	22 D
___	___	___	___	___	___	___	___

Second Highest Delta "V"

23 L	24 C1	C2	C3	C4	C5	C6	25 D
___	___	___	___	___	___	___	___

26. Are CDCs Documented but Not Coded on The Automated File ___
(0) No
(1) Yes

27 Researcher's Assessment of Vehicle Disposition ___
(0) Not towed due to vehicle damage
(1) Towed due to vehicle damage
(9) Unknown

28. Original Wheelbase ___
_____Code to the nearest tenth of an inch
(9999) Unknown

*** STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED ***
(I.E., GV09 = 0 OR 9), DO NOT COMPLETE THE INTERIOR VEHICLE FORM.

U.S. Department of Transportation
National Highway Traffic Safety Administration

INTERIOR VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number ____
2 Case Number – Stratum ____
3 Vehicle Number ____

INTEGRITY

4. Passenger Compartment Integrity ____

(00) No integrity loss

Yes, Integrity Was Lost Through
(01) Windshield
(02) Door (side)
(03) Door hatch (rear)
(04) Roof
(05) Roof glass
(06) Side window
(07) Rear window
(08) Roof and roof glass
(09) Windshield and door (side)
(10) Windshield and roof
(11) Side and rear window
(98) Other combination of above (specify)

_____

(99) Unknown

Door, Tailgate Or Hatch Opening

5. LF ___ 6. RF ___ 7. LR ___ 8. RR ___ 9. TG/H ___

(0) No door/gate/hatch
(1) Door/gate/hatch remained closed and operational
(2) Door/gate/hatch came open during collision
(3) Door/gate/hatch jammed shut
(8) Other (specify)

_____

(9) Unknown

Damage/Failure Associated with Door, Tailgate or Hatch Opening in Collision. If IV05-IV09 ≠ 2, Then Code 0.

10. LF ___ 11. RF ___ 12. LR ___ 13. RR ___ 14. TG/H ___

(0) No door/gate/hatch or door not opened

Door, Tailgate, or Hatch Came Open During Collision
(1) Door operational (no damage)
(2) Latch/striker failure due to damage
(3) Hinge failure due to damage
(4) Door structure failure due to damage
(5) Door support (i.e., pillar, sill, roof side rail, etc.) failure due to damage
(6) Latch/striker and hinge failure due to damage
(8) Other failure (specify)

_____

(9) Unknown

GLAZING

Glazing Damage from Impact Forces

15. WS ___ 16. LF ___ 17. RF ___ 18. LR ___ 19. RR ___

20. BL ___ 21. Roof ___ 22. Other ___

(0) No glazing damage from impact forces
(2) Glazing in place and cracked from impact forces
(3) Glazing in place and holed from impact forces
(4) Glazing out-of-place (cracked or not) and not holed from impact forces
(5) Glazing out-of-place and holed from impact forces
(6) Glazing disintegrated from impact forces
(7) Glazing removed prior to accident
(8) No glazing
(9) Unknown if damaged

Glazing Damage from Occupant Contact

23. WS ___ 24. LF ___ 25. RF ___ 26. LR ___ 27. RR ___

28. BL ___ 29. Roof ___ 30. Other ___

(0) No occupant contact to glazing or no glazing
(1) Glazing contacted by occupant but no glazing damage
(2) Glazing in place and cracked by occupant contact
(3) Glazing in place and holed by occupant contact
(4) Glazing out-of-place (cracked or not) by occupant contact and not holed by occupant contact
(5) Glazing out-of-place by occupant contact and holed by occupant contact
(6) Glazing disintegrated by occupant contact
(9) Unknown if contacted by occupant

If No Glazing Damage ***And*** No Occupant Contact or No Glazing, Then Code IV 31 Through IV 46 As 0

Type of Window/Windshield Glazing

31. WS ___ 32. LF ___ 33. RF ___ 34. LR ___ 35. RR ___

36. BL ___ 37. Roof ___ 38. Other ___

(0) No glazing contact and no damage, or no glazing
(1) AS-1 – Laminated
(2) AS-2 – Tempered
(3) AS-3 – Tempered-tinted
(4) AS-14 – Glass/Plastic
(8) Other (specify)

_____

(9) Unknown

Window Precrash Glazing Status

39. WS ___ 40. LF ___ 41. RF ___ 42. LR ___ 43. RR ___

44. BL ___ 45. Roof ___ 46. Other ___

(0) No glazing contact and no damage, or no glazing
(1) Fixed
(2) Closed
(3) Partially opened
(4) Fully opened
(9) Unknown

HS Form 435C
1/89

OCCUPANT AREA INTRUSION

Note: If no intrusions, leave variables IV 47-IV 86 blank.

	Location of Intrusion	Intruding Component	Magnitude of Intrusion	Dominant Crush Direction
1st	47.____	48.____	49.____	50.____
2nd	51.____	52.____	53.____	54.____
3rd	55.____	56.____	57.____	58.____
4th	59.____	60.____	61.____	62.____
5th	63.____	64.____	65.____	66.____
6th	67.____	68.____	69.____	70.____
7th	71.____	72.____	73.____	74.____
8th	75.____	76.____	77.____	78.____
9th	79.____	80.____	81.____	82.____
10th	83.____	84.____	85.____	86.____

LOCATION OF INTRUSION

Front Seat
- (11) Left
- (12) Middle
- (13) Right

Second Seat
- (21) Left
- (22) Middle
- (23) Right

Third Seat
- (31) Left
- (32) Middle
- (33) Right

Fourth Seat
- (41) Left
- (42) Middle
- (43) Right

(98) Other enclosed area (specify): _____

(99) Unknown

INTRUDING COMPONENT

Interior Components
- (01) Steering assembly
- (02) Instrument panel left
- (03) Instrument panel center
- (04) Instrument panel right
- (05) Toe pan
- (06) A-pillar
- (07) B-pillar
- (08) C-pillar
- (09) D-pillar
- (10) Door panel
- (12) Roof (or convertible top)
- (13) Roof side rail
- (14) Windshield
- (15) Windshield header
- (16) Window frame
- (17) Floor pan
- (18) Backlight header
- (19) Front seat back
- (20) Second seat back
- (21) Third seat back
- (22) Fourth seat back
- (23) Fifth seat back
- (24) Seat cushion
- (25) Back panel or door surface
- (26) Other interior component (specify): _____
- (27) Side panel - forward of the A-pillar
- (28) Side panel - rear of the A-pillar

Exterior Components
- (30) Hood
- (31) Outside surface of vehicle (specify): _____
- (32) Other exterior object in the environment (specify): _____
- (33) Unknown exterior object

- (98) Intrusion of unlisted component(s) (specify): _____
- (99) Unknown

MAGNITUDE OF INTRUSION

- (1) ≥ 1 inch but < 3 inches
- (2) ≥ 3 inches but < 6 inches
- (3) ≥ 6 inches but < 12 inches
- (4) ≥ 12 inches but < 18 inches
- (5) ≥ 18 inches but < 24 inches
- (6) ≥ 24 inches
- (9) Unknown

DOMINANT CRUSH DIRECTION

- (1) Vertical
- (2) Longitudinal
- (3) Lateral
- (9) Unknown

STEERING COLUMN

87. Steering Column Type ___
(1) Fixed column
(2) Tilt column
(3) Telescoping column
(4) Tilt and telescoping column
(8) Other column type (specify):

_____

(9) Unknown

If PDOF ≠ 11, 12 or 1, Then Code IV88-IV91 As 96

88 Steering Column Collapse Due to Occupant Loading ___ ___

_____ Code actual measured **movement to the nearest inch. See coding manual for measurement technique(s).**
(00) No movement, compression, or collapse
(01-49) Actual measured value
(50) 50 inches or greater

Estimated movement from observation
(81) Less than 1 inch
(82) ≥ 1 inch but < 2 inches
(83) ≥ 2 inches but < 4 inches
(84) ≥ 4 inches but < 6 inches
(85) ≥ 6 inches but < 8 inches
(86) Greater than or equal to 8 inches
(96) Not assessed (PDOF ≠ 11, 12, 1)
(97) Apparent movement, value undetermined or cannot be measured or estimated
(98) Nonspecified type column
(99) Unknown

Direction And Magnitude of Steering Column Movement

89. Vertical Movement + − ___ ___

90. Lateral Movement + − ___ ___

91. Longitudinal Movement + − ___ ___

Code the actual measured movement to the nearest inch. See Coding Manual for measurement technique(s)
(+00) No Steering column movement
(±01 – ±49) Actual measured value
(±50) 50 inches or greater

Estimated movement from observation
(±81) ≥ 1 inch but < 3 inches
(±82) ≥ 3 inches but < 6 inches
(±83) ≥ 6 inches but < 12 inches

(__96) Not assessed (PDOF ≠ 11, 12, 1)
(__97) Apparent movement > 1 inch but cannot be measured or estimated
(__99) Unknown

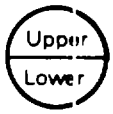
92. Steering Rim/Spoke Deformation ___

_____ Code actual measured deformation to the nearest inch.
(0) No steering rim deformation
(1-5) Actual measured value
(6) 6 inches or more
(8) Observed deformation cannot be measured
(9) Unknown

93. Location of Steering Rim/Spoke Deformation ___ ___
(00) No steering rim deformation

Quarter Sections
(01) Section A
(02) Section B
(03) Section C
(04) Section D

Half Sections
(05) Upper half of rim/spoke
(06) Lower half of rim/spoke
(07) Left half of rim/spoke
(08) Right half of rim/spoke



(09) Complete steering wheel collapse
(10) Undetermined location
(99) Unknown

INSTRUMENT PANEL

94. Odometer Reading ___ ___ ___,000

_____ miles – Code mileage to the nearest 1,000 miles
(000) No odometer
(001) Less than 1,500 miles
(300) 299,500 miles or more
(999) Unknown

Source: _____

95. Instrument Panel Damage from Occupant Contact ___
(0) No
(1) Yes
(9) Unknown

96. Knee Bolsters Deformed from Occupant Contact ___
(0) No
(1) Yes
(8) Not present
(9) Unknown

97. Did Glove Compartment Door Open During Collision? ___
(0) No
(1) Yes
(8) Not present
(9) Unknown

U S Department of Transportation
National Highway Traffic Safety Administration

Form Approved
O M B No 2127-0021
NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

OCCUPANT ASSESSMENT FORM

1 Primary Sampling Unit Number ___ ___

2 Case Number – Stratum ___ ___ ___ ___

3 Vehicle Number ___ ___

4 Occupant Number ___ ___

OCCUPANT'S CHARACTERISTICS

5. Occupant's Age ___ ___
Code actual age at time of accident
(00) Less than one year old (specify by month)
_____
(97) 97 years and older
(99) Unknown

6 Occupant's Sex ___
(1) Male
(2) Female
(9) Unknown

7 Occupant's Height ___ ___
Code actual height to the nearest inch
(99) Unknown

8. Occupant's Weight ___ ___ ___
Code actual weight to the nearest pound.
(999) Unknown

9 Occupant's Role ___
(1) Driver
(2) Passenger
(9) Unknown

10. Occupant's Seat Position ___ ___

Front Seat
(11) Left side
(12) Middle
(13) Right side
(14) Other (specify) _____

Second Seat
(21) Left side
(22) Middle
(23) Right side
(24) Other (specify) _____

Third Seat
(31) Left side
(32) Middle
(33) Right side
(34) Other (specify) _____

Fourth Seat
(41) Left side
(42) Middle
(43) Right side
(44) Other (specify) _____

(97) In or on unenclosed area
(98) Other seat (specify) _____
(99) Unknown

11. Occupant's Posture ___
(0) Normal posture
(1) Abnormal posture (specify)
_____
(9) Unknown

EJECTION/ENTRAPMENT

12. Ejection ___
(0) No ejection
(1) Complete ejection
(2) Partial ejection
(3) Ejection, unknown degree
(9) Unknown

13. Ejection Area ___
(0) No ejection
(1) Windshield
(2) Left front
(3) Right front
(4) Left rear
(5) Right rear
(6) Rear
(7) Roof
(8 Other area e g back of pickup, etc)
(specify) _____
(9) Unknown

14. Ejection Medium ___
(0) No ejection
(1) Door/hatch/tailgate
(2) Nonfixed roof structure
(3) Fixed glazing
(4) Nonfixed glazing (specify)
_____
(5) Integral structure
(8) Other medium (specify)
_____
(9) Unknown

15. Medium Status (Immediately Prior to Impact) ___
(0) No ejection
(1) Open
(2) Closed
(3) Integral structure
(9) Unknown

16. Entrapment ___
(NOTE Entrapped means that part of the person was in the vehicle and mechanically restrained, jammed doors and immobilizing injuries by themselves are not sufficient to constitute entrapment.)
(0) Not entrapped
(1) Entrapped
(9) Unknown

HS Form 433A
1 88

RESTRAINT SYSTEM AND SEAT EVALUATION

17 Manual (Active) Belt System Availability ___
(0) Not available
(1) Belt removed/destroyed
(2) Shoulder belt
(3) Lap belt
(4) Lap and shoulder belt
(5) Belt available – type unknown
(8) Other belt (specify)

