

MULTIDISCIPLINARY ACCIDENT INVESTIGATION REPORT AUTOMATION AND UTILIZATION

1973 Editing Manual and Reference Information

HIGHWAY SAFETY RESEARCH INSTITUTE
THE UNIVERSITY OF MICHIGAN
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16. Abstract <p>This report documents the editing conventions and reference information used in processing Multidisciplinary Accident Investigation reported case vehicles into a time-shared accident data bank.</p> <p>An annotated "Collision Performance and Injury Report" Revision 3 is used to document editing conventions and new code values. The next two sections document the editing procedure and the interpretations of each question (variable) in narrative form. The final section is a compilation of reference information (e.g., original seat back angles) available to the data editors.</p>					
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Multidisciplinary Accident Investigation
Report Automation and Utilization

1973 EDITING MANUAL AND REFERENCE INFORMATION

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DEPARTMENT OF TRANSPORTATION
WASHINGTON D.C. 20590

EDITING MANUAL

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SECTION 1

INTRODUCTION

Traffic accident data reported on the General Motors Collision Performance And Injury Report (CPIR) Log Form Revision 3 (reference 1) plus certain supplementary information is edited and maintained as an on-line computer file in the HSRI accident data bank. This notebook is a compilation of reference information (e.g., original dimensions) and editing conventions used in preparing newly received reports for inclusion in the computer data bank.

This is the basic reference and instructional document used in daily operations and in the training of new case editors. It also serves to document the editing process. While prepared from the case editor's viewpoint, the manual may also be usefully employed by accident investigators preparing CPIR Revision 3 forms and data analysts using the CPIR computer files.

The editing conventions precede the reference information and are organized around the CPIR form, itself. The conventions are documented in two formats. In section 2, editing rules and code values are included on the annotated CPIR pages for quick reference. Section 3 describes the editing process and the interpretations for each question.

A three part number has been used to reference the appropriate CPIR page number, punch card number, and column number for each question. Thus, the sequence (7.3.12-24) refers to CPIR page 7, card 3, and columns 12 thru 24, which is the Case Vehicle Identification Number.

```
Page Number
| Card Number
| | Column Numbers
| | |
(7.3.12-24)
```

This manual should be maintained in a loose-leaf notebook, because new and revised information sheets will be continually issued. If you wish to receive future updates as issued, please contact Joe Marsh (313/764-0248) or the National Highway Traffic Safety Administration, Accident Investigation Division. Any comments, criticisms, or suggestions for improvement are welcome. For your convenience reply sheets are included at the end of the Manual.

BACKGROUND

While the compilation and publication of this manual was sponsored by the DOT National Highway Traffic Safety Administration under contract number DOT-HS-031-3-589, its contents are intended to represent a consensus of the experience of HSRI and others in editing CPIR data, computer data processing requirements, Motor Vehicle Manufacturers Association and Department of Transportation sponsored field investigators, NHTSA Accident Investigation Division, MVMA member companies and others involved in the utilization and analysis of the CPIR data files--a mix of everyone interested in the evolution of these materials.

This notebook documents the current editing practices and available reference information. It does not represent the ultimate set of editing conventions and procedures. There is room for many improvements in recording and processing MDAI data. By the nature and diversity of the problems relating to crash investigation, recording and analysis, a universally applicable set of coding conventions and procedures will probably never exist. Thus, this notebook will continue to change and grow.

The editing conventions (e.g., use of (888) for other vehicle speed when "not applicable") have evolved over several years of editing cases for computer processing. They are documented as a guide to our current editors and to assist training new editors in order to help assure consistency of interpretation. While helpful to the field investigator as an aid to consistent preparation of the CPIR form, they are not an "accident investigation protocol". While also helpful to the data analyst, they will not document biases in the investigators' interpretations, for instance.

The Reference Information section has been compiled from all available sources, primarily the Vehicle Data and Code Supplement (references 3,4,5) published each year by the Motor Vehicle Manufacturers Association. Other information has been obtained from motor vehicle manufacturers, National Highway Traffic Safety Administration, field accident investigators, and original measurements of new cars. Again, notification of any added information or corrections would be appreciated.

SECTION 2

ANNOTATED CPIR FORM

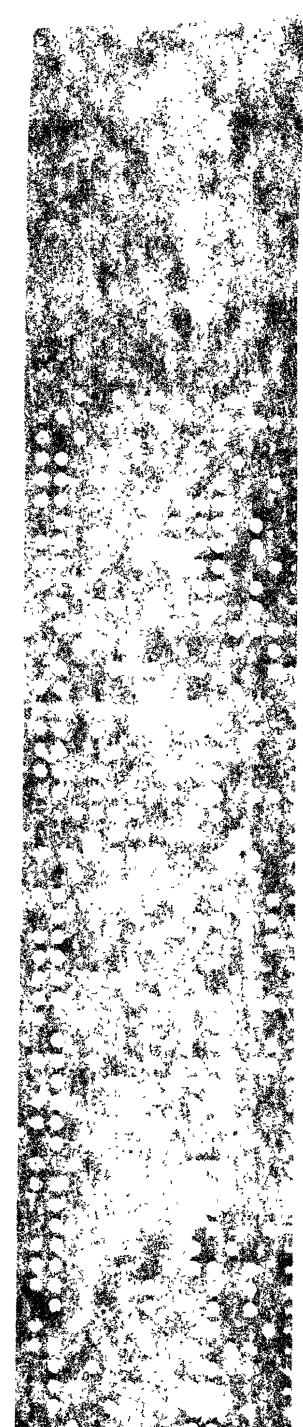
This section contains a reproduction of the CPIR form and supplementary data forms used to encode the accident information. The forms have been annotated with editing conventions and new codes in order to provide the editor with a quick reference source. The editing procedure and interpretation of each specific question are documented in Section 3.

ANNOTATED

COLLISION PERFORMANCE and INJURY REPORT

LONG FORM

(REVISION NUMBER 3) (1/74)



FORM VERSION NUMBER 12 REPORT NUMBER <u> </u> CARD NUMBER <u>01</u> DATE OF COLLISION <u> </u> MO. / <u> </u> DAY / <u> </u> YR. (99/99/99) Unknown	TIME OF COLLISION _____ AM PM DATE OF FIELD INVESTIGATION _____ INVESTIGATOR _____ CIRCLE PHOTO RECORDS MADE: <input type="checkbox"/> SLIDES <input type="checkbox"/> NEGATIVES <input type="checkbox"/> POLAROID'S LOCATION WHERE VEHICLE WAS EVALUATED: _____ REPORT PREPARED BY _____	KEYPUNCH ONLY DATE RECD. _____ PUNCHED _____ VERIFIED _____
--	---	--

	PUNCH CODE	CARD COL.	Case Vehicle ONLY	PUNCH CODE	CARD COL.
LOCATION STATE: _____ (FIPS Code) (CODE TO BE INSERTED BY ANALYSIS GROUP) CITY, TOWNSHIP, ETC.: _____			ROAD ALIGNMENT VERTICAL PLANE (1) LEVEL (2) CREST OF HILL (3) SLOPE- 2% grade (4) BOTTOM OF HILL (0) UNKNOWN	_____	26
AREA (1) URBAN (2) RURAL (0) UNKNOWN	_____	20	HORIZONTAL PLANE (1) STRAIGHT (2) CURVE (0) UNKNOWN	_____	27
LOCALITY (1) MANUFACTURING OR INDUSTRIAL (2) SHOPPING OR BUSINESS (3) APARTMENTS (4) SCHOOL OR PLAYGROUND (5) RESIDENTIAL (6) FARM (7) UNDEVELOPED (0) UNKNOWN	_____	21	SURFACE COVERING (01) DRY WATER (02) DAMP (03) WET (04) PUDDLED (05) UNKNOWN AMOUNT SNOW (06) LOOSE (07) PACKED (08) CONDITION UNKNOWN (09) ICE (10) SLUSH (11) SPILLED GRAVEL (12) OTHER: _____ (00) UNKNOWN	— —	28-29
ENVIRONMENTAL CONDITIONS LIMITED ACCESS HIGHWAY (1) YES (2) NO (0) UNKNOWN	_____	22	PRECIPITATION (1) NONE (2) RAIN (3) SNOW (4) HAIL (5) SLEET (6) OTHER: _____ (0) UNKNOWN	_____	30
ROAD TOTAL TRAFFIC LANES (1) 1-Lane (2) 2-Lane Case Vehicle (3) 3-Lane (4) 4 or More Lanes (5) 4 or More Lanes Divided (6) Parking Lot, Driveway (7) Other, e.g. RR Tracks, Ramps (0) Unknown	_____	23	RATE OF PRECIPITATION (3) NOT APPLICABLE (4) LIGHT, MIST (5) MODERATE (6) HEAVY (0) UNKNOWN	_____	31
OTHER ROAD TOTAL TRAFFIC LANES (IF AT INTERSECTION) CHOOSE FROM ABOVE LIST OR (9) NOT APPLICABLE	_____	24	SURFACE SLIPPERY (1) YES (2) NO (0) UNKNOWN	_____	32
TYPE OF ROAD SURFACE (1) Asphalt, Bituminous Concrete (2) CONCRETE (3) GRAVEL (4) MORE THAN ONE TYPE (5) OTHER: _____ (0) UNKNOWN	_____	25			

COLLISION DESCRIPTION

GENERAL INFORMATION

IMPAIRMENT

COLLISION TYPE

COLLISION CONFIGURATION (of case vehicle)		PUNCH CODE	CARD COL.	CASE VEHICLE DRIVER'S ABILITY TO DRIVE IMPAIRED BY		PUNCH CODE	CARD COL.
VEHICLE TO OBJECT (1,2,0)*		—	42	(CHOOSE NO MORE THAN TWO) (00) UNKNOWN (02) NONE (03) DRINKING INVOLVED (Broad) (04) Drunk By Local Legal Standards (05) ASLEEP (06) FATIGUE (07) RECKLESSNESS (08) INATTENTION (09) LACK OF TRAINING (10) EMOTIONAL STATE (11) MEDICATION (12) Drugs (narcotic) (13) ILLNESS (or otherwise) (14) INFIRMITIES (15) PHYSICALLY HANDICAPPED (16) OTHER: _____		—	58-59
ROLLOVER (1,2,0)* (90° or more)		—	43			—	60-61
RAN OFF THE ROADWAY (1,2,0)* (Before first impact)		—	44			—	60-61
VEHICLE TO VEHICLE						—	60-61
(1) Yes, Configuration unknown						—	60-61
(2) No						—	60-61
(3) Head-on (F to F)						—	60-61
(4) Intersection type L						—	60-61
(5) Side-swipe		—	45			—	60-61
(6) Rear-impact (F and B)						—	60-61
(7) Other: _____				—	60-61		
(8) Intersection type T				—	60-61		
(9) Unknown				—	60-61		
VEHICLE TO STOPPED VEHICLE (1,2,0)* (Either vehicle)		—	46	SOURCE OF INFORMATION:			
VEHICLE TO MOVING VEHICLE (1,2,0)*		—	47	TRAFFIC VIOLATION (EITHER DRIVER)			
OTHER (1,2,0)*: _____		—	48	(1) YES			
VEHICLES INVOLVED				(2) NO			
TOTAL NUMBER (INCLUDING CASE VEHICLE) In Accident		—	49	(0) UNKNOWN		—	62
OBJECTS CONTACTED				DESCRIBE VIOLATION: _____			
(02) None (00) Unknown Object				Citation need not be issued, but only indicated.			
(03) Other Automobile				LEGAL ACTION			
(04) Ground (rollover only)				WAS TRAFFIC VIOLATION CITATION ISSUED TO ANYONE? (1,2,0)*		—	63
(05) Guardrail				IF "YES", CIRCLE VIOLATOR:			
(06) Bridge (rail)				DRIVER OF CASE VEHICLE			
(07) Sign				DRIVER OF OTHER VEHICLE			
(08) Ditch				PEDESTRIAN			
(09) Embankment (snowbank)				OTHER: _____			
(10) Culvert				(Accident Point of View)			
(11) Fence				TYPE OF LOSS			
(12) Pole or Tree				PERSONAL INJURY (1,2,0)*		—	64
(13) Pedestrian				PROPERTY DAMAGE (1,2,0)*		—	65
(14) Large Animal							
(15) Motorcycle							
(16) Large Truck - Type Unknown (see 20-25) below							
(17) Train or Bus							
(18) Pedalcycle (bicycle+)							
(19) Building							
(20) Light truck/pickup truck							
(21) Tractor without trailer							
(22) Van delivery truck							
(23) Straight truck							
(24) Tractor-trailer combination							
(25) Multi-purpose vehicle (Jeep)							
(26) Object disengaging from other vehicle (i.e., loose tire, box)							
(27) Hydrants, short posts, stumps							
(28) Mailbox (rural), small posts/trees							
(29) Pier, Pillar (e.g., bridge support)							
(30) Retaining wall, abutment							
(31) Highway Fixtures							
(32) Impact attenuator							
(33) Breakaway Fixtures							
(34) Other:							

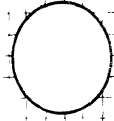
WHEN (1,2,0) IS INDICATED, USE 1 FOR YES
2 FOR NO
0 FOR UNKNOWN

COLLISION SKETCH

Based on Information From _____

1. Draw heavy lines to show highway detail at the location of collision.
Give name of streets and highways and US, State and Interstate Route numbers, if any.
3. Identify all objects in sketch. Case vehicle should always be labeled "A". Time sequence numbers may be added (e.g., A1, A2).
4. Include dimensions when possible.

INDICATE NORTH
BY ARROW



SEE NARRATIVE

COLLISION SKETCH

DESCRIBE COLLISION EVENTS _____

INFORMATION SOURCES: _____

REPORTED BY: _____

(Attach Police Report)

COMMENTS _____

SPEEDS

CASE VEHICLE	PUNCH CODE	CARD COL.
ESTIMATED SPEED* (MPH)		
PRIOR TO IMPACT	_____	66-68
ESTIMATED BY:		

At FIRST Impact	_____	69-71
ESTIMATED BY:		

OTHER VEHICLE	PUNCH CODE	CARD COL.
ESTIMATED SPEED* (MPH)		
PRIOR TO IMPACT	_____	72-74
ESTIMATED BY:		

At FIRST Impact	_____	75-77
ESTIMATED BY:		

*IF SPEEDS ARE UNKNOWN, ENTER 999; 888 for Other Vehicle Not Applicable

END OF CARD 01

OTHER VEHICLE

NOTE: A complete analysis of this accident requires that a minimum amount of information be obtained on the other vehicle(s) involved. Therefore, the information on this page should be completed even though a separate long form may be filled out on these other vehicles.

DUPLICATE COLUMNS 1-9 FROM PRECEDING CARD 0 2
10 11

OTHER VEHICLE DESCRIPTION

VEHICLE IDENTIFICATION NUMBER

12	13	14	15	16	17	18	19	20	21	22	23	24							

MAKE _____

MODEL _____

CODE TO BE INSERTED

25 26 27 28 29

MODEL YEAR 19
30 31

WEIGHT OF VEHICLE, LBS. 32 33 34 35

ODOMETER READING
(IF OVER 100,000)
(USE 99 999) 36 37 38 39 40

BODY STYLE

(Code Sun Roof as 1 to 5, not 6)

- (1) 2-Door Hardtop (no upper B pillar)
- (2) 2-Door Sedan or Coupe (any upper B)
- (3) 4-Door Hardtop
- (4) 4-Door Sedan
- (5) Station Wagon or Pickup Car
- (6) Convertible - soft or hard shell
- (7) Van (not walk-in)
- (8) Truck
- (9) Other (e.g. bus, jeep, train)
- (0) Unknown

PUNCH
CODE

CARD
COL.

41

ENGINE

NUMBER OF CYLINDERS
(Enter "0" if unknown)

42

HIGH PERFORMANCE (1,2,0)*

43

NUMBER OF OCCUPANTS

44-45

VEHICLE LOADING

- (4) BELOW FULL RATED LOAD
- (5) NEAR FULL RATED LOAD
- (6) ABOVE FULL RATED LOAD
- (0) UNKNOWN

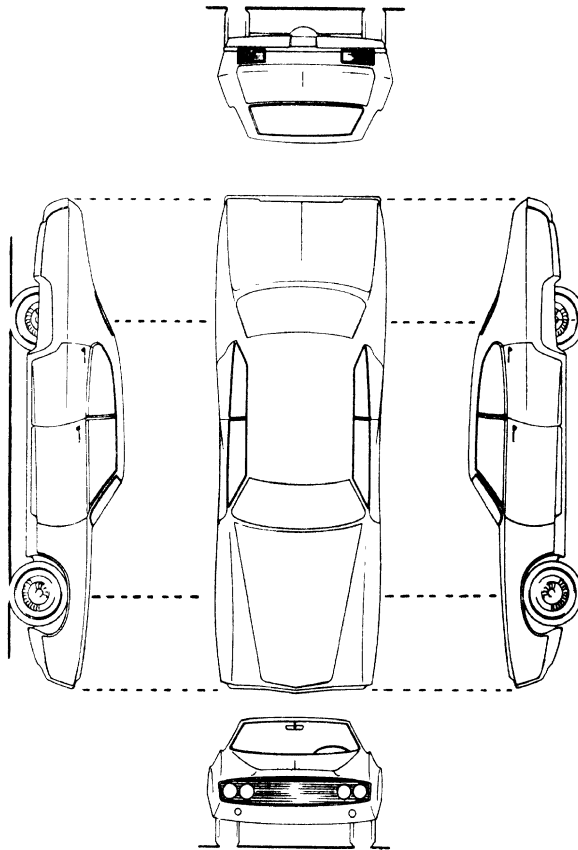
46

DAMAGE INDEX (OTHER VEHICLE)

47 48 49 50 51 52 53

VEHICLE DAMAGE

(This space may be used to enter details and notes about the other vehicle. See page 9 for instructions.)



COMMENTS: _____

IF SEPARATE REPORT WAS MADE, GIVE REPORT NUMBER _____

OTHER VEHICLE

*WHERE (1,2,0) IS INDICATED, USE 1 FOR YES
2 FOR NO
0 FOR UNKNOWN

CASE VEHICLE

DUPLICATE COLUMNS 1-9 FROM PRECEDING CARD 0 3
18 11

VEHICLE DESCRIPTION
VEHICLE IDENTIFICATION NUMBER

12	13	14	15	16	17	18	19	20	21	22	23	24		

MAKE _____

MODEL _____

CODE TO BE INSERTED _____

MODEL YEAR _____ 19 _____
30 31

Shipping Weight (pounds) _____
32 33 34 35

ODOMETER READING _____
 (IF OVER 100,000:) _____
 USE 99 999 36 37 38 39 40

BODY STYLE	PUNCH CODE	CARD COL.
(Code Sun Roof as 1 to 5, not 6)		
(1) 2-Door Hardtop (no upper B pillar)		
(2) 2-Door Sedan or Coupe (any upper B)		
(3) 4-Door Hardtop		
(4) 4-Door Sedan		
(5) Station Wagon or Pickup Car		
(6) Convertible - soft or hard shell		
(7) Van (not walk-in)		
(8) Truck		
(9) Other (e.g. bus, jeep, train)		
(0) Unknown	—	41
BODY STRUCTURE		
(1) BODY AND FRAME		
(2) UNITIZED		
(3) INTEGRAL - STUB FRAME		
(4) OTHER: _____		
(0) UNKNOWN	—	42
ENGINE		
NUMBER OF CYLINDERS (Enter "0" if unknown)		43
(Or Rotors)		
HIGH PERFORMANCE (1,2,0)*		44
NUMBER OF OCCUPANTS		
(Enter 99 if unknown)	—	45-46

VEHICLE LOADING	PUNCH CODE	CARD COL.
(4) BELOW FULL RATED LOAD		
(5) NEAR FULL RATED LOAD		
(6) ABOVE FULL RATED LOAD		
(0) UNKNOWN	—	47
EQUIPMENT OPTIONS		
TRANSMISSION		
(4) AUTOMATIC + Semi Automatic		
(5) MANUAL		
(0) UNKNOWN	—	48
STEERING		
(4) POWER		
(5) MANUAL		
(0) UNKNOWN	—	49
BRAKES		
(4) POWER		
(5) MANUAL		
(0) UNKNOWN	—	50
BRAKES - TYPE		
(4) DRUM - ALL WHEELS		
(5) DISC - FRONT WHEELS		
(6) DISC - ALL WHEELS		
(0) UNKNOWN	—	51
BRAKE ANTI-LOCK DEVICE		
(2) NONE INSTALLED		
(4) TWO-WHEEL		
(5) FOUR-WHEEL		
(0) UNKNOWN	—	52
Top Position at Time of Collision		
(3) Solid Top - Not Applicable		
(4) Convertible Soft Top Up or Closed		
(5) Retracted Soft Top or Hard Shell Removed		
(6) Removable Hard Shell Installed		
(7) Sun Roof - Closed		
(8) Sun Roof - Open		
(0) Unknown	—	53
CASE VEHICLE REPAIR OR REPLACEMENT COST		
Unknown (9999) \$	54	55 56 57
CASE VEHICLE DAMAGE INDEX		
PRIMARY DAMAGE		
58	59	60 61 62 63 64
SECONDARY DAMAGE		
65	66	67 68 69 70 71
Unknown or None (99-0000-0)		
END OF CARD 03		

CASE VEHICLE

*WHERE (1,2,0) IS INDICATED, USE 1 FOR YES
 2 FOR NO
 0 FOR UNKNOWN

EXTERIOR DAMAGE

DUPLICATE COLUMNS 1-9 FROM PRECEDING CARD

0 4
10 11

SHEET METAL DAMAGE

FRONT (1,2,0)*

PUNCH
CODE

CARD
COL.

12

REAR (1,2,0)*

13

LEFT SIDE (1,2,0)*

14

RIGHT SIDE (1,2,0)*

15

ROOF (1,2,0)*

16

OTHER (1,2,0)*: _____

17

REMARKS: _____

SHEET METAL CRUSH

TO BE FILLED IN BY ANALYSIS GROUP.
INSERT MAXIMUM CRUSH DIMENSION TO
THE NEAREST INCH. DIMENSIONS MUST
AGREE WITH DIAGRAMS ON FACING PAGE.
(INSERT "99", IF UNKNOWN
INSERT "98", IF 98 INCHES OR OVER)

FRONT (INCHES)

18-19

REAR

20-21

LEFT SIDE

22-23

RIGHT SIDE

24-25

ROOF

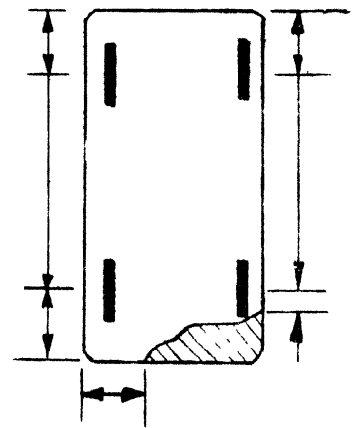
26-27

OTHER:

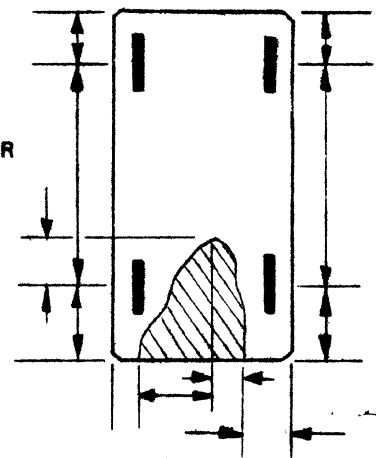
28-29

EXAMPLES.

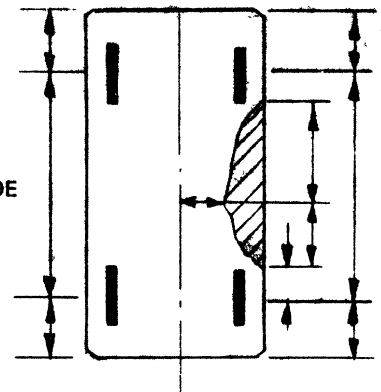
FRONT OR REAR



FRONT OR REAR

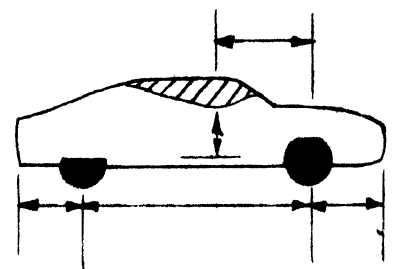


SIDE



ROOF

(REFERENCE TO TOP
OF DOOR SILL OR
WINDOW SILL)



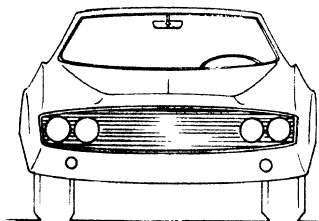
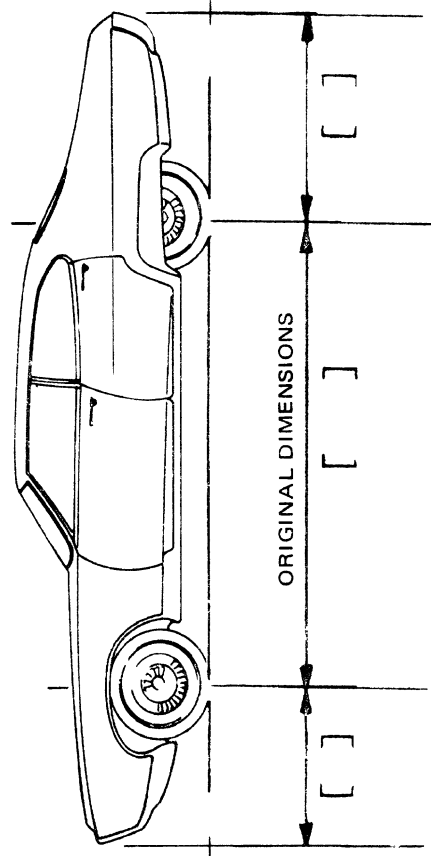
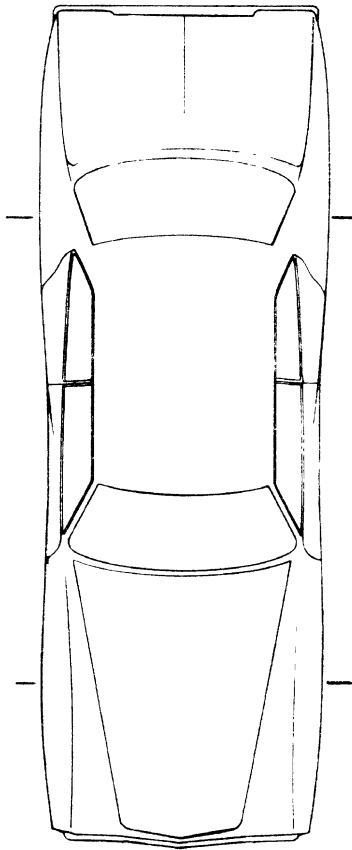
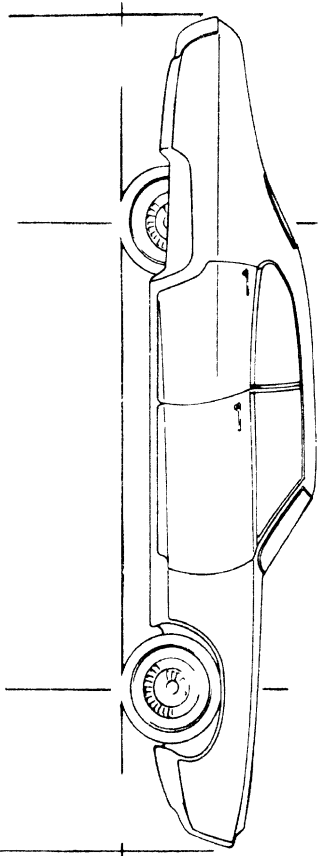
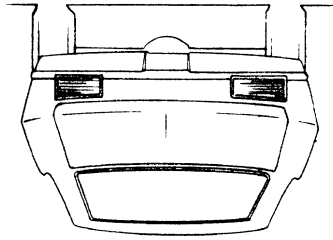
SHEET METAL

*WHERE (1,2,0) IS INDICATED, USE 1 FOR YES
2 FOR NO
0 FOR UNKNOWN

EXTERIOR DAMAGE

FIELD INVESTIGATOR INSTRUCTIONS:

1. Indicate crushed areas by outlining new perimeter of vehicle and shading the damaged areas on the large sketch below. Use as many sketches as necessary to completely describe the damage.
2. Enter the dimensions on the sketch(es) measured to the point of maximum penetration by the object(s) contacted. Use the examples on the facing page as a guide.
3. Enter the three dimensions to the center of the wheels (wheelbase, front and rear overhangs) on both sides of the car.
4. Add other dimensions as necessary to completely describe the damage.



VEHICLE SKETCH

WHEELS AND TIRES

WHEELS & TIRES

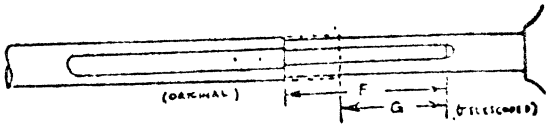
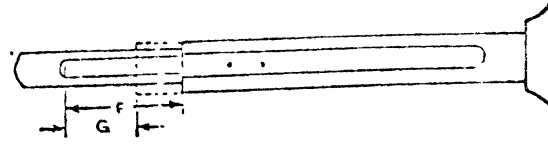
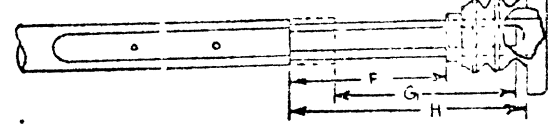
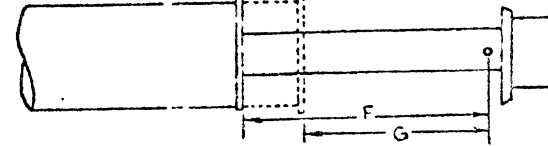
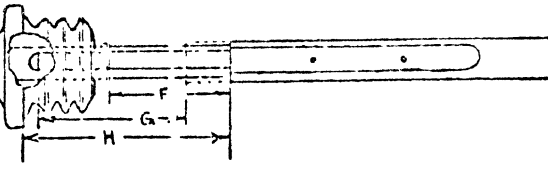
WHEELS		PUNCH CODE	CARD COL.	TIRES (CONT'D.)	
ORIGINAL EQUIPMENT TYPE				SIZE	
FRONT (1,2,0)*		___	30	FRONT	{ LEFT _____ RIGHT _____
REAR (1,2,0)*		___	31	REAR	{ LEFT _____ RIGHT _____
DAMAGED (1,2,0)*		___	32		
DESCRIBE DAMAGE AND NON O.E. WHEELS				MANUFACTURER	
_____				FRONT	{ LEFT _____ RIGHT _____
_____				REAR	{ LEFT _____ RIGHT _____

TIRES				MODEL	
TREAD TYPE				FRONT	{ LEFT _____ RIGHT _____
(4) REGULAR		} FRONT	___	33	REAR
(5) NON-STUDED SNOW					
(6) STUDED SNOW					
(7) 'SLICK'					
(8) LEFT AND RIGHT SIDES DIFFERENT		} REAR	___	34	
(9) OTHER: _____					
(0) UNKNOWN					
TREAD WEAR				CODE	
(4) LIGHT		} FRONT	___	35	REAR
(5) MEDIUM					
(6) HEAVY					
(7) BALD					
(8) LEFT AND RIGHT SIDES DIFFERENT		} REAR	___	36	
(9) OTHER: _____					
(0) UNKNOWN					
PROFILE				LOAD RANGE	
(4) REGULAR 80,78		} FRONT	___	37	REAR
(5) WIDE OVAL 70,60,50					
(6) LEFT AND RIGHT SIDES DIFFERENT					
(7) OTHER: _____		} REAR	___	38	
(0) UNKNOWN					
CARCASS TYPE				FRONT	
(4) BIAS PLY		} FRONT	___	39	REAR
(5) BELTED-BIAS PLY					
(6) RADIAL PLY					
(7) LEFT AND RIGHT SIDES DIFFERENT					
(8) OTHER: _____		} REAR	___	40	
(0) UNKNOWN					

*WHERE (1,2,0) IS INDICATED, USE 1 FOR YES
2 FOR NO
0 FOR UNKNOWN

FRONT EXTERIOR

HOOD PERFORMANCE FRONT OF VEHICLE)	PUNCH CODE	CARD COL.
HOOD LATCH(ES)		
RELEASED (1,2,3,0)*	—	41
DAMAGED (1,2,3,0)*	—	42
JAMMED (1,2,3,0)*	—	43
HOOD HINGES		
LEFT { DAMAGED (1,2,0)*	—	44
SEPARATED (1,2,3,4,5,0)**	—	45
RIGHT { DAMAGED (1,2,0)*	—	46
SEPARATED (1,2,3,4,5,0)**	—	47
HOOD REMAINED ON VEHICLE (1,2,0)*	—	48
REAR EDGE OF HOOD		
ELEVATED (1,2,0)*	—	49
CONTACTED WINDSHIELD (1,2,0)*	—	50
PENETRATED WINDSHIELD (1,2,3,0)*	—	51
OPTIONAL HOOD INSTALLED (1,2,0)*	—	52
ENGINE OR TRANSMISSION MOUNT SEPARATION (1,2,0)*	—	53
STEERING COLUMN FLEXIBLE COUPLING		
EQUIPPED (2) No →	—	54
Yes		
(1) Type Unknown	—	55
(6) Rag	—	56
(7) Pot	—	
(8) Universal	—	
(9) Other	—	
(0) Unknown	—	
SEPARATED (1,2,3,4,5,0)**	—	
REAR DAMAGE (1,2,3,0)*	—	
DESCRIBE: _____		

ENGINE COMPARTMENT TELESCOPING UNIT	
(SEE DRAWING ON PAGE 18 FOR LOCATION)	
①	
②	
③	
④	
⑤	
TYPE OF UNIT	PUNCH
(5) None Installed	
(1-6) See Sketch Above	
(9) Others _____	
(8) Double U-Joint	
(0) UNKNOWN	57
ORIGINAL LENGTH (See Table (F) _____ Above)	IF NONE (888)
TELESCOPED LENGTH (Measure, See (G) _____ Diagrams Above)	
DIFFERENCE (F minus G) _____	
(If Unknown) tolerance ± 0.6	
END OF CARD 04	

LOWER TELESCOPING SHAFT

HOOD

*USE: 1=YES 3=NOT APPLICABLE 2=NO 0=UNKNOWN

**USE: 1=YES, TYPE UNKNOWN 2=NO 3=NOT APPLICABLE

4-PARTIAL SEPARATION 5-COMplete SEPARATION 0-UNKNOWN

FIRE

LEFT EXTERIOR

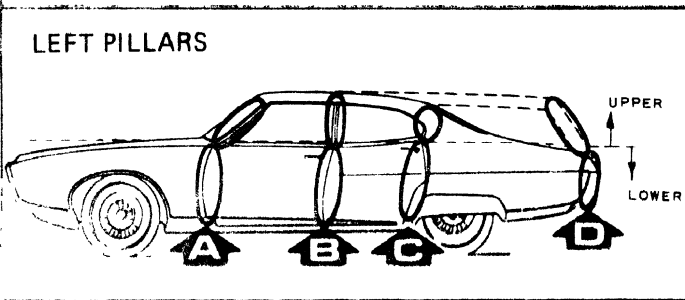
FIRE

LEFT PILLARS

DUPLICATE COLUMN FROM PRECEDING CARD 0 5
10 11

FIRE (Accident View Point)	PUNCH CODE	CARD COL.
(1) - time unknown		
(2) NO Fire	—	12
(4) Pre-Crash Fire Start		
(5) At-Crash Fire Start		
(6) Post-Crash Fire Start		
(0) Unknown		
EXTENT OF FIRE (to Case Vehicle)		
(3) No Fire, Not Applicable	—	13
(4) Minor - easily extinguished		
(5) Major (e.g., entire interior or engine)		
(0) Unknown		
FIRE ORIGIN (in Case Vehicle)		
(3) No Fire, Not Applicable		
(4) Engine Compartment		
(5) Passenger Compartment		
(6) Luggage Compartment		
(7) Fuel Tank, lines, filler		
(8) Other: _____		
(0) Unknown	—	14

NOTES ABOUT FIRE: _____



LEFT PILLARS		PUNCH CODE	CARD COL.
If left pillars were not damaged or separated or left roof side rail was not damaged or buckled, place a "1" in code column.		—	15
A-PILLAR			
UPPER	{	DAMAGED (1,2,0)*	— 16
		SEPARATED (1,2,3,4,5,0)**	— 17
LOWER	{	DAMAGED (1,2,0)*	— 18
		SEPARATED (1,2,3,4,5,0)**	— 19
B-PILLAR (Also Rear Pillar on Pick-Up Truck, Corvette, '71 Camaro, '71 Firebird)			
UPPER	{	DAMAGED (1,2,3,0)*	— 20
		SEPARATED (1,2,3,4,5,0)**	— 21
LOWER	{	DAMAGED (1,2,0)*	— 22
		SEPARATED (1,2,3,4,5,0)**	— 23
C-PILLAR			
UPPER	{	DAMAGED (1,2,3,0)*	— 24
		SEPARATED (1,2,3,4,5,0)**	— 25
LOWER	{	DAMAGED (1,2,3,0)*	— 26
		SEPARATED (1,2,3,4,5,0)**	— 27
D-PILLAR (Station Wagon & Limousine)			
UPPER	{	DAMAGED (1,2,3,0)*	— 28
		SEPARATED (1,2,3,4,5,0)**	— 29
LOWER	{	DAMAGED (1,2,3,0)*	— 30
		SEPARATED (1,2,3,4,5,0)**	— 31
LEFT ROOF SIDE RAILS			
DAMAGED (1,2,3,0)*		—	32
BUCKLED (1,2,3,0)*		—	33

*USE: 1-YES 2-NO 3-NOT APPLICABLE 0-UNKNOWN **USE: 1-YES, TYPE UNKNOWN 2-NO 3-NOT APPLICABLE 4-PARTIAL SEPARATION 5-COMplete SEPARATION 0-UNKNOWN

LEFT EXTERIOR

REAR EXTERIOR

SIDE STRUCTURE – LEFT SIDE		PUNCH CODE	CARD COL.
LEFT BODY MOUNT SEPARATION (1,2,3,0)*		—	34
<p>Unitised</p> <p>If door hinges and latches were not damaged and doors did not jam or open during collision, and continuity of the side structure was maintained, place a "1" in code column.</p>		—	35
DOOR LATCHES			
LEFT FRONT	DAMAGED (1,2,3,0)*	—	36
	RELEASED (1,2,3,0)*	—	37
LEFT REAR	DAMAGED (1,2,3,0)*	—	38
	RELEASED (1,2,3,0)*	—	39
DOOR HINGES			
LEFT FRONT	DAMAGED (1,2,3,0)*	—	40
	SEPARATED (1,2,3,4,5,0)**	—	41
LEFT REAR	DAMAGED (1,2,3,0)*	—	42
	SEPARATED (1,2,3,4,5,0)**	—	43
CONTINUITY OF SIDE STRUCTURE MAINTAINED (1,2,3,0)*		—	44
<p><u>i.e., Is Side Boundary Broken</u> Not restricted to vehicles with reinforced side structure.</p>			
DOORS OPENED DURING COLLISION			
LEFT	FRONT (1,2,0)*	—	45
	REAR (1,2,3,0)*	—	46
DOORS JAMMED CLOSED			
LEFT	FRONT (1,2,0)*	—	47
	REAR (1,2,3,0)*	—	48

FUEL TANK AND LINES		PUNCH CODE	CARD COL.
APPROXIMATE FUEL LEVEL AT TIME OF IMPACT			
<p>(4) LESS THAN 1/2</p> <p>(5) 1/2 OR MORE</p> <p>(0) UNKNOWN</p>		—	49
TANK RETENTION			
<p>(4) COMPLETE RETENTION</p> <p>(5) PARTIAL DISENGAGEMENT</p> <p>(6) COMPLETE DISENGAGEMENT</p> <p>(0) UNKNOWN</p>		—	50
TANK DEFORMED (1,2,0)* includes neck		—	51
FUEL LEAKAGE PRESENT (1,2,0)*		—	52
LOCATION OF LEAKS			
FROM THE TANK (1,2,3,0)*		—	53
FROM THE NECK (1,2,3,0)*		—	54
FROM THE LINES (1,2,3,0)*		—	55
TRAILER AND HITCH			
<p>(1) Yes, Type Unknown</p> <p>(2) No</p> <p>(3) Ball and Socket, Temporary Bumper (e.g., rental clamp-on)</p> <p>(4) Ball and Socket, Bumper only (e.g., light truck)</p> <p>(5) Ball and Socket - Frame Hitch (e.g., frame and bumper)</p> <p>(6) Equalizing, load distributing</p> <p>(7) Ring and Pintle (e.g., double tractor)</p> <p>(8) Fifth Wheel (e.g., semi)</p> <p>(9) Other (e.g., clevis and pin)</p> <p>(0) Unknown</p>		—	56
TRAILER BEING TOWED (AT TIME OF COLLISION)			
<p>(1) Yes, Type Unknown</p> <p>(2) No (hitch, no trailer)</p> <p>(3) Not Applicable (no hitch)</p> <p>(4) Travel Trailer/Camper</p> <p>(5) Mobile Home</p> <p>(6) Boat/Snowmobile/ATV Trailer</p> <p>(7) Rental/Cargo Trailer</p> <p>(8) Car</p> <p>(9) Other: _____</p> <p>(0) Unknown</p>		—	57

TRAILER

FUEL TANK

LEFT SIDE STRUCTURE

*USE: 1-YES 2-NO 3-NOT APPLICABLE 0-UNKNOWN

**USE: 1-YES, TYPE UNKNOWN 2-NO 3-NOT APPLICABLE

4-PARTIAL SEPARATION 5-COMplete SEPARATION 0-UNKNOWN

REAR EXTERIOR

TRUNK

TAILGATE

LUGGAGE AREA

FILL IN TRUNK LID OR TAILGATE DETAILS AND REST OF PAGE.		PUNCH CODE	CARD COL.
TAILGATE (HATCHBACK) PERFORMANCE Includes back doors of Vans			
LATCHES			
RELEASED	(1,2,3,0)*	---	58
DAMAGED	(1,2,3,0)*	---	59
LATCH OR TAILGATE JAMMED	(1,2,3,0)*	---	60
HINGES OR TRACKS (CLAM SHELL)			
BOTTOM LEFT	DAMAGED (1,2,3,0)*	---	61
	SEPARATED (1,2,3,4,5,0)**	---	62
BOTTOM RIGHT	DAMAGED (1,2,3,0)*	---	63
	SEPARATED (1,2,3,4,5,0)**	---	64
TOP LEFT	DAMAGED (1,2,3,0)*	---	65
	SEPARATED (1,2,3,4,5,0)**	---	66
TOP RIGHT	DAMAGED (1,2,3,0)*	---	67
	SEPARATED (1,2,3,4,5,0)**	---	68
EQUIPPED WITH TWO-WAY TAILGATE (1,2,3,0)* (6) Disappearing Tailgate		---	69
TAILGATE ELECTRIC WINDOW OPERABLE (1,2,3,0)*		---	70
END OF CARD 05			

DUPLICATE COLUMNS 1-9 FROM PRECEDING CARD		PUNCH CODE	CARD COL.
TRUNK LID PERFORMANCE (REAR OF VEHICLE)			
LATCHES			
RELEASED	(1,2,3,0)*	---	12
DAMAGED	(1,2,3,0)*	---	13
LATCH OR LID JAMMED	(1,2,3,0)*	---	14
HINGES			
LEFT	DAMAGED (1,2,3,0)*	---	15
	SEPARATED (1,2,3,4,5,0)**	---	16
RIGHT	DAMAGED (1,2,3,0)*	---	17
	SEPARATED (1,2,3,4,5,0)**	---	18
TRUNK or LUGGAGE AREA			
DAMAGED	(1,2,0)*	---	19
SPARE TIRE SEPARATION (1,2,0)* (4) for spare tire not initially attached		---	20
TRUNK - PASSENGER COMPARTMENT PARTITION DAMAGE (1,2,3,0)*		---	21
BACKLIGHT HEADER (REAR WINDOW TOP FRAME)			
BACKLIGHT HEADER DAMAGED OR BUCKLED (1,2,3,0)* <i>convertible</i>		---	22
RIGHT PILLARS			

*USE: 1=YES 2=NO 3=NOT APPLICABLE 0=UNKNOWN

**USE: 1=YES, TYPE UNKNOWN 2=NO 3=NOT APPLICABLE

4-PARTIAL SEPARATION 5-COMPLETE SEPARATION 0-UNKNOWN

RIGHT EXTERIOR

RIGHT PILLARS		PUNCH CODE	CARD COL.	SIDE STRUCTURE - RIGHT SIDE		PUNCH CODE	CARD COL.
If right pillars were not damaged or separated or right roof side rail was not damaged or buckled, place a "1" in code column.		_____	23	RIGHT BODY MOUNT SEPARATION (1,2,3,0)*		_____	43
A-PILLARS				If door hinges and latches were not damaged and doors did not jam or open during collision, and continuity of the side structure was maintained, place a "1" in code column.			
UPPER	{ DAMAGED (1,2,0)* SEPARATED (1,2,3,4,5,0)**	_____	24	DOOR LATCHES			
		_____	25	RIGHT FRONT	{ DAMAGED (1,2,3,0)* RELEASED (1,2,3,0)*	_____	45
LOWER	{ DAMAGED (1,2,0)* SEPARATED (1,2,3,4,5,0)**	_____	26			RIGHT REAR	{ DAMAGED (1,2,3,0)* RELEASED (1,2,3,0)*
		_____	27	_____	48		
B-PILLAR (ALSO REAR PILLAR ON PICK-UP TRUCK, CORVETTE, '71 CAMARO, '71 FIREBIRD)				DOOR HINGES			
UPPER	{ DAMAGED (1,2,3,0)* SEPARATED (1,2,3,4,5,0)**	_____	28	RIGHT FRONT	{ DAMAGED (1,2,3,0)* SEPARATED (1,2,3,4,5,0)**	_____	49
		_____	29			_____	50
LOWER	{ DAMAGED (1,2,0)* SEPARATED (1,2,3,4,5,0)**	_____	30	RIGHT REAR (Hinge or track)	{ DAMAGED (1,2,3,0)* SEPARATED (1,2,3,4,5,0)**	_____	51
		_____	31			_____	52
PILLAR				CONTINUITY OF SIDE STRUCTURE MAINTAINED (1,2,3,0)*		_____	53
UPPER	{ DAMAGED (1,2,3,0)* SEPARATED (1,2,3,4,5,0)**	_____	32	i.e., Is Side Boundary Broken Not restricted to vehicles with reinforced side structure.			
		_____	33	DOORS OPENED DURING COLLISION			
LOWER	{ DAMAGED (1,2,3,0)* SEPARATED (1,2,3,4,5,0)**	_____	34	RIGHT	{ FRONT (1,2,0)* REAR (1,2,3,0)*	_____	54
		_____	35			_____	55
D-PILLAR (STATION WAGON & LIMOUSINE)				DOORS JAMMED CLOSED			
UPPER	{ DAMAGED (1,2,3,0)* SEPARATED (1,2,3,4,5,0)**	_____	36	RIGHT	{ FRONT (1,2,0)* REAR (1,2,3,0)*	_____	56
		_____	37			_____	57
LOWER	{ DAMAGED (1,2,3,0)* SEPARATED (1,2,3,4,5,0)**	_____	38				
		_____	39				
RIGHT ROOF SIDE RAILS							
DAMAGED (1,2,3,0)*		_____	40				
BUCKLED (1,2,3,0)*		_____	41				
WINDSHIELD HEADER							
DAMAGED OR BUCKLED (1,2,0)*		_____	42				