_____

(9) Unknown

18. Manual (Active) Belt System Use ___
(00) None used, not available, or belt removed destroyed
(01) Inoperative (specify)

_____

(02) Shoulder belt
(03) Lap belt
(04) Lap and shoulder belt
(05) Belt used – type unknown
(08) Other belt used (specify)

_____

(12) Shoulder belt used with child safety seat
(13) Lap belt used with child safety seat
(14) Lap and shoulder belt used with child safety seat
(15) Belt used with child safety seat – type unknown
(18) Other belt used with child safety seat (specify) _____
(99) Unknown if belt used

19 Proper Use of Manual (Active) Belts ___
(0) None used or not available
(1) Belt used properly
(2) Belt used properly with child safety seat

Belt Used Improperly
(3) Shoulder belt worn under arm
(4) Shoulder belt worn behind back or seat
(5) Belt worn around more than one person
(6) Lap belt worn on abdomen
(7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify)

_____

(8) Other improper use of manual belt system (specify)

_____

(9) Unknown

20. Manual (Active) Belt Failure Modes During Accident ___
(0) No manual belt used or not available
(1) No manual belt failure(s)
(2) Manual belt failure(s) (check all that apply)
[ ] Torn webbing (stretched webbing not included)
[ ] Broken buckle or latchplate
[ ] Upper anchorage separated
[ ] Other anchorage separated (specify)

_____

[ ] Broken retractor
Other manual belt failure (specify)

_____

(9) Unknown

21. Automatic (Passive) Restraint System Availability ___
(0) Not equipped not available
(1) Airbag
(2) Airbag disconnected (specify)

_____

(3) Airbag not reinstalled
(4) 2 point automatic belts
(5) 3 point automatic belts
(6) Automatic belts destroyed or rendered inoperative
(9) Unknown

22. Automatic (Passive) Restraint Function ___
(0) Not equipped/not available

Automatic Belt
(1) Automatic belt in use
(2) Automatic belt not in use
(3) Automatic belt use unknown

Air Bag
(4) Airbag deployed during accident
(5) Airbag deployed inadvertently just prior to accident
(6) Deployed, accident sequence undetermined
(7) Nondeployed
(8) Unknown if deployed
(9) Unknown

23. Did Automatic (Passive) Restaint Fail ___
(0) Not equipped/not available
(1) No
(2) Yes (specify)

_____

(9) Unknown

24. Police Reported Restraint Use ___
(0) None used
(1) Police did not indicate restraint use
(2) Shoulder belt
(3) Lap belt
(4) Lap and shoulder belt
(5) Belt used, type not specified
(6) Child safety seat
(7) Other or automatic restraint (specify)

_____

(8) Restrained, type unknown
(9) Police indicated "unknown"

25. Head Restraint Type/Damage by Occupant at This Occupant Position ___
(0) No head restraints
(1) Integral – no damage
(2) Integral – damaged during acciden
(3) Adjustable – no damage
(4) Adjustable – damaged during accident
(5) Add-on – no damage
(6) Add-on – damaged during accident
(8) Other (specify)

_____

(9) Unknown

26. Seat Type (This Occupant Position) ___ ___
(00) Occupant not seated or no seat
(01) Bucket
(02) Bucket with folding back
(03) Bench
(04) Bench with separate back cushions
(05) Bench with folding back(s)
(06) Split bench with separate back cushions
(07) Split bench with folding back(s)
(08) Pedestal (i.e., van type)
(09) Other seat type (specify)

_____

(99) Unknown

27. Seat Performance (This Occupant Position) ___
(0) Occupant not seated or no seat
(1) No seat performance failure(s)
(2) Seat performance failure(s)
(check all that apply)
[ ] Seat adjusters failed
[ ] Seat back folding locks failed
[ ] Seat tracks failed
[ ] Seat anchors failed
[ ] Deformed by impact of passenger from rear
[ ] Deformed by impact of passenger from front
[ ] Deformed by own inertial forces
[ ] Deformed by passenger compartment intrusion (specify)

_____

_____

_____

[ ] Other (specify)

_____

(9) Unknown

CHILD SAFETY SEAT

28. Child Safety Seat Make/Model ___ ___ ___
(000) No child safety seat
Applicable codes are found in your NASS CDS Data Collection, Coding, and Editing Manual
(997) Other make/model (specify)

_____

(998) Unknown make/model
(999) Unknown if child safety seat used

29. Type of Child Safety Seat ___
(0) No child safety seat
(1) Infant seat
(2) Toddler seat
(3) Convertible seat
(4) Booster seat
(7) Other type child safety seat (specify)

_____

(8) Unknown child safety seat type
(9) Unknown if child safety seat used

30. Child Safety Seat Orientation ___ ___
(00) No child safety seat

Designed for Rear Facing for This Age/Weight
(01) Rear facing
(02) Forward facing
(08) Other orientation (specify)

_____

(09) Unknown orientation

Designed for Forward Facing for This Age/Weight
(11) Rear facing
(12) Forward facing
(18) Other orientation (specify).

_____

(19) Unknown orientation

Unknown Design or Orientation for This Age/Weight, or Unknown Age/Weight
(21) Rear facing
(22) Forward facing
(28) Other orientation (specify)

_____

(29) Unknown orientation

(99) Unknown if child safety seat used

31. Child Safety Seat Harness Usage ___ ___

32. Child Safety Seat Shield Usage ___ ___

33. Child Safety Seat Tether Usage ___ ___
Note: Options below applicable to Variables OA31-OA33.
(00) No child safety seat

Not Designed with Harness/Shield/Tether
(01) After market harness/shield/tether added, not used
(02) After market harness/shield/tether used
(03) Child safety seat used, but no after market harness shield/tether added
(09) Unknown if harness/shield/tether added or used

Designed with Harness/Shield/Tether
(11) Harness/shield/tether not used
(12) Harness/shield/tether used
(19) Unknown if harness/shield/tether used

Unknown If Designed with Harness/Shield/Tether
(21) Harness/shield/tether not used
(22) Harness/shield/tether used
(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

INJURY CONSEQUENCES

34 Injury Severity (Police Rating) ___
(0) O – No injury
(1) C – Possible injury
(2) B – Nonincapacitating injury
(3) A – Incapacitating injury
(4) K – Killed
(5) U – Injury, severity unknown
(6) Died prior to accident
(9) Unknown

35. Treatment – Mortality ___
(0) No treatment
(1) Fatal
(2) Fatal – ruled disease

Nonfatal
(3) Hospitalized
(4) Transported and released
(5) Treatment at scene – nontransported
(6) Treatment later
(8) Treatment – other (specify)

_____

(9) Unknown

36. Type of Medical Facility (for Initial Treatment) ___
(0) Not treated at a medical facility
(1) Trauma center
(2) Hospital
(3) Medical clinic
(4) Physician's office
(5) Treatment later at medical facility
(8) Other (specify)

_____

(9) Unknown

37. Hospital stay ___ ___
_____ Code number of days (up through 60) that the occupant stayed in the hospital
(00) Not hospitalized
(61) 61 days or more
(99) Unknown

38. Working Days Lost ___ ___
_____ Code the number of days (up through 60) that the occupant lost from work due to the accident
(00) No working days lost
(61) 61 days or more
(62) Fatally injured
(97) Not working prior to accident
(99) Unknown

39. Time to Death ___ ___
_____ Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)
(00) Not fatal
(96) Fatal – ruled disease
(99) Unknown

40. 1st Medically Reported Cause of Death ___ ___

41. 2nd Medically Reported Cause of Death ___ ___

42. 3rd Medically Reported Cause of Death ___ ___
_____ Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
(00) Not fatal or no additional causes
(97) Other result (specify)

_____

(99) Unknown

43. Number of Recorded Injuries for This Occupant ___ ___
_____ Code the actual number of injuries recorded for this occupant
(00) No recorded injuries
(97) Injured, details unknown
(99) Unknown if injured

UPDATE CANDIDATE NO [ ] YES [ ]

***** STOP HERE *****
IF THERE ARE NO RECORDED INJURIES
(I.E., OA43=00, 97, 99)

U S Department of Transportation

National Highway Traffic Safety Administration

OCCUPANT INJURY FORM

Form Approved
O M B No 2127 0021
NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1 Primary Sampling Unit Number ___ ___ 3. Vehicle Number ___ ___

2 Case Number – Stratum ___ ___ ___ ___ 4. Occupant Number ___ ___

INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources Remember not to double count an injury just because it was identified from two different sources If greater than twenty injuries have been documented, encode the balance on the Occupant Injury Supplement.

	Source of Injury Data	OIC – AIS Body Region	Aspect	Lesion	System Organ	AIS Severity	Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion No
1st	5. ___	6. ___	7. ___	8. ___	9. ___	10. ___	11. ___ ___	12. ___	13. ___	14. ___ ___
2nd	15. ___	16 ___	17. ___	18. ___	19. ___	20. ___	21. ___ ___	22. ___	23. ___	24. ___ ___
3rd	25. ___	26 ___	27. ___	28. ___	29. ___	30. ___	31. ___ ___	32. ___	33. ___	34. ___ ___
4th	35. ___	36. ___	37. ___	38. ___	39. ___	40. ___	41. ___ ___	42. ___	43. ___	44. ___ ___
5th	45 ___	46. ___	47. ___	48. ___	49 ___	50. ___	51. ___ ___	52. ___	53. ___	54. ___ ___
6th	55. ___	56. ___	57. ___	58. ___	59. ___	60. ___	61. ___ ___	62. ___	63. ___	64. ___ ___
7th	65. ___	66 ___	67. ___	68. ___	69. ___	70. ___	71. ___ ___	72. ___	73. ___	74. ___ ___
8th	75. ___	76 ___	77. ___	78. ___	79. ___	80. ___	81. ___ ___	82. ___	83. ___	84. ___ ___
9th	85. ___	86 ___	87. ___	88. ___	89. ___	90. ___	91. ___ ___	92. ___	93. ___	94. ___ ___
10th	95. ___	96 ___	97. ___	98. ___	99. ___	100. ___	101. ___ ___	102. ___	103 ___	104. ___ ___
11th	105 ___	106 ___	107 ___	108 ___	109. ___	110. ___	111. ___ ___	112 ___	113. ___	114 ___ ___
12th	115 ___	116. ___	117 ___	118 ___	119 ___	120 ___	121 ___ ___	122. ___	123 ___	124 ___ ___
13th	125 ___	126 ___	127 ___	128. ___	129 ___	130 ___	131. ___ ___	132 ___	133 ___	134 ___ ___
14th	135 ___	136 ___	137 ___	138. ___	139 ___	140 ___	141. ___ ___	142. ___	143 ___	144. ___ ___
15th	145 ___	146 ___	147 ___	148 ___	149 ___	150 ___	151 ___ ___	152 ___	153 ___	154 ___ ___
16th	155 ___	156 ___	157 ___	158 ___	159 ___	160 ___	161 ___ ___	162 ___	163 ___	164 ___ ___
17th	165 ___	166 ___	167 ___	168 ___	169 ___	170 ___	171 ___ ___	172 ___	173 ___	174 ___ ___
18th	175. ___	176 ___	177 ___	178 ___	179 ___	180 ___	181. ___ ___	182. ___	183 ___	184 ___ ___
19th	185 ___	186 ___	187 ___	188 ___	189 ___	190 ___	191 ___ ___	192 ___	193 ___	194 ___ ___
20th	195 ___	196 ___	197. ___	198 ___	199 ___	200. ___	201 ___ ___	202 ___	203. ___	204 ___ ___

HS Form 433B
1/89

This report is authorized by P L 89-563 Title 1, Section 106, 108, and 112 While you are not required to respond your cooperation is needed to make the results of this data collection effort comprehensive accurate, and timely

SOURCE OF INJURY DATA

OFFICIAL

1 Autopsy records with or without hospital medical records
2 Hospital medical records other than emergency room (eg discharge summary)
3 Emergency room records only including associated X rays or other lab reports)
4 Private physician walk in or emergency clinic

NONOFFICIAL

5 Lay coroner report
6 EMS personnel
7 Interviewee
8 Other source (specify) _____
(9) Police

INJURY SOURCE

FRONT

01 Windshield
02 Mirror
03 Sunvisor
04 Steering wheel rim
05 Steering wheel hub spoke
06 Steering wheel combination of codes 04 and 05
07 Steering column transmission selector lever other attachment
08 Add on equipment (eg CB tape deck air conditioner
09 Left instrument panel and below
10 Center instrument panel and below
11 Right instrument panel and below
12 Glove compartment door
13 Knee bolster
14 Windshield including one or more of the following front header A pillar instrument panel mirror or steering assembly (driver's side only)
15 Windshield including one or more of the following front header A pillar instrument panel or mirror (passenger side only)
16 Other front object (specify) _____

LEFT SIDE

20 Left side interior surface excluding hardware or armrests
21 Left side hardware or armrest
22 Left A pillar
23 Left B pillar
24 Other left pillar (specify) _____
25 Left side window glass or frame
26 Left side window glass including one or more of the following frame window sill A pillar B pillar or roof side rail
27 Other left side object (specify) _____

RIGHT SIDE

30 Right side interior surface excluding hardware or armrests
31 Right side hardware or armrest
32 Right A pillar
33 Right B pillar
34 Other right pillar (specify) _____
35 Right side window glass or frame
36 Right side window glass including one or more of the following frame window sill A pillar B pillar roof side rail
37 Other right side object (specify) _____

INTERIOR

40 Seat back support
41 Belt restraint webbing buckle
42 Belt restraint B pillar attachment point
43 Other restraint system component (specify) _____
44 Head restraint system
45 Armrest
46 Other occupants (specify) _____
47 Interior loose objects
48 Child safety seat (specify) _____
49 Other interior object (specify) _____

ROOF

50 Front header
51 Rear header
52 Roof left side rail
53 Roof right side rail
54 Roof or convertible top

FLOOR

56 Floor including toe pan
57 Floor or console mounted transmission lever including console
58 Parking brake handle
59 Foot controls including parking brake

REAR

60 Backlight rear window
61 Backlight storage rack door etc
62 Other rear object (specify) _____

EXTERIOR OF OCCUPANT'S VEHICLE

65 Hood
66 Outside hardware (eg outside mirror antenna
67 Other exterior surface or tires (specify) _____
68 Unknown exterior objects

EXTERIOR OF OTHER MOTOR VEHICLE

70 Front bumper
71 Hood edge
72 Other front of vehicle (specify) _____
73 Hood
74 Hood ornament
75 Windshield roof rail A pillar
76 Side surface
77 Side mirrors
78 Other side protrusions (specify) _____
79 Rear surface
80 Undercarriage
81 Tires and wheels
82 Other exterior of other motor vehicle (specify) _____
83 Unknown exterior of other motor vehicle

OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT

84 Ground
85 Other vehicle or object (specify) _____
86 Unknown vehicle or object

NONCONTACT INJURY

90 Fire in vehicle
91 Flying glass
92 Other noncontact injury source (specify) _____
97 Injured unknown source

INJURY SOURCE CONFIDENCE LEVEL

1 Certain
2 Probable
3 Possible
9 Unknown

DIRECT/INDIRECT INJURY

1 Direct contact injury
2 Indirect contact injury
3 Noncontact injury
7 Injured unknown source

OCCUPANT INJURY CLASSIFICATION

OIC Body Region

M Abdomen
Q Ankle – foot
A Arm (upper)
B Back – thoracolumbar spine
C Chest
E Elbow
F Face
R Forearm
H Head – skull
U Injured unknown region
K Knee
L Leg (lower)
Y Lower limbs (whole or unknown part)
N Neck – cervical spine
P Pelvic – hip
S Shoulder
T Thigh
X Upper limbs (whole or unknown part)
O Whole body
W Wrist – hand

Aspect of Injury

A Anterior – front
B Bilateral (rib fracture only)
C Central
I Inferior – lower
U Injured unknown aspect
L Left
P Posterior – back
R Right
S Superior – upper
W Whole region

Lesion

A Abrasion
M Amputation
V Avulsion
B Burn
K Concussion
C Contusion
N Crush
G Detachment separation
D Dislocation
F Fracture
Z Fracture and dislocation
U Injured unknown lesion
L Laceration
O Other
P Perforation puncture
R Rupture
S Sprain
T Strain
E Total severance transection

System/Organ

W All systems in region
A Arteries – veins
B Brain
D Digestive
E Ears
O Eye
H Heart
U Injured unknown system
I Integumentary
J Joints
K Kidneys
L Liver
M Muscles
N Nervous system
P Pulmonary – lungs
R Respiratory
S Skeleta
C Spinal cord
Q Spleen
T Thyroid other endocrine gland
G Urogenital
V Vertebrae

Abbreviated Injury Scale

1 Minor injury
2 Moderate injury
3 Serious injury
4 Severe injury
5 Critical injury
6 Maximum untreatable
7 Injured unknown severity

APPENDIX B

CODING INFORMATION FOR VEHICLE MAKE/MODEL

The primary source of information on vehicle make and model is vehicle inspection; the VIN provides vehicle make data. Secondary sources include the police report and interviews.

If the make of the vehicle is known, but if the model is not known, then Vehicle Model is coded as "999" (Unknown).

If the make of the vehicle is not known but the body type is known (e.g., a hit-and-run vehicle), then Vehicle Make is coded "99" (Unknown) and Vehicle Model is coded "999" (Unknown).

If no information is available for a vehicle, then Vehicle Make and Body Type are coded "99" (Unknown) and Vehicle Model is coded "999" (Unknown).

Vehicle models are organized into general groups. These groups are:

001 - 397 - Passenger vehicle (automobile)
398 - Other passenger vehicle

401 - 497 - Light trucks (including truck based utility vehicles, minivans, standard vans, van based station wagons, van based buses, van derivatives, compact pickup trucks, standard pickup trucks and truck based station wagons)
498 - Other light truck

701 - 797 - Motored Cycles/ATCs/ATVs (including motorcycles, mopeds, minibikes, motorscooters and dirt bikes) (731 - 734 ATCs/ATVs)
798 - Other motored cycle

801 - 897 - Medium/heavy trucks (includes all trucks over 10,000 lbs. GVWR except some pickup type trucks under Body Type code "31" -Standard pickup)
898 - Other medium/heavy truck

901 - 996 - Buses
997 - Other bus

998 - Other vehicle (includes construction equipment, farm vehicles and go-karts)

999 - Unknown

Within these groups, the model codes for automobiles and light trucks generally are not ordered to give any indication of vehicle size or type. However, the model codes for motored cycles, medium/heavy trucks, buses and other have specific definition. These definitions are:

Motored Cycles

701	0-50cc
702	51-124cc
703	125-349cc
704	350-449cc
705	450-749cc
706	750cc or over

All Terrain Cycles/Vehicles

731	0-50cc
732	51-124cc
733	125-349cc
734	350cc or over

Trucks and Buses

881	Medium/Heavy - CBE
882	Medium/Heavy - COE/low entry
883	Medium/Heavy - COE/high entry
901	Bus - conventional front engine
902	Bus - front engine/flat front
903	Bus - rear engine/flat front
950	Truck based motorhome

Other

398	Other passenger vehicle
498	Other light truck
798	Other motored cycle
898	Other medium/heavy truck
997	Other bus
998	Other vehicle (farm vehicle, go-kart)

Variable Name: Vehicle Make (specify):

Element Values:

Passenger Vehicles/Light Trucks (01-69)

		GV06 Subpage
01	American Motors	1st
02	Jeep (includes Kaiser-Jeep)	(2)
03	AM General	(2)
06	Chrysler	(3)
07	Dodge	(4)
08	Imperial	(6)
09	Plymouth	(6)
10	Eagle	(7)
12	Ford	(8)
13	Lincoln	(10)
14	Mercury	(11)
18	Buick	(12)
19	Cadillac	(13)
20	Chevrolet	(14)
21	Oldsmobile	(16)
22	Pontiac	(17)
23	GMC	(18)
29	Other domestic: GV06 = 001 - Studebaker/Avanti 002 - Checker 398 - Other domestic (i.e., DeSoto, Hudson, Packard)	(19)
30	Volkswagen	(19)
31	Alfa Romeo	(20)
32	Audi	(20)
33	Austin/Austin Healey	(21)
34	BMW	(21)
35	Nissan/Datsun	(22)
36	Fiat	(23)
37	Honda	(24)
38	Isuzu	(25)
39	Jaguar	(26)
40	Lancia	(26)
41	Mazda	(27)
42	Mercedes Benz	(28)
43	MG	(29)
44	Peugeot	(29)
45	Porsche	(30)
46	Renault	(30)
47	Saab	(31)
48	Subaru	(31)
49	Toyota	(32)
50	Triumph	(33)
51	Volvo	(34)
52	Mitsubishi	(35)
53	Suzuki	(36)
54	Acura	(36)
55	Hyundai	(37)
56	Merkur	(37)
57	Yugo	(37)
69	Other foreign	(38)

Motored Cycle/ATC/ATV (70-79)

		GV06 Subpage
70	BSA	(39)
71	Ducati	(39)
72	Harley-Davidson	(39)
73	Kawasaki	(39)
74	Moto-Guzzi	(39)
75	Norton	(39)
76	Yamaha	(39)
78	All mopeds other than those above	(39)
79	Other Motored Cycle	(39)
Also see:	[34] - BMW	(21)
	[37] - Honda	(24)
	[50] - Triumph	(33)
	[53] - Suzuki	(36)

Medium/Heavy Trucks and Buses (80-89)

		GV06 Subpage
80	Brockway	(41)
81	Diamond Reo/Reo	(41)
82	Freightliner/White	(41)
83	FWD	(41)
84	International Harvester/Navistar	(40)
85	Kenworth	(41)
86	Mack	(41)
87	Peterbilt	(41)
88	Iveco/Magirus	(41)
89	Other: GV06 =	(41)

801 - Autocar
802 - Auto-Union-DKW
803 - Divco
804 - Western Star
805 - Oshkosh
898 - Other truck (e.g., Ward LaFrance, Marmon)

901 - Grumman (bus)
902 - NeoPlan (bus)
950 - Truck based motorhome
997 - Other bus
998 - Other vehicle (i.e., farm vehicle, go-kart)

Also see:

		GV06 Subpage
[03]	AM General	(2)
[07]	Dodge	(5)
[12]	Ford	(9)
[20]	Chevrolet	(15)
[23]	GMC	(18)
[35]	Nissan/Datsun	(22)
[36]	Fiat	(23)
[38]	Isuzu	(25)
[42]	Mercedes Benz	(28)
[51]	Volvo	(34)
[52]	Mitsubishi	(35)

Unknown (99)

99 Unknown

Source: Vehicle inspection, police report, and interview

Remarks:

Write the Vehicle Make in the available space for ready visual reference

Code "99" (Unknown) is used for a "hit-and-run" vehicle unless reliable evidence indicates the vehicle's make.

Variable Name: Vehicle Model (specify):

Element Values:

MAKE "01" **AMERICAN MOTORS***

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
001	Rambler/American	Rogue, Scrambler, 220, 440	all	3	3
002	Rebel/Matador	Barcelona, Classic Brougham, 550, 660, 770 Matador (-78), Marlin	all	114" WB = 4 118" WB = 5	4 5
003	Ambassador	Brougham, DPL, SST, DL, Limited, 880, 990	all	5	5
004	Pacer	Limited, DL	75-80	2	2
005	AMX	(2 seater only)	68-70	2	2
006	Javelin	SST, AMX (71-74)	all	2	2
007	Hornet/Concord	Sportabout, Limited, DL, SC-360, SST, AMX (75-78)	all	2	2
008	Spirit/Gremlin	Limited, DL, Custom, X, GT (83-on) AMX (79-on)	all	2	2
009	Eagle	Concord based	80-87	3	3
010	Eagle SX-4	Spirit/Gremlin based	81-84	2	2
398	Other passenger vehicle		-	-	-
999	Unknown		-	-	-

* Alliance, Encore, Premier--See Renault - Make "46"

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "02" **JEEP (Includes KAISER-JEEP)**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
401	CJ-2/CJ-3/CJ-4	Military	-66	81" WB = 1 101" WB = 2	7** 7**
402	CJ-5/CJ-6/CJ-7	Scrambler, Golden Eagle, Renegade, Laredo, Wrangler	67-on	84" WB = 1 104" WB = 3	7**
403	YJ-series	Wrangler	86-on	1	7**
404	Wagoneer	Custom, Brougham Limited Grand Wagoneer	71-on	2 3	7** 7**
405	Cherokee	Wide Track, Chief, Commando, Jeepster	all	2	7**
410	Pickup	J 10, J-20, Honcho	all	per WB	7**
411	Comanche	Chief	86-on	111" WB = 3 119" WB = 4	7** 7**
498	Other light truck		-	-	
999	Unknown		-	-	

** Applies to front and rear impacts. Use size value for side impacts.

MAKE "03" **AM GENERAL**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
401	Dispatcher	Post Office (Jeep)	all	1	1
420	Dispatcher	DJ-series-Post Office Van	all	N/A	N/A
498	Other light truck			-	
884	Medium/Heavy	Military off-road			
898	Other medium/heavy truck		-	-	
903	Bus (rear engine)	Transit	all	N/A	N/A
997	Other bus		all	N/A	N/A
999	Unknown		-	-	

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "06" **CHRYSLER**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
009	Cordoba	Crown, 300, LS	75-83	4	4
010	New Yorker/Newport/ 5th Avenue	Custom, Royal, Brougham, Town and Country, 300 (-71) (excludes all FWD)	-78 79-81 82-89	6 5 4	6 5 4
014	New Yorker/E Class	FWD vehicles, Turbo	83-on	3	9***
015	Laser	Turbo, XE, XT	84-86	2	9***
016	Lebaron	Medallion, Salon (RWD) FWD except GTS or GTC Sport Coupe	77-81 82-on	4 2	4 9***
017	Lebaron GTS/GTC	GTS-Turbo GTC-Sport Coupe	85-on 87-on	3 2	9*** 9***
031	TC (Maserati Sport)	Turbo Convertible	88-on	1	1
035	Conquest	TSI, Turbo	87-on	2	2
398	Other passenger vehicle		.	.	.
999	Unknown		.	.	.