RIGHT SIDE STRUCTURE

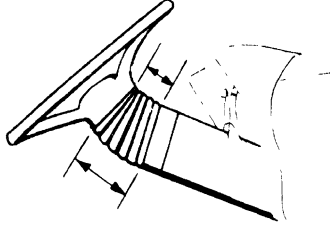
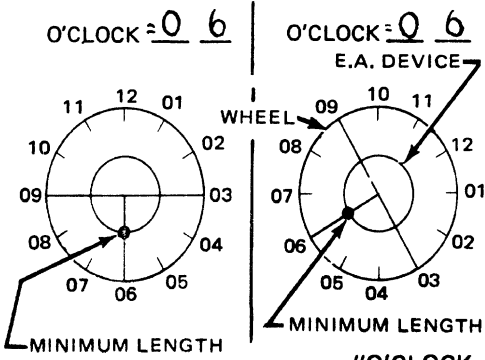
RIGHT PILLARS

*USE: 1-YES 3-NOT APPLICABLE **USE: 1-YES, TYPE UNKNOWN 4-PARTIAL SEPARATION
 2-NO 0-UNKNOWN 2-NO 5-COMPLETE SEPARATION
 3-NOT APPLICABLE 0-UNKNOWN

STEERING WHEEL

STEERING WHEEL

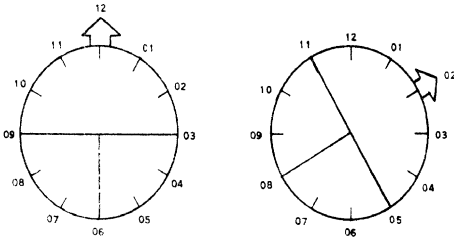
STEERING WHEEL				PUNCH CODE	CARD COL.
TYPE GM only, others and unknown use (99).				---	58-59
NOTES ON NON-ORIGINAL EQUIPMENT STEERING WHEEL: _____ _____ _____					
STEERING WHEEL RIM					
DAMAGE (2) NONE (4) SLIGHTLY DEFORMED (5) SEVERELY BENT (6) BROKEN (0) UNKNOWN				---	60
OCCUPANT CONTACT (1,2,0)*				---	61
STEERING WHEEL SPOKES					
NUMBER OF SPOKES (ENTER "0" IF UNKNOWN)				---	62
DAMAGE (2) NONE (4) SLIGHTLY DEFORMED (5) SEVERELY BENT (6) BROKEN (0) UNKNOWN				---	63
OCCUPANT CONTACT (1,2,0)*				---	64
HORN RING, HORN BUTTON(S), OR SPOKE SHROUD DAMAGED (1,2,0)*				---	65
OCCUPANT CONTACT (1,2,0)*				---	66
STEERING WHEEL ENERGY ABSORBING DEVICE TABLE					
Registration	Year	Make	Length		
Chrysler	70	Barracuda Challenger	4.9"		
Ford	70-72	Capri	6" total 3" external		

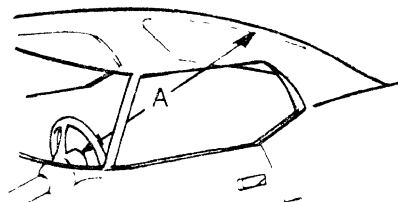
STEERING WHEEL ENERGY ABSORBING DEVICE (SEE DRAWING ON PAGE 18 FOR LOCATION) EQUIPPED (1,2,0)*		PUNCH CODE	CARD COL.
		---	67
ENERGY ABSORBING DEVICE FINAL POSITION MEASURE THE MINIMUM AND MAXIMUM OVERALL LENGTH OF THE ENERGY ABSORBING DEVICE (BETWEEN THE STEERING WHEEL AND STEERING COLUMN). ENTER THESE LENGTHS BELOW			
			
MAX. = _____ in.; MIN. = _____ in.			
THE E.A. DEVICE ROTATES WITH THE STEERING WHEEL. WE WANT TO KNOW WHERE THIS MINIMUM LENGTH OCCURRED (AROUND THE CIRCUMFERENCE OF THE E.A. DEVICE) WITH RESPECT TO THE SPOKES. RECORD BELOW THE O'CLOCK POSITION AT WHICH THIS MINIMUM LENGTH WAS MEASURED.			
EXAMPLES O'CLOCK = 06 O'CLOCK = 06 E.A. DEVICE 			
(ENTER 00 IF UNKNOWN)		68	69
ENERGY ABSORBING DEVICE COMPRESSION FOLLOWING TO BE FILLED IN BY ANALYSIS GROUP (ENTER 99.9 IF UNKNOWN)			
ORIGINAL LENGTH (H)	_____ IN.		
DAMAGED MAX. LENGTH (X)	_____ IN.		
DIFFERENCE (H-X)	_____ IN.		
ORIGINAL LENGTH (H)	_____ IN.	70	71
DAMAGED MIN. LENGTH (Y)	_____ IN.		
DIFFERENCE (H-Y)	_____ IN.		
73	74	75	
DEVICE EXTENDED (4) X GREATER THAN H (5) X AND Y GREATER THAN H (6) NEITHER (0) UNKNOWN			76
			END OF CARD 06

*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE 1 FOR YES 3 FOR NOT APPLICABLE
2 FOR NO 0 FOR UNKNOWN

STEERING WHEEL AND COLUMN

DUPLICATE COLUMNS 1-9 FROM PRECEDING CARD 07
10 11

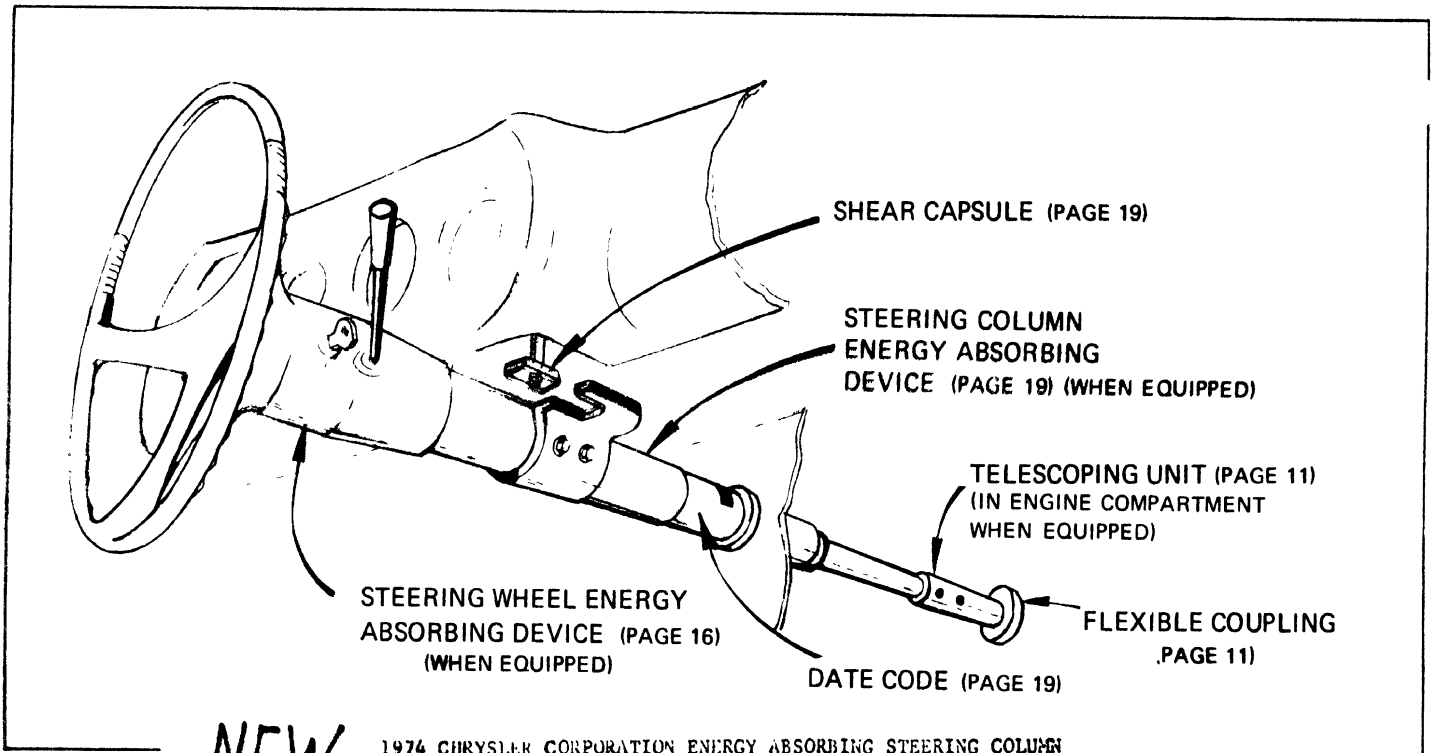
STEERING WHEEL POSITION AT TIME OF COLLISION IN WHAT O'CLOCK POSITION WAS THE NORMAL TOP OF THE WHEEL POINTED WHEN THE COLLISION OCCURRED? EXAMPLES O'CLOCK = <u>1 2</u> O'CLOCK = <u>0 2</u>  (NORMAL STRAIGHT AHEAD) (00) UNKNOWN O'CLOCK = _____	PUNCH CODE	CARD COL.
STEERING WHEEL PAD (LOAD DISTRIBUTING MATERIAL) EQUIPPED (1,2,0)* DEFORMED (1,2,3,0)* (PUT NOTES ON FOLD-OUT FLY-LEAF)	_____	12-13 14 15
TILT FEATURE EQUIPPED (1,2,0)* FINAL POSITION (3) NOT APPLICABLE (4) NORMAL (5) TILTED UP (6) TILTED DOWN (0) UNKNOWN	_____	16 17
TELESCOPING FEATURE EQUIPPED (1,2,0)* FINAL POSITION (3) NOT APPLICABLE (4) NORMAL (5) ABOVE NORMAL (6) BELOW NORMAL (0) UNKNOWN	_____	18 19

SWING-AWAY FEATURE EQUIPPED (1,2,0)* FINAL POSITION (3) NOT APPLICABLE (4) NORMAL (5) RIGHT OF NORMAL (0) UNKNOWN	PUNCH CODE	CARD COL.
FINAL COLUMN POSITION MEASURE THE DISTANCE FROM THE STEERING WHEEL CENTER TO THE TOP OF THE REAR WINDOW GLASS, DIRECTLY BEHIND THE HUB. ("A" IN SKETCH). ENTER THIS DISTANCE IN BLANK "A".  A: _____ INCHES		20 21
COLUMN MOVEMENT If top or rear window glass is displaced, then use (999) (ENTER 999 IF UNKNOWN) FROM A CORRESPONDING UNDAMAGED VEHICLE, MAKE A MEASUREMENT SIMILAR TO "A" ABOVE, AND RECORD IT IN BLANK "B". (PLACE TILT STEERING WHEEL IN MID-POSITION AND TELESCOPING COLUMNS IN FULL DOWN POSITION). ORIGINAL DIMENSION (B) _____ IN. DAMAGED VEHICLE DIMENSION (A) _____ IN. DIFFERENCE: <u>1.5</u> tolerance = 1.0 DIRECTION OF MOTION (4) FORWARD (A GREATER THAN B) (5) REARWARD (A LESS THAN B) (6) NEITHER (0) UNKNOWN		22 23 24 25

STEERING WHEEL AND COLUMN

*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE 1 FOR YES 3 FOR NOT APPLICABLE
 2 FOR NO 0 FOR UNKNOWN

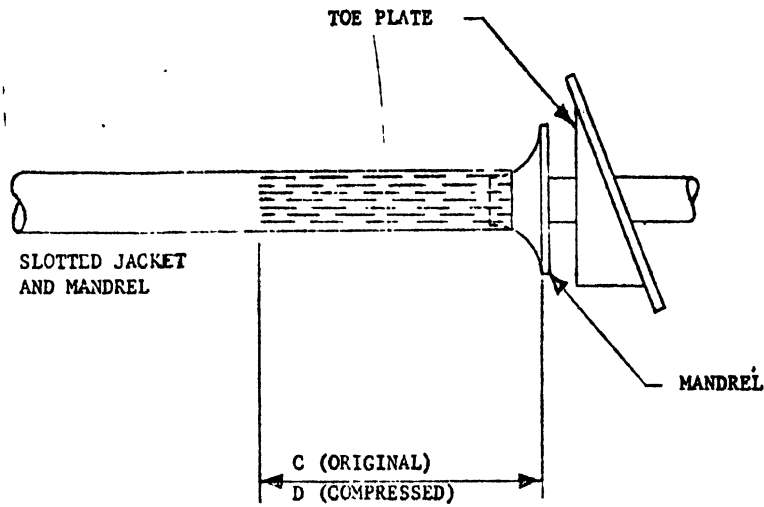
STEERING COLUMN (CONT'D.)



NEW

1974 CHRYSLER CORPORATION ENERGY ABSORBING STEERING COLUMN

9



ALL MAKES EXCEPT BARRACUDA, CHALLENGER, AND COLT

ORIGINAL LENGTH
C = 9.75 in.

FORD ENERGY ABSORBING "MINI" COLUMN

8 (1971-74 PINTO, 1972-74 TORINO, MONTEGO, T-BIRD, MARK IV) & Mustang & Cougar

Extruder and Upper Column Attachments
Do not break away (No Shear Capsules)

USED IN:

- '71 thru '74 Pinto
- '72 thru '74 Torino
- '72 thru '74 Montego
- '72 thru '74 T-Bird
- '72 thru '74 Mark

- '74 Mustang
- '74 Cougar

Column Support Bracket

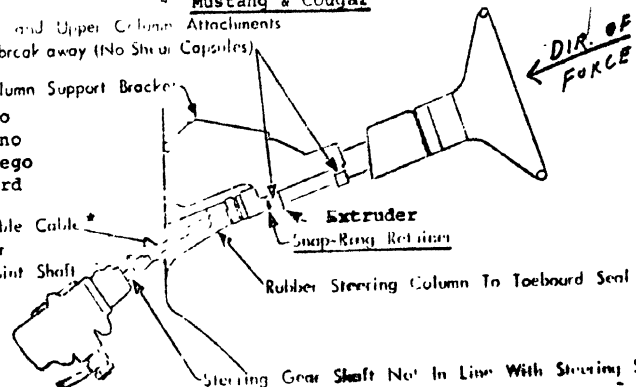
Flexible Cable
or
U-Joint Shaft

Extruder

Snap-Ring Retainer

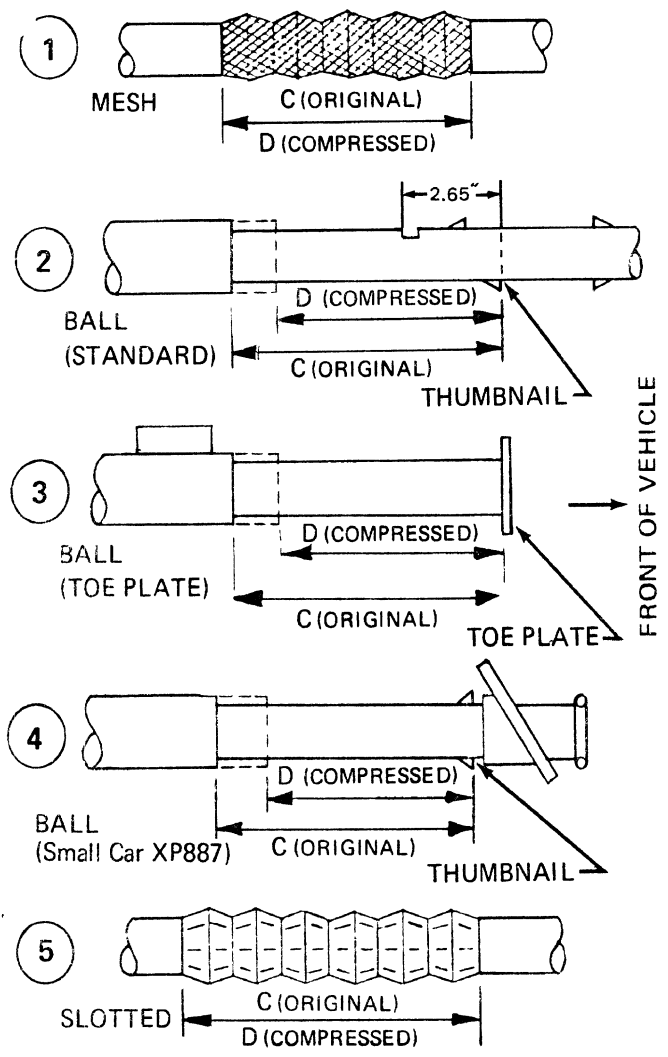
Rubber Steering Column To Toeboard Seal

Steering Gear Shaft Not In Line With Steering Shaft

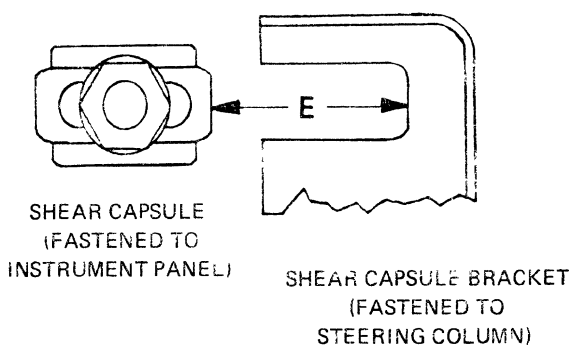


STEERING COLUMN (CONT'D.)

STEERING COLUMN ENERGY ABSORBING DEVICE SEE ALSO: page 18



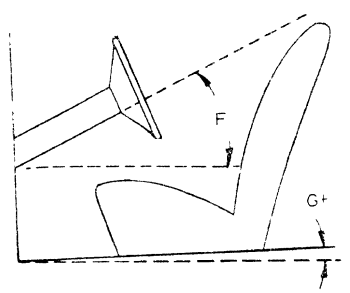
SHEAR CAPSULE SEPARATION (SEE DRAWING ON PAGE 18 FOR LOCATION)



NOTE: WHEN CAPSULES HAVE SEPARATED IT MAY BE NECESSARY TO LIFT COLUMN ASSEMBLY INTO POSITION AGAINST INSTRUMENT PANEL BEFORE MEASURING.

SHEAR CAPSULE SEPARATION DISTANCE ('E' IN DIAGRAM ABOVE) (ENTER 99.9 IF UNKNOWN) 868 if not equipped	PUNCH		
	30	31	32
	tolerance + 0.1		

STEERING COLUMN VERTICAL ANGLE



MEASURE THE ANGLE THE STEERING COLUMN MAKES WITH THE HORIZONTAL ('F' IN DIAGRAM ABOVE), AND THE ANGLE THE DOOR SILL MAKES WITH THE HORIZONTAL ('G' IN DIAGRAM) AND ENTER THEM BELOW. ANGLES WHICH TILT DOWN TOWARD THE FRONT OF THE CAR ARE POSITIVE.

(NOTE: LIFT COLUMN INTO POSITION FOR MEASUREMENT)

F: _____ DEGREES; G: _____ DEGREES

STEERING COLUMN ENERGY ABSORBING DEVICE

- TYPE OF DEVICE
- (7) Not Equipped
 - (1) Mesh
 - (2) Ball (Standard)
 - (3) Ball (with Toe Plate)
 - (4) Ball (Vega)
 - (5) Slotted
 - (6) Other: _____ (e.g. Colt)
 - (8) Ford Mini-Column
 - (9) Chrysler Slotted Jacket and Mandrel (1974+)
 - (0) Unknown

PUNCH
26

SEE DRAWING ON PAGE 18 FOR LOCATION

ORIGINAL LENGTH (See Table on Page 18) (C) _____

COMPRESSED LENGTH (Measure, See Diagrams above) (D) _____

COMPRESSION (C minus D) _____
(ENTER 99.9 IF UNKNOWN)

NOTE: ALL DIMENSIONS IN PUNCH COLUMN SHOULD BE IN INCHES AND TENTHS,

8's for Not Equipped
27 28 29

COLUMN VERTICAL ROTATION

FINAL COLUMN POSITION	PUNCH
COLUMN ANGLE (Relative to Ground) (F) _____	Either + or -
VEHICLE ANGLE (G) _____	
COLUMN ANGLE (Relative to Vehicle) (F-G=H) _____	
FROM A CORRESPONDING UNDAMAGED VEHICLE, MAKE A MEASUREMENT SIMILAR TO "H" ABOVE AND RECORD IT IN BLANK "J"	
ORIGINAL DIMENSION (J) _____	
DAMAGED VEHICLE DIMENSION (H) _____	
COLUMN ROTATION _____ (ENTER 99.9 IF UNKNOWN) tolerance ± 1°	33 34
86 Rotated - Unknown amount	

STEERING COLUMN

PASSENGER COMPARTMENT

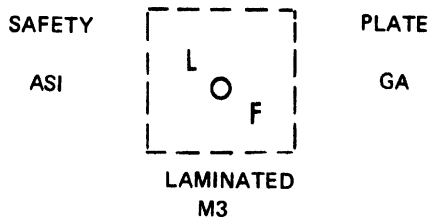
GENERAL INFORMATION

GENERAL INFORMATION	PUNCH CODE	CARD COL.
PASSENGER COMPARTMENT REDUCED IN SIZE (1,2,0)*	_____	35
EXTERNAL OBJECT INTRUSION (1,2,0)* DESCRIBE ON FOLD-OUT FLY-LEAF	_____	36
INTERNAL LOOSE OBJECT (1,2,0)*	_____	37
VERTICAL ROTATION OF INSTRUMENT PANEL (1,2,0)*	_____	38
FIREWALL (COWL) DEFORMATION (1,2,0)*	_____	39
FLOORPAN DEFORMATION (1,2,0)* (INCLUDING TOEPAN)	_____	40
WINDSHIELD		
CRACKED (1,2,3,0)*	_____	41
BROKEN (1,2,3,0)* (Plastic Interlayer Torn)	_____	42
OCCUPANT CONTACT (1,2,3,0)*	_____	43
CRACKED OR BROKEN BY OCCUPANT CONTACT (1,2,3,0)*	_____	44
BOND SEPARATED (1,2,0)* (IF "YES", ESTIMATE PERCENT _____)	_____	45
WINDSHIELD CODE (XX) Unknown	_____	46-47

WINDSHIELD MARK

DRAW GLASS MANUFACTURER'S WINDSHIELD MARK WHICH IS LOCATED ALONG THE BOTTOM OF THE WINDSHIELD AT CENTER OR AT ONE CORNER.

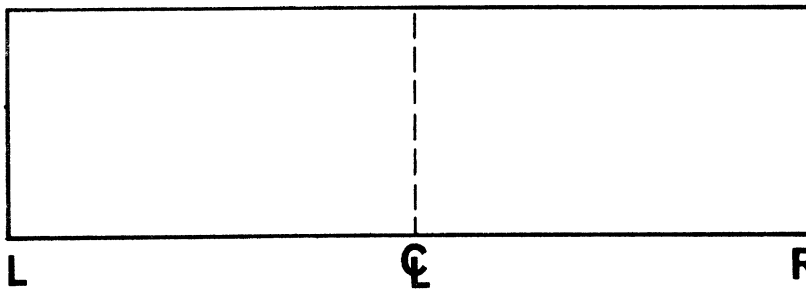
EXAMPLE OF TYPICAL MARK:



MARK ON CASE VEHICLE:

WINDSHIELD

LOCATE AREA OF WINDSHIELD INTEREST OR DAMAGE WITH DIMENSIONS (VERTICAL & HORIZONTAL) ON THIS DIAGRAM OF THE WINDSHIELD AS VIEWED FROM INSIDE.



*WHERE (1,2,3,0) IS INDICATED, USE 1 FOR YES 3 FOR NOT APPLICABLE
2 FOR NO 0 FOR UNKNOWN

PASSENGER COMPARTMENT

NOTE: IF THERE WERE NO OCCUPANTS,
CIRCLE THIS NOTE AND STOP HERE.

INSTRUMENT PANEL

UPPER PANEL ("X" IN DIAGRAMS) -----

MIDPANEL ("Y" IN DIAGRAMS) -----

LOWER PANEL ("Z" IN DIAGRAMS) -----

ASHTRAY -----

CONTROL KNOBS AND LEVERS -----

GLOVE COMPARTMENT AREA -----

INSTRUMENTS -----

PARKING BRAKE RELEASE OR BRACKET -----

AIR CONDITIONING OUTLETS OR UPPER VENTILATION OUTLETS

HEATER OR AIR CONDITIONING DUCTS -----

RADIO -----

OTHER: _____

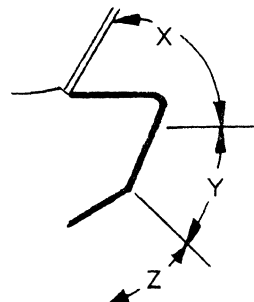
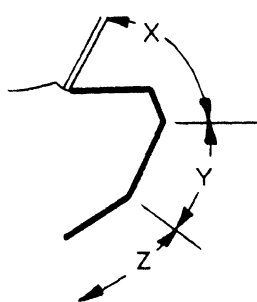
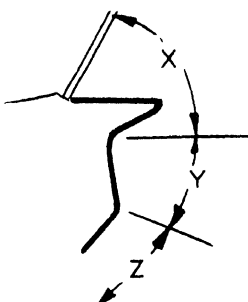
(MORE THAN ONE ITEM MAY BE NOTED) e.g., package shelf, CB radio, tape deck

EQUIPPED (1,2,0)*	DAMAGED (1,2,3,0)*		OCCUPANT CONTACT (1,2,3,0)*	
	PUNCH CODE	CARD COL.	PUNCH CODE	CARD COL.
		48		49
		50		51
		52		53
		54		55
		56		57
		58		59
		60		61
	62	63		64
	65	66		67
	68	69		70
	71	72		73
		74		75

END OF CARD 07

INSTRUMENT PANEL

TYPICAL PANEL DIAGRAMS



*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE 1 FOR YES 3 FOR NOT APPLICABLE
2 FOR NO 0 FOR UNKNOWN




PASSENGER COMPARTMENT

DUPLICATE COLUMNS 1-9 FROM PRECEDING CARD $\frac{0}{10}$ $\frac{8}{11}$		EQUIPPED (1,2,0)*		DAMAGED (1,2,3,0)*		OCCUPANT CONTACT (1,2,3,0)*	
OTHER INTERIOR ITEMS (FRONT OF VEHICLE)		PUNCH CODE	CARD COL.	PUNCH CODE	CARD COL.	PUNCH CODE	CARD COL.
FOOT CONTROLS - - - - -				—	12	—	13
IGNITION KEYS - - - - -				—	14	—	15
REAR VIEW MIRROR - - - - -				—	16	—	17
SUNVISOR AND FITTINGS - - - - -				—	18	—	19
WINDSHIELD TOP MOLDING - - - - -				—	20	—	21
LEFT A-PILLAR (UPPER OR LOWER) - - - - -				—	22	—	23
RIGHT A-PILLAR (UPPER OR LOWER) - - - - -				—	24	—	25
CONSOLE - - - - -		—	26	—	27	—	28
TRANSMISSION SELECTOR LEVER							
ON STEERING COLUMN - - - - -		—	29	—	30	—	31
ON CONSOLE OR FLOOR - - - - -		—	32	—	33	—	34

OTHER INTERIOR DAMAGE

*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE 1 FOR YES 3 FOR NOT APPLICABLE
2 FOR NO 0 FOR UNKNOWN

PASSENGER COMPARTMENT (CONT'D.)

SEATS		PUNCH CODE	CARD COL.	POSITION OF SEAT PRIOR TO CRASH		PUNCH CODE	CARD COL.
TYPE OF FRONT SEAT				DRIVER'S SEAT			
(4)		(7)		(4) FORWARD			
(5)		(8)		(5) MIDDLE			
(6)		(9)		(6) REARWARD			
(0) UNKNOWN 3) Drivers Seat Only		---	35	(0) UNKNOWN			44
FOLDING BACKS (1,2,0)*		---	36	RIGHT FRONT PASSENGER'S SEAT			
DELUXE ACCESSORIES				(3) NOT APPLICABLE (No Seat)			code the same if bench seat
(1) Deluxe Accesories		---	37	(4) FORWARD			
(2) None				(5) MIDDLE			
(4) Reclining Seatbacks				(6) REARWARD			
(0) Unknown				(0) UNKNOWN			45
TYPE OF SEAT ADJUSTERS				DAMAGE TO FRONT SEAT			
(4) MANUAL Driver's Side				BACKREST DAMAGE (1,2,0)*		---	46
(5) POWER				CUSHION DAMAGE (1,2,0)*		---	47
(6) RIGID				CONTACTED BY REAR OCCUPANT (1,2,3,0)*		---	48
(7) OTHER: _____		---	38	If no rear occupant			
(0) UNKNOWN				SEAT CENTER ARMRESTS (FRONT)			
TYPE OF SEAT ADJUSTMENT				EQUIPPED (1,2,0)*		---	49
(3) NONE (NOT APPLICABLE)				DAMAGED (1,2,3,0)*		---	50
(4) 2-WAY Driver's Side							
(5) 4-WAY				HEAD RESTRAINTS 'Driver's Side (FRONT)			
(6) 6-WAY				EQUIPPED (1,2,0)*		---	51
(7) OTHER: _____		---	39	Integral			
(0) UNKNOWN				REMOVED PRIOR TO COLLISION (1,2,3,0)*		---	52
(8) Swivel Seats				RETAINED DURING COLLISION (1,2,3,0)*		---	53
DAMAGE TO ADJUSTERS (1,2,0)*				DAMAGED (1,2,3,0)*		---	54
Include Rigid		---	40	OCCUPANT CONTACT (1,2,3,0)*		---	55
TYPE OF DAMAGE TO ADJUSTERS (CHOOSE TWO)				HEAD RESTRAINT ADJUSTMENT AT TIME OF COLLISION			
(2) None				(3) Not Applicable, None			
(4) Chocking (some free play)		---	41	(4) 5" from seat top			
(5) Deformed and Released		---	42	(5) 2" on seat top			
(6) Separated				(6) Unknown			
(0) Unknown				(6) Integral			
LOCATION OF SEPARATION							
(3) NOT APPLICABLE							
(4) AT FLOOR							
(5) AT ADJUSTER							
(6) AT SEAT							
(0) UNKNOWN		---	43				

SEATS

PASSENGER COMPARTMENT (CONT'D.)

WINDOWS

SEATS

SEATS (CONT'D)		PUNCH CODE	CARD COL.
FRONT SEAT BACK LOCKS			
LEFT	EQUIPPED (1,2,3,0)*	---	57
	HELD (1,2,3,0)*	---	58
RIGHT	EQUIPPED (1,2,3,0)*	---	59
	HELD (1,2,3,0)*	---	60

FRONT SEAT BACK ANGLE

MEASURE THE FRONT SEAT BACK ANGLE AT THE LEFT AND RIGHT SEAT BACK FRAMES. (IF SEAT BACK ANGLE IS NORMALLY ADJUSTABLE, MOVE TO FORWARD POSITION)

MEASURE THE ANGLE THE SEAT BACK MAKES WITH HORIZONTAL (L IN DIAGRAM), AND THE ANGLE THE DOOR SILL MAKES WITH HORIZONTAL (M IN DIAGRAM) AND ENTER BELOW.

LEFT SIDE		RIGHT SIDE	
L	DEG. M	L	DEG. M

	DEGREES		PUNCH CODE	CARD COL.
	LEFT	RIGHT		
FINAL SEAT ANGLE (ENTER 99 IF UNKNOWN)				
SEAT ANGLE (L) (Relative to Ground)	---	---		
VEHICLE ANGLE (M)	---	---		
SEAT ANGLE (L-M=P) (Relative to Vehicle)	---	---		
FROM A CORRESPONDING UNDAMAGED VEHICLE, MAKE A MEASUREMENT SIMILAR TO "P" ABOVE AND RECORD IT IN BLANK "R" BELOW.				
ORIGINAL ANGLE (R)	---	---		
DAMAGED SEAT ANGLE (P)	---	---		
DIFFERENCE R-P				
LEFT SEAT ANGLE DIFFERENCE				61-62
RIGHT SEAT ANGLE DIFFERENCE				63-64

TYPE OF REAR SEAT	PUNCH CODE	CARD COL.
(2) NO SEAT		
(4) NON-FOLDING		
(5) FOLDING		
(0) UNKNOWN		65

END OF CARD 08

DUPLICATE COLUMNS 1-9 FROM PRECEDING CARD			0	9
			10	11
DAMAGE TO REAR SEAT			PUNCH CODE	CARD COL.
BACKREST DAMAGED OR LOOSENED (1,2,3,0)*			---	12
CUSHION DAMAGED OR LOOSENED (1,2,3,0)*			---	13
SEAT CENTER ARMRESTS (REAR)				
EQUIPPED (1,2,3,0)*			---	14
DAMAGED (1,2,3,0)*			---	15
REAR SEAT BACK LOCKS				
LEFT OR CENTER	EQUIPPED (1,2,3,0)*	---	16	
	HELD (1,2,3,0)*	---	17	
RIGHT	EQUIPPED (1,2,3,0)*	---	18	
	HELD (1,2,3,0)*	---	19	
THIRD SEAT				
EQUIPPED (1,2,0)*			---	20
BACKREST DAMAGED (1,2,3,0)*			---	21
CUSHION DAMAGED (1,2,3,0)*			---	22
BACKLIGHT (REAR WINDOW)				
DAMAGED (1,2,3,0)*			---	23
OCCUPANT CONTACT (1,2,3,0)*			---	24
BACKLIGHT HEADER				
DAMAGED (1,2,3,0)* convertible			---	25
OCCUPANT CONTACT (1,2,3,0)*			---	26
WINDOWS CLOSED AT TIME OF COLLISION				
LEFT FRONT (1,2,3,0)*			---	27
LEFT REAR (1,2,3,0)*			---	28
RIGHT FRONT (1,2,3,0)*			---	29
RIGHT REAR (1,2,3,0)*			---	30
BACKLIGHT (1,2,3,0)*			---	31
ALL SIDE WINDOWS OPERABLE AFTER COLLISION (1,2,3,0)*			---	32
POWER SIDE WINDOWS EQUIPPED (1,2,0)*			---	33
(PUT NOTES ON FOLD-OUT FLY-LEAF)				

*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE 1 FOR YES 3 FOR NOT APPLICABLE
2 FOR NO 0 FOR UNKNOWN

PASSENGER COMPARTMENT (CONT'D.)

LEFT SIDE INTERIOR		DAMAGED (1,2,3,0)*		OCCUPANT CONTACT (1,2,3,0)*	
		PUNCH CODE	CARD COL.	PUNCH CODE	CARD COL.
FRONT	DOOR -----	_____	34	_____	35
	HARDWARE -----	_____	36	_____	37
	ARMREST -----	_____	38	_____	39
	GLASS -----	_____	40	_____	41
REAR	DOOR AREA -----	_____	42	_____	43
	HARDWARE -----	_____	44	_____	45
	ARMREST -----	_____	46	_____	47
	GLASS -----	_____	48	_____	49
ROOF SIDE RAIL -----		_____	50	_____	51
B-PILLAR (ALSO REAR PILLAR ON PICK-UP TRUCK, CORVETTE, '71 FIREBIRD & CAMARO) -----		_____	52	_____	53
C-PILLAR -----		_____	54	_____	55
D-PILLAR (REAR PILLAR ON STATION WAGONS & LIMOUSINES) -----		_____	56	_____	57
OTHER: _____		_____	58	_____	59
END OF CARD 09					

LEFT SIDE INTERIOR

*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE 1 FOR YES 3 FOR NOT APPLICABLE
2 FOR NO 0 FOR UNKNOWN

PASSENGER COMPARTMENT (CONT'D.)

RIGHT SIDE INTERIOR

ROOF INTERIOR

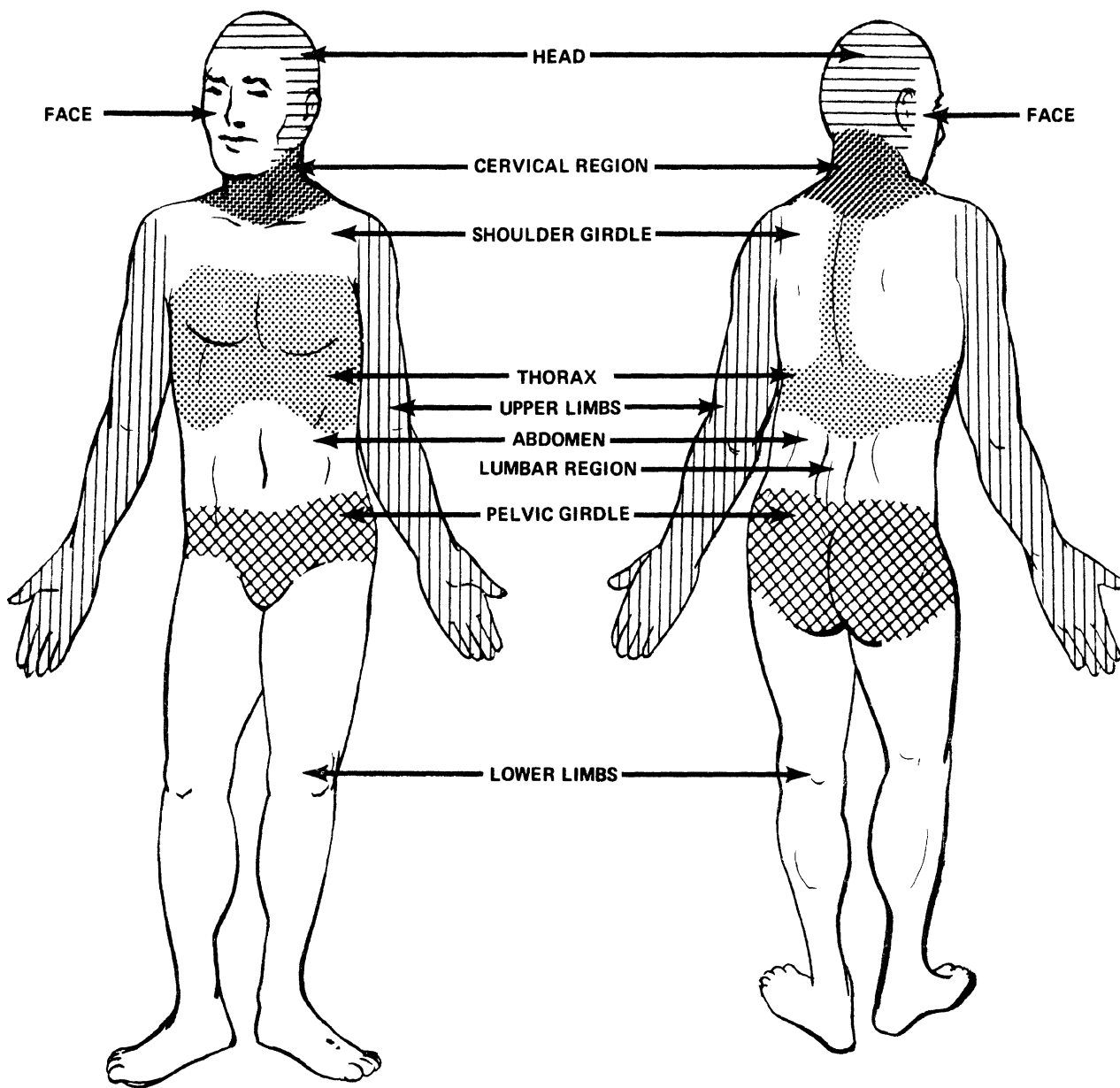
DUPLICATE COLUMNS 1-9 FROM PRECEDING CARD $\frac{1}{10}$ $\frac{0}{11}$		DAMAGED (1,2,3,0)*		OCCUPANT CONTACT (1,2,3,0)*	
		PUNCH CODE	CARD COL.	PUNCH CODE	CARD COL.
RIGHT SIDE INTERIOR					
FRONT	DOOR -----	---	12	---	13
	HARDWARE -----	---	14	---	15
	ARMREST -----	---	16	---	17
	GLASS -----	---	18	---	19
REAR	DOOR AREA -----	---	20	---	21
	HARDWARE -----	---	22	---	23
	ARMREST -----	---	24	---	25
	GLASS -----	---	26	---	27
ROOF SIDE RAIL -----		---	28	---	29
B-PILLAR (ALSO REAR PILLAR ON PICK-UP TRUCK, CORVETTE, '71 FIREBIRD & CAMARO) --		---	30	---	31
C-PILLAR -----		---	32	---	33
D-PILLAR (REAR PILLAR ON STATION WAGONS & LIMOUSINES) -----		---	34	---	35
OTHER: _____		---	36	---	37
ROOF INTERIOR	HEADLINING -----	---	38	---	39
	ROOF STRUCTURE -----	---	40	---	41
				END OF CARD 10	

Code (3), if top down or removed

*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE 1 FOR YES 3 FOR NOT APPLICABLE

OCCUPANT INFORMATION SECTION

1. THIS SECTION IS TO BE FILLED IN FOR EACH OCCUPANT, WHETHER INJURED OR NOT.
2. IF THERE ARE MORE THAN THREE OCCUPANTS, USE ADDITIONAL BLANK COPIES OF THIS FORM AND ATTACH OCCUPANT PAGES TO THIS REPORT.
3. THE FOLLOWING FIGURE IS AN EXPLANATION OF THE BODY REGIONS LISTED ON PAGES 31, 35 AND 39.



OCCUPANT

OCUPANT INFORMATION

OCCUPANT

DUPLICATE COLUMNS 1-9 FROM PRECEDING CARD <u>1</u> / <u>1</u> 10 11		PUNCH CODE	CARD COL.	RESTRAINT SYSTEM	PUNCH CODE	CARD CO'
OCCUPANT NUMBER		___	12-13	LAP BELT		
SEAT LOCATION (4) FRONT (5) REAR (6) THIRD (7) OTHER: _____ (0) UNKNOWN		___	14	EQUIPPED FOR THIS POSITION (1,2,0)*	___	27
POSITION ON SEAT (4) LEFT (5) LEFT CENTER (6) CENTER (7) RIGHT CENTER (8) RIGHT (9) ALL (Lying on seat) (0) UNKNOWN		___	15	WORN BY OCCUPANT (1,2,3,0)*	___	28
POSTURE (1) SITTING ON SEAT (2) ON LAP OR IN ARMS (3) STANDING ON SEAT (4) STANDING ON FLOOR (5) IN BASSINET (6) IN CHILD SEAT (7) LYING ON SEAT (8) LYING OR SITTING ON FLOOR (9) EXTERNAL TO PASS. COMP. (0) UNKNOWN		___	16	WORN SNUGGLY (1,2,3,0)*	___	29
AGE YEARS, <u>OR</u> MONTHS (INFANTS) to 24 months (ENTER "0" S IF UNKNOWN)		___	17-18	LOCKING RETRACTOR (1,2,3,0)*	___	30
WEIGHT, LBS. (ENTER "0" S, IF UNKNOWN)		___	21-23	UPPER TORSO RESTRAINT		
HEIGHT, INCHES (ENTER "0" S, IF UNKNOWN)		___	24-25	EQUIPPED FOR THIS POSITION (1,2,0)*	___	31
SEX (4) Male (5) Female (6) Large Animal (7) Pregnant Woman (0) Unknown		___	26	WORN BY OCCUPANT (1,2,3,0)*	___	32
				WORN CORRECTLY (1,2,3,0)*	___	33
				INERTIA REEL (1,2,3,0)*	___	34
				IF ANY PART OF SYSTEM IS NOT ORIGINAL EQUIPMENT BY MANUFACTURER, DESCRIBE SYSTEM ON FOLD-OUT FLY-LEAF.		
				LAP AND/OR UPPER TORSO RESTRAINT USAGE CODE	___	35-36
				IF THE LAP BELT WAS WORN, TRACE THE OUTLINE OF THE TAB END HARDWARE ON THE BACK COVER & LABEL IT.		
				IF THE SHOULDER BELT WAS WORN TRACE THE OUTLINE OF THE TAB END HARDWARE ON THE BACK COVER & LABEL IT.		
				TYPE OF SYSTEM USED (3) Not Applicable, <u>Not Used</u> (4) 3-point (5) 4-point (6) Other (<u>Not</u> 2-point) (0) Unknown	___	37
				CHILD RESTRAINT SYSTEM: NOTE MAKE AND MODEL NUMBER		
				CHILD RESTRAINT CODE	___	38-39
					___	40
					___	41

*WHERE (1,2,0) OR (1,2,3,0) ARE INDICATED, USE 1 FOR YES 3 FOR NOT APPLICABLE
2 FOR NO 0 FOR UNKNOWN

OCCUPANT INFORMATION

EJECTION	PUNCH CODE	CARD COL.
DEGREE OF EJECTION (2) NONE (4) PARTIAL (5) COMPLETE (0) UNKNOWN	_____	42
AREA OF EJECTION (3) NOT APPLICABLE (1) WINDOW, LEFT SIDE (2) " , RIGHT SIDE (4) " , REAR (5) DOOR, LEFT SIDE (6) " , RIGHT SIDE (7) TAILGATE (8) WINDSHIELD (9) ROOF OR OPEN CONVERTIBLE (0) UNKNOWN	_____	43
TREATMENT/MORTALITY (0) None (1) First Aid - On-scene or outpatient (2) Hospitalized - Observation under 24 hours (3) Hospitalized - Significant Treatment or over 24 hours (4) Fatal - Dead at Scene (5) Fatal - Dead on Arrival at Hospital Fatal - Dead within 24 hours Fatal - Dead 24 hours to 1 year (8) Fatal - Time of Death Unknown (9) Unknown	_____	44
OVERALL SEVERITY OF INJURIES (SEE INSIDE OF BACK COVER) (00) NONE (01) MINOR (02) NON-DANGEROUS, MODERATE (03) NON-DANGEROUS, SEVERE (04) DANGEROUS, SERIOUS (05) DANGEROUS, CRITICAL (06) FATAL LESIONS IN 1 REGION (07) FATAL LESIONS IN 1 REGION (08) FATAL LESIONS IN 2 REGIONS (09) FATAL LESIONS IN 3 OR MORE REGIONS (98) INJURY UNKNOWN (99) INJURED, SEVERITY UNKNOWN (10) FATAL, details unknown	_____	45-46
	END OF CARD	

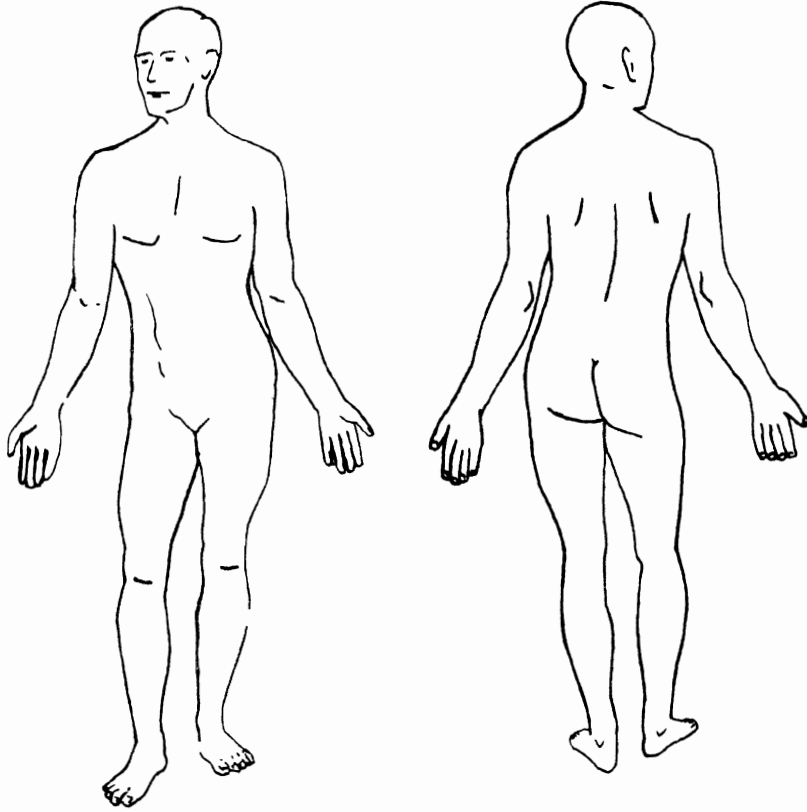
CODES FOR AREAS OF OCCUPANT CONTACT

See Page 30A

OCCUPANT

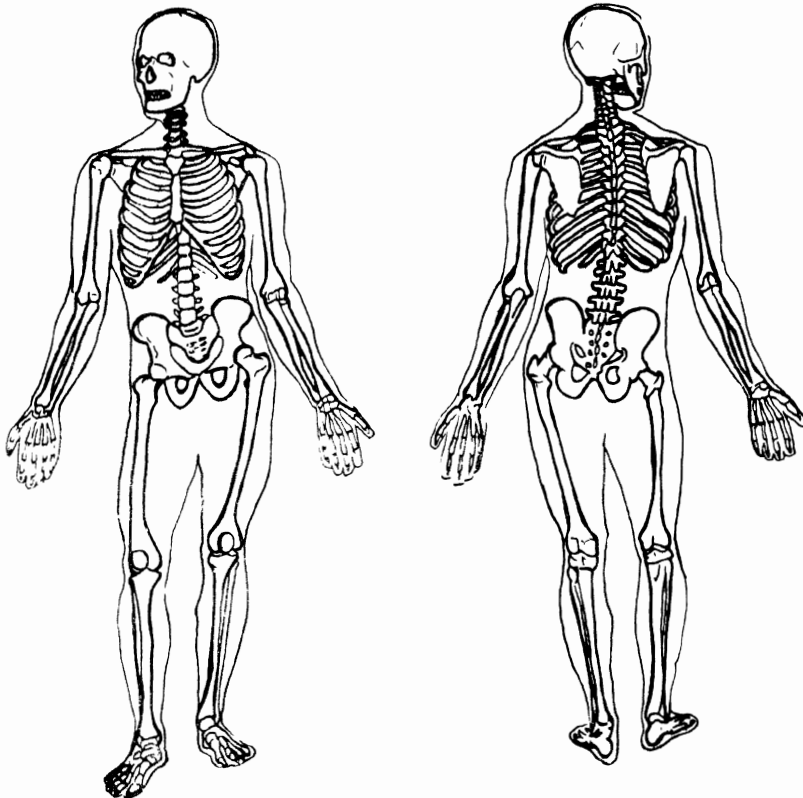
*HOSPITALIZED: INJURIES REQUIRING HOSPITAL RECOVERY AND TREATMENT FOR A PERIOD OF AT LEAST ONE DAY. "HELD FOR OBSERVATION ONLY" IS NOT CONSIDERED "HOSPITALIZED" IN THIS DEFINITION.