*** Code 9 applies only to frontal impacts. Use size code for stiffness for side or rear impacts.

Variable Name: Vehicle Model (specify): [cont'd.]

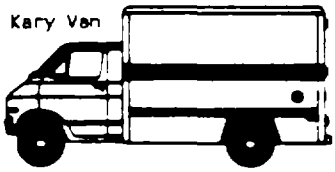
MAKE "07" **DODGE**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
001	Dart	Custom, Swinger, Sport, GT, Demon, Special, Special Edition, 170, 270, 340, 360	62 70 71-76	111" WB = 4 108" WB = 3	4 3
002	Coronet/Charger (-78)/ Magnum	Brougham, Custom, Superbee, Crestwood, Deluxe, XE, R/T, SE 440, 500, Police	-79	4	4
003	Polara/Monaco Royal Monaco	Custom, Special, Crestwood, Brougham, Police, Taxi	-76 77 78	5 4	5 4
005	Challenger	R/T, T/A, Rallye	70-74	3	3
006	Aspen	Custom, Special Edition, Police, R/T, Sport	76-80	113" WB = 4 109" WB = 3	3 3
007	Diplomat	Medallion, Salon, S	77-on	4	4
008	Omni/Charger (83 on)	024, DeTomaso, Miser, GLH, GLHS Shelby, Charger 2.2, America, Expo	78-on	2	2
009	Mirada		80 83	4	4
010	St. Regis	Police, Taxi	79-81	5	5
011	Aries (K)	Custom, SE, LE	81-on	2	9***
012	400	LS	82-83	2	9***
013	Rampage (car based pickup)	2.2, GT, Sport	82-84	2	2
014	600	ES, Turbo	83-88	2	9***
015	Daytona	Turbo Z, Shelby Z, Pacifica, C/S Competition	84-on	2	9***
016	Lancer	Pacifica, Turbo, ES, Shelby	85-on	3	9***
017	Shadow	ES, Turbo	87-on	2	9***
018	Dynasty		88-on	-	
019	Spirit	ES, Shelby	89-on	3	9***
033	Challenger	all imported	78-83	2	2
034	Colt (excludes Vista)	RS, Turbo, Custom, GTS, DL, E, Premier, Deluxe, Carousel, GT	74-76 77-80 80-on	2 <93" WB = 1 >95" WB = 2 1	2 1 2 -
035	Conquest	Turbo	84 86	2	2
398	Other passenger vehicle				

*** Code 9 applies only to frontal impacts. Use size code for stiffness for side or rear impacts.

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "07" **DODGE (Continued)**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
443	D50, Colt P/U Ram 50		-82 83-on	per WB per WB	8** 8**
444	Vista	4 x 4	84-on	3	7**
445	Raider	Sport	8	1	8**
471	Ramcharger		all	3	8**
472	Caravan	Mini-Ram, 112 and 119 WB, SE	84-on	112" WB = 4 119" WB = 5	7** 7**
473	B, W-series pickup	Ram, Custom, Royal, Miser	all	per WB	8**
474	D-series vans	Sportsman, Royal, Maxiwagon, Ram	all	7	7**
475	Van derivative	Kary Van 	all	7	7**
477	Dakota		87-on	112" WB = 3 124" WB = 6	8**
498	Other light truck		-	-	-
881	Medium/Heavy: CBE		all	N/A	N/A
882	Medium/Heavy: COE low entry		all	N/A	N/A
883	Medium/Heavy: COE high entry		all	N/A	N/A
898	Other medium/heavy truck		all	N/A	N/A
901	Medium bus	(not van based)	all	N/A	N/A
997	Other bus		all	N/A	N/A
999	Unknown		-	-	-

** Applies to front and rear impacts. Use size value for side impacts.
*** Code 9 applies only to frontal impacts. Use size code for stiffness for side or rear impacts.

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "08" **IMPERIAL**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
010	Imperial	Lebaron	-76	6	6
		Mark Cross, Frank Sinatra editions	81-83	4	4
398	Other passenger vehicle				
999	Unknown			-	

MAKE "09" **PLYMOUTH**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
001	Valiant/Duster (-76)/ Scamp	100, 200, Brougham, Signet	-76	108" WB = 3	3
		Custom, Special 340/360, 340, 360, Twister		111" WB = 4	4
002	Satellite/Belvedere	Belvedere I/II, GTX, Roadrunner (-74), Sebring, Sebring Plus, Superbird, Brougham	-74	4	4
003	Fury	I, II, III, Roadrunner (75),	-74	5	5
		Salon, VIP, Sport, Salon, Suburban	75-78	4	4
004	Gran Fury	Sedan, Brougham, Custom Sport,	75-81	5	[illegible]
		Suburban	82-on	4	4
005	Barracuda	Formula, S, 340, AAR, 'Cuda Gran Coupe	65-73	3	3
006	Volare'	Custom, Premier, Roadrunner (76-on),	76-80	109" WB = 3	3
		Police		113" WB = 4	4
007	Caravelle	Turbo, SE	85-on	3	9***
008	Horizon	TC-3, Miser, Turismo 2.2, Custom, SE, Duster (85-on) America, Expo	78-on	2	2
011	Reliant (K)	SE, LE	81-on	2	9***
013	Scamp (car based pickup	GT, 2.2	82-84	2	2
017	Sundance	Turbo	87-on	2	9***
019	Acclaim	LX, LE	89-on	3	9***
031	Cricket		71-72	2	2
032	Arrow	Fire Arrow, GS, GT	76-80	1	1
033	Sapparo	all imported	78-83	2	2

*** Code 9 applies only to frontal impacts. Use size code for stiffness for side or rear impacts.

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "09" **PLYMOUTH (Continued)**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
034	Champ/Colt (excludes Vista)	Turbo, Custom · Station Wagon (84-on)	79-on 84-on	1 103" WB = 3	1 2
035	Conquest	TSI	84-86	2	2
036	Laser	RS, Turbo	89-on	2	2
398	Other passenger vehicle		-	-	-
444	Vista	4 x 4	87-on	3	7**
471	Trailduster		all	3	8**
472	Voyager (minivan)	SE	84-on	112" WB = 4 119" WB = 5	7** 7**
474	Van-fullsize	Voyager, Sport, Premier	all	7	7**
477	Arrow pickup (foreign)		all	per WB	8**
498	Other light truck		-	-	-
999	Unknown		-	-	-

MAKE "10" **EAGLE**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
034	Summit	DL, LX	89-on	3	3
040	Premier	LX, ES	88-on	3	3
044	Medallion	DL, LX	88-on	3	3
398	Other passenger vehicle		88-on	-	-
999	Unknown		-	-	-

** Applies to front and rear impacts. Use size for side impacts.

Variable Name: Vehicle Model (specify): [cont'd.]

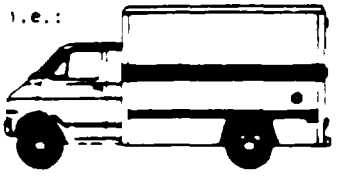
MAKE "12" **FORD**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
001	Falcon	Sprint, GT, Futura	thru-70	4	3
002	Fairlane	Torino thru 1970	thru-70	4	4
003	Mustang/Mustang II	Mach, Boss. Grande, Cobra	65-73	3	3
		Ghia, SVO, GT, LX, Shelby	74-on	2	2
004	Thunderbird (all sizes)	Landau, Heritage, Turbo coupe,	72-76	5	6
		Elan, Fila, Sport, LX	58-71, 77-79	4	4
			55-57, 80-88	3	3
		SC	89-on	4	4
005	LTD II	S, Squire, Brougham	77-79	4	4
006	LTD/Custom/Galaxie (all sizes)	XL, Landau, Ranch Wagon,	thru-77	5	5
		Country Squire, S, 500,	78-82	4	4
		Brougham, XL GT	83-on	3	3
007	Ranchero	Falcon/Fairlane based	thru-71	3	3
		Torino/LTD II based	72-79	4	4
008	Maverick	Grabber	70-77	3	3
009	Pinto	Pony, MPG, ESS	71-80	1	1 Front 2 Rear
010	Torino/Gran Torino/Elite	GT, Cobra, Sport, Squire, Brougham	71-76	4	4
011	Granada	ESS, Ghia	75-82	3	3
012	Fairmont	Futura, Sport Coupe	78 83	3	3
013	Escort/EXP	L, GL, GLX, SS, GT	81-on	1	9***
015	Tempo	L, GL, GLX, Sport, 4 x 4	84-on	2	9***
016	Crown Victoria		81-on	4	4
017	Taurus	MT-5, L, GL, LX, SHO	86-on	3	3
018	Probe	GL, LX, GT	88-on	2	2
031	English Ford	Cortina		per WB	per WB
032	Fiesta	Sport, Ghia	78-80	1	1
033	Festiva		88-on	1	1
398	Other passenger vehicle	Laser	all	per WB	per WB

*** Code 9 applies only to frontal impacts. Use size code for stiffness for side or rear impacts.

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "12" **FORD (Continued)**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
470	Bronco II/Bronco (-77)	Eddie Bauer, XL, XLT	83-on	1	7**
471	Bronco-fullsize	Eddie Bauer, Custom, XL, XLT	78-on	3	8**
472	Aerostar	XLT, Cargo Van	86-on	7	7**
473	F-series pickup	F-100 - F-350	all	per WB	8**
474	E-series vans	Econoline, Clubwagon, Chateau	all	7	7**
475	Van derivative	i.e.:  Parcel Van	all	7	7**
477	Ranger	Supercab, 4 x 4, STX	82-on	108" WB = 3 114" WB = 4	8** 8**
478	Courier	Imported pickup	all	7	7**
498	Other light truck		-	-	-
881	Medium/Heavy CBE	F-5 through F-8 L-series, FT-series	all	N/A	N/A
882	Medium/Heavy COE low entry	C/CT series	all	N/A	N/A
883	Medium/Heavy COE high entry	C/CLT series	all	N/A	N/A
898	Other medium/heavy truck		-	-	-
901	Medium bus	B-series (not van based)	all	N/A	N/A
997	Other bus		all	N/A	N/A
998	Other vehicle		-	-	-
999	Unknown		-	-	-

** Applies to front and rear impacts. Use size value for side impacts.

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "13" **LINCOLN**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
001	Continental/Town Car	Continental (-81), Town Car (82-on)	thru-79	6	6
			80-on	4	5
002	Mark	I, II, III, IV, V, VI, VII,	-70	4	4
		LSC, all Signature/Designer Series	71-80	5	5
			80-83	4	4
			84-on	3	3
005	Continental (82-on)	All Signature/Designer Series	82-87	4	5
			88-on	3	3
011	Versailles		77-80	3	3
398	Other passenger vehicle				
999	Unknown		-	-	

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "14" MERCURY (MERKUR: See "56")

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
002	Cyclone	GT, CJ, Spoiler	thru-71	4	4
003	Capri-domestic	RS, Turbo, GS, Black Magic	79-86	2	2
004	Cougar/XR7	XR-7, RS, LS, GS, Eliminator, Bougham, Villager, (includes all body styles)	67-76	4	4
			77-79	114" WB = 4	4
				118" WB = 5	5
			80-88	3	3
			89-on	4	4
006	Marquis/Monterey	Marauder, X-100, Parklane, S-55, Custom, Brougham, Montclair, Grand Marquis	thru-78	121" WB = 5	5
				124" WB = 6	6
			79-82	4	4
			82-on	106" WB = 3	3
				114" WB = 4	4
008	Comet	Caliente, GT, Voyager, 202, Capri (66-67)	62-67	4	4
			71-77	3	3
009	Bobcat	Runabout, Villager	75-80	1	1-Front 2-Rear
010	Montego	Comet (68-70), GT, MX, Villager, Brougham	68-73	3	3
			72-76	114" WB = 3	3
				118" WB = 4	4
011	Monarch	Ghia	75-80	3	3
012	Zephyr	GS, Z-7	78-83	3	3
013	Lynx/LN-7 (82-83)	L, LS, GS, RS, XR-3	81-on	1	9***
015	Topaz	L, LS, GS, 4 x 4	84-on	2	9***
017	Sable	LS, GS	86-on	3	3
031	Capri foreign	Capri II	70-77	2	2
		2 + 2	90-on	1	1
033	Pantera	deTomaso	72-74	2	2
036	Tracer	L, GL	88-on	1	1
398	Other passenger vehicle		-	-	-
999	Unknown		-	-	-