INDICATE LOCATION OF INJURIES, INCLUDING MAJOR BRUISES



SOFT TISSUE INJURIES

OCCUPANT



SKELETAL INJURIES

Source of Information _____

OCCUPANT INJURY DETAIL

1. This page is only for the occupant just described.
2. Enter occupant number from page 28. (This refers only to the order in which occupant information is entered and is not related to seated position.)
3. Enter severity code (only one per box) for each type of injury to each body region. (Mark boxes with 1-6, X, Z only, as instructed inside back cover.)
4. Do not fill in the boxes where there was no injury.
5. If you are reasonably assured that one or more specific components or area(s) contacted by this occupant resulted in an associable injury, enter the proper code(s) in the starred (*) section. (See Page 29 for codes.)
6. Do not fill in the boxes where there was no contact.

DIPLICATE FROM PRECEDING CARD	C. CARD NUMBER	OCCUPANT N. O.	BODY REGION	★ ENTER CODE(S) FOR AREA(S) OF POSSIBLE CONTACT				ENTER SEVERITY CODES										
								OVERALL INJURY TO BODY REGION										
								FRAC- TURE	LACERATION	CONTUSION	COMPLAINT OF PAIN	ABRASION	CONCUSSION	BURN	HEMORRHAGE	OTHER		
1-9	10-11	12-13	14-15	16-17	18-19	20-21	22	23	24	25	26	27	28	29	30	31		
	12		INTERNAL ORGANS															
	13		BRAIN															
	14		FACE															
	15		HEAD															
	16		NECK (CERVICAL REGION)															
	17		SHOULDER GIRDLE															
	18		RIGHT UPPER LIMB															
	19		LEFT UPPER LIMB															
	20		CHEST & UPPER BACK (THORAX)															
	21		LOWER BACK (LUMBAR REGION)															
	22		ABDOMEN															
	23		PELVIC GIRDLE															
	24		RIGHT LOWER LIMB															
	25		LEFT LOWER LIMB															
	26		WHOLE BODY															

OCCUPANT

KEYPUNCH NOTE: Each line represents one card. Punch only the lines with handwritten information.

OCCUPANT CONTACT CODES JANUARY 22, 1974

FRONT OF PASSENGER COMPARTMENT

- (12) WINDSHIELD
- (05) INSTRUMENT PANEL (SPECIFIC AREA UNKNOWN)
- (54) UPPER INSTRUMENT PANEL (X)
- (55) MIDDLE INSTRUMENT PANEL (Y)
- (56) LOWER INSTRUMENT PANEL (Z)
- (57) BENEATH INSTRUMENT PANEL
- (28) FOOT CONTROLS (INCLUDES PARKING BRAKE PEDAL)
- (84) PARKING BRAKE HANDLE (IN FRONT)
- (07) PARKING BRAKE HANDLE (LOCATION UNKNOWN)
- (09) STEERING ASSEMBLY (SPECIFIC AREA UNKNOWN)
- (65) STEERING WHEEL
- (66) STEERING WHEEL COLUMN
- (59) TRANSMISSION LEVER ON COLUMN
- (11) TRANSMISSION SELECTOR LEVER (LOCATION UNKNOWN)
- (67) IGNITION KEYS
- (06) MIRRORS
- (02) GLOVE COMPARTMENT AREA
- (03) HARDWARE ITEMS (SPECIFIC ITEM UNKNOWN)
- (81) ASHTRAY (INSTRUMENT PANEL)
- (82) INSTRUMENTS
- (83) CONTROL KNOBS AND LEVERS
- (04) HEATER OR AC DUCTS
- (01) AIR CONDITIONING OR VENTILATION OUTLETS
- (08) RADIO
- (58) ADD-ON TAPE DECK, RADIO, AIR CONDITIONER
- (53) PARCEL TRAY
- (86) VERTICAL CONSOLE

SIDES

- (20) SURFACE OF SIDE INTERIORS
- (19) HARDWARE
- (13) ARMRESTS
- (22) WINDOW GLASS
- (21) WINDOW FRAMES
- (14) A-PILLAR
- (15) B-PILLAR
- (16) C-PILLAR
- (17) D-PILLAR

INTERIOR

- (29) FRONT SEATBACKS
- (33) RESTRAINT SYSTEM HARDWARE
- (34) RESTRAINT SYSTEM WEBBING
- (87) AIR CUSHION SKIN (AIRBAG)
- (30) HEAD RESTRAINTS
- (32) OTHER OCCUPANTS
- (31) INTERIOR LOOSE OBJECT
- (50) REAR SEAT CUSHION AND BACK
- (51) FRONT SEAT CUSHION
- (52) INTERNAL FLYING GLASS (FROM ANY SOURCE)
- (89) UNDER SEAT BOTTOM
- (40) FLOOR
- (27) CONSOLE
- (44) TRANSMISSION LEVER (ON FLOOR OR CONSOLE)
- (85) PARKING BRAKE HANDLE (ON FLOOR OR CONSOLE)

ROOF

- (26) ROOF SIDE RAILS
- (10) SUNVISORS & FITTINGS AND/OR TOP MOULDING (HEADER)
- (25) ROOF OR CONVERTIBLE TOP
- (39) BACKLIGHT HEADER
- (24) COAT HOOKS
- (18) DOME LIGHT

REAR

- (88) SURFACE OF REAR INTERIOR
- (23) BACKLIGHT (REAR WINDOW)

EXTERIOR SURFACE OF CASE VEHICLE

- (37) OUTSIDE SURFACE OF CASE VEHICLE (SPECIFIC AREA UNKNOWN)
- (35) HOOD OF CASE VEHICLE
- (60) EXTERIOR OF CASE VEHICLE HARDWARE (E.G., OUTSIDE MIRRORS, ANTENNA, TRIM, DOOR HANDLES, ETC.)
- (62) EXTERIOR SIDE ROOF RAIL OF CASE VEHICLE
- (63) TRUNK LID OF CASE VEHICLE
- (64) TIRES OF CASE VEHICLE

BEYOND CASE VEHICLE BOUNDARY

- (36) AREA EXTERIOR TO CAR (SPECIFIC AREA UNKNOWN)
- (70) HOOD OF OTHER VEHICLE
- (71) OTHER VEHICLE EXTERIOR HARDWARE (E.G., OUTSIDE MIRRORS, ANTENNA, TRIM, ORNAMENTS, DOOR HANDLES, ETC.)
- (73) EXTERIOR SIDE ROOF RAIL OF OTHER VEHICLE
- (74) HEADLIGHT OR FRONT GRILL OF OTHER VEHICLE
- (75) TRUNK OF OTHER VEHICLE
- (76) OUTSIDE SURFACE OF OTHER VEHICLE
- (77) TIRES OF OTHER VEHICLE
- (78) GROUND
- (79) WATER
- (80) EXTERIOR OBJECT (NOT VEHICLE, GROUND OR WATER):

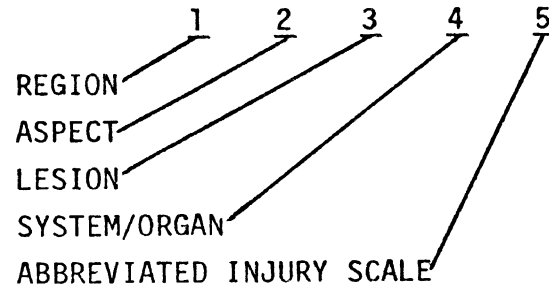
PENETRATING OBJECTS

- (61) OTHER VEHICLE
- (72) OBJECTS: _____

MISCELLANEOUS

- (38) OTHER: _____
- (98) IMPACT FORCE, "WHIPLASH", HYPEREXTENSION/COMPRESSION
- (99) MISSING/NO CONTACT
- (00) UNKNOWN AREA OF CONTACT

OCCUPANT INJURY
CLASSIFICATION
-OIC-



5 AIS

0	NONE
1	MINOR
2	MODERATE
3	SEVERE
4	SERIOUS
5	CRITICAL
6	FATAL
9	UNKNOWN

<u>1</u> <u>BODY REGION</u>	<u>2</u> <u>ASPECT</u>	<u>3</u> <u>LESION</u>	<u>4</u> <u>SYSTEM/ORGAN</u>
H HEAD - SKULL	R RIGHT	L LACERATION	S SKELETAL
F FACE	L LEFT	C CONTUSION	V VERTEBRAE
N NECK - CERVICAL SPINE	B BILATERAL	A ABRASIONS	J JOINTS
S SHOULDER	C CENTRAL	F FRACTURES	D DIGESTIVE
X UPPER EXTREMITIES (ARMS)	A ANTERIOR/FRONT	P PAIN	L LIVER
A ARM (UPPER)	P POSTERIOR/BACK	K CONCUSSION	N NERVOUS SYSTEM
E ELBOW	S SUPERIOR/UPPER	H HEMORRHAGE	B BRAIN
R FOREARM	I INFERIOR/LOWER	V AVULSION	C SPINAL CORD
W WRIST - HAND	W WHOLE REGION	R RUPTURE	E EYES, EARS
C CHEST	U UNKNOWN	S SPRAINS	CARDIOVASCULAR
M ABDOMEN		D DISLOCATIONS	A ARTERIES, VEINS
B BACK - THORACOLUMBAR SPINE		N CRUSHING	H HEART
P PELVIC - HIP		M AMPUTATION	Q SPLEEN
Y LOWER EXTREMITIES (LEGS)		B BURN	G UROGENITAL
T THIGH		X ASPHYXIA	K KIDNEYS
K KNEE		O OTHER	R RESPIRATORY
L LEG (LOWER)		U UNKNOWN	P PULMONARY, LUNGS
Q ANKLE - FOOT			M MUSCLES
O WHOLE BODY			I INTEGUMENTARY
U UNKNOWN, UNCLASSIFIED			U UNKNOWN, UNCLASSIFIED

OCCUPANT SUPPLEMENT

7 CASE I. D. NUMBER

CARD 80

OCCUPANT NUMBER

72

<p><u>Role of Individual at First Impact.</u> (Note: Record Driver Information for Code 1 below)</p> <p>(0) Unknown (1) Motor Vehicle Driver (2) Motor Vehicle Passenger (not driver) (3) Not Applicable, No Occupant</p> <p><u>Posture</u></p> <p>(10) Sitting on Seat (11) Sitting on Seat in Abnormal Position (e.g. Feet on Dash, Sideways, Etc.) (12) Sitting on Console (13) Sitting on Folded Seat-Back (e.g. Station Wagons) (20) On Lap or in Arms (30) Standing on Seat (40) Standing on Floor (50) In Bassinet (60) In Child Seat (65) In Child Harness (70) Lying on Seat (80) Lying or Sitting on Passenger Floor (85) On Station Wagon Cargo Floor (90) External to Passenger Compartment (00) Unknown (98) Other</p>	<p><u>OCCUPANT ALCOHOL INVOLVEMENT</u></p> <p><u>Occupant Alcohol Involvement/ Test</u></p> <p>(0) Unknown (999 Below) (1) No Test, Alcohol Not Suspected (000 Below) (2) No Test, Alcohol Indicated & No Test Requested (999 Below) (3) No Test, Test Requested & Refused (999 Below) (4) No Test, Reason Unknown & Alcohol Indicated (999 Below) (5) No Test, But Charged (DWI) Booked Drunk (6) No Test, Fled Scene (8) BAC Tested, Results Not Provided (999 Below) (9) BAC Tested and Results Reported (BAC Below)</p> <p><u>Occupant Blood Alcohol Level (MG %)</u></p> <p>(999) Unknown, No Results (000) No Drinking or "-Results" Record Actual MG %</p> <p><u>Occupant Alcohol Test</u></p> <p>(1) Yes, Type Unknown (2) None (3) Urine (4) Spinal (5) Breath (6) Blood (7) Other: (8) Several of Above (9) Unknown (0)</p>	<p><u>Seat Belt Buzzer/Interlock Equipped</u></p> <p>(0) Unknown if Equipped (1) Equipped, Type Unknown (2) Not Equipped (4) Non-Cycled Buzzer (5) Ignition Interlock (9) Other:</p> <p><u>Seat Belt Buzzer Operational</u></p> <p>(0) Unknown if Operational (1) Yes, Operational (2) Not Operational, Reason Unknown (3) Not Applicable, Not Equipped</p> <p><u>System Inhibited by:</u></p> <p>(4) Fastening Belts Together (Behind Occupant, Behind Seat, Under Seat, in Front of Seat, Etc.) (5) Disconnection, Removal, Intentional Destruction (6) Fixing in Pulled-Out Position (Knotted, Taped, Twisted, Folder Back, Tucked into Seat, Hook to Upper Belt, Etc.) (7) Temporarily Fixing (Sitting on Belt, Holding Onto Belt, Hook on Door, Etc.) (8) Letting it Buzz (9) Other: (Defective)</p> <p><u>Ignition Interlock Operational (1,2,3,0)</u></p>	<p><u>Passive Restraint System Equipped</u></p> <p>(1) Yes, Type Unknown (2) No (3) Air Bag (4) Other: (9) Unknown (0) Unknown</p> <p><u>Activated</u></p> <p>(1) Yes (2) No (3) Inapplicable (0) Unknown</p> <p><u>Restraint System Malfunction or Separation</u></p> <p>(1) Yes, Area Unknown (2) No (3) Not Applicable, No Restraints Equipped (4) At Buckle (5) In Webbing (6) At Anchorage (7) In Retractor (0) Unknown Whether Malfunction Occurred</p> <p><u>Investigator Judgement of Restraint System Effectiveness</u></p> <p>(0) Unknown (1) Reduced Injury Severity (2) Could Have Reduced Severity if Worn (3) No Opinion (4) Could Not Have Reduced Severity if Worn (5) Did Not Reduce Overall Severity (6) Did Increase Overall Severity</p>
<p><u>14</u></p>	<p><u>18</u></p>	<p><u>23</u></p>	<p><u>26</u></p>
<p><u>15</u></p>	<p><u>19</u></p>	<p><u>24</u></p>	<p><u>27</u></p>
<p><u>17</u></p>	<p><u>22</u></p>	<p><u>25</u></p>	<p><u>28</u></p>
<p><u>17</u></p>	<p><u>22</u></p>	<p><u>25</u></p>	<p><u>29</u></p>

2/12/74

OCCUPANT INJURY CLASSIFICATION

30
32
33
34

CRASH OCCUPANT MEDICAL

Treatment/Mortality

- (00) None
- (01) First Aid at Scene
- (02) Treated at Hospital/
Clinic But not Admitted
- (03) Hospitalized (Observation less than 24 hours)
- (04) Hospitalized For Over 24 Hours or Significant Treatment
- (05) Fatal - Dead at Scene
- (06) Fatal - DOA
- (07) Fatal - Dead Within 24 Hours
- (08) Fatal - Dead 24 Hours - 1 Year
- (09) Fatal - Dead, Period Unknown
- (99) Unknown

EMS Contributory to Severity (0,1,2)

Was Emergency Medical Services (EMS) contributory to injury severity or fatality, e.g., because of delays or due to improper/insufficient/no treatment on-scene or in-transport?

Autopsy Performed (0,1,2,3)

Overall Police Injury Severity (KABC)

(Note: Report Police Judgment)

- (0) 0, D No Injury
- (1) C Possible Injury
- (2) B Nonincapacitating Injury
- (3) A Incapacitating Injury
- (4) K Fatal Injury
- (9) Unknown

CARD NUMBER	★ ENTER CODE(S) OF POSSIBLE CONTACT					OCCUPANT NO.
	1011	1213	1415	1617	1819	
81						
82						
83						
84						
85						
86						
87						
88						
89						
90						
91						
92						
93						
94						
95						
DUPLICATE FROM PRECEDING CARD						

PRIMARY OIC															ASSOCIATED OIC'S														
PRIMARY OIC					ASSOCIATED OIC'S					PRIMARY OIC					ASSOCIATED OIC'S														
BODY REGION	ASPECT	LESION	SYSTEM/ORGAN	SEVERITY	BODY REGION	ASPECT	LESION	SYSTEM/ORGAN	SEVERITY	BODY REGION	ASPECT	LESION	SYSTEM/ORGAN	SEVERITY	BODY REGION	ASPECT	LESION	SYSTEM/ORGAN	SEVERITY										
22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42									

CPIR Supplement

3

Report Number

2 3 - 4 5 6 7 8 - 9

Card Number

9 0
10 11

REPORTING DATA (99999) for Unknown

Date of Field Investigation

MO DAY YEAR

12 13 14 15 16 17

Date Submitted/Published

(inside title page)

18 19 20 21 22 23

Team case number

24 25 26 27 28 29 30 31 32 33 34

HSRI CPIR Editor

- (1) JD (A) DS (J) AT (U) CC
- (2) PG (B) HS (K) BW (V) LC
- (3) BB (C) TS/BJ (L) JS (W) KT
- (4) BP (D) DL (M) JW (X) MH
- (5) BG (E) JA/KP (N) ST (Y) RP
- (6) SV (F) PJ/BM (P) KF (Z) GZ
- (7) PK (G) TM/PC (Q) BP
- (8) JW (H) JD/AR (R) PS
- (9) AM (I) GB/WB (S) MH
- (0) Unknown (T) RC

Number of CASE VEHICLES reported in accident (Completed CPIRs)

35
36

Original Vehicle Report Form

- (0) No Form (MDC)
- (1) CPIR - R1
- (2) CPIR - R2
- (3) CPIR - R3
- (4) NHTSA
- (7) CPIR - Baylor
- (8) UCLA - TRG
- (5) Truck Form (1/74) 37

Recommendations/Conclusions

31

Matrix Cell

Number

(9) for "9 or More"

1	Human	
	Pre-Crash	___
2	Crash	___
3	Post-Crash	___
	Vehicle	
4	Pre-Crash	___
5	Crash	___
6	Post-Crash	___
	Environment	
7	Pre-Crash	___
8	Crash	___
9	Post-Crash	___

38

H S
47 48 49 50 51 52 53 54 55 56

P B
57 58 59 60 61 62 63 64 65 66

Other Vehicle CPIR Report No.
If 3 Case Vehicles, link 1 to 2, 2 to 3, and 3 to 1.

67 68 69 70 71 72 73 74

Date Edited

75 76 77 78 79 80

end of card 90

2nd edited by:

Date:

32

SUPPORTING DATA

- (1) Yes
- (2) No
- (3) Not applicable
- (0) Unknown

Psychological Factors

- Psychological Review
- Any Personal Interviews
- Katz Adjustment Scales (KAS)
- Michigan Alcoholism Screening Test (UM)
- Driver's License Record (Previous Accidents)

Medical Factors (included)

- Medical Examiners/Autopsy
- AFIP Medicolegal Autopsy
- Toxicological/Alcohol Test
Includes Case Driver Only
Breathalyzer
- Medical Report
- Medical Summary/Diagram
- X-Rays (taken or included)
- Medical History

Accident Factors (included)

- Map Location
- Collision Diagram/Sketch
- Site Accident History
- Narrative Description
- Police Report
- Who Estimated Speeds for Case Vehicle
 - (0) No One
 - (1) Investigator
 - (2) Police
 - (3) Driver
 - (4) Witness/Passenger
 - (8) Other: _____
 - (9) Unknown
- Prior to Impact
- At Impact

Code	Col.
—	12
—	13
—	14
—	15
—	16
—	17
—	18
—	19
—	20
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—	25
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—	27
—	28
—	29
—	30

Vehicle Factors

NHTSA Vehicle Condition
And Maintenance Report

If (1) then 1

Mechanical Malfunction
Inspection

Inspection Records

Registration Records

Sheet Metal Crush
Diagram/Sketch

Inches, Coded

Measurements Taken

Telescoping Unit

EA Steering Wheel

A (Column to Rear)

EA Steering Column

VIN Included

VDI Included

VM/M Code Included

Photographs (number)

(B&W) Prints

(Color) Slides

TOTAL-

and

TOTAL-

Site/Location Photos

Vehicle Exterior Photos

Vehicle Interior Photos

Autopsy/Medical Photos

Total Number Photos

(99 Unknown)

(98) over 97

HIT LAB NUMBER Washtenaw Co. Mi. Only

58 59 60 61 62 63 64

End of Card 91

Code	Col.
—	31
—	32
—	33
—	34
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—	40
—	41
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—	54
—	55
—	56
—	57

CASE VEHICLE MALFUNCTION

From CPIR page 2

- (1) yes
- (2) no
- (0) unknown

	Code	Col
(01) Brake System	---	12
(02) Exhaust System	---	13
(03) Steering System	---	14
(04) Suspension System	---	15
(05) Tires	---	16
(06) Electrical System	---	17
(07) Throttle System	---	18
(08) Driver Controls	---	19
(09) Power Train	---	20
(10) Fuel System	---	21
(11) Visibility Items	---	22
(12) Other: _____	---	23
(13) Applicable, but unknown	---	24
Primary Item Noted Above (01 to 13) from above	__ __	25,26
(00) None		
(99) Unknown		
Had Routine Maintenance been Performed	---	27

Number* of Previous Moving Violations

--- 29

Number* of Previous Collisions

--- 30

Number* of Previous License Suspensions

--- 31

* Use (8) for "More than 7."
Use (9) for unknown.

CASE VEHICLE DRIVER'S TRIP PLAN

Origin

- (1) Home
- (2) Work
- (3) Shopping
- (4) Recreation
- (5) Friend/Relatives
- (6) Cocktail Lounge/
Bar/Wet Party
- (7) Church
- (8) School
- (9) Other
- (0) Unknown

--- 32

Destination

Code as above

--- 33

Route Familiarity (1,2,0)

--- 34

Area Familiarity (1,2,0)

--- 35

Route Usage

- (1) Daily
- (2) Weekly (1-4 times)
- (3) Monthly (1-3 times)
- (4) Quarterly (1-2 times)
- (5) Annually (1-3 times)
- (6) Less than annually
- (7) Never
- (0) Unknown

--- 36

CASE VEHICLE DRIVER'S RECORD

Driver Education

- (1) None
- (2) High school
- (3) Commercial
- (4) Informal
- (5) Military
- (6) Professional
- (8) Other: _____
- (9) Yes, Unknown source
- (0) Unknown

--- 28

TIME (2400 hour clock) of:
(99 99 Unknown)

Departure ---

Impact 37 ---

Expected 41 ---

Arrival ---

From CPIR
page 1

PSYCHOLOGICAL FACTORS (Case Driver)		Code	Co.1	PHYSIOLOGICAL FACTORS (Case Driver)		Code	Co.
<u>Stress That Day</u>				<u>Permanent Physiological Conditions</u>			
(1) Argument with Relations or Friends.				(1) Infirmities (Arthritis, Senility, etc.)			
(2) Argument with Boss or Co-worker				(2) Diabetes			
(3) Loss of Friend or Relative				(3) Brain (Epilepsy, Stroke)			
(4) Financial Difficulty				(4) Cardio-Vascular (Heart failure, Angina, Infection)			
(5) School Problems/ Work Problems				(5) Vision/Hearing Restricted			
(6) Legal/Police Problems				(6) Respiratory Condition			
(7) Social Agency/Consulor Problems				(7) Paralegic, amputee			
(8) Other: _____				(8) Other: _____			
(9) None				(9) None			53
(0) Unknown			44	(0) Unknown			
<u>Marital State</u>				<u>Transient Physiological Condition</u> (Choose no more than two) See CPIR page 4			
(1) Single				(00) Unknown			
(2) Married				(02) None			
(3) Common Law				(03) Blackouts			
(4) Separated				(04) Dozing			
(5) Divorced				(05) Fatigue			
(6) Widowed				(06) Drunk			
(0) Unknown			50	(07) Drinking Involved			
<u>Occupation(1970 Census Users Guide)</u> See Reference Manual				(08) Drug or Medication (See Pa S5)			
(10) White Collar				(09) Flu, Headcold, etc.			54, 5
(11) Professional, Technical				(10) Fractured Member			
(12) Manager, Administrator (except Farm)				(11) Menstrual Period			
(13) Sales workers				(12) Pregnancy			
(14) Clerical, kindred				(13) Hangover			56, 57
(20) Blue Collar				(14) Not wearing corrective lenses			
(21) Craftsmen, kindred				(99) Other: _____			
(22) Operatives, except transport				<u>Non-Impact Medical Condition</u> All Case Occupants Not Just Driver			
(23) Transport equipment operatives(drivers)				(0) None			
(24) Laborers, except farm				(1) Yes - Time and Type Unknown			
(30) Farm Workers				(2) Pre-Crash Fatal (Clinical Death at Wheel)			
(31) Farmers, Farm managers				(3) Pre-Crash Non-Fatal (Prior Injury, Stroke)			
(32) Farm laborers, Farm foreman				(4) Pre-Crash Unknown Type			
40) Service Workers				(5) Post-Crash Fatal (Drowning)			
41) Service workers, except below				(6) Post-Crash Non-Fatal			
42) Private household workers				(7) Post-Crash Unknown Type			
50) Housewife				(8) Other: _____			
60) Student				(9) Unknown			58
70) Military							
80) Retired							
90) Unemployed(over a month)							
99) Unreported, Unknown			51, 52				

note: If several jobs, use major time
If temp. unemployed, use last job


Code	Col
	54

Pharmacological Agents Noted
(noted, but not necessarily causal)

- (1) Yes, Unknown or Other: _____
- (2) None noted, No BA test, (000) Below
- (3) Stimulants, Prescriptive/Narcotic
(Amphetamines, cocaine, bennies)
- (4) Stimulants, Over-the-Counter
(Caffeine, 'no doz')
- (5) Depressants, Prescriptive/Narcotics
(Barbiturates, opiates, tranquilizers)
- (6) Depressants, Over-the-Counter
(Alcohol, sleeping compounds)
- (7) Antihistamines
- (8) Hallucinogens
(LSD, DMT, mescaline, psilocybin)
- (9) Marijuana
- (0) Unknown

CRASH FACTORS

Initial Clock Direction of Rollover
(Case vehicle, horizontal clock)

- (12) - - Over Front End
- (09) -  (03) - Over Right
- Over Left (06) - - Over Back End
- (00) No Rollover
- (98) Rollover, Direction Unknown
- (99) Unknown if Rollover

Blood Alcohol Level (MG %)

66 67 68


- (999) Unknown, No Results
- (000) No Drinking, or "—Results"

POST CRASH FACTORS

Case Vehicle, Final Location

- (1) In Traffic Way
- (2) On Shoulder
- (3) Off-Road, Median
- (4) Off-Road, Side
- (5) In Water Way
- (9) Other: _____
- (0) Unknown

Case Vehicle, Final Attitude
0'Clock Position

- (12) ——— Upright
 - (09)  (03) On Side
 - (06) ——— Inverted
 - (00) On End
 - (99) Unknown
- 0'Clock=

Post Accident Factors:

- Fire Control used, if fire (1,2,0) — 69
- Extrication used (1,2,0) — 67
- Ambulance Service used (1,2,0) — 76
- Towing Service used (1,2,0) — 71

Duplicate col 1-9 from preceding ^{9 3}
36 _{10 11}

PRE CRASH PHASE
(Accident Viewpoint)

General Locality

- (1) Freeway (Limit Access)
- (2) Urban
- (3) Urban-Rural (House near road)
- (4) Rural (Fields)
- (9) Unknown

Particular Location

- (01) 1-Lane, Not Intersection
- (02) 2-Lane, Not Intersection
- (03) 3-Lane, Not Intersection
- (04) More than 3-Lane
- (05) Off Road
- (06) Intersection
- (07) Expressway
- (08) Interchange, Main Lanes
- (09) Interchange, Other Lanes (Ramps)
- (10) Bridges, Tunnels, Viaducts
- (11) Parking Lots
- (12) Driveways
- (99) Unknown

Code	Col.
→	12
—	13,14

Report Numbers of Vehicles Ranked in-Order of Responsibility for Causing Collisions

All 0's for No Vehicle
 NOTE → All 8's for Non-Case Vehicle
 All 9's for Unknown
 Fill in all Responses

Most Responsible Vehicle

15 16 17 18 19 20 21 22

Second Most Responsible Vehicle

23 24 25 26 27 28 29 30

Third Most Responsible Vehicle

31 32 33 34 35 36 37 38

Responsibility of Case Vehicle

- (1) Most Responsible
- (2) Second Most Responsible
- (3) Third Most Responsible
- ... Etc.
- (9) Missing Data

—	39
---	----

Total Energy Available

Total Energy for first collision. See Energy Table. Use 9999 for unknown.

— — • — — — — — (*10⁵)
 40 41 42 43 (9999) for over 9997

PRE-CRASH MOVEMENT OF MOST RESPONSIBLE VEHICLE

Pre-Crash Basic Movement

- (1) Straight Ahead
- (2) Turning, Curve Following
- (3) U Turn
- (4) Reverse, Backing
- (5) Lane Changing
- (6) Parked, Stopped
- (7) Entering, Leaving Driveway (use 4 if backing)
- (8) Starting to Move
- (9) Unknown

Character of Movement

- (00) Straight Ahead
- (01) Straight Ahead, Road turned to left
- (02) Straight Ahead, Road turned to Right
- (03) Off RHS of Road
- (04) Off RHS of Lane
- (05) Off RHS, and back again
- (06) Veered Right
- (07) Turned Hard Right
- (08) Off LHS of Road
- (09) Off LHS of Lane
- (10) Off LHS, and back again
- (11) Veered Left
- (12) Turned Hard Left
- (13) Vehicle Stopped
- (14) Other
- (99) Unknown

Code	Col.
—	44
—	45-46

Primary Factor Responsible For Accident

- (1) Driver Omission or Unaware Error
- (2) Driver Commission or Aware Error
- (3) Vehicle Defect
- (4) Trafficway Defect
- (5) Ambience
- (9) Unknown

—	47
---	----

Card 93 Continued

Most Responsible Vehicle: Primary Error (Pick first and second most significant)	Code	Col.		Code	Col.
(00) No Error			(0) None		
(01) Under Estimation			(1) Braking		
(02) Falling Asleep, Blackout, Death-at-Wheel			(2) Steering		
(03) Diverted Attention			(3) Braking and Steering		
(04) Inexperienced Driving or Erratic Driving			(4) Acceleration		
(05) Drunken Driving, Drinking Involved, or Narcotics or Medication			(5) Acceleration and Steering		
(06) Right of Way			(6) Brake Release		
(07) Turning Error			(9) Unknown		
(08) Signalling Error			Most Responsible Vehicle	—	54
(09) Speeding			Second Most Responsible Vehicle	—	55
(10) Overtaking			<u>Vehicle Combination</u> (e.g. 3,6 - Bus, Motorcycle)		
(11) Following too Closely			(0) No other Vehicles		
(12) Signs, Signals Disobeyed			(1) Large Car (> 3800 lbs)		
(13) Wrong Way into oncoming traffic			(2) Medium Car (2800-3800 lbs)		
(14) Lack of Lights	—	43 49	(3) Small Car (< 2800 lbs)		
(15) Lack of Brakes			(4) Truck (Includes Vans & Pickups)		
(16) Other: _____			(5) Bus		
(17) Avoidance Maneuver			(6) Motorcycle		
(18) Over correction maneuver			(7) Utility or Jeep		
(19) Unknown	—	60 51	(8) Other: _____		
			(9) Unknown		
			Most Responsible Vehicle	—	56
			Second Most Responsible Vehicle	—	57
<u>Degree of Driver Attention</u>			<u>Movement of Second Most Responsible Vehicle</u>		
(1) No Awareness (e.g. asleep)			(0) No Second Vehicle		
(2)			(1) Straight Ahead		
(3)			(2) Left Turning		
(4)			(3) Right Turning		
(5) Complete Awareness of all Driving Tasks			(4) Stopped		
(9) Unknown	—	52	(5) Other: _____		
			(9) Unknown	—	58
<u>Driving Complexity</u>			<u>Hazardous Road Conditions</u> (Rank by Significance) <u>Cause Only</u>		
(1) Complete Familiarity (e.g. Familiar Car, Frequent Route, and Unobstructed Open Country)			(0) None		
(2)			(1) Surface Under Water		
(3)			(2) Surface Slippery (oil, ice, water, etc.)		
(4)			(3) Shoulders Slippery		
(5) Peak Complexity (e.g. Peak Hour Traffic and Unfamiliar Mid City)			(4) Weather Obstructions (snow, fog, etc.)		
(9) Unknown	—	53	(5) Light (sun, headlight, etc.)		
			(6) Obstacle on Road (e.g. car)		
			(7) Road Construction, Repair or Disrepair		
			(8) Other: _____		
			(9) Unknown	—	59
				—	60

Revision 3

Report Number

Card Type

2 3 4 5 6 7 8 9 10 11

HSRI ANALYSIS

Not to be filled in
by field investigator

Case Vehicle

MPH at Impact
(999 Unknown)

12 13 14

Primary Damage Index
(99-0000-0 Unknown)

15 16 17 18 19 20 21

Secondary Damage Index

22 23 24 25 26 27 28

Sheet Metal Crush

(98 if over 97 inches)
(99 if unknown)

Front (Inches)

Rear

Left Side

Right Side

Roof

Other

Code	Col.
<u> </u> <u> </u>	29, 30
<u> </u> <u> </u>	31, 32
<u> </u> <u> </u>	33, 34
<u> </u> <u> </u>	35, 36
<u> </u> <u> </u>	37, 38
<u> </u> <u> </u>	39, 40

Other Vehicle

MPH at Impact
(888 for N/A)

41 42 43

Damage Index Unknown, No damage,
(99-0000-0) No Other Vehicle

44 45 46 47 48 49 50

$\frac{7}{1} \frac{\quad}{2} \frac{\quad}{4} \frac{\quad}{\quad} \frac{\quad}{\quad} \frac{\quad}{\quad}$

DAMAGE ANALYSIS,
CASE VEHICLE

CONCURRENT DAMAGE,
OTHER VEHICLE

Primary Deformation

CDC (VDI) Card $\frac{45}{10}$
[PERCENT CRUSH]

$\frac{12}{\quad} \frac{\quad}{14} \frac{\quad}{26} \frac{\quad}{\quad} \frac{\quad}{18}$
[$\frac{\quad}{\quad}$ %]

$\frac{19}{\quad} \frac{\quad}{\quad} \frac{\quad}{28} \frac{\quad}{\quad} \frac{\quad}{\quad}$
[$\frac{\quad}{\quad}$ %]

INCHES CRUSH
(Match 1st CDC Letter)

$\frac{30}{\quad}$

$\frac{52}{\quad}$

CONFIGURATION

$\frac{34}{\quad}$

CRASH EVENT NUMBER

$\frac{35}{\quad}$

SPEED AT IMPACT,
WITH ERROR

$\frac{36}{\quad} \frac{\quad}{\quad} \frac{+}{\quad} \frac{37}{\quad}$

$\frac{41}{\quad} \frac{\quad}{\quad} \frac{+}{\quad} \frac{44}{\quad}$

[BARRIER EQUIVALENT
SPEED]

[$\frac{\quad}{46}$]

[$\frac{\quad}{48}$]

Secondary Deformation

CDC (VDI)
[PERCENT CRUSH]

$\frac{50}{\quad} \frac{\quad}{\quad} \frac{\quad}{64} \frac{\quad}{\quad} \frac{\quad}{\quad}$
[$\frac{\quad}{\quad}$ %]

$\frac{57}{\quad} \frac{\quad}{\quad} \frac{\quad}{66} \frac{\quad}{\quad} \frac{\quad}{\quad}$
[$\frac{\quad}{\quad}$ %]

INCHES CRUSH
(Match 1st CDC Letter)

$\frac{68}{\quad}$

$\frac{70}{\quad}$

CONFIGURATION Card $\frac{46}{10}$

$\frac{12}{\quad}$

CRASH EVENT NUMBER

$\frac{13}{\quad}$

SPEED AT IMPACT,
WITH ERROR

$\frac{14}{\quad} \frac{\quad}{\quad} \frac{+}{\quad} \frac{17}{\quad}$

$\frac{19}{\quad} \frac{\quad}{\quad} \frac{+}{\quad} \frac{22}{\quad}$

[BARRIER EQUIVALENT
SPEED]

[$\frac{\quad}{24}$]

[$\frac{\quad}{26}$]

Tertiary Deformation

CDC (VDI)

$\frac{28}{\quad} \frac{\quad}{30} \frac{\quad}{\quad} \frac{\quad}{\quad} \frac{\quad}{34}$

- Notes:
1. Bracketed Information is Optional; Blank=Unknown
 2. 99-0000-0 = Unknown or No CDC
 3. For Speeds, 9's = Unknown Speeds, 8's = N/A; No Other Vehicle
 4. For Inches Crush, 9's = Unknown, 0's = No Crush or N/A--No Other Vehicle

2/12/74

SEQUENCE OF CRASH EVENTS

Code 5 pairs in sequence

40

	<u>Crash Event</u>	<u>Vehicle or Object Contacted</u>
Event #1	<u>35</u> —	<u>37</u> —
Event #2	<u>39</u> —	— —
Event #3	<u>43</u> —	— —
Event #4	<u>47</u> —	— —
Event #5	<u>51</u> —	— —

All Crash Events and involved Objects/Vehicles are coded beginning with the first damage or injury producing event. Then code each case vehicle event chronologically until the vehicle stops. Both series of Event and Vehicle/Object codes are pairs. No Event, No Object = (99), (99).

SIDE DOOR GUARD BEAM

<u>Beam Present</u>	(2) No Beam in Doors	
	(3) No Doors → SKIP REST OF PAGE	<u>55</u>
	YES: (1) Unknown Which Doors	
	(4) Front Door Only	
	(5) Front and Rear	
	(0) Unknown	

		<u>Left</u>	<u>Right</u>	
<u>Front or Rear Door Direct Damage</u>	(2) NO Direct Damage → SKIP REST OF PAGE			
	(3) N/A, No Door			
	YES: (1) CDC Unknown			
	(4) Primary CDC			
	(5) Secondary CDC	Front	<u>56</u>	<u>57</u>
	(6) Tertiary CDC			
	(9) Other or Minor	Rear	<u>58</u>	<u>59</u>
	(0) Unknown			

<u>Maximum Inches Crush (Doors)</u> (00) = No Crush or No Door	Front	<u>60</u>	<u>62</u>
	Rear	<u>64</u>	<u>66</u>

<u>Beam Involvement</u>	(2) No Involvement		
	(3) N/A, No Door or No Beam		
	YES: (1) Extent Unknown		
	(4) Beam Contact Only		
	DAMAGED (Bent or Dent)		
	(5) No Separation	Front	<u>68</u>
	(6) Unknown Separation		<u>69</u>
	DAMAGED and SEPARATED		
	(7) Extent Unknown	Rear	<u>70</u>
	(8) Partial Separation		<u>71</u>
(9) Complete Separation			
	(0) Unknown		

Crash Events (2/74)

41

Vehicle to Vehicle

- (1) Both Moving
- (2) Case Vehicle Stopped
- (3) Other Vehicle Stopped

- (0) Direction Unknown
- (1) Same Direction: Struck Other Vehicle
- (2) Same Direction: Struck By Other Vehicle
- (3) Same Direction: Other, Unknown
- (4) Opposite Direction: Struck Other Vehicle
- (5) Opposite Direction: Struck By Other Vehicle
- (6) Opposite Direction: Other, Unknown
- (7) Angled (>15°): Struck Other Vehicle
- (8) Angled (>15°): Struck By Other Vehicle
- (9) Angled (>15°): Other, Unknown

Vehicle to Object

On-Roadway Object Collision
(4) Struck *:

Off-Roadway Object Collision
(5) Struck *:

- (0) And Other or Unknown
- (1) And Deflected (or Rebounded)
- (2) And Went Over *
- (3) And Crashed Through *
- (4) And Stopped
- (5) And Rotated Around *
- (6) And Was Impaled By *
- (7) And Remained on Top of *
- (8) From Behind

(* = specific object struck,
to be coded in the adjacent
Object Contacted columns)

(7) Ran-Off/Re-Enter Roadway

- (0) Other or Unknown Action
- (1) Off Left Side, No Median
- (2) Off Left Side, Into Median
- (3) Off Right Side
- (4) Off, Other or Unknown
- (5) Re-Enter, Same Direction
- (6) Re-Enter, Opposing Direction
- (7) Re-Enter, Other or Unknown
- (8) Crossed Median Into Opposing Lanes
- (9) Crossed Centerline Into Opposing Lanes

(8) Miscellaneous Events

Case Vehicle:

Towed Vehicle:

Vehicle or Driver:

- (0) Other, Unknown
- (1) Overturns (>90°)
- (2) Projected Into Air
- (3) Went Up/Down Embankment
- (4) Entered Body of Water
- (5) Spins, Skids, Swerves Out-of-Control
- (6) Struck by Falling, Protruding or
Thrown-Up Object
- (7) Stops Suddenly With Injury But No Collision
- (8) Breaks Loose or Jackknifes
- (9) Assaulted by Other Person With Weapon
or Other Vehicle

(9) Concluding Event

- (0) Other, Unknown
- (1) Coasted to Rest
- (2) Braked/Skidded/Spun to Rest
- (3) Stopped Abruptly
- (7) Under-Control, Pulled-Over
- (8) Under-Control, Continued On

(00) Unknown

(99) No Event

01-39 Autos and Trucks
 40-69 Other Vehicles
 70-76 Pedestrians and On-Roadway Objects
 80-97 Off-Roadway Objects
 98 Other:
 99 No Object
 00 Unknown

Vehicles

01 Intermediate (GM A Body)
 02 Standard/Full Size (B Body)
 03 Luxury (C Body)
 04 Limousine (D Body)
 05 Personal Luxury (E Body)
 06 Specialty/Pony (F Body)
 07 Grand Prix (A-SP Body)
 08 Compact (X Body & Y Body)
 09 Sub-compact/Mini-Imported (VW)
 10 Super Sport (Corvette)
 17 Pickup-Car (Ranchero)
 18 Sub-compact/Mini-USA (H Body)
 19 European Sports Cars (MG)
 20 Unknown Automobile Body

Size	Standard Specialty Sports		
Mini	09,18	--	19
Compact	08	06	10
Intermediate	01,17	07	--
Standard	02	05	--
Luxury Sedan	03	--	--
Limousine	04	--	--

Multipurpose Passenger Vehicle

14 Utility (Jeep, Bronco)
 15 Carryall/Panel Truck
 16 Pickup-Camper (Canopy, Shell)
 17 Pickup-Car (Ranchero)
 21 Motor Home
 22 Slide-in Camper
 31 Chassis-Mounted Camper

Truck

11 Small Van (Econoline)
 12 Pickup
 13 Unknown Light Truck (<1½ Ton)
 15 Carryall/Panel Truck
 16 Pickup-Camper (Canopy, Shell)
 22 Slide-in Camper
 30 Unknown Truck Type
 31 Chassis-Mounted Camper
 33 Delivery Van (Walk-in)
 34 Straight Truck
 35 Truck-Tractor
 36 Chassis-Cab
 37 Unknown Heavy Truck (>1½ Ton)
 38 Tractor + Semi-Trailer (Semi)
 39 Truck (or Semi) + Full Trailer(s)

Bus

40 Unknown Bus Type
 41 School Bus
 42 Inter City (between)
 43 Intra City (within)

Motorcycles

50 Unknown Motorcycle Type
 51 1-75cc
 52 76-125cc
 53 126-250cc
 54 251-500cc
 55 501-750cc
 56 751+cc
 57 3-wheels (or with Sidecar)

Special Purpose Vehicles

60 Unknown/Other Special Vehicle
 61 Snowmobile
 62 ATV, All Terrain Vehicles
 63 Amphibious Vehicle
 64 Farm Vehicles
 65 Construction Vehicles
 66 Trailer-Private (camper)
 67 Trailer-Commercial (cargo)
 68 Train (Cars)
 69 Locomotive, Switcher

Objects

70 Pedestrian
 71 Bicyclist, Other Pedalcycle
 72 Pedestrian Conveyance
 (e.g. Person Riding Animal, Cart, etc.)
 73 Large Animal
 74 Fallen Objects such as Objects Dislodged from Other
 Vehicles, Fallen Trees, Rocks, etc.
 75 Traffic Cones, Barrels, Construction Barriers
 76 Construction or Emergency Equipment
 77 Sign Posts, Utility Pole, Tree
 78 Ditch
 79 Embankment, Snowbank
 80 Ground (Rollover Only)
 81 Curb (Damage Producing Impacts Only)
 82 Culvert
 83 Fence
 84 Hydrants, Short Posts, Stumps
 85 Small Posts/Trees, Rural Mail Boxes, Delineators,
 Mile Markers
 86 Building
 87 Pier, Pillar (e.g. Bridge Support)
 88 Abutment, Retaining Wall
 89 Bridge Rail
 90 Guard Rail, Leading Section
 91 Guard Rail, Middle or Unknown Section
 92 Guard Rail, Trailing Section
 93 Guard Posts (Timber, Metal, Concrete)
 94 Cable, Fence Barrier
 95 Concrete Barrier (Median)
 96 Impact Attenuator
 97 Breakaway Fixtures

SECTION 3

EDITING PROCEDURE
AND
INTERPRETATIONS OF QUESTIONS

SECTION 3.1 EDITING PROCEDURE

This section describes the objectives to be accomplished in editing a case, outlines the approach and steps involved in processing cases, and finally details some of the general editing rules applied to all questions.

EDITING OBJECTIVES

While most of the reasons for editing cases are self-evident, it is still instructive to outline the objectives of consistency, correctness, and completeness.

1. Consistency: If a question is not consistently interpreted, none of the responses will be of any use in later analysis. It is better to be consistently "wrong" than "right" part of the time and "wrong" the remainder.

1.1 Case Consistency: The computer processed forms should be consistent with the remainder of the case documentation including photographs and other case supporting evidence. Once edited, the data to be keypunched should adequately represent the applicable case documentation.

1.2 Internal Consistency: The data forms should be self-consistent themselves. Many responses are partially dependent upon the answers to other questions. For example, it would be incorrect to have damage to the rear door of a two door car. Internal consistency is obviously critical to the analyst. In comparing one variable with another, he is depending on them being consistently coded. Although many of the inconsistencies have been resolved, it is still possible to find them.

2. Correctness: It is far better to edit ten cases correctly than let one hundred pass through with errors. One must always question something that is not understood. One should not guess, one should find out. While it may seem difficult to establish the most accurate answer, a best answer can be determined and applied to future cases. If, as frequently happens, an even better answer is determined in the future, then that will be applied.

3. Completeness: An attempt should be made to fill in

all responses. It is always irritating to query a potentially useful variable in a data file, only to find it empty, i.e., filled with unknown codes. While some questions exist for which responses can rarely be determined by the post-investigation editor, many of questions left blank by investigators can be filled, based upon the case documentation and photographs.

EDITING PROCEDURE

As new case reports arrive, they are logged, edited, second edited, keypunched, checked by an PDP 11/45 pre-build program and merged into the computer accident data bank. The data in computer storage is then reviewed and corrections performed. The following discussion outlines these steps in more detail.

LOGGING

All new cases are logged-in upon arrival. MDAI reports received in camera copy form are inventoried with the cover letter enclosed and any discrepancies are documented. The Traffic Unit Compendium (TUC) file, a computer based log of all reports is then updated.

Only passenger cars and light trucks are processed as CPIR case vehicles. Heavy trucks, motorcycles, pedestrians, bicyclists, and other vehicles are included in the TUC file and then returned.

Once logged-in, a xerox copy of the case summary, CPIR form(s), Vehicle Condition and Maintenance Report, and other form(s) are produced for the camera copy cases. The editors then make corrections and additions on the xerox copy rather than the original copy. A complete copy of each case is stored in the hardcopy filing cabinets.

CASE EDITING

There are several approaches to editing a case. Each editor, in time, develops his own procedure. The method described here typifies a common approach.

1. Case Review & Supplement (pp. 31-38)

To edit a case, one starts by filling in the CPIR Supplement. Some of the information for the first page of the Supplement can be found on the title page of the case report (team case number, date submitted).

The accident summary is read to provide information for filling in the rest of the first page of the Supplement and to give the editor an overall view of the accident. The critical events review (who did what to whom and how) is a very important

step because this is the information that can be used as a "triggering device" in trying to find inconsistencies, mistakes, and various other slips. If any information is noticed that differs from what was read in the summary, a look into the main body of text to try and find evidence to resolve the inconsistency may be necessary.

The next step is to scan the narrative and read all interviews and "psychological reviews". This is done mainly because these are the most interesting segments of the reports. It also reveals such things as the occupant's Trip Plan, Driver Education, etc., which are answered on pages 33 and 34 of the CPIR Form. While doing this, any photo prints included with the case can be counted.

The editor should peruse the appendices to find out what kind of documented supporting evidence is presented with the case. From this, and from counting the slides, page 32 of the CPIR Form will be filled out. It is also advisable to page through the CPIR at this point to determine what measurements were made by the investigating team. That finishes pages 31, 32 and partially pages 33 and 34 of the CPIR Form. Incidentally, malfunctions on page 33 can be filled in at the same time as the measurements on page 32 are looked up. In fact, it may be helpful to fill in the items in the sequence that they appear in the CPIR, i.e., check for malfunctions first, then determine who estimated the speeds, check VIN, CDC, VM/M, followed by inches of crush, crush sketch, etc.

If any personal data has been forgotten or not seen, it may be looked up now, finishing pages 33 and 34. If alcohol was involved, it is usually very prominently reported.

The information for pages 36 and 37 is readily available from either the CPIR or the case summary. One should usually check all weights, VINs, models, repair costs, etc., for all case vehicles and other vehicles when determining the Total Energy Available.

2. CPIR Form

The editing of the CPIR form is started by checking the report number, date of collision, and state code. Pages 1 and 2 can be checked under "Identification, Ambience, and Highway" in the case summary. Page 3 comes out of Pre-Crash, Crash and Post-Crash in case summary and from the accident schematic. One should make sure all speeds on page 4 look reasonable in relation to damage. Pages 5 and 6 (other vehicle and case vehicle) are filled in from the case summary, reference notebook and Redbook (reference 6). A check of the Vehicle Make/Model code and Body Style should always be carried out. On page 7, the Crush and Sheet Metal Damage should match the first letter of the editor's CDCs.

On page 10, the tire data should be checked to see if it appears reasonable, e.g., wear, mileage, profile and carcass type. From here on (pages 11 through 22) all measurements and the damage should be made to appear reasonable. Unless something appears absurd, the editor will generally go along with the investigator; although he may watch for contradictions between narrative and CPIR and/or pictures. One should make sure pillars and doors match Body Style. Passenger compartment data (pages 23-26) can be checked against Interior Damage and Occupant Kinematics.

In Occupant Injury Section (pages 27-39), contact areas for injuries should be checked against other appropriate areas in CPIR for occupant contact. Also the text should be checked against CPIR for correct injury responses. The number of occupant sections should match the Number of Occupants noted on the Case Vehicle page (7.3.45-46).

3. Damage Analysis Supplement

This one sheet form should be filled out if not already provided by the field team. This is a good time to review the entire set of data from the vehicle damage point of view, i.e., is the evidence (from photos, drawings, measurements) in agreement with the data to be keypunched?

4. Occupant Supplement

This one sheet form should be filled out if not already provided by the field team. The Occupant Supplement includes the Occupant Injury Classification (OIC) details (described in Section 4) and should be checked or coded at the same time the CPIR Occupant pages are edited.

5. Review

Before the case is submitted for second editing, the entire case should be reviewed as a whole. One determines whether the coded forms adequately represent the unique features of this accident. If there is more than one CPIR form, the forms should be made mutually consistent.

SECOND EDITING

The procedure for second editing concerns itself with four separate yet interrelated tasks; namely, an overview check of the entire accident sequence, a consistency check for internal form discrepancies, a spot check of outstanding items that are unique to the case, and a list of editing comments concerning the changes made to the form.

One begins with a review of the case by first looking over

the case introduction. This usually describes the vehicles involved, the type of accident configuration, greatest severity of injuries received, and any other additional characteristics of the accident, such as drinking involved or fire during crash phase. The slides and accident sketch are reviewed while the case summary is read. The case summary consists of a brief synopsis of the entire case and includes a description of: Ambience; Highway conditions; Vehicles involved; Occupants and the injuries; pre-crash, crash, and post-crash accident details; and Causes and Recommendations by program matrix cells.

After fully understanding the case, the editor begins by checking the CDCs on the supplements to see if they appropriately describe the damage to the vehicles involved. The editor then goes through each page of the supplement noting items retained from reviewing the summary, being particularly sure that the responses, in the supplement concerning the description of vehicles movement and causation factors are properly answered (pages 35-37). He then turns to the occupant section to make certain that the number of occupant sections and Occupant Supplements matches the number of vehicle occupants. Then within the occupant section, he checks whether the overall severity of injuries represents a number equal to or greater than individual region AIS numbers.

After completing the CPIR, the comments page is attached to the case; the xeroxed CPIR and Supplements are compiled separately for keypunching.

PDP 11/45 PRF-BUILD PROGRAM

The pre-build program on the HSRI PDP 11/45 reads the keypunched and key-verified data, checks for over one hundred different invalid/wild codes and internal data inconsistencies, formats the data for file building and merging with the existing data file, and automatically prepares a case summary for HSRI cases investigated for the MVMA.

The program prints out the "alleged" error and its location (case-card-column). Any out of the ordinary coding (e.g., Seat Belts Equipped = "no") is flagged as a potential error even though the code value itself is acceptable. Thus, not all the items printed out are necessarily errors, requiring corrections.

Hardcopy cases in question are pulled from the files for review. Any corrections made are noted on the hardcopy before re-filing. Then either the case is repunched and resubmitted, or a correction sheet is filled out for later application to the newly updated master tape file.

DATA FILE CORRECTIONS

The processing of an accident report is never quite finished. Any item in the CPIR computer files is always subject to changes or corrections. The editors review marginals (one way

frequency distributions) of each variable for invalid/wild codes and unusual frequency distributions. Both HSRI data analysts and other data bank users also discover potential problems and alert the editors. As before, hardcopy cases are reviewed and data file corrections are made. In each instance, an effort is made to determine the cause of the error (e.g., undocumented change in conventions, poor handwriting) in order to avoid further instances of the same problem.

These editing rules apply generally to each case.

1. Check the following questions for proper use of new codes:

18.7.26	Steering Column EA Device (9. Chrysler 74)
23.9.37	Deluxe Accessories (4. Reclining Seatbacks)
23.8.39	Type of Seat Adjustment (8. Swivel)
30.12-26.14-21	Areas of Occupant Contact
37A-37B	Occupant Supplement (see Section 3.3)
31.9.37	Original Report Form (5. Truck Form)

The changes listed below were made in the 1972 Editing Manual.

1.1.23	Traffic Lanes
2.1.38	Visibility Limitation
2.1.39	Visibility Obstruction
4.1.45	Vehicle to Vehicle, Configuration
4.1.56-57	Objects Contacted
11.4.57	Telescoping Unit Type
12.5.12	Fire, Time of
13.5.56-57	Trailer and Hitch
19.7.26	Steering Column EA Device Type
29.11.15	Position on Seat
28.11.26	Sex
29.11.44	Treatment/Mortality - Always Changed
29.11.45-46	Overall Severity of Injuries
30.12-26.14-21	Areas of Occupant Contact

2. Avoid "Unknown" codes and "Other:" codes. Their use adds little or no information to the data file. The "Unknown" must still be used (rather than leaving a blank) if a reasonable response cannot be developed from case documentation.

Try to avoid "Other:" codes by selecting another appropriate response category or suggest that a new category be added to the list of valid responses.

3. Use only numerics (numbers) except as noted below. Do not permit any card punch columns to be filled in with letters or special characters such as "+->%". Use only the digits 1 through 9. Do not use dashes for "unknown".

4. Only the following questions should be answered with alphabetic characters.

1.1.2-3	Team Letters*
6.2.12-24	Other Vehicle VIN
7.2.58-71	Other Vehicle CDC*
7.3.12-24	Case Vehicle VIN
7.3.47-52	Case Vehicle CDC*
20.7.46-47	Windshield Code
31.90.24-34	Team Case Number
31.90.35	Editor Letter
31.93.67-74	Other Vehicle CPIR Number
30D.31-95.14-36	OIC Letters

* This alphabetic field also appears in other locations.

5. Be cautious in assessing collision damage from vehicle photographs not taken on-scene. Post-crash damage often occurs during occupant extrication, vehicle towing or junk yard storage. Doors are ripped open, pillars are cut, fenders and bumpers are distressed, fuel tanks are punctured, windows are broken, original seat positions are changed, tires are switched, accessories are removed and so forth.

6. Whenever a component is separated (e.g. C-pillar), then the previous question should be coded as damaged "yes" (1) on pages 11 through 15.

7. If inconsistencies between the narrative of the case and its CPIP(s) arise, then choose the best documented choice. This is usually the one found in the narrative version of the case. However, some teams prepare case summaries from the CPIR so then it may be better to leave the CPIR unaltered.

SECTION 3.2

INTERPRETATION OF CPIR QUESTIONS

This section documents how the editor should interpret each individual question and the extent to which the responses should be technically edited. Questions not to be edited are left to the discretion of the field investigator. The number following each paragraph heading is a cross-reference number to that question in the CPIR form by page number, card number and column number.

REPORT NUMBER (1.1.2-9)

This Report Number is one of two types: consecutive ascending, or consecutive ascending within a year. An example of the first type would be a case prepared by the University of New Mexico, whose cases are usually numbered UNM 95, for instance. This will be entered as NM-00095. An example of the second type would be a report prepared by the Cornell Aeronautical Laboratory, whose numbers begin with the year because their case numbers start over from 1 each year. A typical number would be CAL 71 57b. It would be entered in the computer in the form Cb-71057. (See Ref. 1, Team Letters and Report Sequence Numbers)

Column 9 is the case vehicle serial number. This number is used when there is more than one case vehicle per accident, i.e., there is more than one CPIR form per accident. One vehicle is assigned the number (1), another will be assigned the number (2), a third the number (3), and so on, depending on the number of case vehicles to be processed.

An attempt should be made to use the investigators' vehicle number designation, usually the striking vehicle becomes vehicle 1 and the struck vehicle becomes vehicle 2. Numbers should not be skipped for CPIR forms not to be processed, i.e., all forms to be computer processed should be numbered consecutively 1, 2, 3,

Column 0 is left blank for single case vehicle accidents, i.e., for accidents in which only one of the vehicles qualifies for computer entry, (e.g., car-motorcycle, truck-car) or cases with only one CPIR supplied.

DATE OF COLLISION (1.1.12-17)

The Date of Collision is the responsibility of the investigator. It should be checked with the case documentation, e.g., if it is strange, such as a year of the future entered, then a crosscheck with the narrative can be carried out and any necessary adjustments made. If the date is partially unknown, 9's should be entered for the unknown part only, i.e., if only the month and year of the accident are given, the month (05 for "May" etc.) then (99), and then the year (72 for 1972) should be

entered. Zeros are not a valid unknown code for this item. If the date is not readily found, look through the police report or other documentation. The cases from the Maryland Medical Legal Foundation often have the day of the accident missing. It may be found on a special page at the end of the case.

STATE CODE (1.1.18-19)

The state location code is taken from the Federal Information Processing Standards Publication (5-1) and is found under State Codes in the Reference Information Section. Canadian provinces are also given their own "state" codes.

AREA/LOCALITY (1.1.20-21)

The area and locality of the accident are given by the investigator and since most teams do not include population densities for the accident site, the investigators decision should be accepted. In cases where an expressway is the accident site, the locality surrounding the expressway should be taken into consideration when coding Area and Locality.

ENVIRONMENTAL CONDITIONS page 1,2

LIMITED ACCESS HIGHWAY (1.1.22)

The Limited Access Highway item is determined by the investigator. The editor should check the photographs, narrative or accident diagram for agreement.

ROAD TOTAL TRAFFIC LANES (1.1.23)

This question refers to the road that the case vehicle is traveling on. If the collision happens at an intersection, choose the roadway that most closely describes his direction of travel; thus, if the case vehicle is traveling on a north-south roadway and completed a left hand turn onto an east-west roadway but is still in the intersection when the collision occurs, the vehicle should be considered traveling the east-west roadway. In the same light if he had not yet completed the turn, he should be considered traveling the north-south roadway.

Neither parking lanes nor bicycle lanes are considered as part of the road width unless they have been designated as a turning lane at an intersection. Not all painted medians are considered as medians for the purpose of determining whether a roadway is divided or not. They are only considered medians if they exceed one car length in width, i.e., they are more than approximately 16 feet wide. Botts Dots also do not constitute a median for the purposes of this question. However, any other physical barriers such as islands, rumble strips, etc., constitute medians if they parallel the traffic way.

Again, this question is directed toward the case vehicle.

If a two case vehicle accident that occurred at an intersection is being edited, then the response to this item may change from one CPIR to the other. It is useful to refer to the accident photographs and diagrams or the environmental data to check this question.

OTHER ROAD TOTAL TRAFFIC LANES (1.1.24)

This question is similar to the previous question. The same type of information is entered here except that it applies to the intersecting roadway in accidents that happen at intersections. The code value (9) is used when the collision did not occur at an intersection.

TYPE OF ROAD SURFACE (1.1.25)

Again, this question is left to the investigator unless scene photographs do not substantiate the investigators claim. Bituminous concrete is another word for "asphalt" (1).

ROAD ALIGNMENT, VERTICAL PLANE (1.1.26)

This again applies to the case vehicle. It is the duty of the investigators to enter the correct response. However, crosschecks with the narrative description may be made. MDAI cases may give the grade, if it exceeds 2%, it is considered a slope. The alignment at the point of first impact should be coded.

ROAD ALIGNMENT, HORIZONTAL PLANE (1.1.27)

Although answers to this question are provided by the investigating team, it can be crosschecked with the accident diagram. Here, too, the alignment should be coded at the point of first impact.

SURFACE COVERING (1.1.28-29)

To attempt to change the answer to this query is dangerous because to determine that a pavement was "damp" (02) rather than "wet" (03) is extremely difficult to do. This type of decision is left up to the investigator. However, gross discrepancies, such as a "dry" (01) pavement when heavy precipitation was noted, should be corrected.

PRECIPITATION (1.1.30)

The type of information called for by this question must be supplied by the investigating team, but the editor may change their response if discrepancies exist or gross irrationalities are created by certain response, e.g., "rain" (2) at temperatures of -15 degrees F.

RATE OF PRECIPITATION (1.1.31)

If the previous item had a response other than (1) "none", then a rate of precipitation must be entered here, i.e., responses (4) "light", this includes mist, (5) "moderate", (6) "heavy", or (7) "unknown". If the response to the previous question was (1) "none", then this question must be answered (3) "not applicable".

Again, the difference between "light", "moderate", and "heavy" precipitation must be decided by the investigators.

SURFACE SLIPPERY (1.1.32)

No standards have been set that state when a surface is "slippery". Therefore, it is the investigators prerogative to answer this question. However, the editor may change this if it is inconsistent with the case documentation.

SPEED LIMIT (2.1.33)

Speed Limit refers to the legal speed limit for the traffic way the case vehicle is traveling. It also applies to posted advisory speeds on curves and ramps.

ROAD DEFECTS (2.1.34)

A "yes" answer should be given to this question only if the road defect was causative or involved in the accident in some way, i.e., defective street lights are not considered a road defect if the collision occurred during the day. The most common type is the pot hole that causes someone to go out of control. Design deficiencies are not road defects, e.g., a pole too close to the road is not a defect.

TEMPERATURE (2.1.35)

This must be reported by the investigator so the editor must, also, accept what is reported, unless the response is highly suspect, e.g., summer temperatures of (1) "below zero".

CROSSWIND (2.1.36)

This question is usually answered (2) "light". Tail or head winds do not count as crosswinds. Determining whether the crosswind was light or strong may present a problem. If crosswind speeds are given, then those of 0-5 mph velocities are considered "calm" or "none" (1), those of 6-14 mph are considered light (2), and those of 15 mph or over are considered "strong" (3).

TIME OF DAY (2.1.37)

This should be crosschecked with Time of Collision from page (1), of the CPIR.

VISIBILITY LIMITATION/OBSTRUCTION (2.1.38-39)

As of 9/1/72, these items are applied to the accident as a whole, i.e., if one vehicle, even if it isn't a case vehicle, has a dirty windshield (5) "windshield condition" is marked on any CPIR's for that collision. Similarly, if a building blocked the view for one vehicle, then (2) "building" must be entered under Visibility Obstruction for all CPIR's in the accident. (2) "cloudy-dark" is a low, heavy cloud cover making the sky totally overcast, and should not be marked just because the accident occurred at night.

There are two new codes for Visibility Limitation: (8) "rain" and (9) "snow". These are to be used where either the rain or snow is heavy enough to cause a visibility problem. If these two new codes are used, a crosscheck with the Precipitation and Rate of Precipitation on the previous page, should be done.

There are also two new codes for Visibility Obstruction: (8) "vehicle in transport" and (9) "parked vehicle". "Vehicle in transport" means any motor vehicle in a traffic way whether it is moving or not. A non-moving vehicle in a legal parking area with driver and with the engine running is a "parked vehicle" for the purpose of this item. A bus at a bus stop is in transport.

MECHANICAL MALFUNCTION

POSSIBLE MECHANICAL MALFUNCTION (2.1.4)-41)

A malfunction, in connection with this question, means mechanical dysfunction of an item on the case vehicle. The malfunction of that item(s) must somehow be involved in the accident. This question does not ask for alleged malfunctions nor does it ask for investigated malfunctions. Low tire pressure is not a malfunction in most accidents; where as tire blow-outs are a malfunction.

If an allegation is made that there was a malfunction, e.g., "the throttle stuck", and the investigators did not find a malfunction, then a zero (0) should be entered in column 40 and "yes" (1) in column 41 but throttle controls should not be checked nor should a response other than zero (0) be entered in column 40.

COLLISION CONFIGURATION

VEHICLE TO OBJECT (4.1.42)

Vehicle to Object is coded "yes" (1) only when the object contacted produces damage to the vehicle or injury to an occupant. Pedestrians are objects; other vehicles are not. In the case of a rollover (90 degrees or more) with only ground contact, this is coded "no" (2).

ROLLOVER (4.1.43)

Rollover is defined as any vehicle rotation of 90 degrees or more, about any true horizontal axis. A car on its side is coded "yes" (1). Rollover can occur at any time in the collision sequence and is coded independently of other configuration questions.

RAN OFF THE ROADWAY (4.1.44)

Ran Off the Roadway means that the first impact must occur outside the boundaries of the roadway. If a curb is contacted with damage or an associated injury occurring before the vehicle leaves the roadway this question is coded "no" (2). If negligible damage is done by the curb then "yes" (1) should be coded. Thus, a two vehicle collision where the case vehicle subsequently runs off the road and hits a tree is not a Ran off the Roadway collision.

VEHICLE TO VEHICLE (4.1.45)

The response chosen should be indicative of the first injury or damage producing collision between the case vehicle and any other vehicle, this is irrespective of any other contact with objects or a rollover.

The list of configurations are described as follows. "Yes, configuration unknown" (1) means that a vehicle to vehicle collision took place but the way they collided is indiscernible. "No configuration" (2) indicates that the case vehicle was not involved in any vehicle to vehicle contact of damage or injury producing proportion. "Head-on" (3) means that the two vehicles (one of which is the case vehicle) contacted front end to front end. The only exception is a sideswipe of either one of the two sides with an initial frontal contact to both vehicles, this is more appropriately coded as a "sideswipe" (5). "Intersection 'L' type" (4) is coded when the front or rear of one vehicle contacts either side of the other vehicle primarily at one end of that side, thus little or no direct contact to the middle or opposite end of that side. "Sideswipe" (5) refers to a collision where either end or either side of one of the vehicles involved is contacted in a sweeping manner that superficially damages a wide area of that side or end first contacted. "Rear impact" means that the two vehicles (one of which is the case vehicle) contact each other front end to rear end. This is irrespective of the direction either of the vehicles is traveling as in the "head-on" (3) configuration. A sideswipe condition, coded "sideswipe" (5) take precedent over "rear impact" (6). "Other" (7) configuration refers to any unorthodox collision where at least one of the vehicles involved does not have all wheels on the driving surface at first contact with the other vehicle (e.g. vehicle partially rolls over and hits another vehicle, or a vehicle falls off a bridge and lands on top of another vehicle), or the vehicles collide side to side and the direction of force is not a sweeping-type motion (e.g. two vehicles traveling in

opposite directions both skid and contact side to side instead of head-on). It does not include multi-vehicle accidents, or pedestrian accidents. "Intersection T-type" means the front of one vehicle contacted the middle portion of either side of the other vehicle with subsequently little or no damage to either end of that contacted side. If the Case Vehicle CDC is 12-FDEW-2 and the Other Vehicle CDC is 09-LPEW-3 the first letters indicate this to be an intersection type collision; the second letter of the Other Vehicle CDC indicates it to be a T-Type (8). "Intersection type" collisions do not have to occur in intersections. A "T type" (8) is into the passenger compartment. An "L type" (4) is into the forward or rear sides of the vehicle.

When the case vehicle contacts more than one other vehicle, the configuration that represents the first damage or injury producing contact should be coded. In this type of collision, the primary CDCs do not have to conform to the collision configuration.

VEHICLE TO STOPPED/MOVING VEHICLE (4.1.46-47)

Vehicle to Stopped Vehicle and Vehicle to Moving Vehicle are not mutually exclusive when the case vehicle contacts more than one other vehicle or one other vehicle twice. However, if two vehicles are involved and only one impact occurs, then only one of these two code choices can be coded as "yes" (1). Here too, only damage or injury producing contacts are considered.

OTHER (4.1.48)

Other does not include pedestrian accidents; they are recorded under Vehicle to Object. This does include jackknife-type accidents for trailers, fire only accidents, and some malfunction of vehicle accidents where displacement of a vehicle part causes damage or injury (e.g., muffler of car breaking and doing undercarriage damage).

VEHICLES INVOLVED (4.1.49)

This question includes all the vehicles contacted in the accident regardless of whether or not the case vehicle contacted them. Non contact vehicles that "caused the accident", e.g., involved as visual obstructions, should not be counted as a vehicle involved.

OBJECTS CONTACTED (4.1.50-57)

Objects Contacted should be coded in the order of contact during the collision and should include only damage or injury producing contacts. If the case vehicle contacts another vehicle more than once, then the other vehicle should be coded more than once. Curbs should not be included unless they produce damage or an injury. In cases where curb contacts are significant to warrant a CDC code then use "other" (99) and write in "curb" for

the contact code. In a case where more than 4 objects are contacted, only the most significant ones should be included. "Other" should not be used for more than one object. The "other" code should not be used unless none of the existing codes adequately describe the object in question. Objects Contacted includes only those objects contacted by the case vehicle. Hard packed snowbanks along the edge of the roadway should be coded as "embankments" (09). The addition of new code values for trucks (22-26) and additional objects (40, 50-55) should be noted. All unused responses should be filled with "none" (02).

DRIVER IMPAIRMENT/VIOLATION

CASE VEHICLE DRIVER'S ABILITY TO DRIVE IMPAIRED BY (4.1.58-61)

"Drinking involved" (03) includes unknown amounts and amounts insufficient to be considered drunk by local legal standards but enough to be considered a possible accident causal factor. Insignificant quantities, such as glass of wine with dinner three hours before the accident, should not be included. The "drunk" (04) category is defined by local legal standards. "Medication" (11) includes both prescription and over the counter items. The code "narcotics" (12) includes illegal drugs such as marijuana which is technically not a narcotic. Things such as inattention are often mentioned in the narrative and not coded here; they should be.

TRAFFIC VIOLATION/LEGAL ACTION (4.1.62-63)

Violations should be coded when a violation occurs even if a ticket is not issued. Legal Action is coded only if a citation is issued or litigation is pending. A "yes" (1) should be entered in Traffic Violation if a violation was indicated on a police report and a "no" (2) under Legal Action if there was a violation but no legal action. A non-moving violation which has no relevance to the collision should not be coded as a violation. The editor should not determine that a violation occurred, but should code violations as documented by the investigator.

TYPE OF LOSS (4.1.64-65)

Personal Injury is coded "yes" (1) if anyone sustains any injury; this includes fatal injuries too. Property Damage includes damage to any involved vehicle and is usually coded "yes" (1). (Pedestrian accidents sometimes have no property damage occurring).

VEHICLE SPEEDS page 5

VEHICLE SPEEDS (5.1.66-77)

Speeds should be coded (999) if they are unknown. Other

Vehicle Speeds should be coded (888) if it is a single vehicle accident. Ranges of speeds can not be coded, so the median of the reported range should be entered. Speed at Impact is the speed of the first impact, even if only minor damage occurred.

OTHER VEHICLE page 6

Only one Other Vehicle page may be computer processed, even if several Other Vehicle pages have been completed by the investigator. The other vehicle causing the most damage to the case vehicle should be chosen. In multiple vehicle collisions all Other Vehicle pages must be completed. (some MDAI teams leave the page blank when they complete a CPIR form for each vehicle).

Since the Case Vehicle page (card 3) contains all of the responses found on the Other Vehicle page, (card 2) only the Case Vehicle responses will be discussed.

CASE VEHICLE page 7

VEHICLE IDENTIFICATION NUMBER (7.3.12-24)

The VIN is the model and serial number of the vehicle. It usually contains model identifying numbers and letters within the first few digits of the VIN. In most cases, one can obtain make, body style, model year, assembly plant and in some cases (all but American made GM cars) engine type. GM, Chrysler Corporation and AMC have 13 characters with the exception of Cadillac which had only 12 characters before 1971. Ford Motor Company vehicles have 11 characters in the VIN. The serial number portion of the VIN should be filled in with 9's until it is the proper length. If no VIN has been provided, leave the entire field blank.

With the information gained from the VIN, one can check the Number of Cylinders, Body Style, and Model Year coded elsewhere on the page. Check the VIN Summary in Section 5 for an outline of VIN formats and contents. If an inconsistency is discovered, a crosscheck with the narrative resolves the differences. More detailed VIN information can be found in the "Motor Vehicle Identification Manual (reference 7) and references 3 thru 6.

MAKE/MODEL CODE (7.3.25-29)

This code is used to identify the country, corporation, division and model of the vehicle. See the Make/Model Codes portion of the Reference Information Section 5.

Whenever any part of the Make/Model Code is unknown, it should be denoted by zeros not nines. Since some of the cases that are edited include only a CPIR form, short narrative, and police report, explicit data as to the make and model of the

other vehicle may not be known. The police report may include the car name and type such as, Chevrolet coach. This means that the make/model code would be (113) for the first three digits, (USA, GM, Chevrolet) but the body type is unknown (coach is not specific enough) thus, a (00) would be inserted as the last two digits. The five digit code for this example is (11320).

MODEL YEAR (7.3.30-31)

This question is self explanatory, but it should be mentioned that the "unknown" code is (99) not (00). This sometimes becomes confusing since the unknown codes for the questions immediately surrounding model year are zeros. The year should coincide with the year indicated by the VIN. If not, and the narrative/photos also differ from the VIN year, the entire VIN should be deleted.

SHIPPING WEIGHT OF VEHICLE, LBS. (3.3.32-35)

The Shipping Weight is defined as the weight of the vehicle as built to production parts list, plus engine oil, coolant to capacity and 3 gallons of gasoline, less optional equipment. (see MVMA Supplements, references 2-5). If the investigator has added weight to account for optional equipment, do not make changes. The shipping weight can be found in the Red Book (reference 6) for most cars and trucks. The unknown code is (0000). For weights of over 10,000 lbs., (9999) should be entered.

ODOMETER READING (7.3.36-40)

Mileage is taken from the vehicle at the time of collision. Here, too, the "unknown" is (99999) and "over 100,000 miles" is (99999). Sometimes a close look at a 35mm slide of the instrument panel will reveal the odometer reading. If the odometer was disconnected or broken before the collision, the reading should not be entered and the damage should be noted next to the CPIR question.

BODY STYLE (7.3.41)

The vehicle portion of the narrative, VIN, photographs and slides, are all used to determine Body Style. Some of the difficulties found in determining the difference between hardtops and sedans have been eliminated by definition: any type of upper B-pillar, however thin, is entered as a coupe or sedan, whereas a hardtop has no physical upper B-pillar whatsoever. This then categorizes Plymouth Dusters, Dodge Demons, and Lincoln Continentals as "Coupes" (2). Cars like Pinto, Gremlin, and Vega are entered as "2-door sedans" (2). The hatchback is always considered a tailgate, not a door. Due to the placement of the upper second pillar and the lack of rear windows, most Corvettes, and 70-72 Firebirds and Camaros, are considered "coupes" (2), with no upper C-pillars. A note should be made that pick-up cars (e.g., Ranchero, El Camino) are classified

under "station wagons" (5).

Hard shell or removable hardtops are entered as "convertibles" (6). Cars with sun roofs (any top that has a pillared structure, side rails, and a portion of the roof which can provide an opening into the passenger compartment), are classified as "sedans" (2,4). Cars with soft or removable hard shell tops and a roll bar are considered as convertibles with upper B-pillars, e.g., Porsche Targa.

BODY STRUCTURE (7.3.42)

The Body Structure Charts in the Reference Section (5) gives the type of structure of most US and imported cars. One common error is in classifying VWs as unitized body construction. They should be classed as "other" (4) with "platform" inserted in the blank, since the VW structure is a combination of both "body and frame" and "unitized" construction. It should also be noted that body mounts exist on both "integral-stub" and "body and frame" structures. Body Mount Separation comes up later in the CPIR form and should be encoded consistently with the answer provided in Body Structure.

NUMBER OF CYLINDERS (7.3.43)

This question is answered by the investigator upon examination of the car. The answer should be checked with the information provided in the VIN or Fed Book to see if the entry is correct. For rotary engines, "single rotor" (1) and "double rotor" (2) should be coded appropriately for the new engines.

HIGH PERFORMANCE (7.3.44)

This question is a problem since no mutually agreeable criteria has been established. In the past, if the horsepower or the engine and the weight of the car were known, a 10.5 weight to horsepower ratio was used as the dividing line for high performance. Usually the investigator's decision is accepted. Do not accept High Performance based solely on the car's "fast" image or fancy facade.

NUMBER OF OCCUPANTS (7.3.45-46)

This refers to the total number of persons being transported by the case vehicle at the time of the accident, and must match the number of occupant sections included in the CPIR. It includes as occupants, people in the rear of pickup trucks. A driver standing beside his unoccupied case vehicle is coded as (00) occupants.

VEHICLE LOADING (7.3.47)

For passenger cars "full rated load" is with all designated seated positions filled plus 200 lbs cargo. For pickup trucks, panel trucks, sports vans, etc., the GVW is used. Since the three

categories in this question are quite general, the investigators' decision is usually accepted.

EQUIPMENT OPTIONS (7.3.48-52)

Equipment Options includes Transmission Type, Steering Type, Brakes, Brake Type, and Brake Anti-Lock Device (does not include anti-slip differential, positraction). Although the questions are answered by the investigator, Section 5 has information about Brake Anti-Lock Devices and Brake Types useful in checking responses.

TOP POSITION AT TIME OF COLLISION (7.3.53)

Convertibles, sun roofs, and removable hardshell tops are the only cars that don't receive a "not applicable" (3) for this question. It should be noted that hard shell means solid metal or fiberglass roof whereas soft top means cloth type roof. Three new codes, (6), (7), and (8), have been added.

CASE VEHICLE REPAIR OR REPLACEMENT COST (7.3.54-57)

One can find vehicle cost for "totaled" vehicles under 'retail value' in the Red Book (reference 6), or any other valid source of vehicle cost. Teams should make an effort to obtain repair costs if the car has not been totaled. Note that the "unknown" code is (9999).

CASE VEHICLE DAMAGE INDEX (7.3.58-71)

The CDC (Collision Deformation Classification, formerly called VDI Vehicle Damage Index) consists of seven characters, three numbers and four letters. Each character describes specific deformation detail concerning the direction, location, size of the area, and extent, which combined together form a descriptive composite of the vehicle damage. It is an indicator of direct damage (contact deformation) only, and should not represent indirect (induced) type damage.

The first two columns of the CDC are concerned with the direction of principal force at impact. The principal force is that force which caused the crush and sheet metal displacement on the damaged vehicle. The direction of the principal force is determined by the resultant of forces acting on the vehicle at the point of application. The direction of the principal force is designated by reference to hour sectors on a conventional clock face positioned over the point of application, in the horizontal plane. The accident configuration, the speeds and weights of the vehicles involved should be taken into consideration if known. Thus, a "twelve o'clock" principal force indicates a direct frontal collision, and a "six o'clock" principal force indicates a direct rear end collision. The entry of (00) is used for all non-horizontal impacts, which includes all rollover VDI's. The entry (99) indicates an "unknown" clock direction or "not applicable" clock. In the case where there is

no secondary CDC (99-0000-0) is entered.

Column 3 represents the general location of damage and point of contact. It broadly defines which projected area of the vehicle containing the deformation. Angle impacts at 45 degrees to the front or rear corner may be difficult to classify. These impacts should be classified as "F" or "B" if the deformation area at the front or rear of the vehicle exceeds the deformation area at the side; "L" (or "R") should be used if the deformation area at the side is larger. Similar consideration should be given to top versus side deformation in rollover; if the deformation area on the top is greater than on the side, use "T". If the side deformation is greater, use "L" (or "R"). If the damage falls into the "E" or "S" category in column 6, the side or end with the major area damage may not coincide with the general direction of force that caused that damage. In these cases, the letter in column 3 should indicate that general direction, relative to the vehicle, of the force that caused the damage (see definitions and examples below).

In determining whether undercarriage is the appropriate response for describing the general area, the following explanation and examples should be noted. Cases where the bumper has been contacted and rolled back and up, and then severe undercarriage damage along the length of the vehicle occurs, an "F" should be entered in column 3, with the extent number in Column 7 explaining how far back the undercarriage was damaged. For example, if a post or tree is contacted by the lower edge of the bumper and then the post or tree bends, and the car continues over it causing undercarriage damage, a single CDC describing one continuous impact is the appropriate entry, (in this case an "F" in column 3 and an "L" in column 5 would be entered). In some cases, though, where two distinct types of damage occur as a result of the contact with a single object (e.g., car impacts a stop sign leaving an impression in the front grill area before bending and continuing under the car causing undercarriage damage), it is permissible to represent the damage with two CDCs

The next column, number 4, designates the specific horizontal location of damage. Variations in vehicles require that some special definitions be given as guidelines for the classification code "P", as follows:

- A. Passenger cars - from the windshield to the rear of the rear-most seat.
- B. Station wagons - from the windshield to the rear of the second seat.
- C. Vans - from the front-seat back-rest to the center of the rear wheel.
- D. Pickups - from the windshield to the rear of the cab.

"F" and "B" are side deformation areas forward and rearward of "P", respectively. Column 4 has meaning only in connection

with Column 3; i.e., it is a suffix of Column 3 rather than being independent of it. The classifications "R", "C" and "L" should not be used for vehicles with top or undercarriage deformation ("T" or "U" in Column 3). Only "F, P, B, Y, Z", and "D" are allowable. Y and Z are interpreted as F+P and P+B respectively for top or undercarriage damage.

Overlapping damage areas are covered by the letters "Y" and "Z". A narrow deformation ("N" in the sixth column) area may be coded in conjunction with a "Y" or "Z" in cases where the damage falls on a borderline between two specific horizontal regions.

Column number 5 is used to classify the verticle aspect of the damage. In frontal impacts, the contact damage to the bumper can aid in determining the distinction between "E, M", and "L": "E" - Full height of bumper and sheet metal above had contact damage; "M" - Bumper essentially over-ridden by other object; "L" - Lower portion of bumper had contact damage.

In undercarriage damage, the "X" in Column 5 is used because the Column 3 "U" already defines the vertical location of damage.

On unitized bodies with no frame, the division between "M" and "L" for side impacts is taken to be along the door sill line.

Column 6 defines the general type of damage distribution through the following letter guidelines:

"A" - Damage resulting from underriding an overhanging structure, or being overridden by an overhanging structure (such as rear end of a truck or loading dock).

"S" - Damage resulting from contacting an object with a corner of the vehicle, then sideswiping a portion of the vehicle or pure sideswipe.

Examples:

1. FFES - Contacting front, then sideswiping side, without involving suspension system (usually less than or equal to 4").

2. RFES - Contacting right side at front, then sideswiping front without contacting frame (usually less than or equal to 4", but can take bumper off).

3. RYES - Pure sideswipe.

"E" - Damage resulting from contacting an object with a corner of the vehicle that involves approximately 5" - 16".

Examples:

1. FREF - Contacting front right, forward of or involving the suspension area but not the frame.

2. RFEE - Contacting right side at front and involving frame horn area.

"O" - Any damage resulting from rollover only.

"N" - Damage which is narrow, but does not fall into the "S" or "E" classifications. This damage can be less than or equal to 16" wide horizontally, or less than or equal to 6" wide vertically, or a rectangular area which is less than or equal to the perimeter of a 16" square.

"W" - Any damage not falling into one of the above categories, and is considered a wide area of damage.

The final column, 7, is a numeric code used to describe the extent of the damage. Extent zones are applied to front, rear, side, top or undercarriage deformation and should be selected so that they are compatible with the principal damage selection in column three.

In order to achieve uniformity, the deformation extent guide has been established in relation to specific points on the vehicle.

If the passenger compartment is involved in "Top" damage, then the extent number should reflect the extent of damage to the passenger compartment. This is true even if the hood or deck lid are involved.

If the distance from the rear-most point of the vehicle to the top of the rear window is greater than the distance from the top of the rear window to the front door latch pillar (start of Zone 9) then use the "passenger car" deformation rear extent zone guide for classifying rear deformation. Other vehicles are classified using the rear extent guide for station wagons and vans.

THE EXTENT NUMBER SHOULD NOT BE USED AS A TOOL FOR DETERMINING THE COLLISION SEVERITY OR ENERGY REQUIRED TO DUPLICATE THE DAMAGE. FOR VEHICLES OF THE SAME BASIC TYPE, IT DOES SERVE AS A TOOL FOR GATHERING TOGETHER VEHICLES WHICH HAVE SIMILAR DAMAGE CHARACTERISTICS.

The "unknown" code for the total CDC is (99-0000-0). This code is also used to indicate no damage or no secondary CDC. It is also used as the CDC for the other vehicle in single vehicle accidents.

When there is more than one CDC for the case vehicle, the investigator and editor should agree on a primary and secondary CDC. There are three major considerations that act as a guideline for choosing a primary CDC. They are listed below in

order of importance:

1. The impact that caused the greatest intrusion into the passenger compartment.
2. The impact that appears to have done the most damage to the exterior of the vehicle.
3. The impact that caused the most severe injuries.

If contact is made with an energy absorbing bumper and no damage results (i.e. The bumper compresses and returns to its original position) then no CDC is recorded. There may be evidence of contact such as skuff marks or cuts in the rubber on the bumper, and there may even be occupant contact or injury, but if there is no deformation of the bumper no CDC is needed. If the contact did cause permanent compression or damage then a CDC is required. If only the bumper was damaged use an extent code of 1.

EXTERIOR DAMAGE page 8

SHEET METAL DAMAGE (8.4.12-17)

As noted in the CPIR form, this damage represents direct (contact) damage only and should correspond one for one, area of damage with the first letter of the CDCs. In cases where more than two CDCs exist, the first letter of those subsequent CDCs should also be represented as a positive response in the correct car region. Thus, if there are two CDCs, 10-FLEW-2 and 04-RPAN-1, then both Front and Right Side should receive positive responses.

SHEET METAL CRUSH (8.4.18-29)

The crush should always correspond one to one with the Sheet Metal Damage. The measurement of this crush should be made from the original outside contour of the vehicle. When these responses are left blank, the inches of crush should be determined from the damage diagram. The difference in overhang between the damaged and undamaged vehicles for front and rear collisions along with wheel base shortening can be used to determine the number of inches of crush. Another guideline for figuring out the inches of crush is that usually the speed at which the vehicle was impacted corresponds to the inches of direct crush, i.e., 5 mph at impact corresponds closely to 5 inches front crush. (Note, this relationship is not as accurate for side collisions). Roof damage is restricted to downward crushing, and includes trunk lid and hood damage. The code value (00) is used for crush of "unknown" amount. Vehicle regions not sustaining direct damage should be filled with (00).

WHEELS AND TIRES page 10

WHEEL ORIGINAL EQUIPMENT TYPE (10.4.30-32)

This question is left almost totally to the investigator's judgment. Wheel Damage is sometimes changed to be consistent with the contents of the narrative and the slides. Damaged rims should be looked for, if the car struck the curb. Tire damage is not to be included. "Mag" wheels never come as original equipment on USA manufactured vehicles. Do not confuse with fake hub cap versions.

TIRES (11.4.33-40)

Responses concerning Tread Wear, Tread Type and Carcass Type are entered by the investigator, and are usually accepted except where personal experience dictates otherwise. Tire profile can be checked if the tire size model numbers have been included in the CPIR. Tires with numbers containing 50, 60, or 70 are "wide oval" (5) and 78's are indicative of "regular" (4). For example, P70-14 are wide oval and G78-15 are regular profile tires. Tires with three digit model numbers (e.g., 6.85-14) cannot be used to determine profile.

FRONT EXTERIOR page 11

HOOD LATCHES (11.4.41-43)

Latch damage is taken on the word of the investigator. This question asks if the hood latch is inoperable, and does not include sheet metal deformation that prevents opening the hood. The latch cannot be both jammed and released. If there are two latches and the first releases but the safety catch jams, code the latches as jammed but not released. Hoods also include front trunk covers, as on the VW.

HOOD HINGES (11.4.44-47)

If the rear edge of the hood elevates and contacts the windshield, the hood hinges should be coded as Damaged "yes" (1). Separated now includes new codes for "partial separation" (4) and "complete separation" (5). If there is no damage, there can be no separation and both are coded as "no" (2).

HOOD REMAINED ON VEHICLE (11.4.48)

If the hood latch(es) release and both hinges separate but the hood remains in place due to sheet metal deformation, the hood is considered as having remained on the vehicle. In all other cases if the hinges have completely separated, the latches released and the hood completely separated from the vehicle during the collision, then the hood did not remain on the vehicle.

REAR EDGE OF HOOD (11.4.49-51)

If the rear edge of the hood moves above its normal pre-crash position, it is considered elevated. If the rear edge of

the hood hits any part of the windshield at any time during the collision, even if it pulls away again, Contacted Windshield should be coded "yes" (1). This contact may not necessarily be damage producing. If the hood tears or causes a break in the laminate of the windshield, the hood is considered to have penetrated the windshield. This does not necessarily mean the hood has entered the passenger compartment.

OPTIONAL HOOD (11.3.52)

Any non-standard structural change in the hood is considered an Optional Hood. Optional Hood can be a factory or non-factory installed model. Things such as functional or non-functional hood scoops may qualify as optional hood depending on whether they are standard equipment or not. Painted racing stripes and blacked-out hoods do not qualify as optional hoods.

ENGINE OR TRANSMISSION MOUNT SEPARATION (11.4.53)

This includes any or all mounts and includes complete, or partial separation and cracking. The entry made by the investigator is usually accepted, unless a discrepancy between the CPIR and the narrative exists. In the case of partial separation, partial should be written in the margin.