*** Code 9 applies only to frontal impacts. Use size code for stiffness for side or rear impacts.

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "18" **BUICK**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
001	Special/Skylark	GS, GS-350, GS-400, GS-455, GS California, Sport wagon, Custom	thru 72	4	4
002	LeSabre/Centurion/ Wildcat	Estate Wagon, Luxus, Invicta, Custom, Limited T-Type	-76 77-85 86-on	6 4 4	6 4 9***
003	Electra, Electra 225	Limited, Park Avenue	-76 77-84 85 on	6 5 4	6 5 9***
005	Riviera	S-Type, T-Type	63-65 66-76 77-85 86	4 5 4 3	4 5 4 9***
007	Century	Luxus, T-Type, FWD (82-on) Custom, Regal (72-77)	thru 77 78-81 82-on	4 3 3	4 3 9***
008	Apollo/Skylark*	Skylark (75)*, S/R	73-76	4	4
010	Regal	Turbo, Luxus, Grand National, GNX, T-Type	78-88	3	3
012	Skyhawk	S-Type, Roadhawk, T-Type, GT	75-81 82-on	2 2	2 9***
015	Skylark (76-85)	(except 75), S/R, S, Limited, Sport, T-Type	76-79 80-85	4 3	4 9***
018	Somerset/Skylark**	Skylark (86-on)**, Somerset Regal, Custom, Limited, T-Type	85-on	3	9***
020	Regal (FWD)	Limited	88-on	3	9***
021	Reatta		88-on	TBD	TBD
031	Opel Kadett		-75	2	2
032	Opel Manta	1900, Luxus, Rallye, Sports Coupe	-75	2	2
033	Opel GT		-75	2	2
034	Opel Isuzu	Deluxe, Sport	76-79	1	1
398	Other passenger vehicle			-	
999	Unknown			-	

*** Code 9 applies only to frontal impacts. Use size code for stiffness for side or rear impacts.

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "19" **CADILLAC**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
003	Deville/Fleetwood (except Limousine)	Coupe de Ville, Sedan de Ville, Fleetwood Bougham, Fleetwood 60 Special, d'Elegance	-76 RWD 77-on FWD 85-on	6 5 4	6 5 9***
004	Limousine	Fleetwood 75, Formal DeVille-based	all	6	6
005	Eldorado	Biarritz, El-doro, Touring Coupe	-78 79-85 86-on	6 4 3	6 4 9***
006	Commercial Series	Ambulance/Hearse	all	6	6
009	Allante'		87-on	2	2
014	Seville	Elegante	76-85 86-on	4 3	4 9***
016	Cimarron	D'oro	82-88	2	9***
398	Other passenger vehicle		-	-	-
999	Unknown		-	-	-

*** Code 9 applies only to frontal impacts. Use size code for stiffness for side or rear impacts.

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "20" **CHEVROLET**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
001	Chevelle/Malibu	Classic, Concours, S-3, Laguna, Nomad, 300, Greenbriar, Estate, Deluxe, SS 396/454	64-77 78-83	4 3	4 3
002	Impala/Caprice	Biscayne, Belair, Super Sport, Classic, Classic Brougham, Townsman	-76	5 St. Wgn.=6	5 6
		Brookwood, Kingswood	77-on	4	4
004	Corvette	Stingray	53-62 63-on	3 2	3 2
006	Corvair	Monza, Corsa, 500, Yenko	60-69	N/A	N/A
007	El Camino	Royal Knight, SS	59-60 64-77 78-on	5 4 3	8** 8** 8**
008	Nova (-79)	Chevy II, LN, LE, Concours SS-350/396, Rally	62-79	4	4
009	Camaro	SS, RS, LT, Berlinetta, IROC-Z, Z28	67-on	3	3
010	Monte Carlo	LS, SS, Aerocoupe, Landau	70-77 78-88	4 3	4 3
011	Vega	GT, Cosworth	71-77	2	2
012	Monza	Spyder, 2 + 2, Towne Coupe	75-80	2	2
013	Chevette	S, Scooter, CS	76-87	2dr-1 4dr-2	1 2
015	Citation	X-11, Citation II	80-85	3	9***
016	Cavalier	CS, RS, Z24	82-on	2	9***
017	Celebrity	CS, Eurosport, VR	82-on	3	9***
019	Beretta/Corsica	GT	88-on	3	9***
020	Lumina	(GM-10 based)	90-on	3	9***
031	Spectrum/Geo Storm		85-on	1	1
032	Nova/Geo Prizm	CL, NUMMI-built vehicles	85-on	2	9**
033	Sprint/Geo Sprint		85-on	1	1
034	Geo Metro	LSi	89-on	1	1
398	Other passenger vehicle		-	-	

** Applies to front and rear impacts. Use size value for side impacts.
*** Code 9 applies only to frontal impacts. Use size code for stiffness for side or rear impacts.

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "20" **CHEVROLET (CONTINUED)**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
470	S-10 Blazer	S-10 p/u based (100.5" WB)	83-on	2	4WD-7
471	Fullsize Blazer	K-series, fullsized p/u based	69-on	3	8**
472	Astro Van	Minivan	85-on	7	7**
473	C-series pickup	C10-C30, Silverado K-series	all	per WB	8**
474	G-series van	Beauville, Chevy Van, Sport Van	all	7	7**
475	Van derivative	Hi-cube, Parcel Van	all	7	7**
476	Suburban	All models	all	6	8**
477	S-10		82-on	per WB	8**
478	LUV	Imported pickup	all	7	7**
479	Geo Tracker	LSi	89-on	2	8**
498	Other light truck	-	-	-	-
881	Medium/Heavy CBE	C50/60/65; M60/65; M70/80/90; J70/80/90; Bison 90; all other CBE	all	N/A	N/A
882	Medium/Heavy COE low entry	T60/65 - all other COE low entry	all	N/A	N/A
883	Medium/Heavy COE high entry	Titan 90, all other COE high entry	all	N/A	N/A
898	Other medium/heavy truck	-	all	N/A	N/A
901	Bus	S-60 series	all	N/A	N/A
997	Other bus		all	N/A	N/A
999	Unknown	-	-	-	-

** *Applies to front and rear impacts. Use size value for side impacts.*

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "21" **OLDSMOBILE**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
001	Cutlass (RWD only)	Supreme, S, LS, Salon	-77	4	4
		Brougham, Vista Cruiser, F85 (thru 72)	78-88	3	3
		Rallye 350, Hurst Olds, 442, Calais, Classic (88)			
002	Delta 88	Royale, Custom, Delta, Jetstar 88,	-76	6	6
		Delmont 88, Starfire (thru 66),	77 85	4	4
		Custom Cruiser	86-on	4	9***
003	Ninety-Eight	Regency, Luxury	-76	6	6
			77 84	5	5
			85-on	4	4
005	Toronado	XSR, Trofeo, Brougham Custom	66-78	5	5
			79-85	4	4
			86-on	3	3
006	Commercial Series	Ambulance/Hearse	all	6	6
012	Starfire	SX, GT	75-80	2	2
015	Omega		RWD 75-79	4	4
		X-body type	FWD 80 85	3	9
016	Firenza	S, LS, SX, Cruiser, GT	82-88	2	9***
017	Ciera	Cutlass Ciera, Brougham, ES	82-on	3	9***
018	Calais	GT, ES, 500	85-on	3	9***
020	Cutlass (FWD)	Supreme	88-on	3	9***
398	Other passenger vehicle			-	
999	Unknown		-	-	

*** Code 9 applies only to frontal impacts. Use size code for stiffness for side or rear impacts.

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "22" **PONTIAC**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
001	Lemans/Tempest (thru 79)	Safari, T-37, Luxury, Grand Sport, GTO (-73), GT-37, Sprint, Judge Grand AM (73-75) Grand Lemans	thru 77 78-79	4 3	4 3
002	Bonneville/Catalina/ Parisienne*	Brougham, Grand Safari, Safari, Grandville, 2+2 Executive, Starchief SE, SSE	-68 69-76 77-81 82-84 87-on	5 6 4 3 4	5 6 4 3 4
		* Parisienne	83-84	4	4
005	Fiero	2M4, 2M6, GT, SE	84-88	1	1
008	Ventura	II, SJ, Sprint, GTO (74-on) Custom	71-77	4	4
009	Firebird/Trans AM	Esprit, Formula, GTA, Redbird, Yellowbird, Skybird, SE	67-81 82-on	3 2	3 2
010	Grand Prix (RWD)	J, LJ, SJ, Brougham, 2+2	63-72 73-77 78-87	5 4 3	5 4 3
011	Astre	Safari, SJ, Custom	75-77	2	2
012	Sunbird (thru 80)	Safari, Sport, Formula	76-80	2	2
013	T-1000/1000		81-87	2dr-1 4dr-2	1 2
015	Phoenix	LJ, SJ	77-79 80-84	4 3	4 9***
016	J2000/2000/Sunbird	Sunbird (85-on), LE, SE, GT, Convertible	82-on	2	9***
017	6000	STE, SE, LE	82-on	3	9***
018	Grand AM	SE, LE	80 85-on	3 3	3 9***
020	Grand Prix (FWD)	SE, McLaren Turbo	88-on	3	9***
031	Lemans (88-on)	SE, Tempest (Canadian)	88-on	2	2
398	Other passenger vehicle		-	-	-
999	Unknown		-	-	-

*** Code 9 applies only to frontal impacts. Use size code for stiffness for side or rear impacts.

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "23" **GMC**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
007	Caballero/Sprint	Sierra Madre del Sur, SP	-77 78-on	4 3	8** 8**
398	Other passenger vehicle		-	-	
470	Jimmy	S15 based (100.5" WB)	83-on	2	7**
471	Fullsize Jimmy	fullsize pickup based	all	3	8**
472	Safari (Minivan)		86-on	7	7**
473	C and K-series pickup	C15-35: K15-35	all	per WB	8**
474	G-series van	Rally Van, Vandura	all	7	7**
475	Van derivative	Hicube, parcel van, Value Van, Magna Van, P-series	all	7	7**
476	Suburban	all models	all	6	8**
477	S15		82-on	per WB	8**
498	Other light truck		-	-	
881	Medium/Heavy CBE	W5000/6000/7000 series, Brigadier/General models	all	N/A	N/A
882	Medium/Heavy COE low entry	W6000/W7000, all other COE, low entry	all	N/A	N/A
883	Medium/Heavy COE high entry	Astro 95, all other COE, high entry	all	N/A	N/A
898	Other medium/heavy truck		all	N/A	N/A
901	Bus	B6000	all	N/A	N/A
997	Other bus		all	N/A	N/A
999	Unknown			-	

** Applies to front and rear impacts. Use size value for side impacts.

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "29" **OTHER DOMESTIC MANUFACTURER**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
001	Studebaker/Avanti	Lark, Gran Turismo, Hawk, Cruiser, all associated subseries	thru-66	per WB	= size
002	Checker	Marathon, Superba, Taxi, Aerobus	thru-82	per WB	= size
398	Other auto	Desoto, Excaliber, Stutz, Hudson, Packard	all	per WB	= size

MAKE "30" **VOLKSWAGEN**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	Karmann Ghia		-74	1	1
032	Beetle 1300/1500	flat windshield, 94.5" WB	-77	1	1
033	Super Beetle	distinguished by curved windshield, 95.3" WB	71-80	2	1
034	411/412	Squareback/Fastback	71-74	2	1
035	Squareback/Fastback	Type 3, 1600	-74	1	1
036	Rabbit	L, GTI, Sport, LS, Custom, DL, Deluxe	75-84	1	1
037	Dasher		74-81	2	2
038	Scirocco	16V	75-on	1	1
039	The Thing (181)		73-75	1	1
040	Jetta	GL, GLI	81-on	2	2
041	Quantum	Synco	82-on	2	2
042	Golf	Synco, GTI, Cabriolet, GT, GL	85-on	2	1
043	Rabbit pickup	car/based pickup	80-83	1	1
044	Fox		87-on	1	1
045	Corrado		89-on	TBD	TBD
398	Other imported auto		-	-	-
472	Vanagon/Camper	Bus, Kombi, Van	all	1	7**
498	Other light truck		-	-	-
999	Unknown		-	-	-

** Applies to front and rear impacts. Use size value for side impacts.

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "31" **ALFA ROMEO**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	Spider	All roadsters, Veloce, 1750/2000 roadsters	all	1	1
032	Sports Sedan	All 4 door sedans; Milano (86), Giulia, Super, Berlina, Alfetta, 1750/2000 sedans	all	per WB	= size
033	Sprint Veloce	All 2-door coupes; Alfetta GT, 1750/2000 GTV, Sprint GT	all	per WB	= size
034	GTV-6		81-on	1	1
035	164		89-on	TBD	TBD
398	Other passenger vehicle		-	-	
999	Unknown			-	

MAKE "32" **AUDI**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	Super 90		70-72	2	2
032	100	S, LS, GL	70-77	3	3
033	Fox		74-79	2	2
034	4000	Quattro, Coupe GT, CS, S	80-	2	2
035	5000	Quattro, CS, S, Turbo	78-	3	3
036	80/90	Quattro	88-on	2	2
037	200		89-on	TBD	TBD
398	Other passenger vehicle		-	-	
999	Unknown		-	-	-

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "33" **AUSTIN/AUSTIN HEALEY**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	Marina	GT	all	2	2
032	America		all	1	1
033	Healey Sprite		all	1	1
034	Healy 3000	Healy 100	all	1	1
035	Mini		all	1	1
398	Other passenger vehicle		-	-	-
999	Unknown		-	-	-

MAKE "34" **BMW**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	1600, 2002	Tii, 1800, 2000CS	-76	2	2
032	Coupe	2800CS, 3.0CS	69-76	3	3
033	Bavaria Sedan	2500, 2800	69-74	3	3
034	3-series	318i, 320i, 325e, 325es	77-on	2	2
035	5-series	524i, 528i, 530i, 533i, 535i, TD	75-on	3	3
036	6-series	630, 633, 635, csi	77-on	3	3
037	7-series	733i, 735i, L7	78-on	3	3
398	Other passenger vehicle		-	-	-

Motorcycles

701 0-50cc
702 51-124cc
703 125-349cc
704 350-449cc
705 450-749cc
706 750cc-over

999 Unknown

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "35" **NISSAN/DATSUN**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	F10		77-78	1	1
032	200/240 SX		78-83 84 on	1 2	1 2
033	1200/210/B210	Honeybee	71-82	1	1
034	Z-car, ZX	240/260/280Z, 300 ZX, Turbo 2 + 2 2 + 2	70-on 75-78 79-on	1 3 2	1 3 2
035	310		79-82	1	1
036	510	PL	68 73 78 81	2 1	2 1
037	610	PL	73-76	2	2
038	710	PL	74 77	2	2
039	810/Maxima		77-on	3	3
040	Roadster	SPL 311, SRL 311, 1600, 2000, convertible	70	1	1
041	PL 411, RL 411		-67	1	1
042	Stanza	XE	82-on	2	2
043	Sentra		83-on	1	1
044	Pulsar	NX, EXA (86-on)	83-on	2	2
045	Micra		87-on	1	1
398	Other passenger vehicle		.		.
470	Pathfinder	MPV, 4 x 4	86-on		
472	Van	XE, GXE	88-on	1	7**
477	Datsun/Nissan Pickup	PL620, King Cab, Hardbody	73-on	per WB	8**
498	Other light truck	Patrol (1960)			
883	Medium/Heavy COE high entry		all	N/A	N/A
898	Other medium/heavy truck		all	N/A	N/A
999	Unknown		.	.	

** Applies to front and rear impacts. Use size values for side impacts.

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "36" **FIAT**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	124 (Coupe/Sedan)	Sport	67-75	1	1
032	124 Spider/Racer	Spider 2000/1500	68-83	1	1
033	Brava - 131		75-82	2	2
034	850 (Coupe/Spyder)		67-73	1	1
035	128		72-79	2	2
036	X-1/9		75-83	1	1
037	Strada		79-83	2	2
398	Other passenger vehicle	600, 1100	-	-	-
882	Medium/Heavy COE low entry		all	N/A	N/A
883	Medium/Heavy COE high entry		all	N/A	N/A
898	Other medium/heavy truck		all	N/A	N/A
999	Unknown		-	-	-

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "37" **HONDA (ACURA: See "54")**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	Civic/CRX	1300, 1500, CVCC, DX CRX, S, Si, HF, 4WD Wagon	all	1	1
032	Accord	LX, CVCC, SE-i, LX-i	-81 82-86 87	1 2 3	1 9*** 9***
033	Prelude	Si	80-83 84-on	1 2	1 9***
034	600	Coupe, Sedan	all	1	1
398	Other passenger vehicle	all Honda's not listed above	all	per WB	= size
	Motorcycle				
701	0-50cc				
702	51-124cc				
703	125-349cc				
704	350-449cc				
705	450-749cc				
706	750cc or greater				
	All Terrain Cycles/Vehicles				
731	0-50cc	includes all ATCs/ATVs			
732	51-124cc	designed solely for			
733	125-249cc	off-road use.			
734	350cc or greater				
999	Unknown				

*** Code 9 applies only to frontal impacts. Use size code for stiffness for side or rear impacts.

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "38" **ISUZU**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	I-Mark	S, RS, Turbo	85-on	1	1
032	Impulse	Turbo, RS	84-on	2	2
398	Other passenger vehicle			-	-
470	Trooper II	Deluxe, LS	84-on	2	7
477	P'up (pickup)	4 x 4	all	3	8**
498	Other light truck		-	-	-
881	Medium/Heavy - CBE		all	N/A	N/A
882	Medium/Heavy COE low entry		all	N/A	N/A
883	Medium/Heavy COE high entry		all	N/A	N/A
898	Other medium/heavy truck		all	N/A	N/A
999	Unknown		-	-	-

** Applies to front and rear impacts. Use size value for side impacts.

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "39" **JAGUAR**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	XJ-S Coupe		76-on	3	3
032	XJ6/12 Sedan/Coupe	L, XJ, C, 340/420 Sedan	all	3	3
033	XKE	V12, Roadster, 120 2 + 2	all	2 3	3 3
398	Other passenger vehicle		.	.	.
999	Unknown		.	.	

MAKE "40" **LANCIA**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	Beta Sedan - HPG		-80	2	2
032	Beta Coupe - Zagato		-82	1	1
033	Scorpion		-78	1	1
398	Other passenger vehicle		-	-	
999	Unknown		-	-	

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "41" **MAZDA**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	RX2		72-74	2	2
032	RX3		72-78	1	1
033	RX4		74-78	2	2
034	RX7	S, GS, GSL, SE	79-on	2	2
035	323/GLC	DX	77-on	1	1
036	Cosmo		76-78	2	2
037	626	GT, GS, GSL, SE	79-on	2	2
038	808		72-77	1	1
039	Mizer		76	1	1
040	R-100		-72	1	1
041	616/618		-72	2	2
042	1800		-72	2	2
043	929		88-on	-	-
044	MX-6	Turbo	88-on	2	2
398	Other passenger vehicle		-	-	-
472	MPV		89-on	3	7**
477	Mazda pickup	B-2000, B2200, SE-5, LX,	all	per WB	8**
498	Other light truck		-	-	-
999	Unknown		-	-	-

** Applies to front and rear impacts. Use size value for side impacts.

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "42" **MERCEDES BENZ**

(Check "INCLUDES" comments carefully to determine proper code.)

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	200/220/230/240/250/260/ 280/300	Sedan and 5 passenger "C" only, SE, CD, D, SD, TD, CE, E. DOES NOT include 280 SE (75 on), 300 SD - see code 037	all	3	3
032	230/280 SL	2 seater only	all	1	1
033	350/380/450/560 SL	2 seater only	all	2	2
034	350/380/420/450/560 SLC		all	4	4
035	280/300 SEL	TD, TD-T, CDT	all	4	4
036	380/420/450/500/560 SEL and 500/560 SEC		all	4	4
037	300 SE/380/450 SE	280 S, 280 SE (75 on), 300 SD Sedan	all	4	4
038	600, 6.9 Sedan	Pullman	all	6	6
039	190	D, TD, E, 2.3, 2.5, Turbo	all	3	3
398	Other passenger vehicle				
475	Van derivative	Kurbstar	82-on	N/A	N/A
498	Other light truck		-	-	
881	Medium/Heavy - CBE		all	N/A	N/A
882	Medium/Heavy - COE low entry		all	N/A	N/A
883	Medium/Heavy - COE high entry		all	N/A	N/A
898	Other medium/heavy		all	N/A	N/A
901	Medium bus		all	N/A	N/A
901	Other bus		all	N/A	N/A
997	Other bus		-	-	
999	Unknown			-	

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "43" **MG**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	Midget	MKIII, 1500	-79	1	1
032	MGB	GT	-79	1	1
034	MGA		all	1	1
035	TA/TC/TD/TF		all	1	1
036	MGC	GT	-69	1	1
398	Other passenger vehicle	Sport Sedan	.	.	.
999	Unknown		.	.	.

MAKE "44" **PEUGEOT**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	304		71-73	3	3
032	403		-67	3	3
033	404		-70	3 4-SW	3 4-SW
034	504/505	STI, STX, Turbo, S, GL, GLS, Liberte,	70-on	3 4-SW	3 4-SW
035	604	SL, D	77-84	3	3
036	405	Mi-16	89-on	3	9***
398	Other passenger vehicle		.	.	.
	Motorcycle				
701	0-50cc				
702	51-124cc				
999	Unknown		.	.	.

*** Code 9 applies only to frontal impacts. Use size code for stiffness for side or rear impact.

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "45" **PORSCHE**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	911	L, S, E, T, SC, Carrera, Slopenose	all	1	·
032	912	E, T	-69	1	1
033	914	S, 1.8, 2.0, 914/6	70 76	2	2
034	924	Turbo, S	77 on	1	1
035	928	S	78 on	2	2
036	930	Turbo	79	1	1
037	944	Turbo, S	83-on	1	·
398	Other passenger vehicle	Spyder, Speedster, 356			
999	Unknown				

MAKE "46" **RENAULT**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	LeCar	5	76-83	2	2
032	Dauphine/10/R 8 Caravelle	all models	thru-'71	1	1
033	12	R12L, R12TL	72-77	2	2
034	15	R15TL	73-76	2	2
035	16	R16	69-72	3	3
036	17	R17, Gordini Coupe, R17TL	73-80	2	2
037	R18i	Sportwagon	81-on	2	2
038	Fuego	TL, TS, GTL, GTS, Turbo	82 85	2	2
039	Alliance/Encore GTA, Convertible	L, DL, Limited, X-37,	83-on	2	2
044	Medallion	DL, LX	87-only	3	3
045	Premier		87-only	3	3
398	Other passenger vehicle				
999	Unknown		-	-	

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "47" **SAAB**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	99/99E/900	S, Turbo, Cabriolet	all	2	2
032	Sonnett	II, III, V-4	68-74	1	1
033	95/96/97		-73	2	2
034	9000	S, Turbo	85-on	3	3
398	Other passenger vehicle	Monte Carlo 850	.	.	.
999	Unknown		.	.	.

MAKE "48" **SUBARU**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	DL/FE/G/GF/GL/GLF/STD	4 wheel drive, Turbo	72-on	per WB	= size
032	Star		70-71	2	2
033	360		69-70	1	1
035	XT Coupe	4WD Turbo, convertible, DL	86-on	2	2
036	Justy	DL, GL	87-on	1	1
043	Brat	DL, GL	78-on	2	2
398	Other passenger vehicle		.	.	.
999	Unknown		.	.	.

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "49" **TOYOTA**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	Corona	Mark II, Custom, 1900, 2000, Deluxe	-82	2	2
032	Corolla	1100, 1200, 1600, SR-5, LE, Deluxe, Custom, FX16	69-85 FWD 86-on	1 2	1 9***
033	Celica	1900, 2000, GT, ST, GTS	72-on	2	2
034	Supra	Celica Supra, Soarer	79-on	3	3
035	Cressida		78-on	3	3
036	Crown	2300, 2600	-71	3	3
037	Carina	2000	72-73	2	2
038	Tercel	Corolla Tercel, 4WD Wagon	80-on	2	2
039	Starlet		81-84	1	1
040	Camry	LE, Deluxe	83-on	3	3
041	MR-2		85-on	1	1
398	Other passenger vehicle	2000 GT Coupe (1960s)	-	-	
471	Landcruiser		76-on	1	8**
472	Minivan	LE, Cargo	84-on	1	7**
473	4-Runner		85-on	3	8**
477	Pickup	SR-5, Extra Cab, Sport, LN44, Chinook, Wonder Wagon	75-on	per WB	8**
498	Other light truck		-	-	
999	Unknown			-	

** Applies to front and rear impacts. Use size value for side impacts.
*** Code 9 applies only to frontal impacts. Use size code for stiffness for side or rear impact.

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "50" **TRIUMPH**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	Spitfire	I, II, III, IV, 1500	-81	1	1
032	GT-6	MK3	67-73	1	1
033	TR4	TR2, TR3, TR4A	-68	1	1
034	TR6		69-76	1	1
035	TR7/8		75-81	1	1
036	Herald	Vitesse	-	-	-
037	Stag		71-73	2	2
398	Other passenger vehicle	2000, 1200 series	-	-	-
	Motorcycles				
701	0-50cc				
702	51-124cc				
703	125-349cc				
704	350-449cc				
705	450-749cc				
706	750cc or greater				
999	Unknown		-	-	-

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "51" **VOLVO**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	122	S	-68	3	3
032	142/144/145	S, E, GL, GLS, Deluxe	-74	3	3
033	164	S, E	69-75	3	3
034	242/244/245	DL, GL, GLE, GLT, Deluxe	75-	3	3
035	262/264/265	GL	76-	-	
036	1800	E, S, ES	-73	2	2
037	P-544			-	
038	760 780	GLE, Turbo	83-on 87-on	3 3	3 3
039	740	GLE, GT, Turbo	85-on	3	3
398	Other passenger vehicle			-	
881	Medium/Heavy CBE		all	N/A	N/A
882	Medium/Heavy COE low entry		all	N/A	N/A
883	Medium/Heavy COE high entry		all	N/A	N/A
898	Other medium/heavy truck		all	N/A	N/A
901	Medium bus		all	N/A	N/A
997	Other bus		all	N/A	N/A
999	Unknown		-	-	

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "52" **MITSUBISHI**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	Starion	2 + 2, LE, Turbo	83-on	2	2
032	Tredia	L, LS, Turbo	83-on	2	2
033	Cordia	L, Turbo	83-on	2	2
034	Galant	ECS	all	3	3
035	Mirage	L, Turbo	86-on	1	1
036	Precis		87-on	1	1
398	Other passenger vehicle		-	-	-
470	Montera	Sport	86-on	1	8**
472	Minivan	LS	86-on	1	7**
477	Pickup	Mighty Max, SPX, 4 x 4	all	3	8**
498	Other light truck		-	-	-
802	Medium/Heavy COE low entry	FUSO FE	all	N/A	N/A
882	Medium/Heavy - COE low entry	FUSO FE	all	N/A	N/A
898	Other medium/heavy truck		-	-	-
999	Unknown		-	-	-

** Applies to front and rear impacts. Use size value for side impacts.

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "53" **SUZUKI**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	SA310	GLX	86-on	1	1
034	Swift	GTi, GTX	89-on	1	1
398	Other passenger vehicle		.	.	
470	Samurai	Standard, Deluxe	85-on	1	8**
471	Sidekick		89-on	2	8**
498	Other light truck				
	Motorcycles				
701	0-50cc				
702	51-124cc				
703	125-349cc				
704	350-449cc				
705	450-749cc				
706	750cc-over				
	All Terrain Cycles/Vehicles				
731	0-50cc	includes all ATCs/ATVs			
732	51-124cc	designed solely for			
733	125-349cc	off-road use.			
734	350cc or greater				
999	Unknown		.	.	.