STEERING COLUMN FLEXIBLE COUPLING (11.4.54-56)

If there is no Steering Column Flexible Coupling (a flexible rubberized coupling, not a pot joint), then the Separated and Other questions become "not applicable" (3). If there is a Flexible Coupling, the investigators entries are usually accepted. Separated should be coded as either "complete" (5) or "partial" (4) separation.

ENGINE COMPARTMENT TELESCOPING UNIT (11.4.57-60)

The entry provided by the investigator for the damaged unit is usually accepted, but a check to insure proper coding of type and original length should be made. See Section 5, Telescoping Unit. This is especially true in the case where the hood is jammed and the investigator had difficulty in determining the type or presence of a telescoping unit.

When there is "no unit" installed, columns 58-60 should be coded with (888), if the type is "unknown" (999) should be used. If the difference in length is known, it should be rounded off and recorded in tenths of an inch.

FIRE page 12

FIRE (12.5.12-14)

The first question on fire is taken from the accident viewpoint. If a fire has started in either vehicle, Fire should

be coded. There are three new codes denoting the time the fire started; (4) "pre-crash", (5) "at-crash", and (6) "post-crash". If there is a fire but the starting time is unknown, use "yes - time unknown" (1).

The Extent of Fire and Fire Origin questions apply to the case vehicle only, thus, fires that do damage to another vehicle but not the case vehicle are coded as "not applicable" (3). The distinction between a major and minor fire is subjective, however the following guidelines prevail: major fires will probably require fire department services. Minor fires may burn themselves out or are easily extinguished.

The Fire Origin question is self-explanatory. In cases where the fire begins in the other vehicle and not in the case vehicle, the "other:" (8) category is filled with "other vehicle" and coded as (3).

It should also be noted that any damage due to fire is not coded as impact damage throughout the CPIR form. For example, if a fire starts in the passenger compartment and burns the seat cushion, Seat Cushion Damage is not coded "yes" (1) on CPIR page 23.

LEFT EXTERIOR pages 12, 13

LEFT PILLARS NOT DAMAGED (12.5.15)

If the left pillars were not damaged or separated or left roofside rail was not damaged or buckled, a (1) should be placed in column 15. The entire remainder of CPIR page 12 should be completely filled in.

LEFT PILLARS (12.5.16-31)

There are new codes; (4) and (5) designating "partial" and "complete" separation and (1) being "separation type unknown". If the pillar is not damaged, then there can be no separation and the proper coding is (2) "no" for Damaged and (2) "no" for Separated. If the pillar is damaged and not separated, the correct coding is Damaged "yes" (1), Separated "no" (2). If there is no pillar, both Damaged and Separated are coded "not applicable" (3). Many newer cars may not have actual lower C pillars, but damage or separation of the lower C pillar area should be coded.

In deciding which codes are appropriate responses to each of the pillar questions, consideration must be given to the Body Style of the case vehicle (CPIR page 7, column 41). Two door hardtops have lower A, B, and C and upper A and C pillars only. Two and four door sedans have both upper and lower A, B and C pillars. Small compacts with hatchbacks such as the Vega, Gremlin, and Pinto are coded as above but are considered to have tailgates and not trunk lids. More of this is detailed in the

section about trunks and tailgates. Sedan type cars are not coded as having lower D pillars. Lower D-pillars are only present on station wagons, vans, and pickup trucks.

Station wagons have both upper and lower A, B, C, and D pillars. In the case of small two-door wagons with only three sets of pillars, code A, B, and D pillars. An excellent example of this is the Vega wagon. When in doubt as to whether a car is a hatchback sedan or small wagon, a good rule of thumb is: If the rear most pillar is at an angle such that it looks like the C-pillar of a sedan, then it should be coded as a hatchback; whereas, if the last pillar is close to a vertical angle, then code it as a station wagon.

Convertibles - soft or hard shell are the most difficult vehicles to discern pillar arrangements for. In general, soft top convertibles have lower A, B, and C pillars and upper A pillars only. If there is a roll bar installed, it is coded as an upper B pillar while the B pillar that is part of the main body structure, i.e., the door jamb, is coded as the lower B pillar. It should be noted that cars with sunroofs are not considered convertibles.

Editing cars with removable hardtops is tricky, because their pillar arrangement depends upon the particular car. Some removable tops take out just the top and side rails leaving the backlight header and rear pillars intact. In this case, upper pillars are coded. The Porsche 911 is an example of this. Installed hard shell tops are coded as having only upper A-pillars and siderails, with the upper B and C-pillars being "not applicable" (3).

Vans have upper and lower A, B, C, and D-pillars. Pickup trucks have upper and lower A and B pillars as well as lower D pillars because of their tailgate. Jeeps and some other vehicles must be coded the way they are built. Kaiser Jeeps (American Motors) have a "bathtub" design and have no pillars rearward of the A pillars, unless there is a tailgate which gives it lower D pillars. If the jeep has a fold down windshield in the down position, there are no upper A pillars. If it has a roll bar, then a C or B-pillar is considered present depending on its placement.

LEFT ROOF SIDE RAIL (12.5.32-33)

The roof side rails can be either damaged or buckled. Buckled is a hard word to define in this context. The difference between damaged and buckled is the same as that between dented and bent, if the roof rail is buckled then it must also be damaged and coded as Damaged "yes" (1), Buckled "yes" (1). Convertibles with the top in place have side rails. The same goes for removable hardtops. Cars with sun roofs always have roof side rails regardless of their top position.

LEFT BODY MOUNT SEPARATION (13.5.34)

Integral-stub frame cars do have body mounts. (For type of Body Structure, see page 7 of the CPIR). Unitized cars do not have body mounts and are coded as "not applicable" (3). Partial separation of the body mount is coded "no" (2).

LEFT DOOR HINGES/LATCHES NOT DAMAGED (13.5.35)

If door hinges and latches were not damaged and doors did not jam or open during collision, and continuity of the side structure was maintained, a (1) should be placed in column 35. The entire remainder of CPIR page 13 should always be completed.

DOOR LATCHES, LEFT (13.5.36-39)

Door latches can be damaged without being released and vice versa. Released means totally released from the catch. If there is no door, the question is "not applicable" (3). The side door of a van is considered as a rear door and has a latch.

DOOR HINGES, LEFT (13.5.40-43)

Door Hinges are coded the same as Hood Hinges, including (4) for "partial" and (5) for "complete" separation. If the hinges have Separated, they are Damaged.

CONTINUITY OF SIDE STRUCTURE MAINTAINED (13.5.44)

This question should be looked at from an occupant ejection standpoint. If there is damage, such that all or part of the occupant could make contact with an exterior object to cause injury, the continuity is not maintained. This could be due to pillar separation; the door opening or external object intrusion through the side panel. It does not include open or damaged windows. Complete separation of passenger compartment pillars means the continuity is not maintained.

DOORS OPENED DURING COLLISION (13.5.45-46)

If the door opens at any time during the collision, it is coded "yes" (1). This is true even if the door becomes jammed later in the collision sequence.

DOORS JAMMED CLOSED (13.5.47-48)

If the door cannot be moved except with the use of tools or only with great difficulty, then the door is jammed closed. While rare, it is possible to have a door opened "yes" (1) and later jammed closed "yes" (1).

REAR EXTERIOR pages 13, 14

FUEL TANK AND LINES (13.5.49-55)

These questions are mainly the province of the field investigator. It is next to impossible for the editor to determine the fuel level or tank damage unless there are specific photos. However, if there is complete disengagement of the fuel tank, there must, out of necessity, be fuel leakage present. Fuel tank neck deformation is included as Tank Deformation equal "yes" (1). If there are no leaks in the tank, then questions on location of leaks should be coded with "not applicable" (3).

TRAILER HITCH INSTALLED (13.5.56)

There are several new codes here:

- (3) Temporary Bumper
- (4) Bumper
- (5) Frame
- (6) Load Distributing
- (7) Ring and Pintle
- (8) Fifth wheel
- (9) Other:

The "temporary bumper" type (3) is a clamp on unit as featured at many trailer rental companies. It can be installed or removed in a few minutes. The "bumper" type (4) is a ball fixed directly to a bumper as on the back of some pickup trucks. The "frame" type (5) is permanently attached (welded, bolted) to the bumper and frame. (see Trailer Hitches in Section 5 for drawings.)

The "load distributing" type (6) has a load distribution mechanism such as sway bars. They can frequently be identified by the square part sticking out below the bumper. The "ring and pintle" type (7) has a horizontal ring that drops over an upright pivotal member. A "fifth wheel hitch" (8) is like that used on tractor semi-trailer combinations. "Other" types (9) include anything else, such as clevis and pin.

TRAILER BEING TOWED (13.5.57)

If there is no hitch on the vehicle, this question should be coded not applicable (3).

Here as in Type of Hitch, there are several new codes:

- (4) Camper
- (5) Mobile Homes
- (6) Boat/Snowmobile, etc.
- (7) Rental/Cargo Trailer
- (8) Car
- (9) Other

TAILGATE PERFORMANCE (14.5.58-70)

This section is filled in for station wagons and vans with

rear doors, pickups and any car with a hatchback. A hatchback is a rear deck lid that opens up into the passenger compartment.

The questions on latches and hinges for tailgates are coded identically to those for doors on CPIR page 13. GM "Clamshell" tailgate tracks are considered as hinges and can be damaged and separated. But there are no latches, so Columns 58 and 59 are "not applicable" (3). Code Column 60 "yes" (1) if the tailgate jams. The tailgate may be jammed in any position; jammed being defined as any time tools or excessive force is needed to move the gate. Also if the vehicle is equipped with a two way (sometimes termed dual-action) tailgate, three sets of hinges should be coded. "Equipped with two-way tailgate" (Column 69) should be coded (6) for a GM "Clamshell" type tailgate. "Partial" and "complete" Separation codes (4, 5) should be used when needed. If there is no Electric Tailgate Window, code that question as "not applicable" (3).

TRUNK LID PERFORMANCE (14.6.12-18)

The trunk lid is the lid in the back of the car that opens into a trunk or engine compartment such as in a VW. The VW van has both a trunk lid and a tailgate. These questions are coded the same as those in Tailgate Performance on the same page.

LUGGAGE AREA/CARGO AREA (14.6.19-21)

The luggage area is defined as a partitioned area where luggage is carried. It can be either the front and/or the rear of the vehicle. If it is in the front, then the "firewall" is part of the Trunk-Passenger Compartment Partition. The rear of a station wagon is considered part of the passenger compartment. If a vehicle has two luggage areas such as the VW squareback, and if either one is damaged, Damaged should be coded "yes" (1). There is no luggage area in station wagons except for the rear "well". The rear box of a pickup is considered a Cargo Area. There is no partial separation coded for the spare tire.

BACKLIGHT HEADER (14.6.22)

If the header is buckled, it must be damaged, thus, both questions should be coded "yes" (1). Soft top convertibles don't have backlight headers, however, removable hardtops may, depending on design. If there is no header, "not applicable" (3) should be used.

RIGHT EXTERIOR page 15

Right Exterior, CPIR page 15, is coded the same way as Left Exterior, pages 12 and 13.

WINDSHIELD HEADER (15.6.42)

This question is coded the same way as Backlight Header

(14.6.22). All vehicles have windshield headers except Jeeps with the windshield folded down.

STEERING WHEEL pages 16, 17

STEERING WHEEL TYPE (16.6.58-59)

The Steering Wheel Type is presently used for GM cars only, (see Section 5 under Steering Wheel Types). All others should be coded unknown (99).

STEERING WHEEL RIM/SPOKES/RING/SUPPORT (16.6.60-66)

Damage to the steering wheel is left to the investigators discretion and crosschecked with the photographs. Occupant contact includes both probable contact and non-injury producing contacts. Since the driver is generally holding the steering wheel rim, contact should not be coded if the driver braces against the wheel, unless hand injury results. Contact should always be coded if the driver strikes the wheel.

STEERING WHEEL ENERGY ABSORBING DEVICE (16.6.67-76)

There are very few cars equipped with this device. If the vehicle is not equipped with a steering wheel EA device then column 67 should be (2) and columns 68-76 should be filled with 8's for "not applicable". Column 67 should always be filled in. (See Steering Wheel EA Device in Section 5).

STEERING WHEEL POSITION (17.7.12)

This question is left to investigators discretion. Fill with (00) if "unknown".

STEERING FEATURES (17.7.14-21)

The Pad, Tilt, Telescoping and Swing-Away Features are left to the investigator, unless they look unreasonable, such as a Falcon with a Swing-Away Feature. Very few cars have true Load Distributing Steering Wheel Pads (see Section 5).

COLUMN MOVEMENT (17.7.22-25)

The "A" dimension should be coded as "unknown" (999) if the backlight header is buckled, the steering column is broken loose, or the vehicle has no backlight header. Otherwise, the investigators measurements are assumed to be accurate. Direction of Motion (column 25) is sometimes erroneously coded (0) for no movement. Check to be sure that the proper code is used here.

STEERING COLUMN ENERGY ABSORBING DEVICE (19.7.26-29)

There are several new codes for the question. The Ford "mini-column" is an (8) and the Chrysler 74 "slotted jacket and

mandrel" is a (9). "Other" types of devices, such as the Dodge Colt "collapsible tube" are coded (6). If the vehicle is not equipped with an E.A. Device (7), the compressed length is "not applicable" (888).

The editor cannot check the compressed length but a check of the type and original length should be made in Section 5.

SHEAR CAPSULE SEPARATION (19.7.30-31)

The amount of shear capsule separation cannot be determined by the editor, however, if there is no shear capsule such as in the Ford "mini column", this question is coded "not applicable" (888). If the amount of separation is "unknown", the coding becomes (999). There are no shear capsules unless there is a Column EA Device.

COLUMN VERTICAL ROTATIONS (19.7.33-34)

As in the previous two questions, the measurement to the damaged dimension is left to the investigator. The original angle can be checked in the Reference Information, Section 5. This code is a two digit non-decimal code and can be either plus or minus. However, the plus or minus is not coded. The new code "rotated - unknown amount" (98) should be used when applicable.

PASSENGER COMPARTMENT - GENERAL INFORMATION page 2

PASSENGER COMPARTMENT REDUCED IN SIZE (20.7.35)

The passenger compartment is considered as reduced in size when the internal boundary of passenger compartment moved inward due to either direct or indirect damage.

EXTERNAL OBJECT INTRUSION (20.7.36)

There is External Object Intrusion when the internal boundary of the passenger compartment is moved inward due to direct damage, i.e., an external object went inside the original internal boundary line. (This object might be part of the car, e.g. The hood or engine.) This question includes, but is not limited to, penetration.

Note: The boundary does not necessarily have to be broken. (If the compartment is opened up the Continuity of Side Structure (13.5.44) is not maintained.)

INTERNAL LOOSE OBJECT (20.7.37)

All Internal Loose Objects are coded even if not involved. They could have caused injury.

VERTICAL ROTATION OF INSTRUMENT PANEL (20.7.38)

This is rotation in a vertical plane about a horizontal axis due to any type of causative factor. Buckling in the center of the panel is not included.

FIREWALL/FLOORPAN DEFORMATION (20.7.39)

The firewall is the partition between the engine and passenger compartment. The Firewall and Floor Pan Deformation question are self-explanatory and generally left up to the investigator. Floorpan includes the toe board. In cars where the firewall and cowl are not the same (e.g. VW and some vans) code damage to the firewall. Floor pan inward deformation always means passenger compartment size reduction.

WINDSHIELD CODE (20.7.46-47)

Illustrations of windshield codes are found in the Reference Information, Section 5 under Windshield Codes. The most important distinguishing feature is the DOT model code number. The partial windshield codes for "float unknown type" and "PPG-float" etc., are only applicable for GM windshield glazing marks. They are used when the model number cannot be identified. There are two codes - (YK) and (YL) for "unknown" Carlite and Chrysler model numbers respectively. If nothing is known about the windshield or if the glazing monogram is not identifiable, then (YY) is used for "unknown".

PASSENGER COMPARTMENT, FRONT INTERIOR pages 21, 22

If there are no occupants (as in a parked car) fill in the questions about damage, but code "not applicable" (3) for all questions about occupant contact.

INSTRUMENT PANEL (21.7.48-75)

Although it is up to the investigators to provide the editors with the proper information, there are some things that might help the editor perform any necessary crosschecking with the narrative or slides. If any listed item is not a part of the original equipment of the car, then "not applicable" (3) should be entered for all applicable responses for that item. If the "equipped" column is present, that should be answered as "no" (2) and the other applicable columns "not applicable" (3). For example, there is no ashtray in the car, damaged becomes "not applicable" (3) and occupant contact becomes "not applicable" (3). If there is no parking brake release or bracket, then the response for the equipped column should be "no" (2) and for damaged and occupant contact "not applicable" (3).

The Glove Compartment Area question refers to the area not to the glove compartment itself. Therefore, if there is no glove compartment, that does not mean that that question could necessarily be marked with "not applicable" (3). The parking brake question also refers to parking brakes mounted between or

next to seats.

The Other category is marked with "not applicable" (3) if there are no other items. Other items include non-original add-on items such as CB radios, tape players, and tachometers (unless they are factory installed).

OTHER FRONT INTERIOR ITEMS (22.8.12-34)

The Console (columns 26-28) refers to anything on the floor or hump between the front two seats on which an occupant could receive any injury. The tunnel or rubber boot on a floor mounted manual transmission selector lever, are not included as consoles. The engine covers sometimes found in Vans are considered as consoles.

PASSENGER COMPARTMENT; SEATS/WINDOWS pages 23, 24

TYPE OF FRONT SEAT (23.8.35-36)

The seat type codes presently used are inadequate. However, they do come close to describing most basic seat types. Therefore, seat types should be coded according to their basic style. For instance, the center divided front seat available in some Mercury models with center armrests for both sides is basically a type (5), a split bench seat. It might be noted that the availability of a center armrest is not a factor in coding a specific seat type. A new code exists for "drivers seat only" (3) for use instead of "bucket seats" (9) for single seat vehicles.

DELUXE SEAT ACCESSORIES (23.8.37)

Deluxe Accessories include any accessories on the back of the front seat, such as ash trays, map pockets, etc. There is a new code (4) for Reclining Seatbacks which takes precedence over (1) Deluxe Accessories.

TYPE OF SEAT ADJUSTERS/ADJUSTMENT (23.8.38-39)

In the case of divided seats, the seat adjuster questions apply to the driver's side only. Two-way seats move forward and back. Four-way seats move forward, back, up, and down. Six-way seats can move forward, back, up and down, and can also be rotated about a horizontal axis. On the Type Of Seat Adjustment question (23.8.39) use the new code (8) for a GM "Swivel" seat.

ADJUSTER DAMAGE/SEAT SEPARATION (23.8.40-43)

Location of separation should be coded "not applicable" (3) if neither types of Damage to Adjuster include "separated" (6). Conversely, if "separated" (6) is included as a type of damage, then (3) for Location of Separation should not be used.

If the seat adjuster has "released", e.g., the seat freely moves back and forth on the track, the Type of Damage should be coded "deformed" (5). "Chucking" (4) can result in the seat having free play over a short distance. "Separation" (6) means total disengagement, e.g., the seat has free vertical movement. The Locations of Separation of "floor" (4), "adjuster" (5) and "seat" (6) are self-explanatory.

POSITION OF SEAT (23.8.44-45)

Position of Adjustable Seat should still be coded for rigid seats. For instance, if the driver's seat is adjustable and the passenger's seat is not, the position of the passenger's seat can still be determined by comparing it to the driver's seat. "Not applicable" (3) is used only when no seat is present.

DAMAGE TO FRONT SEAT (23.8.46-48)

The question Contacted by Rear Occupant is coded "not applicable" (3) if there are no rear seat occupants. The front seat damage questions are left to the discretion of the investigator but may be checked against the slides.

HEAD RESTRAINTS (23.8.51-56)

In the Head Restraint section, columns 52, 53, and 56 are "not applicable" (3) for integral head restraints. If the head restraints are removed prior to the collision, then the rest of this section is "not applicable" (3).

FRONT SEAT BACK LOCKS (24.8.57-60)

The Front Seat Back Locks section should be "not applicable" (3) if the seat backs are non-folding. A consistency check should be made between this question and Front Folding Seats to insure correct responses.

SEAT BACK ROTATION (24.8.61-64)

This measurement should always be taken; it is not restricted to rear impacts. A new code has been added to seat back rotation. It is "angle changed unknown amount" (98). This should be used when there is obviously rotation and original dimensions are not available, as in the case of a vehicle with numerous position reclining seatbacks and no way of determining the original position. It should not be used in place of a measurement when original dimensions can be obtained. (see Seat Back Angles, Reference Information, Section 5.)

TYPE OF REAR SEAT (24.8.65)

This question refers to folding seat backs on rear seats, as in station wagons.

REAR SEAT DAMAGE/ARM RESTS (24.9.12-15)

These questions are left to the investigator's discretion and should be checked with slides and narrative for consistency.

REAR SEAT BACK LOCKS (24.9.16-22)

Equipped should be coded (3), "not applicable" if the rear seat is non-folding (24.8.65).

BACKLIGHT/BACKLIGHT HEADER (24.9.23-26)

A zip-out window is a backlight and can be damaged and contacted, but cars with zip-out rear windows (e.g., soft shell convertibles) do not have backlight headers, therefore, Damaged and Contact should be coded "not applicable" (3). Added rollbars are not considered backlight headers, no matter where they are situated.

WINDOWS CLOSED AT TIME OF COLLISION (24.9.27-33)

The glass area must be completely (100%) closed to be coded "yes" (1). Any degree of opening is coded "no" (2). Backlights, like other windows, are coded "yes" (1) if they are closed. If the area is solid, i.e., no windows, then "not applicable" (3) is entered.

PASSENGER COMPARTMENT: INTERIOR SIDES pages 25, 26

LEFT SIDE INTERIOR (25.9.34-59)

These questions are left to the discretion of the investigator, but should be checked with the slides and narrative for consistency. If a vehicle is not equipped with any of the listed items, such as armrests, these blanks should be coded as "not applicable" (3). If there is a rear seat, there is a Rear Door Area. This should not be coded as "not applicable" (3) unless there is definitely no rear passenger area. Vans with at least one rear side door have Rear Door Areas on both sides. It should be noted that convertibles with the top on have roof rails, a head lining, and a roof structure. Occupant Contact should not be coded as "not applicable" (3) in the rear area when there are no rear seat occupants. The front seat occupants can be thrown into the rear of the vehicle and contact items in the rear seat area. Other should be coded "not applicable" (3) unless some added item is listed there. Damage or contact to the interior B, C, and D pillars refers to the pillar area.

RIGHT SIDE INTERIOR (26.10.12-41)

See Left Side Interior.

OCCUPANT INFORMATION: GENERAL page 28, 29

OCCUPANT NUMBER (28.11.12-13)

Occupants should be numbered sequentially rather than according to seat position, beginning with (1). Occupant forms should be completed for all vehicle occupants.

SEAT LOCATION/POSITION (28.11.14-15)

The Position On Seat should be coded according to position even if the occupant is not actually on a seat. For instance, an occupant sitting between bucket seats would be coded as "center" (6). An occupant whose legs or head are in a different position from the one he is sitting in should be coded according to the location of his buttocks. A new code has been added; "all" (9) for occupants lying across the seat.

POSTURE (28.11.16)

This question is self-explanatory. The code "sitting on floor" (8) has been expanded to include "sitting or lying on floor".

AGE (28.11.17-20)

The occupants Age is coded in months or years, leaving the other response blank. Children over 23 months are coded in years.

WEIGHT/HEIGHT (28.11.21-25)

A check for consistency between narrative and CPIR should be made. The occupant's Height should be recorded in inches, not feet.

SEX (28.11.26)

The code for "pregnant woman" (7) has been deleted. Pregnancy should be coded under the "non-impact medical condition" question of the occupant supplement. Large animals are coded (6). There are no code values (1, 2, 3) for this question.

RESTRAINT SYSTEM (28.11.27-34)

Lap Belt Equipped is answered "yes" (1) only if there is a restraint available for the seat position and the occupant is sitting on the seat or sitting in a child restraint. If he is in any other posture (e.g., lying) and not wearing a lap belt equipped is answered "no" (2). Lap belts completely below/behind seat cushions are also coded "no" (2).

Examples of lap belt not equipped include: rear center seats on some small cars (e.g., Vega), babies on laps, children

standing on seat, anyone lying down, sitting on console or across bucket seats.

Lap Belt Worn is coded "yes" (1) or "no" (2) when equipped for this position. Otherwise "not applicable" (3) is coded for usage when no belt was available. The Inertia Reel and Locking Retractor questions should never be coded as "not applicable" (3) unless the vehicle is not equipped with lap and/or shoulder restraints.

RESTRAINT SYSTEM USAGE CODE (28.11.35-36)

Restraint Usage Code is coded "not used" (0) unless the restraints are worn by the occupant. The first digit refers to lap belt usage and the second digit refers to upper restraint usage. Either digit is coded (8) if the restraint used is of "unknown type". (See Restraint System: Usage Codes, Reference Information, Section 5.)

TYPE OF SYSTEM USED (28.11.37)

If the upper restraints are not used, then the "type of System Used" is "not applicable" (3). Use of two-point systems, such as a lap belt, is coded "not applicable" (3).

CHILD RESTRAINT CODE (28.11.38-39)

New codes are added to the Reference Information list as new types are documented in case reports. (See Restraint Systems: Child Restraints, Reference Information, Section 5.)

EJECTION (28.11.42-43)

These questions are answered by the investigator and should be checked with the case documentation for consistency. Note that there is a code (4) for partial ejection. Occupants who jump or are pushed from vehicles are ejected.

TREATMENT/MORTALITY (28.11.44)

The Treatment/Mortality Codes have been expanded, and completely changed. Thus each case must be recoded. The two fatal categories "dead at scene" and "dead on arrival at hospital" cannot always be determined by the time at which death was pronounced. If an occupant dies in the 5 hours before being found, transported, and pronounced dead at the hospital, they should be coded "dead at scene" (4). The case documentation of injuries should be carefully examined to determine the actual time period of death.

OVERALL SEVERITY OF INJURIES (28.11.45-46)

The Overall Severity of Injuries should reflect the injuries in the matrix. It should never be lower than the highest injury in column 22 of the matrix. It can, however, be

higher. In the case of fatalities, the head and brain are one body region. If an occupant dies of something other than an injury, such as asphyxiation of gastric contents, then he is not fatally injured. The severity code should be as high as his worst injury other than asphyxiation, and the fatality is coded under the Treatment/Mortality section.

OCCUPANT INJURY DETAIL MATRIX (30.12-26.12-31)

The matrix is a way of detailing the injuries of an occupant in a vehicle by body region, type of injury, and areas of contact that may have caused the injury. Horizontal rows correspond to Body Region, and each is represented by a IBM card.

OCCUPANT NUMBER (30.12-26.12-13)

It is important to enter the occupant number (same as top of page 29) under the vertical column with that heading as it identifies the card. The occupant number must consist of two digits and is entered if that Body Region was injured, i.e., if there is no injury, then no occupant number should be entered.

1-9	CARD NUMBER	OCCUPANT NO.	BODY REGION	★ ENTER CODE(S) FOR AREA(S) OF POSSIBLE CONTACT				ENTER SEVERITY CODES																													
				14-15	16-17	18-19	20-21	22	23	24	25	26	27	28	29	30	31																				
	12	/	INTERNAL ORGANS																																		
	13		BRAIN																																		
	14		FACE																																		
	15		HEAD																																		
	16		NECK (CERVICAL REGION)																																		
	17	01	SHOULDER GIRDLE	20	19																																

Wrong (no injuries) (one digit)

Right

BODY REGION CONTACT AREAS (30.12-26.14-21)

On the surface, it may seem that the various body regions need not be explained, however, since there is some overlap between some of the regions, it may be helpful to list the body parts that are and some that are not included in each region.

<u>Body Region</u>	<u>Included</u>	<u>Not Included</u>
Internal Organs	Heart Lungs	Testicles - Penis Brain

	Kidneys	
	Liver	
	Pancreas	
	Spleen	
	Ovaries	
	Aorta	
	Gall Bladder	
	Bladder	
Brain	Brain	Spinal Cord
	Meninges	Eyes
	Pituitary	
	Medulla Oblongata	
	Pons	
	Optic Nerve	
Face	Nose	Ears
	Chin	Scalp (not Facial)
	Jaw (mandible)	
	Forehead	
	Below Scalp Line	
	Eyes	
	Teeth	
	Tongue	
	Internal Mouth	
	External Mouth	
	Sinuses	
	Zygomatic Arch	
Head	Cranium	Vertebra
	Scalp	Zygomatic Arch
	Ears	Teeth
		Forehead
		Jaw
		Nose
		Mouth
		Eyes
		Brain
Neck (Cervical Region)	Cervical Vertebra	Lower Chin
	Cervical Spinal Column	
	Larynx	
	Trachea	
	Esophagus	
Shoulder Girdle	Clavicle	Spinal Column
	Scapula	First Rib
Right Upper Limb	Right Hand	
	Right Wrist	
	Right Arm	
	Right Forearm	

Left Upper Limb

Left Hand
 Left Wrist
 Left Arm
 Left Forearm

Chest Upper Back (thorax)

First - Eleventh Rib	Lungs
Thoracic Vertebra	Heart
Thoracic Spinal Cord	
	Aorta
Thorax (without Content)	Pleura
Sternum	

Lower Back Lumbar Region

Lumbar Vertebra	Kidneys
Lumbar Spinal Cord	
Lower Back	
Regio Lumbalis	

Abdomen

Peritoneum	Kidneys
Intestine	Liver
Diaphragm	Spleen
	Pancreas
	Stomach

Pelvic Girdle

Pelvis	Ovaries
Testicles - Penis	Intestine
Sacrum	

Right Lower Limb

Right Thigh
 Right Calf
 Right Foot
 Right Ankle

Left Lower Limb

Left Thigh
 Left Calf
 Left Foot
 Left Ankle

The Body Region designated "whole body" is used when it becomes too difficult to single out the individual injuries. This category is most often used with burn victims or when the injured person has contusions and abrasions literally all over his body. The cut-off point for using the "whole body" region is around 50%. The "whole body" region should not be used as a summary for all injuries and contact areas, nor, should other body regions repeat what has been entered under "whole body".

C A R D N U M B E R	O C C U P A N T N O.	B O D Y R E G I O N	* E N T E R C O D E (S) F O R A R E (S) O F P O S S I B L E C O N T A C T				E N T E R S E V E R I T Y C O D E S											
			14-15	16-17	18-19	20-21	22 D I S S E M I N A T E D I N J U R Y	23 F R A C T U R E	24 L A C E R A T I O N	25 C O N T U S I O N	26 C E M B R E O F P A I N	27 A B R A S I O N	28 C O N C U S I O N	29 H E M O R R H A G E	30 B U R N	31 O T H E R		
		INTERNAL ORGANS																
		BRAIN																
D U P L I C A T E D F R O M P R E C E D I N G C A R D		FACE																
	01	HEAD	10															
	01	NECK (CERVICAL REGION)	98															
	01	SHOULDER GIRDLE	20	19														
		RIGHT UPPER LIMB																
		LEFT UPPER LIMB																
		CHEST & UPPER BACK (THORAX)																
		LOWER BACK (LUMBAR REGION)																
		ABDOMEN																
		PELVIC GIRDLE																
	01	RIGHT LOWER LIMB	07															
		LEFT LOWER LIMB																
	01	WHOLE BODY	07	20	19	98												

Wrong
(this should not review all injuries)

AREA(S) OF POSSIBLE CONTACT (31, 12-26, 14-21)

Contact Codes are entered in the four vertical columns just to the right of the Body Regions. Two digit codes are entered in the appropriate boxes to identify possible injury causing objects and areas. These codes are defined on page 304 of the CPIR and in section 5 under Occupant Contact Areas. Many new code have been added. If only one contact code is noted, it should be placed in the first position, (Columns 14-15) If two contact codes are noted, then they should be placed in the first and second columns (the ones labeled 14-15 and 16-17). This is done for up to four contact codes. No more than four contact codes can be used.

C A R D N U M B E R	O C C U P A N T N O.	B O D Y R E G I O N	* E N T E R C O D E S I F O R A R E A S O F P O S S I B L E C O N T A C T				E N T E R S E V E R I T Y C O D E S										
			14-15	16-17	18-19	20-21	22 GENERAL INJURY	23 FRACTURE	24 LACERATION	25 CONTUSION	26 LO. JO. PAIN	27 CEREBRAL	28 ABRASION	29 CONCUSSION	30 HEMORRHAGE	31 OTHER	
10-11	12-13																
12	01	INTERNAL ORGANS			07	20	2	2	1								1
13		BRAIN															
14		FACE															
15	01	HEAD	07	20			2	2	1								1
16		NECK (CERVICAL REGION)															

Wrong
(in wrong
columns)

Right

The types of injuries made by the various contact areas usually becomes fairly obvious after a few cases are edited, e.g., the "steering wheel" (65) is responsible for many injuries to the thorax, lungs, and heart; the "windshield header" and "sun visors" tend to be responsible for injuries to the head for front seat unbelted occupants, etc.

However, some of the contact codes should be explained in regards to types of injuries they produce. The "front seat cushion" (51) has produced contusions and abrasions to the back (lumbar) region and the sides (flank). They usually occur when the front seat occupants are unbelted at "third impact" or in rollover accidents. The "parcel tray" (53) is usually found as a contact area in leg injuries in new compacts. "Rear seat" (50) caused injuries that usually involve the rear occupants of the vehicle. "Internal Flying Glass" refers to broken glass, regardless of origin, acting as a projectile and striking the occupant. It is usually used when there are lacerations and/or abrasions without window contact, for example, a frontal collision (occupants, move forward) in which a side window matters. Eye injuries are sometimes traceable to flying glass. Codes for specific windows (12, 22, 23) should be used whenever

the occupant strikes the fixed glass pane, even if it is shattered by the contact.

"Impact force" (98) has many names: hyper-extension, flexion-torsion, whiplash. It refers to a phenomenon in which forces transmitted during the collision cause a pain or injury because they pass through the body of an occupant although no definite contacts are made. "Impact force" (98) is usually associated with "complaint of pain" or "strain" injuries in the neck and/or lower back (lumbar region). Occasionally, it causes a headache.

In general the "other" category (39) should be avoided since occasionally the investigator will code "other" for something for which a contact code exists. Common examples of this include; the examples for "impact force" already mentioned; intruding objects such as bridge piers instead of "penetrating objects" (72); and "other" for passenger or occupant instead of "other occupants" (32).

The contact codes "hood" (35) and "outside surface of car" (37) refer only to the case vehicle. Surfaces of any other vehicle are coded as (71)-(77).

INJURY SEVERITY CODES (30.12-26.22-31)

The last portion of the matrix consists of the vertical columns under the general instruction "Enter Severity Codes". These columns represent types of injuries and entries are made under them in the horizontal row that corresponds to the body region in which the injury occurs. The single digit entry is based on the AIS rated severity as given on the inside of the back cover of the CPIR and under AIS in Section 5, Reference Information. There are, of course, no AIS (7, 8, or 9) code values used in the columns 22-31, however, (9) and (8) are used in place of "X" (99) and "Z" (98) respectively. All unused cells should be left blank, i.e., no dashes.

This is an example of a bruised lung and an incorrect way of showing a scraped elbow (right arm).

On examination of the above examples, there were two major types of editing changes made. The first type concerns the following of editing (or format) conventions. These are the kind of "mistakes" discussed before and can be seen in the deletions of the entries in card 26 (Whole Body), and of the dashes, etc.

The second major type can be called the substantive changes. These changes concern the content of the matrix and can be again divided into two types of mistakes. The mistake of omission, the first type, involves the lack (omission) of data that may have been mentioned in the narrative or elsewhere in the case. An example of this would be the added contact code in card 18 (right upper limb). The mistake of ignorance, the second type, involves a lack of knowledge concerning reasonable data entries. An example of this would be the contusion to the chest that was given a severity code of "4" AIS, when a superficial contusion cannot be more severe than "3" AIS.

SECTION 3.3

THE OCCUPANT SUPPLEMENT (OS)

The Case Vehicle Occupant Supplement has been designed to record 17 additional data elements for each occupant as well as provide for the recording of injury causation using an expanded list of contact area codes and the Occupant Injury Classification coding system. The 17 occupant questions (card 80) expand upon several CPIR questions and provide for additional information on occupant alcohol involvement, restraint systems and medical data. Each of the items is described in more detail below. The remainder of the Occupant Supplement records up to 15 occupant injuries (cards 81-95) according to the procedure detailed in Section 4.

The following paragraphs describe the editing of each Occupant Supplement data element.

CASE I.D. NUMBER (30C.80.2-9)

This should be the same as the report number (1.1.2-9).

OCCUPANT NUMBER (30C.80.12-13)

This should be coded in conjunction with the occupant numbers coded in the CPIR form (28.11.12-13) Occupants must be numbered sequentially beginning with 01 (one).

POLE OF INDIVIDUAL (30C.80.14)

This question should be self explanatory. It should be noted that all passengers will be coded "Motor Vehicle Passenger" (2). For each vehicle only one "motor vehicle driver" (1) should be coded.

POSTURE (30C.80.15-16)

This is an extended list from the CPIR form (23.11.16) with specific code choices. A consistency check should be made between both posture variables for each occupant.

NON-IMPACT MEDICAL CONDITIONS FOR EACH OCCUPANT (30C.80.17)

This is the same as question (34.92.58) in the CPIR except it is specific to each occupant.

OCCUPANT ALCOHOL INVOLVEMENT (30C.80.18-22)

These three questions are aimed at recording more specific information about the alcohol involvement of each occupant. In most cases the teams will document the results of any alcohol test. If an autopsy report is included for a fatal victim, tests are usually documented within the form. It should be noted that the Occupant Blood Alcohol Level for the driver should be the

same as that in the CPIR form (35.92.60-62) for that vehicle.

SEAT BELT BUZZER/INTERLOCK QUESTIONS (30C.80.23-25)

Information can be found in Section 5 under Restraint System: Warning System. American cars have a non-cycled buzzer warning system installed after 1972. The model year 1974 cars and later have an ignition interlock system. Teams do not usually document this information unless some unusual occurrence involving the warning system occurs. If the question Seat Belt Buzzer/Interlock Equipped is answered "Not equipped" (2) then the following two responses concerning the operation of the buzzer or ignition interlock should be coded "Not applicable" (3). If a team does not mention the operational status of the equipped device use code (0) "unknown". If the system is "type unknown" (1), but equipped, then the two operation questions should be coded "unknown" (0).

PASSIVE RESTRAINT SYSTEM EQUIPPED/ACTIVATED (30C.80.26-27)

These two questions for most vehicles will be answered "no" (2) for Equipped and "Not Applicable" (3) for Activated. In cases where airbags or other kinds of passive restraints have been installed, the teams will document that information in the vehicle portion of the narrative.

RESTRAINT SYSTEM MALFUNCTION OR SEPARATION (30C.80.28) If no restraints are installed then "Not Applicable, No Restraints" (3) should be coded. If restraints are installed for that position and no malfunction occurs then "no" (2) is the appropriate response.

INVESTIGATOR JUDGEMENT OF RESTRAINT SYSTEM EFFECTIVENESS (30C.80.29)

If the teams do make a statement about the effectiveness, it will usually be found as part of the Accident Factors Matrix Cell. If no mention is made, "no opinion" (3) should be coded. This question is specific to each occupant; thus if a general statement is made which would concern all occupants involved in the accident, then each occupant should receive a response other than "unknown" (0) or "no opinion" (3) depending on the nature of the statement.

TREATMENT/MORTALITY (30D.80.30-31)

This is an expanded list of treatment/mortality codes from the CPIR form (29.11.44). The appropriate code should be chosen and checked with the CPIR question. Note: In general they are one greater than the corresponding CPIR code value.

E.M.S. CONTRIBUTORY TO SEVERITY (30D.80.32)

If there is any question as to the competency of the E.M.S. involved, the teams will document this in the matrix cells or as

part of the narrative under post-crash.

AUTOPSY PERFORMED (30D.80.33)

If an autopsy report is not included but the team states that one was performed this constitutes a positive response "yes" (1). If the occupant was not killed, "not applicable" (3) should be coded.

OVERALL POLICE INJURY SEVERITY (30D.80.34)

This should be taken directly from the police report. In cases where letters differ in meaning from those responses offer, the meanings of the letter should be used. If no police report is included "unknown" (9) should be coded.

OCCUPANT INJURY CLASSIFICATION SYSTEM

OCCUPANT NUMBER (30D.81-95.12-13)

This should be the same as the CPIR occupant number. It should only be included on lines that record an injury.

CONTACT AREAS (30D.81-95.14-21)

These should be listed in likelihood order, e.g. according to how much confidence the investigator has in that contact area. If the unknown code of (00) is used it must be the last code listed. See Section 4 for more detailed information.

PRIMARY OIC AND ASSOCIATED OICS (30D.81-95.22-36)

If only one OIC is recorded on a line it must be the primary OIC. See Section 4 for more detailed information.

SECTION 3.4

SUPPLEMENT TO CPIR (pages 31-38)

The Supplement contains questions not coded in the CPIR primarily concerning administrative and collision precrash data.

REPORT NUMBER (31.90.2-9)

The Report Number is the same number as that found in the CPIR, page 1.

REPORTING DATA page 31

DATE OF FIELD INVESTIGATION (31.90.12-17)

This date is usually found in the top right block on page 1 of the CPIR and indicates the time between the accident occurrence and vehicle investigation.

DATE SUBMITTED/PUBLISHED (31.90.18-23)

This date is found on the title page of the case report.

TEAM CASE NUMBER (31.90.24-34)

This response should represent the team's version of their case numbers. For example a USC case numbered SC-72014 would be entered USC 72 14. See Team Letters And Report Sequence Numbers in Section 5, Reference Information.

HSRI CPIR EDITOR (31.90.35)

This indicates who has edited the case.

NUMBER OF CASE VEHICLE CPIR'S (31.90.36)

This question refers to the number of case vehicle CPIR forms completed for computer processing.

ORIGINAL VEHICLE REPORT FORM (31.90.37)

This indicates the original report form prepared by the team. Code (0), for "no form".

TOTAL # RECOMMENDATIONS/CONCLUSIONS-EACH MATRIX CELL (31.90.38-46)

The number to be coded in columns 38-46 is the number of negative plus positive statements. In each cell of the recommendations/conclusions matrix. If a cell has more than 8 statements listed, then the code "9 or more" (9) is used. Cells should be filled with zeroes for MVMA sponsored teams

DOT-HS-NUMBER (31.90.47-56)

Columns 47-56 refer to the DOT-HS report number. This number is found on the top right of the cover page of the published MDAI reports, or in box number 1 of the standard government title page. A separate NHTSA list should be consulted for unpublished cases.

PB NUMBER (31.90.57)

Columns 57-66 refer to the PB numbers found on the cover page of old published MDAI reports. The PB number is used to order copies of published MDAI cases from the National Technical Information Service. Leave this blank for all pre-1970 MDAI cases and all MVMA cases.

OTHER VEHICLE CPIR REPORT NUMBER (31.90.67-74)

This number links all case vehicles in the same accidents to each other. If there are three case vehicles in the accident, link 1 to 2, 2 to 3, and 3 to 1. In single vehicle accidents, these columns are left blank.

DATE EDITED (31.90.75-80)

This is the date of first editing.

SUPPORTING DATA page 32

All of the following questions refer to the information included in the team report. All responses will be (0, 1, 2, 3).

PSYCHOLOGICAL REVIEW (32.91.13)

This question refers to the inclusion of a detailed evaluation of the case vehicle driver's mental condition prior to the collision. It is generally included in the body of the case report and is never "not applicable" (3), except for vehicles with no driver.

ANY PERSONAL INTERVIEWS (32.91.13)

This refers to any witness' (including driver's) account of the accident or interviews with friends or relatives of the drivers involved. Any indication that an interview did take place should be coded "yes" (1). The code "Not applicable" (3) should not be used.

KATZ ADJUSTMENT SCALE (32.91.14)

This is a quantitative personality chart which is not usually found in case reports. However, they are consistently used by the Maryland team. Codes used are (1) or (2).

MICHIGAN ALCOHOLISM SCREENING TEST (UMAST) (32.91.15)

This test is used by some teams to determine if alcohol was involved in an accident. It is seldom included in reports.

DRIVER'S LICENSE RECORD (32.91.16)

In order for this question to receive a positive response, the team must include the Secretary of State issued driver license record or the investigating team's researched number of driver involved accidents.

MEDICAL EXAMINERS/AUTOPSY (32.91.17)

This refers to the medical examiners descriptive autopsy report on a case accident fatality. It can include pedestrians, passengers and drivers of all vehicles involved. If there are no fatalities, then it should be coded "not applicable" (3).

AFIP MEDICOLEGAL AUTOPSY (32.91.18)

This is the Air Force autopsy computer form (usually in green ink). It is usually included in conjunction with the Medical Examiners report. Again, if there are no fatalities, it should be coded "not applicable" (3).

TOXICOLOGICAL/ALCOHOL TEST (32.91.19)

For a positive response, any toxicological test (breathalyzer, blood serum, urine, etc.,) given on the case vehicle driver for determining alcohol consumption must be included. Percent of alcohol should be filled in on page 35.

MEDICAL REPORT (32.91.20)

This refers to an extensive medical record on collision caused injuries of any occupant in the accident. It must include more than just a listing of injuries. If a listing includes injuries with related body contacts, then it should be considered a medical report (e.g., the injury lists in Cornell A cases). A Medical Examiners Autopsy report or AFIP medicolegal Autopsy report constitutes a medical report. If the CPIR Occupant Injury Detail matrix or the Occupant Supplement is completed there is a medical report. If no injuries are involved in case vehicle, "not applicable" (3) should be coded.

MEDICAL SUMMARY/DIAGRAM (32.91.21)

This is coded "yes" (1) if a listing of accident related injuries of case vehicle occupants is included; or the CPIR occupant injury diagram is completed. If no injuries are involved in case vehicle, "not applicable" (3) should be coded.

X-RAYS (32.91.22)

This question should be coded "yes" (1) if x-rays were taken as noted through the case report, or were included as a note on the CPIR injury diagram for any case vehicle occupants. If x-rays were not taken, but bones were broken, then it should be coded "unknown" (2). The "not applicable" (3) code is not used for this question.

MEDICAL HISTORY (32.91.23)

In order for this to receive a positive response "yes" (1), the team must include background documentation or detailed medical information on the case vehicle driver, which explains his or her mental or physical limitations resulting in an accident or injury severity causation factor. A comment to the effect that there were "no abnormalities" in the individuals medical background does not constitute a positive response to this question.

MAP LOCATION (32.91.24)

A general area map, (e.g., city map, state map) with accident site indicated must be included to be coded "yes" (1). This map is more than just the collision diagram, it is a separate map with no vehicle configurations.

COLLISION DIAGRAM/SKETCH (32.91.25)

This refers to the accident vehicle collision diagram showing vehicle trajectories prior to and after contact with another vehicle or object.

SITE ACCIDENT HISTORY (32.91.26)

This question is coded "yes" (1) if a summary of the number and/or types of accidents occurring at the case's accident location is given within the body of the report. It is usually found in the summary under road condition.

NARRATIVE DESCRIPTION (32.91.27)

This is the investigating team's accident description, including prior vehicle movement, crash movements, and post crash events. Most case reports include some type of narrative description.

POLICE REPORT (32.91.28)

The report must include a county, city or state police accident report of the case accident to receive a positive response "yes" (1). The report may be a standardized form or a separate police officer's report.

WHO ESTIMATED SPEEDS (32.91.29-30)

If the speeds of the case vehicle were estimated by anyone,

that person is acknowledged with the appropriate response in this question. This includes persons estimating the speeds prior to impact and at impact. If more than one person has estimated the speeds, give credit to the one whose estimate was most valid according to the investigating team.

NHTSA VEHICLE CONDITION AND MAINTENANCE REPORT (32.91.31)

This refers to an enumerative post-crash inspection done on the case vehicle. It usually consists of a single page with the title "Vehicle Condition and Maintenance Report". Although the format has changed several times, the items included are similar and should be easily recognized.

MECHANICAL MALFUNCTION INSPECTION (32.91.32)

A malfunction inspection report is any document that describes or lists items on the case vehicle that have been checked by the investigating team. The report may or may not be due to an alleged malfunction, since many teams include a vehicle inspection as a normal part of their accident investigation. A NHTSA Vehicle Condition and Maintenance Report implies a Mechanical Malfunction Inspection.

INSPECTION RECORDS (32.91.33)

A state, city, or county required motor vehicle inspection form or acknowledgement of such an inspection must be included to warrant a "yes" (1) response. Usually this is indicated at the end of the NHTSA Vehicle Condition and Maintenance Report.

REGISTRATION RECORDS (32.91.34)

This refers to the specific document: State Motor Vehicle Registration record. These documents refer to the ownership of the vehicle. Usually, this is not included in the accident reports.

SHEET METAL CRUSH (32.91.35-36)

If the diagram/sketch (diagram on page 9 of the CPIR) is completed showing all damage resulting from the accident, then it is coded "yes" (1). Similarly, if the Inches Coded (vehicle crush dimensions on page 8 of CPIR) are filled in, then this too is coded "yes" (1).

TELESCOPING UNIT (32.91.37)

This is coded "yes" (1) only if the investigator has measured the telescoping unit after the collision. If no telescoping unit was installed, then it should be coded "not applicable" (3).

EA STEERING WHEEL (32.91.38)

This is coded "yes" (1) only if the investigator has measured the energy absorbing device compression (CPIR page 16). This question only refers to 1970-1972 Plymouth Barracuda, Dodge Challenger, 1970-1972 Mercury Capri and some Ford Cortinas. All others are coded "not applicable" (3).

A (COLUMN TO REAR) (32.91.39)

This is coded "yes" (1) if the measurement from the steering wheel center to the top of rear window glass has been taken by the investigating team. This refers to the Column Movement question coded on page 17 of the CPIR. The code value "not applicable" should not be used here.

EA STEERING COLUMN (32.91.40)

This is coded "yes" (1) if the team has measured the length of the steering column energy absorbing device. This refers to the Steering Column Energy Absorbing Device on page 19 of the CPIR. If the vehicle is not equipped with this device, it should be coded "not applicable" (3).

VIN INCLUDED (32.91.41)

If the team filled in the VIN on page 7 of the CPIR (Case Vehicle page), then this is coded "yes" (1).

VDI INCLUDED (32.91.42)

This refers to the Case Vehicle Damage Index from page 7 of the CPIR. It receives a positive response "yes" (1) if the team has included the VDI/CDC in their CPIR or report.

VEHICLE MODEL/MAKE CODE INCLUDED (32.91.43)

This is coded "yes" (1) if the Make/Model Code was inserted by the investigating team on page 7 of the CPIR (Case Vehicle page).

B&W PRINTS (32.91.44-45)

This number should represent the total number of (black and white) prints included with the case report.

(COLOR) SLIDES (32.91.46-47)

This number should represent the total number of 35mm (color) slides included with the case report.

SITE/LOCATION PHOTOS (32.91.48-49)

The number of photographs that were taken of/at the scene of the accident should be coded. Photos of the accident diagram and maps are included.

VEHICLE EXTERIOR PHOTOS (32.91.50-51)

The number of photographs of the exterior of all vehicles involved, should be coded.

VEHICLE INTERIOR PHOTOGRAPHS (32.91.52-53)

The number of photographs of vehicle interiors which were included in the report should be coded.

AUTOPSY/MEDICAL PHOTOS (32.91.54-55)

The number of photographs pertaining to occupant injuries that were included in the case report should be coded. Photographs of injury diagrams are included.

TOTAL NUMBER OF PHOTOGRAPHS (32.91.56-57)

The sum of all photographs and slides included with the case report should be coded.

HIT LAB NUMBER (32.91.58-64)

The number code here refers to the Highway Safety Research Institute cross reference number to the Washtenaw County police report for that case.

VEHICLE MALFUNCTION page 33

CASE VEHICLE MALFUNCTION (33.92.12-24)

This question refers to items checked in the investigation of the possibility of mechanical malfunction on page 2 of the CPIR.

PRIMARY MALFUNCTION (33.92.25-26)

This number indicates the most causative item from the list of malfunctions checked in the preceding portion of the supplement. If there are no items checked, then it should be coded "none" (00).

HAD ROUTINE MAINTENANCE BEEN PERFORMED (33.92.27)

For the most part, this question is left to the discretion of the investigating team. A few guidelines to follow in discerning the proper response are: If the case vehicle has a NHTSA Vehicle Condition and Maintenance Report with a recent lubrication sticker (i.e., 8,000 miles prior to accident), then it is coded "yes" (1). New cars with less than 10,000 miles or only 1st months old prior to the accident are considered to have had previous maintenance which is coded "yes" (1).

CASE VEHICLE DRIVER'S RECORD

DRIVER EDUCATION (33.92.28)

If the case vehicle driver took driver education, then the mode of instruction should be coded here. The case text under human factors should be checked for the information.

NUMBER MOVING VIOLATIONS/COLLISIONS/SUSPENSIONS (33.92.29-31)

The next three questions refer to the number of moving violations, collisions and suspensions received by the case vehicle driver. These should be taken from the case vehicle driver's record or possibly the case text. Interviews may be used as supplementary sources of information in answer to these questions, if the investigating team considers the source reliable.

ORIGIN/DESTINATION (33.92.32-33)

These two items refer to the places where the case vehicle driver began his trip and where he intended to go.

ROUTE FAMILIARITY (33.92.34)

The driver's familiarity with the road traveled is generally left up to the discretion of the investigating team. It is usually found in the narrative portion of the case report under driver pre-crash information.

AREA FAMILIARITY (33.92.35)

This question, too, is usually answered in the narrative report and is obtained in interviews with the driver. It should be coded as the team has reported it.

ROUTE USAGE (33.92.35)

The number of times the route was traveled prior to the accident is coded here.

TIME (33.92.37-48)

A 24-hour clock is used for all question concerned with time. Departure Time refers to the time at which the driver left his place of origin. The Time of Impact is found on page 1 of the CPTR form and entered here. The driver's Expected Time of Arrival refers to the time at which he was to reach his final destination. The teams usually include these times, if they are known, in the Occupant portion of the narrative. If a vague statement, such as, "an indefinite drive around town" is mentioned the proper coding is 9999.

Only the Case Vehicle Driver is considered in the following five questions.

STRESS THAT DAY (34.92.49)

This question is intended to indicate the type of mental stress which might have precipitated the accident. The problems listed are to be coded as actual problems not connective measures. Distractions just prior to collision are not included in this question. Only the case vehicle driver is considered here.

MARITAL STATE (V34.92.50)

This information has to be hunted for as it is not documented in any standard place. Most often, though, it is part of the pre-crash human section of the narrative.

OCCUPATION (34.92.51-52)

The case driver's occupation should be classified according to the given list. (See Reference Manual: Occupation Classifications). Items (10,20,30,40) are general classifications. If the case vehicle driver is working at several jobs, the one in which he spends the most time should be coded.

PHYSIOLOGICAL FACTORS page 34

PERMANENT PHYSIOLOGICAL CONDITIONS (34.92.53)

This question is intended to indicate the type of permanent physiological condition that could limit the driver's physical ability to handle the case vehicle. A person wearing corrective lenses is not coded to have a vision restriction. If more than one permanent condition exists, the most contributory should be coded.

TRANSIENT PHYSIOLOGICAL (34.92.54-57)

This question attempts to indicate some transitory physiological condition which might have contributed directly or indirectly to the driver's ability to maintain normal uninhibited control over his vehicle.

NON-IMPACT MEDICAL CONDITION (34.92.58)

This question refers to all case vehicle occupants not just the case vehicle driver. Any permanent physiological condition that may have been contributory, or increased the severity of injuries should be picked up in this question. Also, physiological conditions can be coded here if the condition complicates accident caused injury, e.g., emphysema with a chest injury.

PHARMACOLOGICAL AGENTS NOTED (35.92.59)

The response to this question should indicate the type of drug that had been ingested prior to the collision by the case vehicle driver and noted in either the CPIR or case report. In cases where more than one drug was noted, choose the one that the investigating team felt was more causative to the accident. Any drug or medication should be coded as being noted; it does not necessarily have to be a causal factor in the accident. When alcohol and some other drug were both noted to be ingested, then priority of response goes to the other drug since alcohol use is recorded in the next question.

BLOOD ALCOHOL LEVEL (35.92.60-62)

If a blood alcohol test was administered to the case vehicle driver, the test results (MG%) should be coded. If a BA test was not given but drinking was suspected, it should be coded "unknown" (999). When no drinking was noted in the above question and none suspected, it should be coded "none" (000). The editor should never guess the BA level.

CRASH FACTORS page 35

INITIAL DIRECTION OF ROLLOVER (35.92.63-64)

When the case vehicle is involved in a rollover accident, then the direction of initial rollover is to be indicated. For example if the vehicle rolls over its left side code (09). Otherwise it is coded "no rollover" (00). This question is to be coded with respect to a clock in the horizontal plane. For example, an initial rollover on the right side of the case vehicle would be coded (03). Intermediate clock positions might also be appropriate.

POST-CRASH FACTORS CASE VEHICLE page 35

CASE VEHICLE, FINAL LOCATION (35.92.65)

This question refers to the final case vehicle rest position following an accident. If any portion of the vehicle remained in the roadway, then "on roadway" is coded (1). All other responses necessitate the vehicle being entirely within the particular boundary conditions.

CASE VEHICLE, FINAL ATTITUDE O'CLOCK POSITION (35.92.66-67)

The final vehicle attitude o'clock position should be coded with the point of reference being a clock in the vertical plane. Thus, if the final rest position was on the roof, (06) would be coded. Intermediate o'clock positions can also apply.

POST-CRASH FACTORS, ACCIDENT page 35

With each of the following four question, "not applicable" (3) is never a choice.

FIRE CONTROL USED (35.92.68)

If a fire was a result of the accident and an attempt was made by any means to extinguish it, then "yes" (1) should be coded. Actions taken to prevent a fire (e.g., hosing roads) are not counted, (2).

EXTRICATION USED (35.92.69)

If any attempt with the use of tools is made to aid in gaining access to the occupants for removal from a vehicle, then "yes" (1) should be coded.

AMBULANCE SERVICE USED (35.92.70)

Any ambulance or rescue service which actually transports occupants to the hospital is coded "yes" (1). If such service is available but not used, it should be coded "no" (2).

TOWING SERVICE USED (35.92.71)

Any vehicle physically removed from the accident site by the use of a wrecker type truck, is coded "yes" (1).

PRE-CRASH PHASE page 36

The following questions are answered from the accident point of view.

GENERAL LOCALITY (36.92.12)

Indicate the accident site general locality. The "Urban-Rural" (3) response is used to cover those "grey areas" that are not urban or rural. However, Urban-Rural is not to be construed as being a subset of either Urban or Rural.

PARTICULAR LOCATION (36.93.13-14)

The type of roadway the accident occurred on is the main consideration. If a vehicle was not on a prescribed roadway, then use "off road" (5) as the appropriate response.

RESPONSIBLE VEHICLE - FIRST/SECOND/THIRD (36.93.15-38)

These three items rank the vehicles involved in order of responsibility for causing the accident. The report numbers as recorded on page 31, should be coded.

RESPONSIBILITY OF CASE VEHICLE (36.93.39)

The responsibility of the case vehicle in the accident causation should be indicated.

TOTAL ENERGY AVAILABLE (36.93.40-43)

This question is intended to record the total energy of the two impacting vehicles having the greatest kinetic energy. Frequently, this is the energy of the first impact. Each vehicle energy is calculated by using the weights and impact speeds. The two values are then added for the Total Energy. (See Section 5: Energy Table. Note that the Energy Table has been completely recomputed for the 1973 Editing Manual. Rear-end configurations do not indicate that the energies be subtracted. All configurations are calculated in the same manner.

PRF-CRASH BASIC MOVEMENT (36.93.44)

This question focuses on the most responsible driver's/vehicle's movements immediately preceding the crash. It is the general movement rather than the specific action taken for the impending collision, which is coded.

CHARACTER OF MOVEMENT (36.93.45-46)

This is the specific movement just prior to the realization or the point of no return preceding the collision. An "avoidance maneuver" should not be coded here unless it lead to the collision.

Example 1

A vehicle is on a straight roadway and enters a curve but continues straight, i.e., tangential to the curve. The vehicle then hits a tree on the side of the roadway. Before the vehicle runs off the road it is still going straight. Therefore, the Pre-Crash Basic movement is "straight" (1) and the character of movement is "straight ahead, road turned to left" (01).

Example 2

In this example, a vehicle is following the initial road curvature and then runs off the road. The Pre-Crash basic movement is "curve following" (2) and the character of the movement is "off the right hand side of the road" (03).

Example 3

In this example, vehicle A (the case vehicle) is making a left hand turn while vehicle B is going straight, prior to impact. The pre-crash basic movement is "turning" (2). Even though the actual

vehicle movement might not be a circular arc. The character of movement is "turned hard left" (12).

PRIMARY FACTOR RESPONSIBLE FOR ACCIDENT (36.93.47)

The response to this question should be determined through an evaluation of the narrative report and supplementary material, especially the matrix cells. Teams usually indicate the causal factor or factors they feel were most responsible for the accident. This should be used as a guideline for coding the appropriate response. In the case where either driver's omission, or commission is the most responsible accident factor, it may be difficult to discern which of the two is the more appropriate response. As a general rule, accidents in which the case vehicle driver had been drinking, was dozing or was inattentive are usually considered unaware type errors. On the other hand, accidents in which the case vehicle driver is knowingly creating a hazardous situation, such as speeding or passing through an intersection on an amber light changing to red are usually coded as aware errors.

PRIMARY ERROR (37.93.48-51)

The specific driver's actions relating to the primary factor responsible for the action is indicated here. The narrative portion of the case report under conclusion, or the police report, usually attempts to answer this question. Both should be consulted in determining the most significant error. When more than one error is indicated, the most significant should be coded first. A consistency check should be made with CPIR page 4.

DEGREE OF DRIVER ATTENTION (37.93.52)

This question is highly subjective. If the most responsible driver had a primary error coded as (02), "falling asleep, blackout, or death-at-wheel", then code Degree Of Driver Attention as "no awareness" (1). All other responses represent intermediate degrees of attention, with a code of "complete awareness" (5) representing the other extreme where the driver, although most responsible, was in complete control of the vehicle; but could not have avoided the collision situation.

DRIVING COMPLEXITY (37.93.53)

Codes (1-5) represent degrees of driving complexity. Variables considered under this question are: driver familiarity with the vehicle, the route frequency, the general locality, the particular location and the traffic density. Extremes in these variables determine how complex the driver situation was (e.g., "complete familiarity" (1) would include a familiar car, a frequent route, and unobstructed open country, "peak complexity" (5) would include peak hour traffic and unfamiliar mid city).

AVOIDANCE MANUEVERS (37.93.54-55)

Coded here are the driver actions in an attempt to avoid the impending collision. The most responsible and second most responsible vehicle actions should be coded. "Brake release" (6) refers to driver braking actions after sighting impending damage, then releasing the brakes.

VEHICLE COMBINATION (37.93.56-57)

The two responses for this question are recorded to generally classify the types of vehicles involved in the collision. Note- Vans and pickups are coded as being Trucks (4) when answering this question. If the case is a single vehicle accident, the second response is coded "no other vehicle" (0).

MOVEMENT OF SECOND MOST RESPONSIBLE VEHICLE (37.93.58)

This question should be approached from a very general point of view, similar to Basic Pre-Crash Movement. The code value "other" (5) should be avoided if possible.

HAZARDOUS ROAD CONDITION (37.93.59-60)

Any hazardous conditions, which might have been contributory to the accident are coded here. Ambience, road surface conditions, obstacles and weather obstructions might all be significant, so a choice must be made which indicated the two most causative.

HSRI ANALYSIS, page 38

This page should not be filled in by the field investigation team. It represents the HSRI editor's estimation of the collision. Impact Speeds, CDCs and Sheet Metal Crush. This is in no way an attempt to second guess the investigators, but is an attempt to unbiasedly present the accident damage with some degree of consistency.

SECTION 3.5

THE DAMAGE ANALYSIS SUPPLEMENT (DAS)

The Case Vehicle Damage Analysis Supplement has been designed to give a more complete view of the damage incurred by the case vehicle. It consists of three parts: the Damage Analysis, the Sequence of Crash Events, and the Side Door Beam Information. The purpose is to collect new information about the damage to the case vehicle and restructure information already coded in the CPIR form into a format that will more specifically detail the manner in which the damage occurred. (The CPIR form does not relate speeds, objects contacted, or other vehicle CDC with the case vehicle CDC. Thus, although investigated, no record is stored of the circumstances in which the case vehicle CDC occurred.)

The Damage Analysis portion of the supplement represents a reorganization of damage information for the "case vehicle" and the associated "other vehicle" which allows for a direct comparison of concurrent damage between the two vehicles. The Collision Deformation Classification (CDC, formerly VDI Vehicle Deformation Index), Inches Crush, Configuration, Crash Event Number, and Impact Speed for the primary and secondary deformation of the "case vehicle" are recorded in one column and the corresponding CDC, Crush and Speed for the "other vehicle" are recorded in the adjacent column. Provision for a Tertiary Collision Deformation Classification for the case vehicle has also been included. For multiple vehicle collisions the "other vehicle" should be changed to be the one connected with each of the case vehicle impacts.

The Sequence of Event represents the second part of the supplement. It is a chronological ordering of vehicle maneuvers and crash events that best describe the collision, for the case vehicle beginning with the first injury or damage producing event. With each event there is an entry for the specific vehicle or object associated with that event. These events are numbered, enabling the specific deformations (and their associated Collision Deformation Classifications) to be related to the appropriate event in the collision sequence. This identifies the nature of the damage and circumstances producing that damage.

The third portion of the supplement is concerned with the side structure performance of the case vehicle. It will provide new information for analysis of direct damage to the side structure with and without door beams. It also includes information which relates the damage to the CDCs.

The following items define how the Damage Analysis Supplement should be completed.

REPORT NUMBER (39.45.2-9)

This is the Report Number on page one of the CPIR Form (1.1.2-9). It should be appropriately coded for the correct case vehicle.

PRIMARY DEFORMATION - CASE VEHICLE/CONCURRENT DAMAGE OTHER VEHICLE (39.45.12-25)

The first entry here should be the same as the primary CDC for the case vehicle on page 38 of the CPIR. The concurrent damage should be the related CDC damage of the other vehicle involved. This is not necessarily the primary CDC of the other vehicle. In cases where there is no other vehicle involved (99-000-0) should be entered in the Concurrent Damage, Other Vehicle.

PERCENT CRUSH (39.45.26-29)

This is optional and is left blank by the editor.

INCHES CRUSH (39.45.30-33)

This corresponds to the number of inches of direct deformation associated with the first letter of the primary CDC recorded. This will usually correspond to inches of crush recorded for the damaged area coded on page 33 of the CPIR form for the case vehicle.

CONFIGURATION (39.45.34)

This corresponds to the type of vehicle to vehicle combination that is associated with the primary CDC. The code values are identical to those on page 4 of the CPIR form, thus the same definitions apply. It should be noted that if no other vehicle was involved it should be coded "no" (2).

- (1) Yes, Configuration Unknown
- (2) No Other Vehicle
- (3) Head on
- (4) Intersection Type L
- (5) Side-Swipe
- (6) Rear Impact
- (7) Other:
- (8) Intersection Type T
- (9) Unknown

CRASH EVENT NUMBER (39.45.35)

This corresponds to the numerical value associated with the specific Crash Event 40.45.35-54, related to the primary CDC, i.e., was the prime CDC the first crash event? Zero (0) is used for no event and "unknown" which event.

CASE VEHICLE AND OTHER VEHICLE SPEED AT IMPACT (39.45.36-45)

The recorded speeds should be those that are directly related to that impact which produced the unique deformation

concurrent to both the case vehicle and other vehicle. The (+) option is used when teams provide a range of speeds and not a definite impact speed. The speed should be expressed as the average of that range with the deviation from that average as a (+) value. Where no other vehicle is involved then all 8's should be coded for the other vehicle impact speed.

BARRIER EQUIVALENT SPEED (39.45.46-47)

This is optional and should be left blank by the editors.

SECONDARY DEFORMATION (39.45.50-71 and 39.46.12-27)

These questions are the same as those for the PRIMARY DEFORMATION only in this case they are all related to the Secondary Deformation classification. The same "no other vehicle" codes also apply to this set of questions.

TERTIARY DEFORMATION (39.46.28-34)

A third CDC is entered here if it is applicable. If no tertiary CDC exist then (99-000-0) is coded.

SEQUENCE OF CRASH EVENTS (40.46.35-54)

This listing of crash events and concurrent vehicle or object contacts should describe the accident for the case vehicle from the first injury or damage producing event to its final rest. The list of crash events uses pairs of numbers to describe the accident event. The first number categorizes the event and the second specifies activity or maneuver involved. In the following example: two cars are traveling in opposite directions on a two-way, two-lane highway and the case vehicle crosses the centerline and sideswipes an intermediate sized car, then runs off the right side of the roadway and hits a tree where it comes to rest; the first damage or injury producing event would be a vehicle to vehicle combination, "both vehicle moving" (1), and the character of movement would then be "opposite direction: struck other vehicle" (4). Thus, the first event would be coded (14). The associated contact would be an "intermediate sized vehicle" (11), and this would be coded in the Vehicle or Object Contacted column across from the related crash event. The next event, ran off the right side of the road, would be the combination of "ran off/reentered the roadway" (7) and "off right side" (3): coded (73) in the 2nd Event line of the Events column. Since there was no object of vehicle contacted, "no object or vehicle" (99) is coded in the 2nd Event line in the Contact column. The next event would be the striking of the tree. This would be described by the combination of "off roadway vehicle: struck" (5) under the Vehicle to Object category and further characterized by "and stopped" (4); thus coded "54". The object involved was the "tree" (77), which would be entered in the 3rd Event line Contact column. To complete the five Event/Contact-pair sequence, blanks should be coded with "no event" (99), and "no object or vehicle" (99). It should be

noted that in describing the activities of the case vehicle, a Concluding Event (2*) should be coded to end the sequence if the previous entry does not describe a terminating maneuver. In the previous example no concluding event was needed since the tree contact event description brought the case vehicle to rest. Also, "No object or vehicle" (99) is used in conjunction with any coded event where no contacts occurred, (as was the case in the example for ran-off-the-right-side-of-the-roadway, 2nd event.) The code for "ground" (80) should not be used unless the vehicle rolls over or strikes the ground after having been airborne. Note that the vehicle/object codes (01) - (69) are the same as the last two digits (body type) of that vehicle's make/model code.

SIDE DOOR GUARD BEAM (40.46.55-71)

The door beam information has been divided into four parts: Beam Present, Front or Rear Door Direct Damage, Maximum Inches Crush (Doors) and Beam Involvement. The first, Beam Present, should be coded from information obtained from the revised Reference Information Section of the Editing Manual (Section 5) under Side Door Reinforcement Beam Availability. This gives a listing of make, model and year of side door beam installation. It should be noted that if the vehicle has no doors (jeep, dune buggy, etc.), that the rest of the responses should be left blank.

The second question, Front and Rear Door Direct Damage, is organized so that direct damage can be related to the deformation through the CDC involved (code values 1,4,5,6, and 9). If no direct damage is involved with either front or rear doors or either side of the vehicle, then "no direct damage" (2) should be coded and the remaining responses left blank. In the case of two door vehicles, the response for Rear: Left and Right, should be coded "N/A, No Door" (3). If direct damage has occurred to any of the doors, then Maximum Inches of Crush for the appropriate door/doors should be numerically coded. This number may not be available in the narrative since the deepest penetration may not have occurred at the door areas, but on examination of the vehicle damage sketch (CPIR p.9), the penetration should be ascertainable. If the inches of crush cannot be obtained, then unknown (99) should be coded. The doors where no direct damage occurred should be coded "no crush or no door" (00).

The last question concerns the Beam Involvement only; thus if no beam was present "N/A, no door or no beam" (3) should be coded for the appropriate doors. If a beam was present the best description of its involvement should be coded.

SECTION FOUR

APPLICATION OF THE
OCCUPANT INJURY CLASSIFICATION (OIC)

INTRODUCTION

The Occupant Injury Classification (OIC) is a scheme for classifying individual occupant injuries in a manner that permits correlation of injury sources (contact areas) and specific injuries. The OIC (Figure 1) follows an approach similar to the SAE J224a Collision Deformation Classification¹ (CDC, formerly VDI). Four letters are used to encode Body Region, Aspect, Lesion, and Body System/Organ, followed by a numeric Abbreviated Injury Scale (AIS) code.

The injuries are coded from a causation point of view. Injuries are recorded for each unique point of injury-producing energy transfer. Provision is made for recording primary and associated OICs for each energy transfer. Provision is also made for encoding four occupant contact points in the vehicle or exterior areas in order of likelihood. This application of the Occupant Injury Classification then can be used to link specific injuries to their causes in an easy and flexible manner.

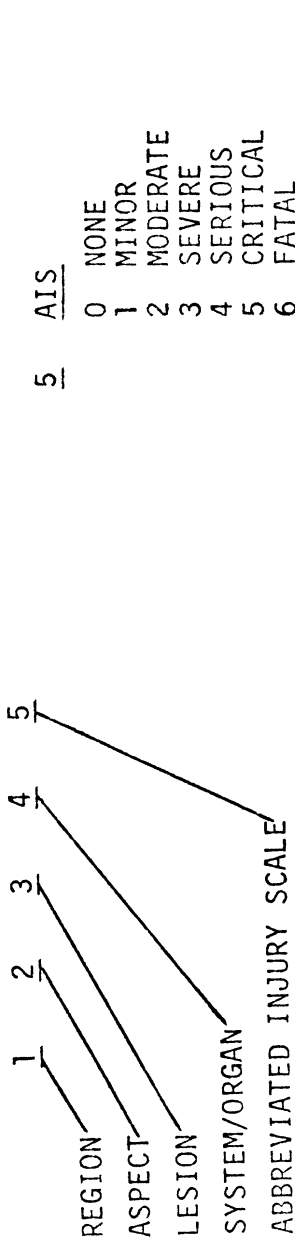
The concept of the Occupant Injury Classification scheme was first presented to the American Association for Automotive Medicine (AAAM) at the Sixteenth Conference in October, 1972.² Subsequently the OIC was presented to the NATO/CCMS Final Accident Investigation Project Workshop in June, 1973.³ Responses from these presentations and the experiences of application by in depth accident investigation teams has permitted a more precise description of the Occupant Injury Classification procedure.

¹ Collision Deformation Classification, SAE J224a, Recommended Practice, Society of Automotive Engineers, New York, 5 pages, 1972.

² Marsh, J.C., "Existing Traffic Accident Injury Causation Data Recording Methods and the Proposal of an Occupant Injury Classification Scheme," Proceedings of the Sixteenth Conference of the American Association for Automotive Engineers, New York, pp 44-61, October 19-21, 1972.

³ Marsh, J.C., An Occupant Injury Classification Procedure Incorporating the Abbreviated Injury Scale, presented to the NATO Committee on the Challenges of Modern Society, Road Safety Pilot Study, Accident Investigation Final Workshop, Brussels, Belgium, June 28-29, 1973.

FIGURE 1. OCCUPANT INJURY CLASSIFICATION -OIC-



<u>1</u>	<u>BODY REGION</u>	<u>2</u>	<u>ASPECT</u>	<u>3</u>	<u>LESION</u>	<u>4</u>	<u>SYSTEM/ORGAN</u>	<u>5</u>	<u>AIS</u>
	H HEAD - SKULL	R RIGHT	L LACERATION	S SKELETAL				0 NONE	
	F FACE	L LEFT	C CONTUSION	V VERTEBRAE				1 MINOR	
	N NECK - CERVICAL SPINE	B BILATERAL	A ABRASIONS	J JOINTS				2 MODERATE	
	S SHOULDER	C CENTRAL	F FRACTURES	D DIGESTIVE				3 SEVERE	
	X UPPER EXTREMITIES (ARMS)	A ANTERIOR/FRONT	P PAIN	L LIVER				4 SERIOUS	
	A ARM (UPPER)	P POSTERIOR/BACK	K CONCUSSION	N NERVOUS SYSTEM				5 CRITICAL	
	E ELBOW	S SUPERIOR/UPPER	H HEMORRHAGE	B BRAIN				6 FATAL	
	R FOREARM	I INFERIOR/LOWER	V AVULSION	C SPINAL CORD				9 UNKNOWN	
	W WRIST - HAND	W WHOLE REGION	R RUPTURE	E EYES, EARS					
	C CHEST	U UNKNOWN	S SPRAINS	CARDIOVASCULAR					
	M ABDOMEN		D DISLOCATIONS	A ARTERIES, VEINS					
	B BACK - THORACOLUMBAR SPINE		N CRUSHING	H HEART					
	P PELVIC - HIP		M AMPUTATION	Q SPLEEN					
	Y LOWER EXTREMITIES (LEGS)		B BURN	G UROGENITAL					
	T THIGH		X ASPHYXIA	K KIDNEYS					
	K KNEE		O OTHER	R RESPIRATORY					
	L LEG (LOWER)		U UNKNOWN	P PULMONARY, LUNGS					
	Q ANKLE - FOOT			M MUSCLES					
	O WHOLE BODY			I INTEGUMENTARY					
	U UNKNOWN, UNCLASSIFIED			U UNKNOWN, UNCLASSIFIED					

The procedure outlined herein is based upon the previously published OIC scheme but contains a more precise specification of its application. It should be used for reporting all collision injuries sustained after December 31, 1973. The presentation of this procedure is outlined below:

- (1) Rationale for OIC Scheme
- (2) Definition of OIC Facets
- (3) Overall OIC Application Procedure
- (4) Specific OIC Encoding Procedure by Body Region

RATIONALE FOR OCCUPANT INJURY CLASSIFICATION SCHEME

What components cause injury? This question is frequently asked, yet usually it is left unanswered. The most critical problem area in answering the question is in the adequate recording of injury causation data. The current Collision Performance and Injury Report¹ and the NATO Collision Analysis Report Form² have inadequate provisions for recording which area of contact caused a specific injury. In the course of processing and analyzing CPIF data two general observations were made:

- (a) Frequently, essential injury details were documented, yet we had no way to code this information in the data files.
- (b) Injury details that were coded (as described above) were cumbersome if not impossible to analyze using the computer storage format as defined.

As a specific example of loss of detail within one body region, note that no provision existed for relating specific injuries to specific contact areas, e.g., no record was kept of which facial injury is related to which contact area. These observations, as documented in the previous OIC publication, provided the background and impetus for the Occupant Injury Classification.

DEFINITION OF OCCUPANT INJURY CLASSIFICATION FACETS

The Occupant Injury Classification is a scheme for recording specific occupant injuries in much the same manner as the Collision Deformation Classification (CDC), SAF J224a records vehicle damage. It is not a classification of overall occupant injury, but a scheme for recording each individual injury an occupant sustains. A series of independently defined classification facets are combined as a sequence of letters to describe an injury in terms of Body Region, Aspect, Lesion/Diagnosis and Body System/Organ. As with the CDC (or VDI)

¹ Collision Performance and Injury Report, Long Form Revision Number 3, General Motors Corporation, Safety Research and Development Laboratory, General Motors Proving Ground, 1969.

² Collision Analysis Report Form, Pilot Study on Road Safety for the Committee on the Challenges of Modern Society, NATO. Published by the Department of Transportation, National Highway Traffic Safety Administration, December 1, 1971.

a numerical severity code terminates the OIC. The four main facets or dimensions of the OIC were developed directly from the GM-CPIR and NATO-CARF Occupant Injury Detail page. Instead of recording AIS codes in a large table, the OIC records the "position in the table" along several dimensions. It is analogous to the difference between storing a map of the U.S.A. with a few points plotted vs. simply storing the latitude and longitude of the few points. Figure 1 displays the proposed scheme using single letter codes.

In practice the accident investigator records one Occupant Injury Classification for each significant injury he decides to document. The areas of contact related to each OIC are also coded in order to record a complete picture of injury causation. A simple example precedes a more detailed OIC discussion.

To demonstrate the OIC, three facial injuries are coded as follows:

1. Documented Injuries

- (a) Laceration of left eye from contact with windshield, AIS-2.
- (b) Multiple facial contusions from impact with upper instrument panel, AIS-1.
- (c) Minor lip laceration from teeth during upper instrument panel contact, AIS-1.

2. Occupant Injury Classification

<u>Contact Areas</u>	<u>Occupant Injury Classification</u>			<u>AIS</u>
	<u>Region:</u>	<u>Aspect:</u>	<u>Lesion: System/Organ</u>	
(a) Windshield	Face:	Left:	Laceration: Nervous System-Eye	2
(b) Upper Panel	Face:	Whole Region:	Contusion: Integumentary	1
(c) Other Upper Panel	Face:	Inferior:	Laceration: Digestive System	1

3. Coded OICs

	<u>Contact Areas</u>	<u>OIC</u>
(a)	12	FLLE-2
(b)	54	FWCI-1
(c)	38, 54	FILD-1

Several observations can be made from this example. Distinct contact areas are recorded for each facial injury while the previous schemes did not relate contacts to injuries in the same body region. Secondly, the four letters provide more injury location detail than the previous coding scheme. The four letters also prove to be fairly simple to record, read and remember. A more detailed explanation of each facet of the OIC will help clarify its potential application. This will be followed by a procedure for recording the OIC and specific

procedures for coding each body region.

BODY REGIONS - Body Regions (Figure 2) are defined as subsets of the body's surface. The regions are based on the NATO Collision Analysis Report Form with its extended list of thirty-two body regions. Many of these categories are organs, such as liver and spleen, and are not properly body regions. A separate facet or coding dimension is provided for Body System/Organ (discussed later) while the following Body Regions are similar to the NATO-CARF. One significant difference occurs in the hip region. Only the pelvic bones, sacrum, coccyx, joint, posterior muscles and tissue covering these are included in the hip region (P). Internal organs in the pelvic structure are included in the abdomen region (M).

OIC Body Region Codes

H Head (Skull, Scalp, Ears)
 F Face (Forehead, Nose, Eyes, Mouth)
 N Neck (Cervical Spine, C1-C7)
 S Shoulder (Clavicle, Scapula, Joint)
 X Upper Extremities (Whole Arm)¹
 A Arm (Upper)
 E Elbow
 R Forearm
 W Wrist-Hand
 B Back (Thoraco-Lumbar Spine, T1-T12, L1-L5)
 C Chest (Anterior and Posterior Ribs)
 M Abdomen (Diaphragm and Below)
 P Pelvis-Hip
 Y Lower Extremities (Whole Leg)¹
 T Thigh (Femur)
 K Knee
 L Leg (Below Knee)
 Q Ankle-Foot¹
 O Whole Body
 U Unknown, Unclassifiable

¹ Note: The letter (A) was previously used for "Ankle-Foot". "Ankle-Foot" is now coded as (Q). (X) and (Y) previously were "Extremities" and "Trunk" respectively. Extremities are now divided into Upper Extremities (X) and Lower Extremities (Y). Specific areas of the trunk (e.g. Chest, Abdomen, etc.) are now coded instead of Trunk.

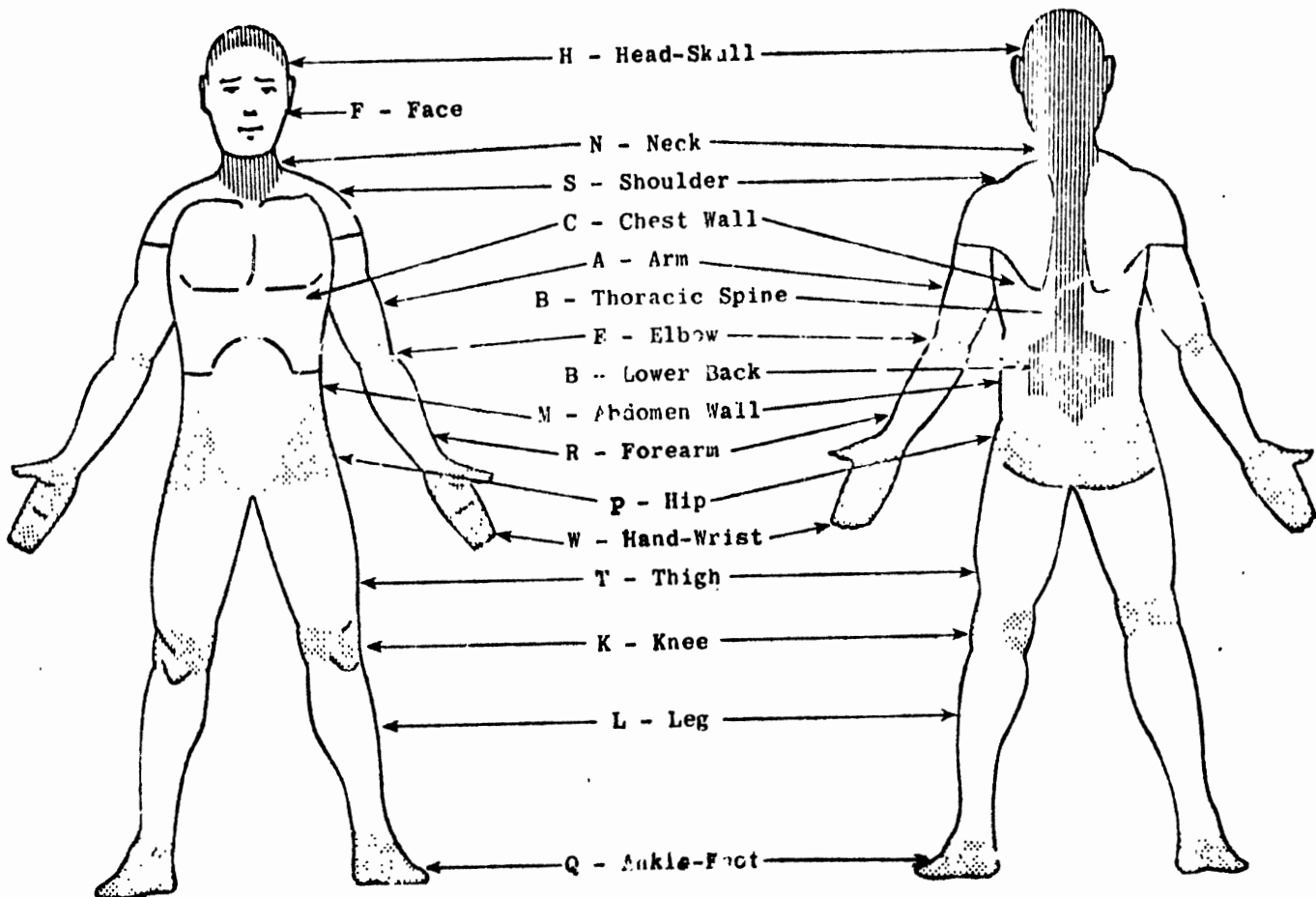


FIGURE 2. OIC BODY REGIONS

ASPECT - The Aspect codes provide a fairly specific means of locating an injury in a body region e.g., (NP); Neck Posterior. The coding of the arms and legs depends on the use of (R) and (L) for distinguishing which extremity region was injured. The code (B) for bilateral is used to describe an injury that is best characterized as happening to both sides of a body region. Examples include (CB) for bilateral rib fractures in the chest, and (KB) for contusions to both knees on the steering column. As discussed in the last section, only certain aspect codes are permitted for each Body Region in order to ensure consistent coding.

OIC Aspect Codes

R Right
 L Left
 B Bilateral
 C Central
 A Anterior/Ventral/Front
 P Posterior/Dorsal/Back
 S Superior/Cranial/Upper
 I Inferior/Caudal/Lower
 W Whole Region
 U Unknown, Unclassifiable

The aspect code is the second letter of the OIC. It is a refinement of the first letter, i.e., a suffix to the body region. Therefore, it has meaning only in relationship to the body region to which it is applied. It cannot be used independent of the first letter for coding or analysis. Note that while the combination of Body Region and Aspect codes do not precisely pinpoint injury location they do provide - in compact form - considerably more resolution than the earlier formats.

DIAGNOSIS OF LESION - The diagnosis of injury or lesion categories are basically the ones provided for in the expanded CARF injury detail page. The one significant addition is "asphyxia". While fairly rare, no provision exists currently for encoding this information when it occurs.

OIC Lesion Codes

L Lacerations (Open Wounds, Penetration, Perforation, Incision, Cutting)
 C Contusions (Bruise, Hematoma, Ecchymosis)
 A Abrasions (Superficial, Scratch, Blister, Excoriation)
 F Fractures
 P Pain
 K Concussion
 H Hemorrhage
 V Avulsion (Tearing away from, Extrusion)
 R Rupture (Herniation)
 S Sprains
 D Dislocations
 N Crushing (Pulpefaction, Flailed Chest/Limb)
 M Amputation (Transection of Limb, Decapitation)
 B Burn
 X Asphyxia (Suffocation, Anoxia, Obstruction)
 O Other
 U Unknown

This facet is primarily intended to code diagnostic information concerning pathological changes and not the signs and symptoms. Pain is the one exception, as it is useful for encoding those painful but vague abnormalities that are not

specifically diagnosed.

Pathological changes due to impact take precedence over the consequences of the lesions. Two exceptions exist: asphyxia and hemorrhage, because of their potential for critical or fatal consequences. Through either mechanism a minor laceration, for instance, could result in fatal consequences. Hemorrhage should be used conservatively, i.e., when the consequences of the subsequent hemorrhage are significantly more severe than the original injury. This situation occurs most frequently as a consequence of internal organ trauma. The encoding of specific injuries that may be troublesome are discussed by Body Region in the final section.

BODY SYSTEMS/ORGANS - The fourth and final letter of the Occupant Injury Classification is the specific Body System or Organ affected. Rather than list all the organs, the categories were based upon the major body systems. The combination of body system and body region categories work together to define specific tissue areas. For example, FIELD-1, the Face, Interior, and Digestive system combine to infer "Mouth". Similarly CPFS-2 (Chest Right Fracture Skeletal) indicates a simple rib fracture on the right side.

OIC System/Organ
 S Skeletal, Bones, Ligaments
 V Vertebrae
 J Joints, Articulations
 D Digestive
 L Liver
 N Nervous System
 B Brain
 C Spinal Cord
 E Eyes, Ears
 Cardiovascular (Use A, H or Q)
 A Arteries, Veins
 H Heart
 Q Spleen
 U Urogenital
 K Kidneys
 R Respiratory
 P Pulmonary, Lungs
 M Muscles
 I Integumentary (e.g. Skin, Hair)
 U Unknown, "Unclassified"

The specific organs of greatest interest are indicated in the NATO-CAFF occupant injury detail page: lungs, heart, liver, spleen and kidneys. These along with the vertebrae, joints, spinal cord, arteries, veins, eyes and ears have been provided with specific codes.

ABBREVIATED INJURY SCALE - The Occupant Injury Classification is terminated with the Abbreviated Injury Scale (AIS)¹ severity code in the same manner that the vehicle Collision Deformation Classification ends with a numeric extent code. The AIS has received wide acceptance and application. It provides a scaling of tissue damage that is consistent with the intent of the OIC. The AIS is not used here to encode overall occupant injury severity. Because specific injuries to one particular body region are being coded, only severity codes 1 through 6 apply with the addition of 9 for unknown severity. This is the same correlation used for encoding the CPIR and CARF injury detail pages.

Abbreviated Injury Scale

- 0 No Injury
- 1 Minor
- 2 Moderate
- 3 Severe (Not Life-Threatening)
- 4 Serious (Life-Threatening, Survival Probable)
- 5 Critical (Survival Uncertain, Fatal after 24 Hrs.)
- 6 Fatal (within 24 Hours)
- 9 Severity Unknown

OVERALL OIC APPLICATION PROCEDURE

The format for recording injuries is displayed in Figure 3. For each injury, 4 contact areas can be recorded (col. 14-21) in likelihood order beginning with the most probable contact area. Use the expanded list of nearly 90 contact area codes (See Section 5: Occupant Contact Areas). For each traumatic vehicle contact sustained by the occupant, 3 OICs can be recorded. The first OIC (col. 22-26) is for primary trauma and the other OICs (col. 27-36) is for optional associated traumas (defined later). Only those lines (cards) with encoded data are keypunched. Each occupant is coded on a separate form so that the injury card numbers (col. 10-11) start over for each new occupant number (col. 12-13). The computer will then format this information into one logical record per injury so analysis can be conducted on an injury-by-injury basis.

 1 "Rating the Severity of Tissue Damage, I. The Abbreviated Scale", Committee on Medical Aspects of Automotive Safety, Journal American Medical Association, Volume 215, Number 2, pp. 277-280. January 11, 1971.

With a proper coding format, the OIC facilitates the description of many specific types of tissue damage and permits the recording of injury causation or injury sources on an injury-by-injury basis. The critical problem, then, is defining what an "injury" is. What level of detail should be recorded? An operational definition of an "injury" is needed to provide boundaries of the level of detail to be encoded. This is accomplished by default in the CIPR and CARE forms; an injury is defined as one box in the occupant injury detail table. For example, only one laceration per body region is permitted.

On the OIC coding form an injury is considered as all the significant pathological change to a body region caused by an occupant contact to the vehicle or other object. Each line of the form operationally defines a single injury. Up to 3 OICs may be used on one line. The OICs describe the injury location, nature, and extent. Up to four contact codes can describe the injury's source. In order to link injuries with injury sources (contact areas), traumas to a body region due to distinct contacts are always coded as separate injuries i.e., on separate lines. A driver sustaining two facial lacerations, one from the steering wheel and one from the windshield, would have two OICs, on two lines of the form, each with its associated contact code. One injury is usually located in a single body region. But an injury could overlap into two or more body regions having different codes. For example, a passenger striking the right A pillar might dislocate his shoulder and bruise his upper arm. The injury would consist of two OICs (SRDJ-3 and ARCI-1) on the same line. When multiple lesions (e.g., lacerations, contusions, burns) occur to the extremities the X and Y codes permit a more concise injury description. If two distinct lesions from one contact have the same body region and aspect codes they should be considered as one injury and coded on the same line. Note that two lesions to two different aspects of one body region from one contact area may be recorded as two injuries, on two lines.

The recording of several traumas in a single body area that resulted from one contact presents some problems. Is the rib fracture and pneumothorax caused by steering column contact one injury or two injuries? From an injury causation point of view only unique points of injury producing energy transfer should be recorded, but this approach might limit the recording of some significant traumatic conditions resulting from the dissipation of energy.