** Applies to front and rear impacts. Use size value for side impacts.

MAKE "54" **ACURA**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	Integra	RS, LS	86-on	2	9***
032	Legend		86-on	3	9***
398	Other passenger vehicle			.	
999	Unknown		.	.	

*** Code 9 applies only to frontal impacts. Use code for stiffness for side or rear impact.

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "55" **HYUNDAI**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	Pony		84-on	2	2
032	Excel	GL, GLS	84-on	1	1
033	Sonata		89-on	TBD	TBD
398	Other passenger vehicle		-	-	-
999	Unknown		-	-	-

MAKE "56" **MERKUR**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	XR4Ti	Turbo	85-on	3	3
032	Scorpio	Turbo	87-on	3	3
398	Other passenger vehicle		-	-	-
999	Unknown		-	-	-

MAKE "57" **YUGO**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	GV	GVX, Cabriolet	86-on	1	1
398	Other passenger vehicle		-	-	-
999	Unknown		-	-	-

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "69" **OTHER IMPORTS**

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
031	Aston Martin	Lagonda, Vantage, Volante, Saloon	all	per WB	= size
032	Bricklin		all	per WB	= size
033	Citreon		all	per WB	= size
034	Delorean		all	per WB	= size
035	Ferrari		all	per WB	= size
036	Hillman		all	per WB	= size
037	Jensen	Healy	all	per WB	= size
038	Lamborghini	Countach 5000S, Jalpa	all	per WB	= size
039	Lotus	Europe, Esprit	all	per WB	= size
040	Maserati	Biturbo	all	per WB	= size
041	Morris	Minor	all	per WB	= size
042	Rolls Royce/Bentley	Cloud/shadow series	all	per WB	= size
043	Rover		all	per WB	= size
044	Simca		all	per WB	= size
045	Sunbeam		all	per WB	= size
046	TVR		all	per WB	= size
047	Daihatsu		all	per WB	= size
048	Desta		all	per WB	= size
049	Reliant		all	per WB	= size
052	Bertone	X/19	all	per WB	= size
053	Lada		all	per WB	= size
054	Proton	Saga	all	per WB	= size
055	Sterling	8255/8255L	all	per WB	= size
398	Other imported auto	Morgan, Singer	all	per WB	= size

Variable Name: Vehicle Model (specify): [cont'd.]

Vehicle Classification: Motored Cycle/ATC/ATV

Variable **GV05** Vehicle Make	M C	ATC	ATV	Code
BMW	x			34
Honda	x	x	x	37
Triumph	x			50
Suzuki	x	x	x	53
BSA	x			70
Ducati	x			71
Harley-Davidson	x			72
Kawasaki	x	x	x	73
Moto-Guzzi	x			74
Norton	x			75
Yamaha	x	x	x	76
Moped other than listed above	x			78
Other motorized cycle	x	x	x	79
Unknown				99

Variable **GV06** Vehicle Model	Code
Motored Cycles	
0-50cc	701
51-124cc	702
125-349cc	703
350-449cc	704
450-749cc	705
750cc-or greater	706
All Terrain Cycles/Vehicles	
0-50cc	731
51-124cc	732
125-349cc	733
350cc or greater	734
Unknown	999

Variable Name: Vehicle Model (specify): [cont'd.]

MAKE "84" INTERNATIONAL HARVESTER

CODE	MODEL	INCLUDES	YEAR	SIZE	STIFFNESS
471	Scout	Scout II, Utility pickup, SS-2, Roadstar, 800 series, Traveler, Terra Traveltop	all	per WB	8**
472	Pickup/Panel	R-100-500, 900A-1500C/D, 1010-1510	all	per WB	8**
475	Multistop Van	Metro RH, 120-160, MS 1210, MS 1510	all	per WB	7**
476	Travelall	1010-1210, 100-200	all	per WB	8**
498	Other light truck		-	-	
881	Medium Heavy - CBE	Loadstar/Fleetstar, Paystar, CBE Transtar, 4200, S-series Mixer	all	N/A	N/A
882	Medium/Heavy COE low entry	CO, VCO, DCO, 190-1950, Cargostar, LFM, 5370	all	N/A	N/A
883	Medium/Heavy - COE high entry	DCO, DCOT, UCO, VCOT, 405-series, COE Transtar, Unistar, Conco 7078, 9600	all	N/A	N/A
898	Other medium/heavy truck		all	N/A	N/A
901	Conventional bus	R153-1853 - Loadstar, 1603-1853	all	N/A	N/A
902	Bus-flat front, front engine	173FC, 183FC	all	N/A	N/A
903	Bus-flat front, rear engine	183RE, 193RE-transit	all	N/A	N/A
950	Motorhome		all	N/A	N/A
997	Other bus		all	N/A	N/A
998	Other vehicle		-	-	
999	Unknown		-	-	

** Applies to front and rear impacts. Use size value for side impacts.

GV06
(41)

Variable Name: Vehicle Model (specify): [cont'd.]

Vehicle Classification: Medium/Heavy Trucks and Buses

Variable GV05 Vehicle Make	Truck	Bus	Code	Variable GV06 Vehicle Model	Code
AM General	x	x	03	Medium/Heavy - CBE	881
Dodge	x	x	07	Medium/Heavy - COE/low entry	882
Ford	x	x	12	Medium/Heavy - COE/high entry	883
Chevrolet	x	x	20	Medium/Heavy - Other	898
GMC	x	x	23		
Nissan/Datsun	x		35	Bus - conventional front engine	901
Fiat	x		36		
Isuzu	x		38	Bus - front engine/flat front	902
Mercedes Benz	x	x	42	Bus - rear engine/flat front	903
Volvo	x	x	51		
Mitsubishi	x		52	Truck based motorhome	950
Brockway	x		80		
Diamond Reo/Reo	x		81	Unknown	999
Freightliner/White	x		82		
FWD	x		83		
International Harvester/Navistar	x	x	84		
Kenworth	x		85		
Mack	x		86		
Peterbilt	x		87		
Iveco/Magirus	x		88		
Other: (if code "89" is used for GV05, then GV06 must be 801-805, 898, 901, 902, 950, 997, or 998, irrespective of Body Type)			89	Autocar	801
				Auto-Union-DKW	802
				Divco	803
				Western Star	804
				Oshkosh	805
				Other truck: e.g., Marmon, Ward LaFrance specify	898
				Grumman (bus)	901
				Neoplan (bus)	902
				Truck based motorhome	950
				Other bus	997
				Other vehicle	998

APPENDIX C

MISSING RECORD RULES

Under the NASS Crashworthiness Data System (CDS) beginning in 1988, the rules for the presence and absence of forms(records) in an accident are somewhat more complex than in the 1979-1987 NASS Continuous Sampling System (CSS). The presence or absence of some of the record types in a given case will depend on whether data exists or has been collected. For example, if a vehicle is not inspected there will not be an Exterior Vehicle record; if an occupant does not have a recorded injury there will not be an Occupant Injury record. In the 1989 NASS CDS at least one of each type will be required for an accident which includes (1) a towed, inspected, CDS applicable vehicle or (2) a nontowed, inspected, CDS applicable, AOPS vehicle involved in a CDC applicable event(or CDC is blank) with an occupant having a recorded injury. The rules for the presence and absence of each record type and whether partial or complete are as follows:

Accident Record

One required for every accident.

Accident Event Record

At least one required for every accident.

General Vehicle Record

Complete Record: One required for every CDS applicable vehicle (GV07=01-49).
Partial Record: One required (completed through variable GV15) for every non CDS applicable vehicle(GV07=50-99).

External Vehicle Record

Complete Record: One required for every inspected(GV35=1 or 2) CDS applicable vehicle(GV07=01-49) involved in a CDC applicable event.
Partial Record: One required for every inspected CDS applicable vehicle not involved in a CDC applicable event (variables EV04-19 will be blank).
Missing Record: (1) Not inspected(GV35=0) CDS applicable vehicle.
(2) Non CDS applicable vehicle(GV07=50-99).

Internal Vehicle Record

Complete Record: (1) Towed(GV09=1), inspected(GV35=1 or 2), CDS applicable vehicle(GV07=01-49).
(2) Nontowed(GV09=0 or 9), inspected, CDS applicable, AOPS(GV36=1) vehicle.

Missing Record:
(1) Towed, not inspected(GV35=0) CDS applicable vehicle.
(2) Not towed(GV09=0 or 9) CDS applicable, Non AOPS (GV36=0 or BLANK) vehicle.
(3) Non CDS applicable vehicle(GV07=50-99).

Occupant Assessment Record

Complete Record: (1) Towed(GV09=1), CDS applicable vehicle (GV07=01-49).
(2) Nontowed(GV09=0 or 9), CDS applicable, AOPS(GV36=1) vehicle

Missing Record: (1) Not towed(GV09=0 or 9), CDS applicable, Non AOPS(GV36=0 or BLANK) vehicle.
(2) Non CDS applicable vehicle(GV07=50-99).

Occupant Injury Record

Complete Record: (1) Towed(GV09=1), CDS applicable vehicle (GV07=01-49) with an occupant having a recorded injury (OA43=01-96).
(2) Nontowed(GV09=0 or 9), CDS applicable, AOPS(GV36=1) with an occupant having a recorded injury.

Missing Record:
(1) Towed, CDS applicable vehicle with no occupant having a recorded injury(OA43=00,97,99).
(2) Not towed(GV09=0 or 9), CDS applicable, Non AOPS (GV36=0 or BLANK) vehicle.
(3) Non CDS applicable vehicle(GV07=50-99).

APPENDIX D

CDC AND DELTA-V

This section gives an overview of the Collision Deformation Classification (C.D.C.) for cars, vans, and light trucks, per SAE J224 MAR 84 in the 1989 NASS. The C.D.C. codes contain eight characters. If there is no C.D.C., these codes are left blark. If there is a C.D.C., these codes are as follows:

Direction of Force (2-character numeric). Sum of Clock Direction and Incremental Value of Shift if both are known. If either is unknown, direction of force is coded "99".

Clock Direction is coded as follows:

00	Non-horizontal force	07	7 o'clock
01	1 o'clock	08	8 o'clock
02	2 o'clock	09	9 o'clock
03	3 o'clock	10	10 o'clock
04	4 o'clock	11	11 o'clock
05	5 o'clock	12	12 o'clock
06	6 o'clock	99	Unknown

Incremental Value of Shift i.e., change in direction of the structure as opposed to crushing of the structure. It is coded as folcws:

00	No shift
20	End shift vertical--up; top shift--forward
40	End shift vertical--down; top shift--rearward
60	End or top shift lateral--right
80	End or top shift lateral--left
99	Unknown

Deformation Location (1 character alphanumeric) is coded as follows:

F Front
R Right side
L Left side
B Back (rear)
T Top
U Undercarriage
9 Unknown

Specific Longitudinal or Lateral Location (1 character alphanumeric) is coded as follows:

Horizontal Impacts

D Distributed--side or end
L Left--front or rear
C Center--front or rear
R Right--front or rear
F Side front--left or right
P Side center section--L or R
B Side rear--left or right
Y Side (F + P) or end (L + C)
Z Side (P + B) or end (C + R)
9 Unknown

Top or Undercarriage

D Distributed (F+P+B)
F Front Section
P Center Section
B Rear Section
Y F+P
Z P+B
9 Unknown

Specific Vertical or Lateral Location (1 character alphanumeric) is coded as follows:

Vertical - Front, Rear, or Side Impacts

A All
H Top of frame to top
E Everything below belt line
G Belt line and above
M Middle--top of frame to belt line or hood
L Frame--top of frame, frame, bottom of frame (including undercarriage)
W Below undercarriage level (wheel and tires only)
9 Unknown

Lateral - Top and Undercarriage Impacts

D Distributed
L Left
C Center
R Right
Y Left and Center (L + C)
Z Right and Center (R + C)
9 Unknown

Type of Damage Distribution (1 character alphanumeric) is coded as follows:

W	Wide impact area	E	Corner
N	Narrow impact area	K	Conversion in impact type
S	Sideswipe	U	No residual deformation
O	Rollover (including side)	9	Unknown
A	Overhanging structure		

Deformation Extent Guide (2 character alphanumeric) is coded as follows:

01	One	06	Six
02	Two	07	Seven
03	Three	08	Eight
04	Four	09	Nine
05	Five	99	Unknown

Delta V.

Delta-V is defined as the vector velocity change during the collision phase of an accident, or in a simple accident, as separation velocity minus approach velocity:

DELTA-V = V separation - V approach

The direction of the vector is determined by the investigator as the direction of principal force. For each vehicle, the components of its Delta-V are obtained by projecting on the longitudinal and lateral axes of that vehicle.

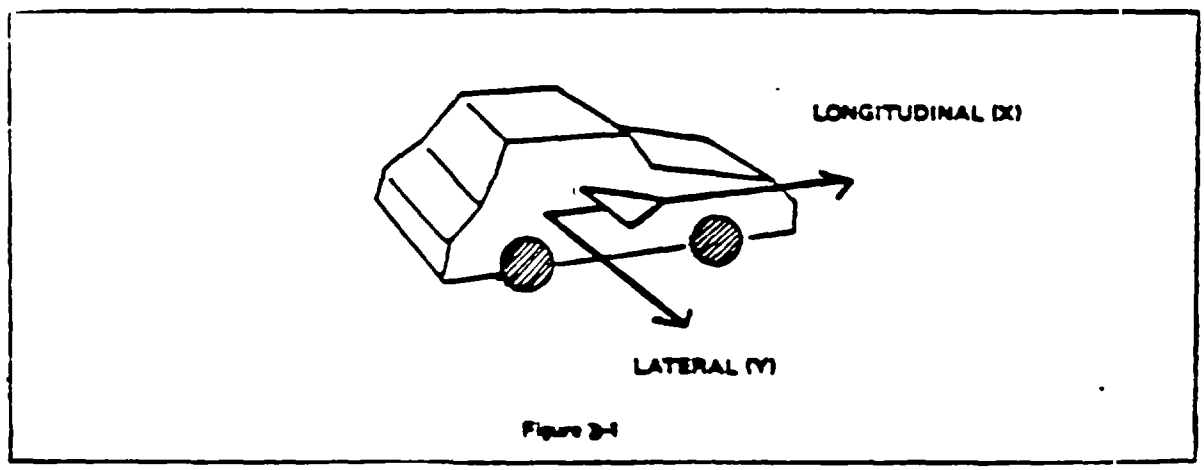


Figure D-1

Figure D-1 shows the positive direction of the longitudinal and lateral components of Delta-V. For example, in a head-on collision, a vehicle is decelerated and the initial high positive longitudinal velocity is reduced; thus it will have a negative longitudinal Delta

APPENDIX E

SELECTED COUNTS

Users of the NASS Analysis file occasionally have requested that the manual include total counts for certain NASS statistics. These counts may help assure that the users are accessing the desired NASS tape. Further, such counts help to identify the source of apparent anomalies.

For this edition of the User's Manual, the following counts have been identified as potentially the most useful:

. Total Number of Accident Records	-	4,648
. Total Number of Accident Event Records	-	8,551
. Total Number of General Vehicle Records	-	8,189
. Total Number of External Vehicle Records	-	5,710
. Total Number of Internal Vehicle Records	-	5,184
. Total Number of Occupant Assessment Records	-	10,811
. Total Number of Occupant Injury Records	-	31,285

APPENDIX F - PSU DEMOGRAPHIC DATA

(1). PSU Codes
(2). PSU Description
(3). Population (1980 & 1970)
(4). Land Area(Square Miles)
(5). Population (by Age Group)
(6). Means of Transportation to Work
(7). Travel Time to Work

Demographics data on the 36 PSU's are included to give researchers supplementary information on the nature of the PSU's when analyzing NASS data. The land area figures are from the County and City Data Book, 1988. The 1980 and 1970 population figures and the figures on age distribution of the population in 1980 are from Tables 26 and 46 of "1980 Census of Population, Chapter B, General Population Characteristics". The figures pertaining to means of transportation and travel time to work are from Tables 118 and 174 of "1980 Census of Population, Chapter C, General Social and Economic Characteristics".

PRIMARY SAMPLING UNIT (PSU) CODES AND DESCRIPTION

VALUES	STRATA	DESCRIPTION
03, 06, 41, 49, 72, 74, 79, 82	1	Central City, one of the 60 largest SMSA's
01, 05, 07, 08, 09, 10, 12, 42, 45, 46, 47, 50, 71, 73, 75, 77, 80, 81	2	Suburban, one of the 17 - 60th largest SMSA's or PSU within 61st - 119th largest SMSA's either containing or not containing a central city
02, 04, 11, 13, 43, 44, 48, 51, 76, 78	3	Other PSU

POPULATION

PSU	1980	1970	LAND AREA
P01	81974	83120	196
P02	158158	141241	1131
P03	2230936	2602012	70
P04	346038	208470	641
P05	643621	623799	486
P06	1688210	1948609	136
P07	555007	600035	184
P08	1026147	1084899	672
P09	737822	708245	939
P10	1134552	1155269	479
P11	264748	234103	710
P12	450449	444341	642
P13	157589	157426	507
P41	274602	246463	55
P42	1278916	932933	1921
P43	301327	228453	854
P44	137222	119893	1036
P45	319694	276293	506
P46	163687	126485	962
P47	233318	167115	3551
P48	153264	129841	1961
P49	904078	844401	331
P50	652312	482920	549
P51	82636	65433	902
P71	280326	231365	554
P72	3005072	3366957	228
P73	522965	546253	501
P74	397038	389455	333
P75	374194	234303	917
P76	71348	56163	11219
P77	531443	351667	9187
P78	90554	60827	9994
P79	4149319	3857381	3554
P80	656380	558389	730
P81	775903	625802	2044
P82	493846	530831	84

POPULATION BY AGE GROUP (1980)

PSU	UNDER 5	5 TO 9	10 TO 14	15 TO 19	20 TO 24
P01	4573	5595	7202	7248	4928
P02	9614	10608	13108	14888	13896
P03	176061	162127	175852	191895	193638
P04	23282	24928	26352	25858	21440
P05	36147	40254	50639	58616	54164
P06	108202	111096	129413	151071	162426
P07	33031	33837	42565	53771	51486
P08	56811	62928	79096	88691	84006
P09	52394	55806	67334	77012	79418
P10	76436	83322	94431	107801	105657
P11	17237	17092	18211	27622	43315
P12	36083	37974	42064	45887	43695
P13	12487	12442	13707	15842	13917
P41	12640	13697	15885	19184	22400
P42	74971	82573	91879	109574	105160
P43	18587	21096	23735	30171	34963
P44	9528	10860	11962	12557	10781
P45	19638	21495	23402	30179	35629
P46	13728	14951	15000	19625	14322
P47	18091	19397	19997	21109	18979
P48	11031	11863	11695	16693	19505
P49	67126	64957	66601	77354	102673
P50	52445	56996	58803	61532	59388
P51	7285	6599	6391	7478	7952
P71	20054	22762	28095	29532	20669
P72	232032	227899	234117	269087	293909
P73	44476	43449	44971	51136	48625
P74	31090	30024	32046	37619	39329
P75	26605	29683	34045	35002	30992
P76	6828	6602	6643	6580	5386
P77	38064	37592	39705	48693	56908
P78	8137	8055	7764	8310	8922
P79	318730	313823	340541	383468	394964
P80	44035	45738	54244	59888	52735
P81	54290	57344	67856	72148	68379
P82	24235	21363	24094	35282	59236

POPULATION BY AGE GROUP (1980) CONT.

PSU	25 TO 29	30 TO 44	45 TO 64	65 & OVER
P01	5440	16291	20450	10247
P02	12562	31297	31734	20460
P03	188055	412948	450816	279544
P04	23272	61936	67161	71809
P05	50196	122866	149860	80879
P06	141715	284300	362617	237370
P07	44118	94029	130848	71322
P08	82498	186743	253737	131637
P09	73073	168630	123642	40513
P10	98403	213433	250914	104155
P11	32428	53882	38108	16853
P12	38327	86094	84490	35835
P13	13173	27629	31529	16863
P41	21982	47175	61859	59780
P42	100142	245621	272829	196167
P43	31017	66920	52569	22269
P44	10567	26363	28273	16331
P45	29591	61592	62411	35757
P46	15147	39200	22526	9187
P47	17809	43133	41678	23125
P48	13350	26391	27350	15386
P49	98293	174667	166432	85975
P50	63125	156473	108002	35548
P51	8248	15417	17165	6081
P71	20428	62880	54992	20914
P72	276526	539409	589592	342511
P73	43619	93139	107742	45808
P74	38235	74219	72993	41483
P75	36570	92531	66143	22248
P76	5407	12318	13857	7727
P77	50089	97885	100313	62194
P78	6931	15777	16696	9962
P79	373337	836782	809613	378115
P80	54114	147718	137064	60844
P81	70720	182219	206946	53240
P82	59790	95843	97839	76174

MEANS OF TRANSPORTATION TO WORK

PSU	PRIVATE CAR	TRUCK OR VAN	MOTOR-CYCLE	PUBLIC TRANSIT	BI-CYCLE	WALKING	OTHER	WORK AT HOME
P01	29419	3385	103	9188	139	1051	84	499
P02	48344	7289	218	1305	236	5090	669	2007
P03	212075	10761	440	483236	1894	72149	3702	7997
P04	94786	13101	232	3329	475	3587	822	1712
P05	240110	20784	545	19097	1080	15560	1191	5959
P06	327866	19725	698	183432	2531	64005	2840	7294
P07	176075	14386	320	31823	662	13537	1153	3358
P08	317743	37189	360	51635	237	21941	1791	4730
P09	281626	31894	1263	36697	1035	12007	1726	4286
P10	394306	46325	228	9937	993	11630	1661	3443
P11	89936	11546	195	4848	1127	13732	673	2890
P12	131665	24404	202	1781	137	4258	610	1502
P13	45826	9209	176	542	158	2013	295	908
P41	93207	12015	920	3782	1420	4853	1184	1950
P42	463193	47749	3108	27127	4236	17699	3195	6816
P43	122422	15836	587	4044	582	5330	984	2409
P44	45568	11119	100	278	18	1845	430	820
P45	107340	18351	405	4742	167	5045	538	1745
P46	52235	12014	131	443	143	8624	726	1063
P47	60716	19371	228	492	56	2182	476	845
P48	42902	11316	177	497	183	2028	319	469
P49	349802	46521	1468	37771	688	10846	2232	5739
P50	261114	55952	2304	3870	507	5390	1730	4186
P51	30622	7849	404	224	95	778	275	765
P71	110643	12811	330	1246	428	4732	544	2737
P72	661571	30691	492	385792	2114	93590	6067	11037
P73	163295	21959	205	6506	261	8499	731	1709
P74	141623	19250	520	11255	268	8050	660	3137
P75	141541	27475	723	7909	537	4380	1025	3738
P76	10852	8156	441	91	123	1531	541	403
P77	151229	40899	3107	6691	3928	8733	1773	4549
P78	19860	8098	851	583	554	2893	582	547
P79	1449860	203033	19341	79241	14466	59510	10738	23643
P80	217141	35731	2294	25794	1625	6851	3684	5634
P81	280991	53258	3236	22486	1136	8801	2355	7104
P82	149979	17874	1595	47695	3120	19562	1742	5142

TRAVEL TIME TO WORK (IN MINUTES)

PSU	LESS THAN 10	10 TO 19	20 TO 29	30 TO 44	45 AND OVER
P01	5267	13678	7901	6022	2020
P02	13550	21932	12080	9153	6450
P03	40190	101641	78442	180685	384253
P04	28174	58912	38066	36213	32511
P05	51334	102725	58015	50663	36077
P06	48031	129282	116974	159984	145474
P07	29314	66498	47815	53325	42254
P08	54103	126240	92373	96883	60846
P09	31050	76663	76133	98693	85650
P10	62112	145299	114940	103940	38361
P11	23121	49791	25439	15066	9382
P12	22400	62152	46992	25037	6884
P13	10908	26382	12891	5823	2453
P41	18138	43635	24463	21497	9960
P42	60751	166303	135519	140383	64132
P43	21024	56965	39393	24927	7966
P44	11308	24299	12363	7593	4137
P45	15980	48441	33451	28795	10971
P46	11820	22085	16207	15992	8184
P47	13745	24011	13698	16986	15254
P48	9595	25125	10213	7315	5505
P49	42477	132539	116744	111585	47360
P50	43847	100670	78269	76310	32532
P51	7182	22089	6155	2787	1869
P71	24013	41526	32681	24727	9022
P72	82020	227900	215965	329788	323755
P73	27311	62180	48837	41782	21004
P74	30774	74814	47999	21901	6811
P75	20725	49990	46967	45334	20639
P76	7917	8491	2640	1660	2058
P77	31065	75086	52118	40649	17205
P78	10337	13705	3851	3281	1482
P79	219906	559244	396746	402341	256578
P80	36189	83431	53667	57732	62725
P81	43948	104066	88513	89996	43242
P82	29060	82550	61333	46972	21055