Campbell's Traumatic Tissue Damage Record¹ is in part "based upon the recognition that as the energy passes through various layers or structures it may leave some evidence of its effect in the tissue. Damage may therefore be described and assessed for all of the major tissues through which the force passes at whatever level they occur". To keep the number of

¹ E.O.F. Campbell, "Traumatic Tissue Damage Record". Traffic Injury Research Foundation, Ottawa (Canada), no date.

details to be coded to a manageable level, he further suggests "that only the damage at greatest depth in the body needed to be described in any one particular injury".

This conceptualization of injury is the approach suggested for recording trauma with one exception--the injury classifier is permitted three OICs for each force application or contact point (Figure 3). Three uses of the primary and associated OICs have been defined.

1. TWO LESIONS FROM ONE CONTACT - When there are several distinct lesions in one location resulting from contact with one vehicle area, three OICs can be recorded. The first OIC would be the diagnosis of damage at the deepest level or the most important deepest structure. The other OICs can be used to describe other associated traumatic conditions. Using the earlier example, if the fractured rib punctured the pleural cavity the pneumothorax would receive the primary OIC and the rib fracture an associated OIC. Because contusions and abrasions frequently occur together (i.e., in one area of a body region from one vehicle contact area), they are most conveniently recorded on one line with contusions as the first OIC and abrasions as the second OIC.

2. INDIRECT OR INDUCED INJURY - The concept of "induced injury"¹ indirect injury is revealed by the following example: A passenger strikes his forehead on the windshield and sustains a bump on the head. Obviously, the bump on the head is related to the window. But, in addition, the passenger has a pain in the neck. Though no specific car component was struck, this would be an injury induced from windshield impact. It is analogous to induced damage to a car in areas not in the impact area. In the instance of a dislocated hip which resulted when the knee struck the instrument panel, instrument panel would be coded as the injury producing contact. Or, when the knee and foot are jammed against the instrument panel and floor, respectively, during impact, and a fractured tibia occurs from resulting flexion, both the floor and the instrument panel would be coded as injury-producing contacts for the fracture.

While one could consider all injury except skin injury to be "induced from transmitted forces", the interpretation made in the OIC is that indirect injuries are injuries to one body region caused by a blow or contact in some other body region. In other words, indirect injuries occur when traumatic energy is transmitted through one body region to another body region. The vehicle area(s) directly struck by the other body region should be coded as the contact area(s) for the indirect injury.

1 Private correspondence from Professor Donald F. Huelke, University of Michigan, Medical School, to Mr. Wilton D. Nelson, Safety Research and Development, General Motors Proving Ground, June 16, 1972.

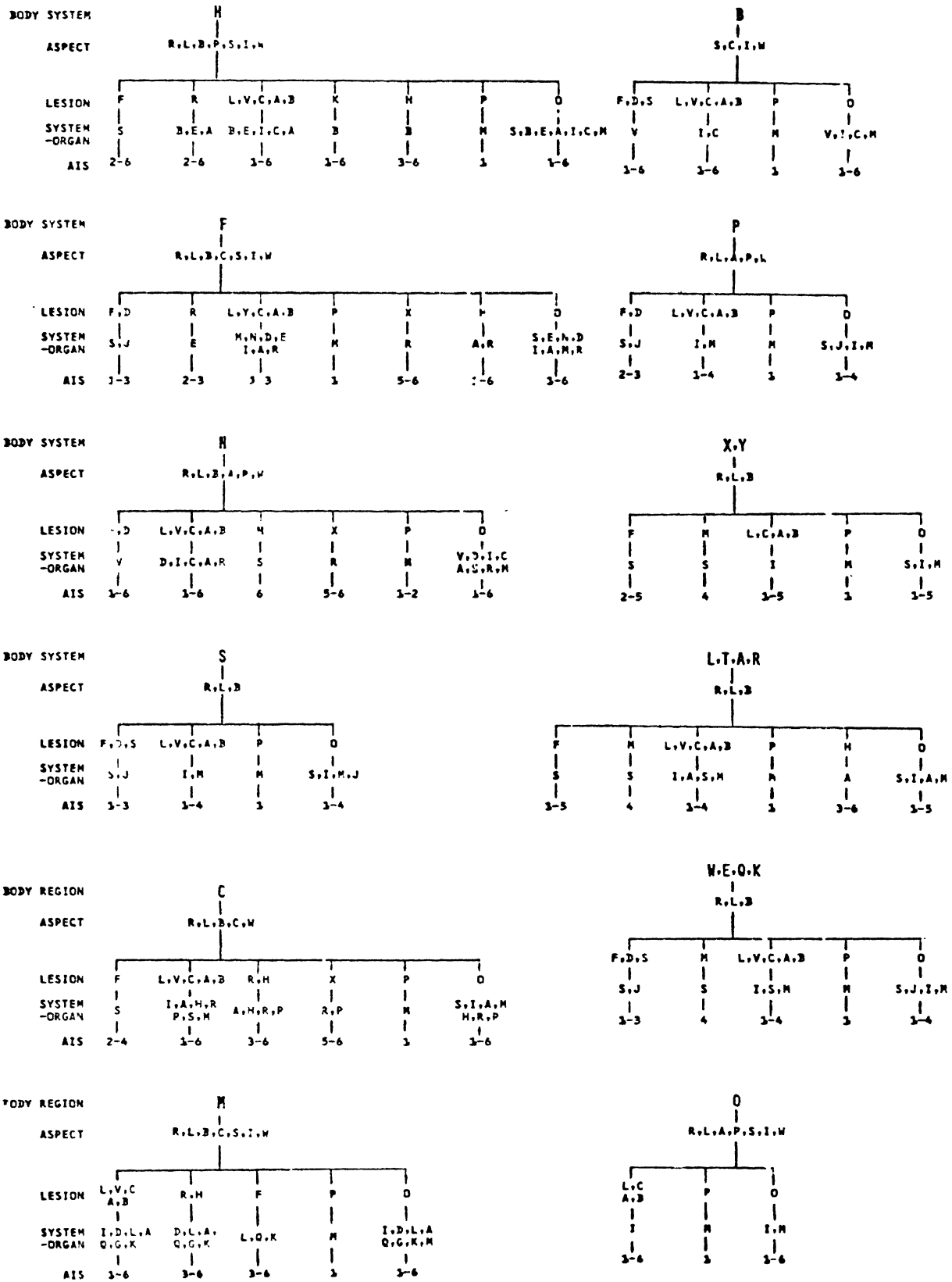
2. CONSEQUENCES - The critical and fatal consequences of primary trauma can be coded as associated injuries. Asphyxia (X) and hemorrhage (H) are the most common significant consequences. If, due to face trauma, blood flow blocks off air flow, the resulting asphyxia would be coded (FIXR-6) as an associated trauma. A minor three inch wrist laceration (WRLI-1) could result in a fatality because of the associated hemorrhage of the lacerated ulna or radial artery (WRHA-6). Exterior hemorrhaging should not be coded unless it is of significant consequence. Internal hemorrhaging (e.g. subdural hematoma (HLHB-6), thoracic hemorrhage (CWAH-6), or hemoperitonum (MWHH-6)) may have frequent application at the critical and fatal injury severity levels. Code both the primary (WRLI-1) and the associated consequence (WRHA-6) on one line of the coding form.

SPECIFIC OIC ENCODING BY BODY REGION

While the valid combinations of OIC letters and injury severity codes are generally self-defined, the chart in Figure 4 displays most of the valid combinations. The chart provides assistance in data recording and will be used by the computer to aid in editing recorded OICs.

In order to ensure consistent coding of aspect codes, specific limitations have been placed upon their application in each Body Region, as explained below for each Region. Suggestions on coding injuries unique to each Body Region have also been included. The purpose of this section is to provide sufficient documentation so that everyone can classify the same injuries the same way. Questions and suggestions are encouraged.

Fig. 4 Valid OIC Combinations



H - HEAD, SKULL

Valid Aspect Codes:

- R, L Right, Left - ears
- B Bilateral
- S Superior - top of head
- I Inferior - base of skull
- P Posterior - back of head
- W Whole Region

Specific Injuries:

1. Extrusion of the brain is listed under "avulsion" (V).
2. A hematoma is listed under "contusion" (C) if it is found in the superficial layers (i.e. scalp) and as a "hemorrhage" (H) if it is found underneath the skull in the subdural or subarachnoid spaces.
3. Unconsciousness is coded as "concussion" (K), and the severity indicates the length of unconsciousness.
4. Head pain due to a blow is coded HLKB-1.¹

F - FACE

Valid Aspect Codes:

- R, L Right, Left - eyes
- B Bilateral - e.g. both cheekbones
- C Central - area around and including nose
- S Superior - forehead
- I Inferior - mouth, chin, lower jaw
- W Whole Region

Specific Injuries:

1. Fractured and avulsed teeth are coded under the skeletal system; the severity is always 1. Examples:
FIFS - broken teeth
FIVS - avulsed teeth

Fractured teeth are distinguished from a broken jaw by the severity code. Example:

- FIFS-1 - broken teeth
- FIFS-2 - broken jaw

2. A contusion of the nose can be coded FCCP-1.

3. Nosebleeds are not coded unless they are the primary injury to the nose, when they are coded FCHR-1. Note that this is the only hemorrhage with an AIS code of below 3.

¹ Arbitrary R, L aspect codes are used throughout these examples.

N - NECK, CERVICAL SPINE

Valid Aspect Codes:

- R, L Right, Left
- B Bilateral
- A Anterior - front, trachea
- P Posterior - back, cervical spine
- W Whole Region

Specific Injuries:

1. Asphyxiation of gastric contents is an associated injury and should be coded as such - MAXR-6.
2. Bilateral is a valid aspect code for both sides of the neck, such as NBPM-1 for bilateral neck pain in the muscles.
3. Fracture of the larynx is coded NAFR-2, and may be associated with asphyxiation or hemorrhage.

S - SHOULDER

Valid Aspect Codes:

- R, L Right, Left
- B Bilateral

Specific Injuries:

1. Fractures of the clavicles, scapula, and ball and socket joint of the humerus and bones of the scapula are included in the (S) Region.

Y - UPPER EXTREMITY

- A - UPPER ARM
- E - ELBOW
- F - FOREARM
- W - WRIST, HAND

Valid Aspect Codes:

- R, L Right, Left
- B Bilateral

Note: Bilateral rather than Whole Region is used when the injury is common to both extremity regions.

Specific Injuries:

1. Multiple fractures of extremities are indicated by increasing the severity not by repetitive coding.

Example is:

Fx of radius L arm	FLFS-2	}	RLFS-3
Fx of ulna L arm	RLFS-2		

2. Pain in arms after bracing during the accident is coded

as XBP-1 and the contact code is "impact" (98).

3. An elbow bone contusion is coded as EPCS-1. Contusions to bones, such as the elbow, are coded under the skeletal system.

C - CHEST

Valid Aspect Codes:

- P, L Right, Left
- B Bilateral
- C Center - external front and mediastinum
- W Whole Region

Specific injuries:

1. The heart is considered in the "center" (C) of the chest. Example of a lacerated heart - CCLH-6.
2. A hemothorax is coded as to the source of blood. Possible sources are arteries-veins, or pulmonary-lungs. Hemorrhage of the arteries or veins is coded CPHA-3. Pulmonary hemorrhage is coded as CRHP-5.
3. The lesion code for pneumothorax is "other" (O). Examples of coding would be CLOP-3 or CBOP-4. This is a primary injury when a rib or other object tears the pleura. Otherwise it is a consequence and an associated injury.
4. Contusion of the rib is coded as CRCS-1.
5. A lacerated lung is coded CELP. This may result in atelectasis or collapse of the lungs. It is an associated injury - CRCP-3.
6. A crushed chest with no other details is coded CWNS-6.
7. Heart attack (cardiac arrest) as a result of impact is coded CCOH-6.

M - ABDOMEN

Valid Aspect Codes:

- R Right - liver
- L Left - spleen
- B Bilateral
- C Central - use only for umbilical area
- S Superior - one lobe of liver
- I Inferior - bladder
- W Whole Region

Specific Injuries:

1. Peritoneum is not coded as a separate tissue. Hemoperitoneum is coded under the digestive system, as the peritoneum covers the organs of the digestive

system.

2. If the stated injury is "fatal abdominal injuries", the organ system, lesion, and aspect code would be unclassified. Example is - MUUU-6.
3. Seat belt bruises are coded in the abdominal region and can be coded MICI-1, MBCI-1, or MWCI-1 according to which best fits the description given.
4. A ruptured diaphragm is coded MSRR-3.
5. Spontaneous abortion (miscarriage) is coded MIOG-4.

B - BACK

Valid Aspect Codes:

- C Central - overlap of thoracic and lumbar vertebrae
- S Superior - thoracic vertebrae 1-12
- T Inferior - lumbar vertebrae 1-5
- W Whole Region

P - PELVIC - HIP

Valid Aspect Codes:

- R, L Right and Left - pelvic joint
- A Anterior - superior and inferior pubic rami
- P Posterior - skin, posterior muscles, sacrum, coccyx
- W Whole Region

Specific Injuries:

1. As in the case of a broken femur at acetabulum due to striking knee on window handle with no resulting knee injury - add contusion of the knee, KLKI-1 - as the primary injury and code the broken hip as an associated injury induced from window handle contact.

Y - LOWER EXTREMITY

- T - THIGH
- K - KNEE
- L - LOWER LEG
- Q - ANKLE-FOOT

Valid Aspect Codes:

- R, L Right, Left
- B Bilateral

Note: The use of Bilateral implies that a common injury occurred to the same region on both extremities. For example, if both knees were contused on the instrument panel, KECI could be used to indicate the bilateral injury.

Specific Injuries:

1. A contusion of the shin (lower leg) is coded LRCS-1.

Contusions to such bony areas may be coded under the skeletal system.

2. Multiple fractures are indicated by increasing severity, not repetitive coding. Example is:

	fx. of tibia	LRFS-2	} LRFS-4
Right Leg	fx. of fibula (proximal end)	LRFS-2	
	fx. of fibula (distal end)	LRFS-2	

Q - WHOLE BODY

Valid Aspect Codes

F, L Right, Left
 A Anterior - front
 P Posterior - back
 S Superior
 I Inferior
 W Whole Region

Specific Injuries:

1. The broader regions have been provided to aid the description of an injury occurrence that involves more than one region, such as a burn.

U - UNKNOWN REGION

Specific Injuries:

1. Minor injuries with no specific details should be coded UUUU-1 as the one primary injury on the OIC coding form.

SECTION 5

REFERENCE INFORMATION

The reference information in this section is generally restricted to passenger vehicles and light trucks, such as pickups and small vans. All model years and foreign vehicles for which information was available have been included. A more comprehensive annual compilation of vehicle dimensions and VIN information for cars and all types of trucks sold by domestic vehicle manufacturers is available in the MVMA published Supplement (references 2-5). That information is, therefore, not reproduced here.

The following material is organized alphabetically by the descriptors underlined in the Table of Organization. The vehicle manufacturer and model year are used where necessary to suffix a descriptor page heading.

SECTION 5
REFERENCE INFORMATION
TABLE OF ORGANIZATION
1/74

A DIMENSIONS

AMC
CHRYSLER
FORD
GM
IMPORTS
PICKUP

AIS, ABBREVIATED INJURY SCALE

BODY MODELS

CHRYSLER
FORD
GM
IMPORTS

BODY STRUCTURE

USA
IMPORTS

BRAKE OPTIONS

BRAKE ANTI-LOCK SYSTEMS
BRAKE TYPES

CDC/VDI

SUMMARY
SAE: J224A

COLUMN MOVEMENT - SEE A DIMENSIONS

DAMAGE ANALYSIS

CRASH EVENTS
VEHICLES/OBJECTS CONTACTED

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supplement for detailed reference

USA
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ENERGY TABLE, KINETIC

MAKE/MODEL CODES - See also BODY MODELS

OCCUPATION CLASSIFICATION

OCCUPANT CONTACT AREAS

OIC: OCCUPANT INJURY CLASSIFICATION

OIC: BODY REGIONS

OIC: VALID COMBINATIONS

REPLACEMENT COSTS - See Red Book

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BELT AVAILABILITY
CHILD RESTRAINT CODES
HEAD RESTRAINT AVAILABILITY
LOCKING RETRACTORS
USAGE CODES
WARNING SYSTEMS

SEAT BACK ANGLES

AMC
CHRYSLER
FORD
GM
IMPORTS

SEAT BACKS

SIDE DOOR REINFORCEMENT

STATE CODES

STEERING COLUMN ANGLES

AMC
CHRYSLER
FORD
GM
IMPORTS
PICKUPS

STEERING COLUMN EA

DIAGRAMS
USA
IMPORTS

STEERING WHEEL CODES

STEERING WHEEL EA DEVICE

USA
IMPORTS

TEAM PREFIX & CASE NUMBER

TELESCOPING UNIT

DIAGRAMS
USA
IMPORTS
TRUCKS

TIRE INFORMATION

TRAILER HITCH INFORMATION

VEHICLE DEFORMATION INDEX - See CDC/VDI

VEHICLE WEIGHTS - See Red Book

VEHICLE MAKE/MODEL CODE - See MAKE/MODEL CODES

VIN SUMMARY - See also MVMA SUPPLEMENT

VM/M CODE - See MAKE/MODEL CODES

WINDSHIELD CODES

CHRYSLER
FORD
GM
OTHERS

STEERING WHEEL HUB TO REAR WINDOW HEADERORIGINAL "A" DIMENSIONS

1971-73 AMC CARS

<u>Model</u>	<u>2-Door</u>	<u>4-Door</u>	<u>Wagon</u>
Hornet	62.25	61.75	81.70
Gremlin	60.10	---	---
Matador	61.25	64.20	105.5
Ambassador	61.25	64.20	105.5
Javelin, AMX	54.25	---	---

STEERING WHEEL HUB TO REAR WINDOW HEADER

ORIGINAL "A" DIMENSIONS

1974 AMC CARS

	<u>Model</u>	<u>"A" Dimension</u>
Gremlin	7440	62.50"
Hornet	7403 (Hatchback)	55.00"
	7406 (2 Dr.)	62.00"
	7405 (4 Dr.)	62.00"
	7408 (Station Wagon)	81.25"
Javelin - AMX	7470	56.75"
Matador	7415 (4 Dr.)	64.00"
	7416 (2 Dr.)	58.25"
	7418 (Station Wagon)	107.75"
Ambassador	7485 (4 Dr.)	64.00"
	7488 (Station Wagon)	107.75"

JEEP

Cherokee	95.00"
Wagoneer	95.00"
CJ5 Renegade	52.25"

70-72 CHRYSLER

STEERING WHEEL HUB TO BACKLIGHT HEADER DIMENSIONS

VEHICLE	BODY STYLE	DIMENSION (INCHES)	FEATURE TILT ONLY	FEATURE TILT & TELESCOPE
Chrysler - All	2-Dr H/T	63"		61"
Chrysler - All	4-Dr Sd	66"		64 1/2"
Chrysler - All	4-Dr H/T	66 1/2"		65"
Dodge Dart	4-Dr Sd	64"		
Dodge Dart Swinger	2-Dr H/T	59"		
Dodge Challenger	2-Dr H/T	54 1/2"		
Dodge Challenger (sm.backlite)	2-Dr H/T	56"		
* Dodge Charger	2-Dr H/T	62"		
* Dodge Coronet	2-Dr Sd & 2 Dr H/T	60"		
* Dodge Coronet	4-Dr Sd	65"		
Dodge Polara & Monaco	2-Dr H/T	63"		
Dodge Polara & Monaco	4-Dr H/T	68 1/2"	66"	
Dodge Polara & Monaco	4-Dr Sd	66 1/2"	64"	
Imperial - Crown	2-Dr H/T	63"		62"
Imperial - Crown	4-Dr H/T	66"		65"
Imperial - Lebaron	2-Dr H/T	66"		65"
Imperial - Lebaron	4-Dr H/T	71"		70"
Plymouth Barracuda	2-Dr H/T	54 1/2"		
* Plymouth Belvedere	2-Dr Sd & 2-Dr H/T	60"		
* Plymouth Belvedere	4-Dr Sd	65"		
Plymouth Fury (etc.)	4-Dr Sd	66 1/2"	64"	
Plymouth Fury (etc.)	2-Dr Sd	68 1/2"	66"	
Plymouth Fury	Formal 2-Dr H/T	68 1/2"	66"	
Plymouth Fury (etc.)	4-Dr H/T	68 1/2"	66"	
Plymouth Fury (etc.)	2-Dr H/T	63"	61"	
Plymouth Valiant	4-Dr Sd & 2-Dr H/T	65"		
Plymouth Valiant Duster	2-Dr H/T	59 1/2"		

* Dimension for 1970 only, 70-71 dimensions unknown

A DIMENSIONS: CHRYSLER 70-72

1973



STEERING WHEEL HUB TO UPPER BACKLITE OPENING

VEHICLE	BODY STYLE	V. I. N. BODY CODE									
			16"	16"	16"	16"	15.5"	14.5"	16"		
Plymouth Barracuda	2dr H/T	B23	-	-	-	-	15.5"	14.5"	16"	16"	
Dodge Challenger	2dr H/T	J23	-	-	-	53.0	-	-	-	-	
Plymouth Valiant Scamp	2dr H/T	V23	59.5	60.6	-	-	-	-	-	-	
Plymouth Duster	2dr H/T	V29	59.5	60.6	-	-	-	-	-	-	
Plymouth Valiant	4dr Sd.	V41	63.5	64.6	-	-	-	-	-	-	
Dodge Dart Swinger	2dr H/T	L23	59.5	60.6	-	-	-	-	-	-	
Dodge Dart	4dr Sd.	L41	63.5	64.6	-	-	-	-	-	-	
Dodge Dart Sport	2dr H/T	L29	59.5	60.6	-	-	-	-	-	-	
Plymouth Road Runner	2dr Sd	R21	61.9	63.0	-	-	60.2	62.1	-	62.1	
Plymouth Satellite	2dr Sd & 2dr H/T	R21 & 23	61.9	63.0	-	-	60.2	62.1	-	62.1	
Dodge Charger	2dr Sd & 2dr H/T	W21 & 23	61.9	63.0	-	-	60.2	62.1	-	62.1	
Plymouth Satellite	4dr Sd	R41	62.8	63.9	-	-	61.1	63.0	-	63.0	
Dodge Coronet	4dr Sd	W41	64.3	65.4	-	-	62.6	64.5	-	64.5	
Dodge Charger SL	2dr H/T	W29	62.4	63.5	-	-	60.7	62.6	-	62.6	
Satellite & Coronet	4dr Wagon	RW-45 & 46	106.0	107.1	-	-	104.3	106.2	-	106.2	
Plymouth Fury	2dr H/T	P23	-	67.0	66.4	65.5	-	66.1	-	66.1	
Dodge Polara & Monaco	2dr H/T	D23	-	67.0	66.4	65.5	-	66.1	-	66.1	
Chrysler - All	2dr H/T	C23	-	67.0	66.4	65.5	-	-	-	-	
Plymouth - Dodge - Chrysler	4dr Wagon	PDC-45 & 46	-	113.5	112.9	-	-	-	-	-	
Plymouth Fury	4dr H/T	P43	-	70.5	69.9	69.0	-	69.6	-	69.6	
Dodge Polara & Monaco	4dr H/T	D43	-	70.5	69.9	69.0	-	69.6	-	69.6	
Plymouth Fury	4dr Sd	P41	-	67.5	66.9	66.0	-	66.6	-	66.6	
Dodge Polara & Monaco	4dr Sd	D41	-	67.8	67.2	66.3	-	66.9	-	66.9	
Chrysler - All	4dr Sd	C41	-	66.3	65.7	64 3/4	-	-	-	-	
Chrysler - All	4 dr H/T	C43	-	69.5	68.9	67.8	-	-	-	-	
Imperial - LeBaron	2dr H/T	Y23	-	-	65.6	66.5	-	-	-	-	
Imperial - LeBaron	4dr H/T	Y43	-	-	69.9	70.8	-	-	-	-	

1974 STEERING WHEEL HUB TO UPPER BACKLITE OPENING

ORIGINAL "A" DIMENSIONS

CHRYSLER CARS

Model	Type * <u>1</u>	Steering Wheel				
		Type <u>2</u>	Type <u>3</u>	Type <u>4</u>	Type <u>5</u>	Type <u>6</u>
V,L-23	59.1"	57.5"	57.3"			
V,L-29	59.2	57.6				57.5"
V,L-41	63.5	61.9	61.7			57.6 61.9
B-23					52.6"	
J-23					55.1	
R,W-21,23,29		60.1	59.9			
R,W-41		62.2	62.0			60.1
R,W-45,46		103.9	103.7			62.2 103.9
P,D-23		63.2	63.0	63.3"		
P,D-41		66.8	66.6	66.9		
P,D-43		65.9	65.7	66.0		
P,D-45,46		110.8	110.6	110.9		
C-23		66.8	66.6	66.9		
C-41		69.6	69.4	69.7	1	
C-43		66.8	66.6	66.9		
C-45,46		110.8	110.6	110.9		
Y-23			69.2	69.5		
Y-43			69.2	69.5	2	

* STEERING WHEEL TYPE

CARLINE CODES

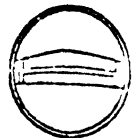
Dodge	J	Challenger
	L	Dart
	W	Charger, Coronet
	D	Monaco
Plymouth	B	Barracuda, 'Cuda
	V	Valiant, Duster
	R	Satellite, Road Runner
	P	Fury, Suburban
Chrysler	C	Newport, New Yorker Town and Country
	Y	Imperial Le Baron

BODY TYPE	
21	2-Door Coupe
23	2-Door Hardtop
29	2-Door Special
41	4-Door Sedan
43	4-Door Hardtop
45	2-Seat Station Wagon
46	3-Seat Station Wagon

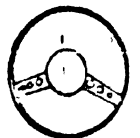
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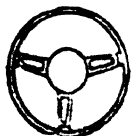
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6



1968 Ford Steering Wheel Hub To Backlight Header Dimensions

	2-Dr. & 4-Dr. Sedans	4-Dr. Hardtop	2-Dr. Hardtop	2-Dr. Fastback	2-Dr. Convertible	4-Dr. Ste. Wagon	Ranchero
<u>Ford</u>							
Custom, Galaxie, LTD	63.8	63.2	63.2	61.0	61.5	108.6	-
Fairlane, Torino Falcon, Futura	63.8	-	61.5	59.0	59.8	100.5	32.6
<u>Mercury</u>							
Monterey, Montclair, Parklane, Marquis	65.2	63.2	61.4	61.0	61.5	108.6	-
Montego, Cyclone Comet	63.8	-	61.5	59.0	59.8	100.5	-
<u>Mustang</u>	-	-	53.2	46.7	53.2	-	-
<u>Cougar</u>	-	-	56.7	-	-	-	-
<u>Thunderbird</u>	-	68.2	68.7	-	-	-	-
<u>Lincoln</u>	70.1	-	66.2	-	-	-	-
<u>Mark III</u>	-	-	68.5	-	-	-	-

1969 Ford Steering Wheel Hub To Backlight Header Dimensions

<u>1969 MODEL</u>	<u>4-Dr* Sedans</u>	<u>4-Dr Sedans</u>	<u>4-Dr Hardtop</u>	<u>2-Dr Sedans</u>	<u>2-Dr Hardtop</u>	<u>2-Dr Fastback</u>	<u>2-Dr Convertible</u>	<u>4-Dr Station Wagon</u>	<u>Ranchero</u>
<u>FORD</u>									
Custom, Galaxie, LTD	-	67.1	69.8	67.1	65.3	64.0	61.8	112.5	-
Fairlane, Torino Falcon, Futura	-	65.4	-	-	63.1	60.8	59.9	102.4	32.7
<u>MERCURY</u>									
Monterey, Marauder, Marquis, Brougham	69.8	67.1	69.8	-	65.3	64.0	61.8	112.5	-
Montego, Cyclone	-	65.4	-	-	63.1	60.8	59.9	102.4	-
<u>MUSTANG</u>	-	-	-	-	53.8	48.0	54.3	-	-
<u>COUGAR</u>	-	-	-	-	57.2	-	54.3	-	-
<u>THUNDERBIRD</u>	-	-	65.1	-	65.1	-	-	-	-
<u>LINCOLN</u>	67.5	-	-	-	63.2	-	-	-	-
<u>MARK III</u>	-	-	-	-	64.8	-	-	-	-

* No Door Frame around glass.

1970 Ford Steering Column Hub To Backlight Header Dimensions

MODEL & YEAR _____
 SERIES # _____

STEERING COLUMN HUB TO
 BACKLIGHT UPPER D.L.O.:

MAVERICK - 1970		MUSTANG - 1970			COUGAR - 1970		
62		65	63	76		65	75
60.6		55.3	49.4	56.8		55.3	56.3

MODEL & YEAR _____
 SERIES # _____

STEERING COLUMN HUB TO
 BACKLIGHT UPPER D.L.O.:

TORINO - 1970								MONTEGO - 1970							
54	57	62	63	65	66	71	76	54	57	62	65	71	76		
63.1	*	60.3	60.6	60.2	32.4	100.2	62.5	63.1	*	60.2	60.2	60.2	60.2		

MODEL & YEAR _____
 SERIES # _____

STEERING COLUMN HUB TO
 BACKLIGHT UPPER D.L.O.:

FORD - 1970								MERCURY - 1970							
54	57	62	63	65	71	76	54	53	57	65	63	76	71		
65.0	67.8	65.0	62.0	63.3	110.8	64.5	65.0	Δ	67.8	63.2	62.0	64.5	112.3		

MODEL & YEAR _____
 SERIES # _____

STEERING COLUMN HUB TO
 BACKLIGHT UPPER D.L.O.:

THUNDERBOLT		MARK III		LINCOLN	
65	57	65		65	
62.7	62.9	62.8		64.8	68.1

NOTE:--

ALL DIMENSIONS REFLECT CURB ATTITUDE
 * - SAME AS BASE MODEL

SERIES NO.	BODY STYLE	SERIES NO.	BODY STYLE
53	4-dr. Sedan (Concealed "B"-Pillar)	65	2-dr. Hardtop
54	4-dr. Sedan	66	2-dr. Pickup Type Car (Ranchero)
57	4-dr. Hardtop	71	4-dr. Station Wagon
62	2-dr. Sedan	76	2-dr. Convertible
63	2-dr. Hardtop (Fastback)		

1971 Ford Steering Column Hub Backlight Header Dimensions

VEHICLE ACCIDENT INVESTIGATION DIMENSIONS

Model & Year Series #	Maverick '71	Comet '71	Pinto '71	Mustang '71	Cougar '71	Torino '71	Mustang '71	71	76	71	76	54	Monteco '71			
Steering Column Hub to Backlight Upper D.L.O.	52 54	52 54	62	65 63	65 76	54 57	55 53	65.2 +	62.9	62.2	34.7	102.4	64.5	65.2 +	62.2	102.4

* DIMENSIONS AT C.O.D. ATTITUDE

+ SAME AS PAST MODEL

Model & Year Series #	MARK III '71	Ford '71	Mercury '71	Lincoln '71
Steering Column Hub to Backlight Upper D.L.O.	65 57	54 53	65 57	65 53
	65.1	66.9	66.7	65.8
	65.2	72.2	72.2	70.8
		113.2	72.2	113.2
			65.7	65.8

SERIES NO.	BODY STYLE	SERIES NO.	BODY STYLE
53	4-dr. Sedan (Concealed "B"-Pillar)	65	2-dr. Hardtop
54	4-dr. Sedan	66	2-dr. Pickup Type Car (Ranchero)
57	4-dr. Hardtop	71	4-dr. Station Wagon
62	2-dr. Sedan	76	2-dr. Convertible
63	2-dr. Hardtop (Fastback)		

1972 Ford Steering Column Hub To Backlight Header Dimensions

Model and Year	Maverick--1972		Comet--1972		Pinto--1972		
Series Number	62	54	62	54	62	64	73
Steering Column Hub to Backlight Upper D.L.O.	61.5	66.9	61.5	66.9	58.8	60.7	87.6

Model and Year	Thunderbird--1972	Mark IV--1972
Series Number	65	65
Steering Column Hub to Backlight Upper D.L.O.	66.2	66.2

Model and Year	Lincoln--1972		Capri--1970-1972
Series Number	65	53	
Steering Column Hub to Backlight Upper D.L.O.	65.8	70.8	56.0

Model and Year	Torino--1972					Montego--1972				
Series Number		53	63	65	66	71	53	65	63	71
Steering Column Hub to Backlight Upper D.L.O.		68.5	65.3	65.4	35.5	107.3	68.5	65.3	65.4	107.3

Model and Year	Mustang--1972			Cougar--1972		Bronco
Series Number	65	63	76	65	76	U15-SW
Steering Column Hub to Backlight Upper D.L.O.	57.9	58.9	57.0	59.0	58.0	73.9

Model and Year	Ford--1972						Mercury--1972				
Series Number	54	53	57	65	76	71		65	53	57	71
Steering Column Hub to Backlight Upper D.L.O.	67.8	72.2	68.0	66.7	66.9	113.2		66.7	72.2	72.2	113.2

SERIES NO.	BODY STYLE	SERIES NO.	BODY STYLE
53	4-dr. Sedan (Concealed "B"-Pillar)	65	2-dr. Hardtop
54	4-dr. Sedan	66	2-dr. Pickup Type Car (Ranchero)
57	4-dr. Hardtop	71	4-dr. Station Wagon
62	2-dr. Sedan	76	2-dr. Convertible
63	2-dr. Hardtop (Fastback)		

1973 Ford Steering Column to Backlight Header Dimensions

<u>Model</u>	<u>Series No.</u>	<u>A-Dimension</u>
Maverick	62	60.5
	54	66.3
Comet	62	60.5
	54	66.3
Pinto	62	53.6
	64	57.4
	73	85.9
Thunderbird	65	66.2
Mark IV	65	66.2
Lincoln	65	65.8
	53	70.8
Capri	53	56.0
Torino	53	68.5
	63	65.3
	65	65.4
	66	35.5
	71	107.3
Montego	53	68.5
	65	65.3
	63	65.4
	71	107.3
Mustang	65	57.9
	63	58.9
	76	57.0
Cougar	65	59.0
	76	58.0
Ford	53	70.0
	57	70.0
	65	66.7
	71	113.0
Mercury	65	66.7
	53	70.0
	57	70.0
	71	113.0

<u>SERIES NO.</u>	<u>BODY STYLE</u>
53	4-dr. Sedan (Concealed "B"-Pillar)
54	4-dr. Sedan
57	4-dr. Hardtop
62	2-dr. Sedan
63	2-dr. Hardtop (Fastback)
64	2-dr. Hatchback
65	2-dr. Hardtop
66	2-dr. Pickup Type Car (Ranchero)
71	4-dr. Station Wagon
73	2-dr. Station Wagon
76	2-dr. Convertible

1974 FORD MOTOR COMPANY CARS

*STEERING COLUMN HUB TO BACKLIGHT UPPER D.L.O.

Maverick	2 Door Sedan	60.8
	2 Door Grabber	60.8
	4 Door Sedan	66.4
Comet	2 Door Sedan	60.8
	4 Door Sedan	66.4
Pinto	2 Door Sedan	57.1
	3 Door Model	59.0
	2 Door Wagon	85.9
Torino/Ranchero	4 Door Sedan/Hardtop	68.9
	2 Door Hardtop	65.0
	Ranchero	35.5
	Station Wagon	107.1
Montego	4 Door Sedan/Hardtop	68.9
	2 Door Hardtop	65.0
	Station Wagons-4 Door	107.1
Mustang	3 Door 4 Pass. Hatchback	48.0
	2 Door 4 Pass. Notchback	54.2
Cougar	2 Door Hardtop	65.0
Ford	4 Door Pillar Hardtop	71.0
	4 Door Hardtop	71.0
	2 Door Hardtop	65.7
	Station Wagons	112.0
Lincoln	2 Door Hardtop	65.5
	4 Door Sedan/Hardtop	71.3
Thunderbird	2 Door Hardtop	63.6
Mark IV	2 Door Hardtop	63.6
Mercury	2 Door Hardtop	65.7
	4 Door Pillar Hardtop	71.0
	4 Door Hardtop	71.0
	4 Door 6 Pass. (Monterey, Rideau, Montcalm Marquis)	112.0

*Steering wheel trim pad to backlite glass.

STEERING COLUMN TO REAR WINDOW DIMENSIONS
1969 GENERAL MOTORS PASSENGER
CARS

MODEL	STEERING WHEEL	2DS	2DHT	4DS	4DHT	4DSW
CHEVROLET						
CORVAIR	STD.		52.8			
	DLX.		52.9			
	TELESCOPE		53.1			
NOVA	DLX.	60.5		64.5		
	SPORT	60.5		64.5		
CAMARO	DLX.		57.9			
	SPORT		57.9			
CHEVELLE	DLX.	61.9	61.9	66.1	66.1	104.3
	SPORT	61.9	61.9	66.0	66.0	104.2
BISCAYNE BEL AIR	DLX.	69.3		69.3		107.5
	SPORT	69.2		69.2		107.4
IMPALA IMPALA S.S.	DLX.		65.8	69.3	67.0	107.5
	SPORT		65.7	69.2	66.9	107.5
IMPALA CUSTOM IMPALA CUSTOM SS	DLX.		63.8			
	SPORT		63.7			
CAPRICE	DLX.		63.8		67.0	107.5
	SPORT		63.7		66.9	107.4
EL CAMINO	DLX.	35.6				
	SPORT	35.5				
CORVETTE	STD.	37.5				
	TELESCOPE	39.3				
PONTIAC						
FIREBIRD	STD.		57.8			
	DLX.		58.0			
	SPORT		57.8			
TEMPEST	STD.	61.6	61.6	65.7	65.7	104.4
	DLX.	61.8	61.8	65.9	65.9	104.6
	SPORT	61.7	61.7	65.8	65.8	104.4
CATALINA VENTURA EXECUTIVE BORNEVILLE	STD.		65.2	68.7	66.5	107.0
	DLX.		65.4	68.9	66.7	107.2
	SPORT		65.3	68.8	66.5	107.1

STEERING COLUMN TO REAR WINDOW DIMENSIONS
 1969 GENERAL MOTORS PASSENGER
 CARS

A DIMENSIONS: GM 69

MODEL	STEERING WHEEL	2DS	2DHT	4DS	4DHT	4DSW
PONTIAC (cont')						
GRAND PRIX	STD.		61.9			
	DLX.		62.1			
	SPORT		61.9			
OLDSMOBILE						
F-85	STD.	61.1	61.1	65.2	65.2	103.9
	DLX.	61.0	61.0	65.0	65.0	103.7
	SPORT	61.5	61.5	65.6	65.6	104.4
VISTA CRUISER	STD.					108.9
	DLX.					108.7
	SPORT					109.4
DELTA 88 DELTA 88 CUSTOM DELTA ROYALE	STD.		64.4	67.9	65.7	
	DLX.		64.2	67.7	65.5	
	SPORT		64.8	68.4	66.1	
	T&T		63.9	67.4	65.2	
NINETY-EIGHT	STD.		66.9	70.5	66.9	
	DLX.		66.5	70.3	66.6	
	SPORT		67.3	70.9	67.3	
	T&T		66.3	70.0	66.3	
TORONADO	STD.		59.2			
	SPORT		59.9			
	T&T		58.9			
BUICK						
SPECIAL	STD.	65.0	60.8	65.0	60.8	103.7
	DLX.	65.1	60.9	65.1	60.9	103.8
	SPORT	65.8	61.6	65.8	61.6	104.5
SPOKWAGON	STD.					108.7
	DLX.					108.8
	SPORT					109.5
LESABRE WILDCAT	STD.		64.5	68.1	65.8	
	DLX.		64.7	68.3	66.0	
	SPORT		65.2	68.8	66.5	

STEERING COLUMN TO REAR WINDOW DIMENSIONS
 1969 GENERAL MOTORS PASSENGER
 CARS

A DIMENSIONS: GM 69

MODEL	STEERING LEVEL	2DS	2DHT	4DS	4DHT	4DSW
BUICK (cont')						
ELECTRA	STD.		66.9	70.5	66.9	
	DLX.		67.1	70.7	67.1	
	SPORT		67.6	71.2	67.6	
RIVIERA	STD.		60.7			
	SPORT		61.2			
CADILLAC						
CALAIS DE VILLE	STD.		67.8	71.6	67.8	
	T&T		67.8	71.6	67.8	
FLEETWOOD SIXTY SPECIAL (133" wheelbase)	STD.			76.5		
	T&T			76.5		
FLEETWOOD 75 LIMOUSINE (150" wheelbase)	STD.			95.4		
	T&T			95.4		
ELDORADO	STD.		61.2			
	T&T		61.2			

STEERING COLUMN TO REAR WINDOW DIMENSIONS

1970 GENERAL MOTORS PASSENGER CARS

A DIMENSIONS: GM 70

Model	Steering Wheel	2 Dr Cp	2 Dr HT	4 Dr S	4 Dr HT	4 Dr SW
CHEVROLET						
Nova	Std.	60.5		64.5		
	Sport	60.4		64.4		
Camaro	Std.		57.4			
	Sport		57.7			
Chevelle	Std.		61.6	66.0	66.0	103.9
	Sport		61.6	65.8	65.8	103.8
Biscayne Bel Air Impala	Std.		66.0	69.2	66.9	
	Sport		65.9	69.1	66.9	
Impala Custom Impala Custom SS	Std.		63.6			
	Sport		63.5			
Caprice	Std.		63.6		66.9	
	Sport		63.5		66.9	
Monte Carlo	Std.		61.6			
	Sport		61.6			
Brookwood Townsmen Kingswood	Std.					107.6
	Sport					107.5
El Camino	Std.	36.1				
	Sport	36.0				
Corvette	Std.	37.5				
	T & T	39.3				
PONTIAC						
Firebird	Std.		57.6			
	Deluxe		57.8			
	Sport		57.6			
	Formula		55.5			
Tempest	Std.	61.4	61.4	65.8	65.8	104.3
	Deluxe	61.6	61.6	66.0	66.0	104.2
	Sport	61.3	61.3	65.7	65.7	103.9
	Formula	59.2	59.2	63.6	63.6	101.8

Model	Steering Wheel	2 Dr Cp	2 Dr HT	4 Dr S	4 Dr HT	4 Dr SW
PONTIAC (CONTINUED)						
Catalina Executive Bonneville	Std.		65.1	68.6	66.4	107.1
	Deluxe		65.3	68.8	66.5	107.3
	Sport		65.0	68.5	66.2	106.7
	Formula		62.9	66.4	64.1	104.6
Grand Prix	Std.		61.6			
	Deluxe		61.8			
	Sport		61.5			
	Formula		59.4			
OLDSMOBILE						
Cutlass	Std.	60.9	60.9	65.1	65.1	103.6
	Deluxe	60.7	60.7	64.9	64.9	103.4
	Sport	61.6	61.6	65.7	65.7	104.3
Cutlass Supreme	Std.		60.7			
	Deluxe		60.5			
	Sport		61.4			
Vista Cruiser	Std.					108.7
	Deluxe					108.4
Delta 88	Std.		64.0	67.6	65.3	
	Deluxe		63.8	67.5	65.1	
Ninety Eight	Deluxe		66.6	70.3	66.6	
	T & T		65.7	69.4	65.7	
Toronado	Deluxe		59.2			
	T & T		58.3			
BUICK						
Skylark	Std. I	60.8	60.8	64.8	64.8	103.3
	Std. II	60.9	60.9	64.9	64.9	103.4
	Deluxe	60.5	60.5	64.6	64.6	103.0
	Sport	61.6	61.6	65.6	65.6	104.1

Model	Steering Wheel	2 Dr Cp	2 Dr HT	4 Dr S	4 Dr HT	4 Dr SW
BUICK (CONTINUED)						
Le Sabre Wildcat	Std. II		64.3	67.8	65.6	
	Std. III		64.4	68.0	65.7	
	Deluxe		64.0	67.6	65.3	
Estate Wagon	Std. II					104.8
	Std. III					106.4
	Deluxe					105.9
Electra	Std. III		66.8	70.4	66.8	
	Deluxe		66.3	69.9	66.3	
Riviera	Std. III		61.0			
	Deluxe		60.5			
CADILLAC						
Calais DeVille	Std.		67.8	71.6	67.8	
Fleetwood Sixty Special & Brougham	Std.			76.5		
Fleetwood 75 Limousine (150" Wheelbase)	Std.			95.4		
Eldorado	Std.		61.2			

STEERING WHEEL TO REAR WINDOW DIMENSIONS
1971 GENERAL MOTORS PASSENGER CARS

MODEL	STEERING WHEEL	2DR CP	2DR HT	4DR S	4DR HT	4DR SW
CHEVROLET						
NOVA	STD	58.4		62.5		
	SPORT	58.9		63.0		
	OPT	58.4		62.5		
CAMARO	STD		55.7			
	SPORT		56.2			
	OPT		55.7			
CHEVELLE	STD		59.6	63.9	63.9	102.0
	SPORT		60.1	64.4	64.4	102.5
	OPT		59.6	63.9	63.9	102.0
BISCAYNE, BEL AIR, IMPALA	STD		61.8	64.8	65.7	
	OPT		61.8	64.8	65.7	
IMPALA CUSTOM	STD		64.1			
	OPT		64.1			
CAPRICE	STD		64.1		65.7	
	OPT		64.1		65.7	
MONTE CARLO	STD		59.8			
	SPORT		60.3			
	OPT		59.8			
BROOKWOOD TOWNSMAN KINGSWOOD	STD					103.3
	OPT					103.3
EL CAMINO	STD	36.1				
	SPORT	36.6				
	OPT	36.1				
CORVETTE	STD	37.5				
	T & T	39.3				
VEGA	STD	59.1	56.0			80.3*
	SPORT	59.3	56.2			80.5*
PONTIAC						
FIREBIRD	STD		55.7			
	DLX		56.1			
	SPORT		55.7			
	FORMULA		53.6			
TEMPEST, GTO	STD	59.4	59.4	63.8	63.8	102.0
	DLX	59.8	59.8	64.2	64.2	102.4
	SPORT	59.3	59.3	63.7	63.7	101.5
	FORMULA	57.2	57.2	61.6	61.6	99.4
CATALINA BONNEVILLE SAFARI	STD		61.8	64.8	65.7	103.3
	DLX		62.2	65.2	66.1	103.7
	SPORT		61.7	64.7	65.5	102.9
	FORMULA		59.6	62.6	63.4	100.8
GRAND PRIX	STD		59.8			
	DLX		60.2			
	SPORT		59.7			
	FORMULA		57.3			

* VEGA 2DR SW and Pickup Delivery

MODEL	STEERING WHEEL	2DR CP	2DR HT	4DR S	4DR HT	4DR SW
PONTIAC						
GRANDVILLE	STD		61.8		65.7	
	DLX		69.0		66.1	
	SPORT		61.7		65.6	
	FORMULA		59.3		63.2	
OLDSMOBILE						
CUTLASS	STD	60.2	60.2	64.5	64.5	102.6
	DLX	60.2	60.2	64.5	64.5	102.6
	SPORT	60.7	60.7	65.0	65.0	103.1
CUTLASS SUPREME	STD	60.2	60.2	64.5	64.5	
	DLX	60.2	60.2	64.5	64.5	
	SPORT	60.7	60.7	65.0	65.0	
VISTA CRUISER	STD					107.4
	DLX					107.4
DELTA 88	STD		61.8	64.8	65.7	
ROYALE	STD		62.7			
NINETY EIGHT	STD		67.8		68.7	
	T & T		67.4		68.3	
TORONADO	STD		61.6			
	T & T		61.2			
BUICK						
SKYLARK	STD I	59.5	59.5	63.7	63.7	102.3
	STD II	59.0	59.0	63.2	63.2	101.8
	OPT	59.1	59.1	63.3	63.3	101.9
	SPORT	60.0	60.0	64.2	64.2	
LE SABRE, CENTURION	STD II		61.8	64.8	65.7	
	STD III		61.7	64.7	65.6	
	OPT		61.9	64.9	65.8	
ESTATE WAGON	STD II					103.3
	STD III					103.2
	OPT					103.4
ELECTRA	STD III		67.8		68.7	
	OPT		68.0		68.9	
RIVIERA	STD III		63.9			
	OPT		64.1			
CADILLAC						
BROUGHAM	STD			76.6		
CALAIS, DEVILLE	STD		69.4		70.2	
ELDORADO	STD		62.5			
75 LIMOUSINE	STD			93.8		

STEERING WHEEL TO BACKLIGHT DIMENSION :

72 GM

CHEVROLET

MODEL	WHEEL CODE		2DS	2DHT	4DS	4DHT	STA. WGN.	PICK-UP DELIVERY
NOVA	01		58.4		62.5			
	02		58.4		62.5			
	20		58.9		63.0			

CAMARO	01			55.7				
	20			56.2				

CHEVELLE EL CAMINO	01			59.6	63.9	63.9	102.0	36.1
	02			59.6	63.9	63.9	102.0	36.1
	20			60.1	64.4	64.4	102.5	36.6

MONTE CARLO	01			59.8				
	02			59.8				
	20			60.3				

BISC., BELAIR IMPALA	01			61.8	64.8	65.7	103.3	
	02			61.8	64.8	65.7	103.3	

IMPALA CUST CAPRICE	01			64.1		65.7		
	02			64.1		65.7		

CORVETTE T & T	03		37.5					
	03		39.3					

(Hatchback)

VEGA	04		59.1	56.0			80.3	
	20		59.3	56.2			80.5	

BUICK

A DIMENSIONS: GM 72

MODEL	WHEEL CODE		2DS	2DHT	4DS	4DHT	STA. WGN.	PICK-UP DELIVERY
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SKYLARK	12		59.5	59.5	63.7	63.7	102.3	
	14		59.0	59.0	63.2	63.2	101.8	
	15		60.0	60.0	64.2	64.2	102.8	

LESABRE CENTURION ESTATE WGN	14			61.8	64.8	65.7	103.3	
	16			61.7	64.7	65.6	103.2	

ELECTRA	16			67.8		68.7		
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RIVIERA	16			63.9				
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OPEL	--	NOT AVAILABLE						
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CADILLAC

MODEL	WHEEL CODE		2DS	2DHT	4DS	4DHT	STA. WGN.	PICK-UP DELIVERY
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BROUGHM	18				76.6			
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CALAIS DEVILLE	18			69.4		70.2		
	18			69.4		70.2		

ELDORADO	18			62.5				
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75 LIMOUSINE	18				93.8			
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PONTIAC

MODEL	WHEEL CODE		2DS	2DHT	4DS	4DHT	STA. WGN.	PICK-UP DELIVERY
-------	------------	--	-----	------	-----	------	-----------	------------------

VENTURA II	05		60.2		64.8			
	06		60.6		65.2			

FIREBIRD	05			55.7				
	06			56.1				
	07							
	19							

TEMPEST	05		59.4	59.4	63.8	63.8	102.0	
	06		59.8	59.8	64.2	64.2	102.4	
	07							
	19							

CATALINA BONNEVILLE GRANDVILLE	05			61.8	64.8	65.7	103.3	
	06			64.2	65.2	66.1	103.7	

GRAND PRIX	06			59.8				
	19							

OLDSMOBILE

MODEL	WHEEL CODE		2DS	2DHT	4DS	4DHT	STA. WGN.	PICK-UP DELIVERY
CUTLASS	08		60.2	60.2	64.5	64.5	102.6	
	10		60.7	60.7	65.0	65.0	103.1	
	11		60.8	60.8	64.9	64.5	N.A.*	
VISTA CRUISER	08						107.4	
	10						107.5	
	11						107.6	
DELTA 88	11			61.8	64.8	65.7	103.3	
ROYALE	11			62.7	N.A.*	N.A.*		
98	11			67.8		68.7		
	13			67.4		68.3		
TORONADO	11			61.6				
	13			61.2				

* N.A. - NOT AVAILABLE

STEERING WHEEL TO BACKLIGHT DIMENSIONS

A DIMENSIONS: GM 73

1973 BUICKS

MODEL	WHEEL CODES	17	27	69	29	37	57	69	39	87	S/W
APOLLO	14										
	16										
	33	61.4	59.0								
CENTURY, REGAL	14				62.5	59.4	58.6				100.1
	16										
	33										
LA SABRE, CENTURION	14						62.2	65.3	66.4		103.5
	16								66.3		103.6
	33										
ELECTRA 225	14										
	16						68.3		69.0		
	33										
RIVIERA	14										
	16									64.3	
	33										

73 GM Body Models

- 11 - 2 dr. Sedan
- 15 - 2 dr. Stationwagon
- 17 - Coupe, Hatchback
- 23 - 4 dr. Sedan
- 27 - 2 dr. Coupe
- 29 - 4 dr. Sedan
- 37 - 2 dr. Coupe
- 39 - 4 dr. Hardtop
- 47 - 2 dr. Hardtop - Cadillac Eldorado (47)-Coupe
- 49 - 4 dr. Sedan Hardtop (code as Sedan)
- 57 - 2 dr. Coupe
- 67 - 2 dr. Convertible
- 69 - 4 dr. Sedan
- 77 - Coupe, Hatchback
- 80 - Pickup Car
- 87 - 2 dr. Hardtop - Chevrolet Camaro and Pontiac Firebird (37) - Coupe

STEERING WHEEL TO BACKLIGHT DIMENSIONS

A DIMENSIONS: GM 73

1973 CADILLACS

MODEL	WHEEL CODES	69	47	49	23	33	67			
FLEETWOOD BROUGHAM	18	76.6								
CALAIS, DE VILLE	18		69.4	70.2						
ELDORADO	18		Coupe 62.5							
75 FLEETWOOD	18				93.8					

73 GM Body Models

- 11 - 2 dr. Sedan
- 15 - 2 dr. Stationwagon
- 17 - Coupe, Hatchback
- 23 - 4 dr. Sedan
- 27 - 2 dr. Coupe
- 29 - 4 dr. Sedan
- 37 - 2 dr. Coupe
- 39 - 4 dr. Hardtop
- 47 - 2 dr. Hardtop - Cadillac Eldorado (47)-Coupe
- 49 - 4 dr. Sedan Hardtop (code as Sedan)
- 57 - 2 dr. Coupe
- 67 - 2 dr. Convertible
- 69 - 4 dr. Sedan
- 77 - Coupe, Hatchback
- 80 - Pickup Car
- 87 - 2 dr. Hardtop - Chevrolet (amaro and Pontiac Firebird (87) - Coupe

STEERING WHEEL TO BACKLIGHT DIMENSIONS

A DIMENSIONS: GM 73

1973 CHEVROLET

MODEL	WHEEL CODES								
NOVA		17.	27.	69					
	01	61.3	58.5	63.5					
	03								
	04								
	20								
	29								
	30								
CAMARO		87							
	01								
	03								
	04	Coupe							
	20	57.0							
	29								
	30								
CHEVELLE, EL CAMINÓ		37	29	80	S/W				
	01	59.0			100.0				
	03								
	04								
	20								
	29	58.8	63.1		100.0				
MONTE CARLO		57							
	01								
	03								
	04								
	20								
	29	59.0							
VEGA		05	11	15	77				
	01								
	03								
	04								
	20			81.5	57.5				
	29								
BELAIR, IMPALA, CAPRICE		69	57	47	39	47	67	S/W	37
	01	65.8	64.5	64.5					
	03								
	04								
	20								
CORVETTE	29	65.6			66.1	63.5		104.8	
	30								
	03								37.8

73 GM Body Models

- 11 - 2 dr. Sedan
- 15 - 2 dr. Stationwagon
- 17 - Coupe, Hatchback
- 23 - 4 dr. Sedan
- 27 - 2 dr. Coupe
- 29 - 4 dr. Sedan
- 37 - 2 dr. Coupe
- 39 - 4 dr. Hardtop
- 47 - 2 dr. Hardtop - Cadillac Eldorado (47)-Coupe
- 49 - 4 dr. Sedan Hardtop (code as Sedan)
- 57 - 2 dr. Coupe
- 67 - 2 dr. Convertible
- 69 - 4 dr. Sedan
- 77 - Coupe, Hatchback
- 80 - Pickup Car
- 87 - 2 dr. Hardtop - Chevrolet Camaro and Pontiac Firebird (87) - Coupe

STEERING WHEEL TO BACKLIGHT DIMENSIONS

A DIMENSIONS: GM 73

1973 OLDSMOBILES

MODEL	WHEEL CODES	17	27	69	29	37	39	57	67	S/W
OMEGA	10		59.8							
	11									
	13									
	35	61.4	58.7	63.4						
	36									
CUTLASS	10					60.6				
	11					59.1				
	13									
	35									100.1
	36				62.9	59.1				99.8
DELTA 88	10									
	11			65.4			66.6	61.9		104.1
	13									
	35									
	36									
98	10									
	11					68.7	69.3			
	13						68.5			
	35									
	36									
TORANADO	10									
	11									
	13							61.2		
	35									
	36									

73 GM Body Models

- 11 - 2 dr. Sedan
- 15 - 2 dr. Stationwagon
- 17 - Coupe, Hatchback
- 23 - 4 dr. Sedan
- 27 - 2 dr. Coupe
- 29 - 4 dr. Sedan
- 37 - 2 dr. Coupe
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- 47 - 2 dr. Hardtop - Cadillac Eldorado (47)-Coupe
- 49 - 4 dr. Sedan Hardtop (code as Sedan)
- 57 - 2 dr. Coupe
- 67 - 2 dr. Convertible
- 69 - 4 dr. Sedan
- 77 - Coupe, Hatchback
- 80 - Pickup Car
- 87 - 2 dr. Hardtop - Chevrolet Camaro and Pontiac Firebird (87) - Coupe

STEERING WHEEL TO BACKLIGHT DIMENSIONS

A DIMENSIONS: GM 73

1973 PONTIACS

MODEL	WHEEL CODES								
VENTURA		17	27	69					
	05			64.2					
	06								
	07								
	09								
	34	62.0							
FIREBIRD		87							
	05								
	06	coupe							
	07	55.7							
	09								
	34								
LEMANS		29	37	S/W					
	05	63.7							
	06		60.3						
	07								
	09								
	34								
CATALINA, BONNEVILLE, GRANVILLE		69	39	57	49	47	67	S/W	
	05	66.6							
	06	66.6	69.3	63.0				105.0	
	07								
	09								
	34								
GRAND PRIX		57							
	05								
	06	60.1							
	07								
	09								
	34								

73 GM Body Models

- 11 - 2 dr. Sedan
- 15 - 2 dr. Stationwagon
- 17 - Coupe, Hatchback
- 23 - 4 dr. Sedan
- 27 - 2 dr. Coupe
- 29 - 4 dr. Sedan
- 37 - 2 dr. Coupe
- 39 - 4 dr. Hardtop
- 47 - 2 dr. Hardtop - Cadillac Eldorado (47)-Coupe
- 49 - 4 dr. Sedan Hardtop (code as Sedan)
- 57 - 2 dr. Coupe
- 67 - 2 dr. Convertible
- 69 - 4 dr. Sedan
- 77 - Coupe, Hatchback
- 80 - Pickup Car
- 87 - 2 dr. Hardtop - Chevrolet Camaro and Pontiac Firebird (87) - Coupe

A DIMENSIONS: IMPORTS 72

	'72 IMPORTS	"A" DIMENSIONS
AUDI	90 Sedan	59
	100 LS	64
DATSUN	1200 2-Dr Sedan	59
	1200 2-Dr Sport Coupe	53.62
	1600 Pickup	31
	510 2-Dr Sedan	58.5
	510 4-Dr Sedan	58.25
	510 Station Wagon	84.5
	240 Z	42.5
DODGE COLT	2-Dr Coupe	57.5
	2-Dr H/T	57.5
	4-Dr Sedan	61
	4-Dr Station Wagon	84
FIAT	850 Spider Convertible	N/A
FORD	Capri	57
OPEL	1900	54.25
	1900 Wagon	77.25
	Rallye	53.87
	G.T.	47.5 (past side of head rest)
PLYMOUTH	Crocket 4-Dr Sedan	59
PORSCHE	911	47
	911	38.5
TOYOTA	Carina 2-Dr Sedan	58.62 (approx.)
	Corona 4-Dr Sedan	59 (approx.)
	Corona 2-Dr H/T	53 (approx.)
	Corolla 2-Dr Coupe	53.25 (approx.)
	Corolla 2-Dr Sedan	58.75 (approx.)
	Corolla Station Wagon	80.62 (approx.)
	Celica 2-Dr H/T	54.5 (approx.)
V W	Beetle	60
	Fastback	61.5
	Squareback	87.5
	411 2-Dr and 4-Dr	68
	411 3-Dr Hatchback	90

<u>Make</u>	<u>Model</u>	<u>A Dimension</u>
Audi	90 Sedan - 2 dr. (Fox)	60.25
	90 Sedan - 4 dr. (Fox)	60.00
	100 LS - 4 dr.	63.25
Datsun	1200 - 2 dr. Sedan	59.00
	1200 - 2 dr. Sport Coupe	53.25
	1600 Pickup	31.25
	610 - 4 dr. Sedan	
	610 - 4 dr. Station Wagon	88.00
	610 - 2 dr. Hardtop	57.50
	240 Z	42.00
Dodge	Colt - 2 dr. Coupe	
	Colt - 2 dr. Hardtop	57.50
	Colt - 4 dr. Sedan	
	Colt - 4 dr. Station Wagon	
Fiat	850 Spider Convertible	N/A
Ford	Capri	57.00
Opel	1900 Luxus	55.00
	1900 Wagon	77.75
	Rallye Manta	55.00
	G. T.	47.50
Plymouth	Cricket - 4 dr. Sedan	None imported after 1/73
Porsche	911	48.00
	914	38.50
Toyota	Carina - 2 dr. Sedan	
	Corona - 4 dr. Sedan	
	Corona - 2 dr. Hardtop	
	Corona - Mark II MX	62.75
	Corolla - 2 dr. Coupe	54.50
	Corolla - 2 dr. Sedan	58.75
	Corolla - Station Wagon	80.62
	Celica - 2 dr. Hardtop	54.50
VW	Beetle	59.75
	Fastback	62.00
	Squareback	87.00
	412 - 2 dr.	67.75
	412 - 4 dr.	68.00
	412 - 3 dr. Hatchback	

A DIMENSIONS: PICK-UPS

Pickups Steering Wheel Hub to Backlight Dimensions

<u>Make</u>	<u>Type</u>	<u>Year</u>	<u>A Dimension</u>
GMC	100 200	70-73	32.2"
Chevrolet	C/10 C/20	70-73	32.2"
Dodge	D-100 D-200 D-300 W-100 W-200 W-300	71-73	(Conventional Cab) 35.5" (Club cab) 52.0"

SEVERITY CODE	SEVERITY CATEGORY/INJURY DESCRIPTION	POLICE CODE
0 (a)	NO INJURY	0 or D
1	MINOR	C
	<p>GENERAL ---Aches all over. ---Minor lacerations, contusions, and abrasions (first aid--simple closure). ---All 1° or small 2° or small 3° burns.</p> <p>HEAD AND NECK ---Cerebral injury with headache, dizziness, no loss of consciousness. ---"Whiplash" complaint with no anatomical or radiological evidence. ---Abrasions and contusions of ocular apparatus (lids, conjunctiva, cornea, uveal injuries), vitreous or retinal hemorrhage. ---Fracture and/or dislocations of teeth.</p> <p>CHEST ---Muscle ache or chest wall stiffness.</p> <p>ABDOMINAL ---Muscle ache, seat belt abrasion, etc.</p> <p>EXTREMITIES ---Minor sprains and fractures and/or dislocation of digits.</p>	
2	MODERATE	B
	<p>GENERAL ---Extensive contusions, abrasions, large lacerations, avulsions (less than 3" wide). ---10-20% body surface 2° or 3° burns.</p> <p>HEAD AND NECK ---Cerebral injury with or without skull fracture, less than 15 minutes unconsciousness, no post-traumatic amnesia. ---Undisplaced skull or facial bone fractures or compound fracture of nose ---Lacerations of the eye and appendages, retinal detachment. ---Disfiguring lacerations. ---"Whiplash" - severe complaints with anatomical or radiological evidence.</p> <p>CHEST ---Simple rib or sternal fractures. ---Major contusions of chest wall without hemothorax or pneumothorax or respiratory embarrassment.</p> <p>ABDOMINAL ---Major contusion of abdominal wall.</p> <p>EXTREMITIES AND/OR PELVIC GIRDLE ---Compound fractures of digits. ---Undisplaced long bone or pelvic fractures. ---Major sprains of major joints.</p>	
3	SEVERE (Not Life-Threatening)	B
	<p>GENERAL ---Extensive contusions, abrasions, large lacerations involving more than two extremities, or large avulsions (greater than 3" wide). ---20-30% body surface 2° or 3° burns.</p> <p>HEAD AND NECK ---Cerebral injury with or without skull fracture, with unconsciousness more than 15 minutes, without severe neurological signs, brief post-traumatic amnesia (less than 3 hours). ---Displaced closed skull fractures without unconsciousness or other signs of intracranial injury. ---Loss of eye, or avulsion of optic nerve. ---Displaced facial bone fractures or those with antral or orbital involvement. ---Cervical spine fractures without cord damage.</p> <p>CHEST ---Multiple rib fractures without respiratory embarrassment. ---Hemothorax or pneumothorax. ---Rupture of diaphragm. ---Lung contusion.</p> <p>ABDOMINAL ---Contusion of abdominal organs ---Extraperitoneal bladder rupture ---Retroperitoneal hemorrhage ---Avulsion of ureter ---Laceration of urethra ---Thoracic or lumbar spine fractures without neurological involvement</p> <p>EXTREMITIES AND/OR PELVIC GIRDLE ---Displaced simple long-bone fractures, and/or multiple hand and foot fractures ---Single open long-bone fractures ---Pelvic fracture with displacement ---Dislocation of major joints ---Multiple amputations of digits ---Lacerations of the major nerves or vessels of extremities</p>	

SEVERITY CODE	SEVERITY CATEGORY/INJURY DESCRIPTION	POLICE CODE
4	SERIOUS (Life-Threatening, Survival Probable)	B
	<p>GENERAL ---Severe lacerations and/or avulsions with dangerous hemorrhage ---30-50% surface 2° or 3° burns</p> <p>HEAD AND NECK ---Cerebral injury with or without skull fracture, with unconsciousness of more than 15 minutes, with definite abnormal neurological signs, post-traumatic amnesia 3-12 hours ---Compound skull fracture</p> <p>CHEST ---Open chest wounds, flail chest, pneumomediastinum, myocardial contusion without circulatory embarrassment, pericardial injuries</p> <p>ABDOMINAL ---Minor laceration of intra-abdominal contents (to include ruptured spleen, kidney, and injuries to tail of pancreas) ---Intraperitoneal bladder rupture ---Avulsion of the genitals ---Thoracic and/or lumbar spine fractures with paraplegia</p> <p>EXTREMITIES ---Multiple closed long-bone fractures ---Amputation of limbs</p>	
5	CRITICAL (Survival Uncertain)	A
	<p>GENERAL ---Over 50% body surface 2° or 3° burns.</p> <p>HEAD AND NECK ---Cerebral injury with or without skull fracture with unconsciousness of more than 24 hours, post-traumatic amnesia more than 12 hours, intracranial hemorrhage, signs of increased intracranial pressure (decreasing state of consciousness, brady-cardia under 60, progressive rise in blood pressure or progressive pupil inequality). ---Cervical spine injury with quadriplegia. ---Major airway obstruction.</p> <p>CHEST ---Chest injuries with major respiratory embarrassment (laceration of trachea, hemomediastinum, etc.). ---Aortic laceration. ---Myocardial rupture or contusion with circulatory embarrassment.</p> <p>ABDOMINAL ---Rupture, avulsion or severe laceration of intra-abdominal vessels or organs, except kidney, spleen or ureter.</p> <p>EXTREMITIES ---Multiple open limb fractures.</p>	
6	FATAL (Within 24 Hours)	K
	<p>---Fatal lesions of single region of body, plus injuries of other body regions of severity Code 3 or less. ---Fatal from burns regardless of degree.</p>	
7	FATAL (Within 24 Hours)	K
	<p>---Fatal lesions of single region of body, plus injuries of other body regions of Severity Code 4 or 5.</p>	
8	FATAL	K
	<p>---2 fatal lesions in 2 regions of body.</p>	
9	FATAL	K
	<p>---3 or more fatal injuries. ---Incineration by fire.</p>	
99	X SEVERITY UNKNOWN	
	<p>---Injured, but severity not known.</p>	
98	Z PRESENCE UNKNOWN	
	<p>---Presence of injury not known.</p>	

* Developed by the American Medical Association Committee on Medical Aspects of Automotive Safety, in cooperation with physicians representing medical specialties most involved in the diagnosis, care and treatment of crash injuries, and General Motors Corporation

BODY MODELS: CHRYSLER

MODEL CHART
COMPACT "A" BODY

	'60	'61	'62	*'63	'64	'65	'66	*'67	'68	'69	'70	'71	'72	'73	'74
<u>Plymouth</u>															
Valiant											A	A	A	A	A
Valiant V-100	A	A	A	A	A	A	A	A	A	A					
Valiant V-200	A	A	A	A	A	A	A								
Valiant Signet 200			A	A	A										
Valiant Signet						A	A	A	A	A					
Valiant Scamp												A	A	A	A
Valiant Scamp Special (Canada only)													A	A	A
Duster											*A	A	A	A	A
Duster 340											*A	A	A	A	
Duster 360															A
Barracuda (Fast Back)						*A	A								
Barracuda (Notch top, Fast Back and Convertible)								*A	A	A					

DODGE

Lancer 170		*A	A												
Lancer 770		*A	A												
Lancer GT			A												
Dart						A	A	A	A	A	A	A	A	A	A
Dart 170				A	A										
Dart 270				A	A	A	A	A	A						
Dart GT				A	A	A	A	A	A	A					

MODEL CHART
COMPACT "A" BODY

	'60	'61	'62	*'63	'64	'65	'66	*'67	'68	'69	'70	'71	'72	'73	'74
<u>DODGE</u>															
Dart GTS									A	A					
Dart Sport														A	A
Dodge Demon												A	A		
Dart 340 Sport														A	
Dart 360 Sport															A
Dodge Demon 340												A	A		
Dart Custom											A	A	A	A	A
Swinger											A	A	A	A	A
Swinger 340											A				
Swinger Special												A	A	A	A

*Indicates Major Body Sheet Metal Change.

BODY MODELS: CHRYSLER

INTERMEDIATE "B" BODY MODEL CHART

	'60	'61	*'62	'63	'64	'65	*'66	'67	*'68	'69	'70	*'71	'72	'73	'74
PLYMOUTH															
Savoy			B	B	B										
Belvedere			B	B	B			B	B	B	B				
Belvedere I						B	B	B							
Belvedere II						B	B	B							
GTX								B							
Fury			B	B	B										
Sport Fury			B	B	B										
Satellite						B	B	B	B	B	B	B	B	B	B
Satellite Sebring												B	B	B	B
Satellite Custom												B	B	B	B
Sport Satellite									B	B	B				
Satellite Sebring Plus												B	B	B	B
Satellite Brougham												B			
Satellite Regent												B	B	B	B
Road Runner									B	B	B	B	B	B	B
GTX									B	B	B	B			
DGE															
Dart			B												
Dart 330			B												

INTERMEDIATE "B" BODY MODEL CHART

	'60	'61	*'62	'63	'64	'65	*'66	'67	*'68	'69	'70	*'71	'72	'73	'74
Dart 440			B												
Polara				B	B										
Polara 550			B	B											
Dodge 330				B	B										
Dodge 440				B	B										
Coronet						B	B	B				B	B	B	B
Coronet Custom												B	B	B	B
Coronet Brougham												B			
Coronet Crestwood												B	B	B	B
Coronet Deluxe						B	B	B							
Coronet 440						B	B	B	B	B	B				
Coronet 500						B	B	B	B	B	B				
Coronet R/T								B	B	B	B				
Charger							B	B	B	B	B	B	B	B	B
Charger SE												B	B	B	B
Charger 500											B	B			
Charger R/T									B	B	B	B			
R/T										B					
Superbee									B	B	B	B			

*Indicates major Body Sheet Metal Change

BODY MODELS: CHRYSLER

STANDARD "C" BODY MODEL CHART

	'60	'61	'62	*'63	'64	*'65	'66	*'67	'68	*'69	'70	'71	*'72	'73	*'74	'75	'76	'77	
New Yorker	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
300												C							
New Yorker Brougham													C	C	C				
New York Salon				C	C														
300F	C																		
300G		C																	
300H			C																
300J & 300				C															
300K & 300					C														
300L & 300						C	C	C	C	C	C								
Town & Country							C	C	C	C	C	C	C	C	C				
<u>IMPERIAL</u>																			
Imperial Crown								C ₁	C ₁	C ₁	C ₁								
Imperial Le Baron								C ₁	C ₁	C ₁	C ₁	C ₁	C ₁	C ₁	C ₁	C ₁	C ₁		

C₁ indicates years that the Imperial was a modified "C" body.

* indicates Major Body Sheet Metal Change

SPECIALTY "E" BODY MODEL CHART

	'60	'61	'62	'63	'64	'65	'66	'67	'68	'69	*'70	'71	'72	'73	'74
<u>Plymouth</u>															
Barracuda											*E	E	E	E	E
Gran Coupe											*E	E			
'Cuda											*E	E	E	E	E
<u>Dodge</u>															
Challenger											*E	E	E	E	E
Challenger R/T											*E	E			
Challenger (Rallye)													E		

*Indicates Major Body Sheet Metal Change

CHRYSLER

1971 MODEL CHART

BODY MODELS: CHRYSLER 71

NOTE The code for any specific model consists of the car line and series code with the body style code
 Example JH23 is the designation for a Challenger (JH) 2 door hardtop (23)

			2 Door Coupe	2 Door Hardtop	Convertible Coupe	2-Door Special	4-Door Sedan	4 Door Hardtop	Station Wagon		
			21	23	27	29	41	43	2 Seat	3 Seat	
			45	46							
DODGE											
CHALLENGER COUPE	JL	Six	•								
CHALLENGER COUPE		V-8	•								
CHALLENGER	JH	Six		•	•						
CHALLENGER		V-8		•	•						
CHALLENGER T/A	JM	V-8	•								
CHALLENGER R/T	JS	Six		•							
CHALLENGER R/T		V-8		•							
DART SPECIAL	LL	Six		•							
DART SPECIAL		V-8		•							
DART	LL	Six					•				
DART		V-8					•				
DEMON	LM	Six				•					
DEMON		V-8				•					
DEMON 340	Lh	Six					•				
DEMON 340		V-8					•				
DART CUSTOM	Lh	Six		•							
DART CUSTOM		V-8		•							
SWINGER	WL	Six		•							
SWINGER		V-8		•							
CHARGER COUPE	WL	Six	•								
CHARGER COUPE		V-8	•								
CORONET	WM	Six					•		•		
CORONET		V-8					•		•		
SUPER BEE	WH	Six		•							
SUPER BEE		V-8		•							
CORONET CUSTOM	WP	Six					•		•		
CORONET CUSTOM		V-8					•		•		
CHARGER	WS	Six		•							
CHARGER		V-8		•							
CHARGER 500	DE	Six		•							
CHARGER 500		V-8		•							
CHARGER SE	DL	Six		•							
CHARGER SE		V-8		•							
CORONET BROUGHAM	DM	Six		•							
CORONET BROUGHAM		V-8		•							
CORONET CRESTWOOD	DH	Six		•							
CORONET CRESTWOOD		V-8		•							
CHARGER R/T	DH	Six		•							
CHARGER R/T		V-8		•							
POLARA	DL	Six		•							
POLARA		V-8		•							
POLARA CUSTOM	DM	Six		•							
POLARA CUSTOM		V-8		•							
POLARA BROUGHAM	DH	Six		•							
POLARA BROUGHAM		V-8		•							
MONACO	DH	Six		•							
MONACO		V-8		•							
PLYMOUTH											
BARRACUDA COUPE	BL	Six	•								
BARRACUDA COUPE		V-8	•								
BARRACUDA	BH	Six		•	•						
BARRACUDA		V-8		•	•						
GRAN COUPE	BP	Six		•							
GRAN COUPE		V-8		•							
VALIANT	VL	Six						•			
VALIANT		V-8						•			
VALIANT DUSTER	VS	Six				•					
VALIANT DUSTER		V-8				•					
DUSTER 340	VH	Six		•							
DUSTER 340		V-8		•							
VALIANT SCAMP	RI	Six	•								
VALIANT SCAMP		V-8	•								
SATELLITE COUPE	RM	Six									
SATELLITE COUPE		V-8									
SATELLITE	RH	Six							•		
SATELLITE		V-8							•		
ROAD RUNNER	RP	Six		•							
ROAD RUNNER		V-8		•							
SATELLITE CUSTOM	RS	Six							•	•	
SATELLITE CUSTOM		V-8							•	•	
SATELLITE SEBRING	PE	Six		•							
SATELLITE SEBRING		V-8		•							
SATELLITE SEBRING	PI	Six		•							
SATELLITE SEBRING		V-8		•							
SATELLITE BROUGHAM	PM	Six		•							
SATELLITE BROUGHAM		V-8		•							
SATELLITE REGENT	PH	Six		•							
SATELLITE REGENT		V-8		•							
SATELLITE SEBRING "PLUS"	PP	Six		•							
SATELLITE SEBRING "PLUS"		V-8		•							
CTX	CP	Six		•							
CTX		V-8		•							
FURY I	CH	Six		•							
FURY I		V-8		•							
FURY II	CP	Six		•							
FURY II		V-8		•							
FURY III	CP	Six		•							
FURY III		V-8		•							
SPORT FURY	CP	Six		•							
SPORT FURY		V-8		•							
SPORT FURY GT	CP	Six		•							
SPORT FURY GT		V-8		•							
CHRYSLER											
CHRYSLER NEWPORT ROYAL	CG	Six		•							
CHRYSLER NEWPORT ROYAL		V-8		•							
CHRYSLER NEWPORT	CE	Six		•							
CHRYSLER NEWPORT		V-8		•							
NEWPORT CUSTOM	CL	Six		•							
NEWPORT CUSTOM		V-8		•							
300	CS	Six		•							
300		V-8		•							
NEW YORKER	CH	Six		•							
NEW YORKER		V-8		•							
TOWN AND COUNTRY	CP	Six		•							
TOWN AND COUNTRY		V-8		•							
IMPERIAL											
IMPERIAL LEBARON	YM	V-8		•							

CHRYSLER

1972 MODEL CHART

SAFES NAME	CAR LINE CODE	BASE ENGINE CODE	SERIES (PRICE CLASS)	BODY TYPE							
				21	23	29	41	43	45	46	
Challenger	J	24	H		23						
Challenger		44	H		23						
Challenger		44	S		23						
Swinger Special	L	22 (a)	L		23						
Swinger Special		44	L		23						
Dart		22 (a)	L				41				
Dart		44	L				41				
Dart Demon		22	L			29					
Dart Demon		44	L			29					
Dart Demon 340		55	M			29					
Dart Custom		22	H				41				
Dart Custom		44	H				41				
Swinger		22	H			23					
Swinger		44	H			23					
Charger Coupe		W	24	L	21						
Charger Coupe	44		L	21							
Coronet	24		L				41				
Coronet	44		L				41		45		
Coronet Custom	24		H				41				
Coronet Custom	44		H				41		45	46	
Charger	24		H			23					
Charger	44		H			23					
Charger SE	44		P			29					
Coronet Crestwood	44		P						45	46	
Polara	D	44	L		23		41	43	45		
Polara Custom		44	M		23		41	43	45	46	
Monaco		57	P		23		41	43	45	46	
Barracuda	B	24	H		23						
Barracuda		44	H		23						
'Cuda		55	S		23						
Valiant	V	22	L				41				
Valiant		44	L				41				
Duster		22	L			29					
Duster		44	L			29					
Valiant Scamp		22 (a)	H		23						
Valiant Scamp		44	H		23						
Duster 340		55	S			29					
Satellite	R	24	L	21			41				
Satellite		44	L	21			41		45		
Road Runner		63	M		23						
Satellite Custom		24	H				41				
Satellite Custom		44	H				41		45	46	
Satellite Sebring		24	H		23						
Satellite Sebring		44	H		23						
Satellite Regent		44	P						45	46	
Satellite Sebring Plus		44	P		23						
Fury I		P	44	L				41			
Fury II	44		M		23		41				
Suburban	44		M						45	46	
Fury III	44		H		23	29	41	43			
Custom Suburban	44		H						45	46	
Fury Gran Coupe	44		P		23	29					
Fury Gran Sedan	44		P					43			
Sport Suburban	44		P						45	46	
Newport Royal	C	57	L		23		41	43			
Newport Custom		63	M		23		41	43			
New Yorker		85	H		23		41	43			
Town and Country		63	P						45	46	
New Yorker Brougham		85	S		23		41	43			
Imperial Le Strada	Y	85	M		23			43			

ENGINE CODES
(Only Base Engines Included)

22	198 CID 6-Cylinder
24	225 CID 6-Cylinder
44	318 CID V-8
55	340 CID V-8
57	360 CID V-8
63	400 CID V-8 1, 2-V
68	400 CID V-8 1, 4-V
85	440 CID V-8

BODY TYPE

21	2-Door Coupe
23	2-Door Hardtop
29	2-Door Special
41	4-Door Sedan
43	4-Door Hardtop
45	2-Seat Station Wagon
46	3-Seat Station Wagon

SERIES (PRICE CLASS)

L	Low
M	Medium
H	High
P	Premium
S	Special

(a) 198 CID not available in California

1973 MODEL CHART

SALES NAME	CAR LINE CODE	BASE ENGINE CODE	SERIES	BODY TYPE							
				21	23	29	41	43	45	46	
Colt	6	K2	L	21							
Colt		K2	H		23		41		45		
Colt GT		K2	P			23					
Challenger	1	44	H		23						
Dart Swinger Special	C	22 (a)	L		23						
Dart Swinger Special		44	L		23						
Dart		22 (a)	L					41			
Dart		44	L					41			
Dart Sport		22 (a)	L			29					
Dart Sport		44	L			29					
Dart 340 Sport		55	M			29					
Dart Swinger		22 (a)	H			23					
Dart Swinger		44	H			23					
Dart Custom		22 (a)	H					41			
Dart Custom		44	H					41			
Charger Coupe		W	24	L	21						
Charger Coupe	44		L	21							
Coronet	24		L					41			
Coronet	44		L					41		45	
Charger	24		H			23					
Charger	44		H			23					
Coronet Custom	24		H					41			
Coronet Custom	44		H					41		45	46
Charger SE	44		P				29				
Crestwood	44		P							45	46
Polaris	D		44 (c)	L		23		41			45
Polaris Custom			44 (c)	M		23		41	43	45	46
Monaco		57	P			23		41	43	45	46
Cricket	4	J1	B				41				
Cricket		J3	C				(b)		45		
Barracuda	10	44	H		23						
Amoré		44	S		23						
Volaré	V	22 (a)	L				41				
Volaré		44	L				41				
Duster		22 (a)	L			29					
Duster		44	L			29					
Volaré Scamp		22 (a)	H			23					
Volaré Scamp		44	H			23					
Duster 340		55	S			29					
Satellite	R	24	L	21			41				
Satellite		44	L	21			41		45		
Road Runner		44	M	21							
Satellite Scram		24	H		23						
Satellite Scram		44	H		23						
Satellite Custom		24	H				41				
Satellite Custom		44	H				41		45	46	
Satellite Scram Plus		44	P		23						
Satellite Regent		44	P						45	46	
Fort I		S	44	L				41			
Fort II	44		M				41				
Suburban	57		M						45		
Fort III	44		H		23		41	43			
Custom Suburban	57		H						45	46	
Fort Gold Coach	44		P		23						
Fort Custom Sedan	44		P					43			
Special Suburban	57		P						45	46	
Chrysler	+		63	L		23		41	43		
Newport Custom			63	M		23		41	43		
New Yorker		85	H				41	43			
Town & Country		85	P						45	46	
New Yorker Brighton	85	S		23		41	43				
Imperial Baron	85	M		23			43				

ENGINE CODES (Only Base Engines Included)	
J1	91 4 CID 4-Cylinder 1, 1-V
J3	91 4 CID 4-Cylinder 2, 1-V
K2	97 5 CID 4-Cylinder 1, 1-V
22	198 CID 6-Cylinder
24	225 CID 6-Cylinder
44	318 CID V-8
55	340 CID V-8
57	360 CID V-8
63	400 CID V-8 1 2 V
68	400 CID V-8 1 4 V
85	440 CID V-8

BODY TYPE	
21	2-Door Coupe
23	2-Door Hardtop
29	2-Door Special
41	4-Door Sedan
43	4-Door Hardtop
45	2-Seat Station Wagon
46	3-Seat Station Wagon

SERIES	
L, B	LEVEL OF EQUIPMENT OPULENCE
M	
H, C	
P	
S	

1974 MODEL CHART

SALES NAME	CAR LINE CODE	BASE ENGINE CODE	SERIES	BODY TYPE							
				21	23	29	41	43	45	46	
Colt	6	K2	L	21							
Colt		K2	H		23		41			45	
Colt GT		K2	P			23					
Challenger	J	44	H		23						
Dart Swinger Special	L	22(a)	L		23						
Dart Swinger Special		44	L		23						
Dart		22(a)	L					41			
Dart		44	L					41			
Dart Sport		22(a)	L				29				
Dart Sport		44	L				29				
Dart 360 Sport		58	M				29				
Dart Swinger		22(a)	H			23					
Dart Swinger		44	H			23					
Dart Custom		22(a)	H					41			
Dart Custom		44	H					41			
Charger Coupe	W	24(a)	L	21							
Charger Coupe		44	L	21							
Coronet		24(a)	L					41			
Coronet		44	L					41		45	
Charger		24(a)	H			23					
Charger		44	H			23					
Coronet Custom		24(a)	H					41			
Coronet Custom		44	H					41		45	46
Charger SE		44	P				29				
Coronet Crestwood		44	P							45	46
Monaco	D	57(a)	M		23		41			45	
Monaco Custom		57(a)	H		23		41	43	45	46	
Monaco Brougham		63(a)	P		23		41	43	45	46	
Barracuda	B	44	H		23						
Cuda		44	S		23						
Valiant	V	22(a)	L				41				
Valiant		44	L				41				
Duster		22(a)	L				29				
Duster		44	L				29				
Valiant Scamp		22(a)	H			23					
Valiant Scamp		44	H			23					
Duster 360		58	S				29				
Satellite	R	24(a)	L	21			41				
Satellite		44	L	21			41			45	
Road Runner		44	M	21							
Satellite Sebring		24(a)	H			23					
Satellite Sebring		44	H			23					
Satellite Custom		24(a)	H					41			
Satellite Custom		44	H					41		45	46
Satellite Sebring Plus		44	P			23					
Satellite Regent		44	P							45	46
Fury I		P	57(a)	L				41			
Fury II	57(a)		M				41				
Suburban	63(a)		M							45	
Fury III	57(a)		H			23		41	43		
Custom Suburban	63(a)		H							45	46
Fury Gran Coupe	63(a)		P			23					
Fury Gran Sedan	63(a)		P						43		
Sport Suburban	63(a)		P							45	46
Newport	C	63	L		23		41	43			
Newport Custom		63	M		23		41	43			
New Yorker		85	H				41	43			
Town & Country		85	P							45	46
New Yorker Brougham		85	S			23		41	43		
Imperial Le Baron	Y	85	M		23			43			

ENGINE CODES (Only Base Engines Included)	
K2	97 5 CID 4-Cylinder I, 2-V
22	198 CID 6-Cylinder
24	225 CID 6-Cylinder
44	318 CID V-8
57	360 CID V-8 I, 2-V
58	360 CID V-8 I, 4-V
63	400 CID V-8 I, 2-V
85	440 CID V-8 I, 4-V

BODY TYPE	
21	2-Door Coupe
23	2-Door Hardtop
29	2-Door Special
41	4-Door Sedan
43	4-Door Hardtop
45	2-Seat Station Wagon
46	3-Seat Station Wagon

SERIES	
L	LEVEL OF EQUIPMENT OPULENCE
M	
H	
P	
S	

(a) Not available in California
(b) 400 CID 2-V Standard on 45, 46

1970-1974 FORD MODEL CHART

60	2-dr. Sedan
62	2-dr. Sedan
63	2-dr. Hardtop (Fastback)
64	2-dr. Hatchback
65	2-dr. Hardtop
66	2-dr. Pickup Type Car (Ranchero)
69	2-dr. Hatchback
71	4-dr. Station Wagon
73	2-dr. Station Wagon
76	2-dr. Convertible
97	2-dr. Pickup-Car (Ranchero)

1972 CHEVROLET

BODY MODELS: GM /Z

Body	Series	Model No.	2-Door			4-Door		Station Wagons		Pickup Del.
			Pillar	H/T	Conv.	Pillar	H/T	2-5	3-5	
		H	<u>VEGA 2300</u>	141	11	77				
X	<u>NOVA</u>	113-4	27			69				
F	<u>CAMARO</u>									
	Custom, Rally Sport, Super Sport	123-4		87						
A	<u>CHEVELLE</u>									
	Nomad	131-2						36		
	Chevelle Greenbriar and El Camino	133-4		37		69		36	46	80
	Malibu, Concours & El Camino Cust.	135-6		37	67	69	39	36	46	80
	Concours Estate	138						36	46	
A-Sp.	Monte Carlo	138		57						
B	<u>CHEVROLET</u>									
	Biscayne Brookwood	153-4 154				69		35		
	Bel Air Townsmen	155-6 156				69		35	45	
	Impala Impala Custom, Kingswood	163-4 164		57 47	67	69	39			
	Caprice, Kingswood Estate	166		47		69	39	35	45	
Sp	<u>CORVETTE</u>									
	Stingray	194		37	67					

1972 PONTIAC

Body	Series	Model No.	2-Door			4-Door		Station Wagons	
			Pillar	H/T	Conv.	Pillar	H/T	2-S	3-S
X	<u>VENTURA II</u>	213-4	27			69			
F	<u>FIREBIRD</u>								
	Custom & 400	223		87					
A	<u>LE MANS</u>								
	Le Mans	235	27	37		69		36	46
	Le Mans Sport	238		37	67				
	Le Mans Luxury	244		37			39		
(G) A-Sp.	<u>GRAND PRIX</u>	276		57					
B	<u>PONTIAC</u>								
	Catalina & Safari	252		57	67	69	39	35	45
	Catalina Brougham	258		57		69	39		
	Grand Safari	262						35	45
B-Ext	Bonneville	262		57		69	39		
	Grand Ville	268		47	67		49		

1972 OLDSMOBILE

A	<u>F-85</u>								
	F-85	331-2		87		69			
	Cutlass	335-6	77	87		69		36	
	Cutlass Supreme	342		57	67		39		
A-Ext	Vista Cruiser	348						56	66
B	<u>DELTA 88</u>	354		57		69	39		
	Royale	364		57	67	69	39		
	Custom Cruiser	368						35	45
C	<u>98</u>	384		37			39		
	98 Luxury	386		37			39		
E	<u>TORONADO</u>								
	Toronado Deluxe	396-8		57					

73 GM Body Models

- 11 - 2 dr. Sedan
- 15 - 2 dr. Stationwagon
- 17 - Coupe, Hatchback
- 23 - 4 dr. Sedan
- 27 - 2 dr. Coupe
- 29 - 4 dr. Sedan
- 37 - 2 dr. Coupe
- 39 - 4 dr. Hardtop
- 47 - 2 dr. Hardtop - Cadillac Eldorado (47)-Coupe
- 49 - 4 dr. Sedan Hardtop (code as Sedan)
- 57 - 2 dr. Coupe
- 67 - 2 dr. Convertible
- 69 - 4 dr. Sedan
- 77 - Coupe, Hatchback
- 80 - Pickup Car
- 87 - 2 dr. Hardtop - Chevrolet Camaro and Pontiac
Firebird (87) - Coupe

72 Foreign Imports

MAKE AND MODEL	ENGINE	No. cylinders	Compression ratio (to 1)	Maximum h.p. at r.p.m.	Displacement (cubic in.)
ALFA ROMEO 2000 Berlina	V-6	6	9.5	109/5,000-119/7	119.7
2000 Berlina Veloce	V-6	6	9.5	129/5,300-119/7	119.7
2000 GT Veloce	V-6	6	9.5	149/5,500-119/7	119.7
ASTON MARTIN DB5 V-8	V-8	8	9	145/5,500-119/7	119.7
AUDI Super 90 2-door Sedan	V-6	6	8.5	90/5,000-107/5	107.5
Super 90 4-door Sedan	V-6	6	8.5	90/5,000-107/5	107.5
Super 90 Station Wagon	V-6	6	8.5	90/5,000-107/5	107.5
100 100 LS 2-door Sedan	V-6	6	8.5	110/5,100-113/5	113.5
100 GL 2-door Sedan	V-6	6	8.5	110/5,100-113/5	113.5
100, 100 LS, 4-door Sedan	V-6	6	8.5	110/5,100-113/5	113.5
100 GL 4-door Sedan	V-6	6	8.5	110/5,100-113/5	113.5
BENTLEY T-Continent Sedan	V-8	8	9	174	174
BMW 2002 Sedan	V-4	4	8.0	113/5,700-121/5	121.5
2002 Ti	V-4	4	9	145/5,700-121/5	121.5
2.0 CS Coupe	V-6	6	9.5	145/5,700-102	102
3.0 Bavaria	V-8	8	8.5	145/5,500-102	102
CAPRI 1600 Coupe	V-6	6	8	84/5,000-97/6	97.6
2000 Coupe	V-6	6	8.2	97/5,400-122	122
2600 Coupe	V-6	6	8.2	107/5,500-153	153
CITROEN CX 21 Paris	V-6	6	7.75	115/5,700-133/0	133.0
R Saab	V-6	6	7.7	115/5,700-133/1	133.1
DS 2.0 Station Wagon	V-6	6	7.5	111/5,200-100/3	100.3
SM	V-6	6	9	100/5,200-100/3	100.3
CIT 4-door Sedan	V-6	6	8.0	80/4,700-97/5	97.5
Col. Monaco	V-6	6	8	80/4,700-97/5	97.5
Col. Super Station	V-6	6	8.5	95/5,000-97/5	97.5
CP-CRST 4-door Sedan	V-6	6	8.5	97/5,000-114	114
Station Wagon	V-6	6	8.5	97/5,000-114	114
DATSUN 1200 Sedan	V-4	4	7	76/5,000-115	115
1200 1.8	V-4	4	7	76/5,000-115	115
504 4-door Sedan	V-6	6	8	92/5,000-112	112
512 2-door Sedan	V-6	6	8	92/5,000-112	112
512 5-door Sedan	V-6	6	8	92/5,000-112	112
2400 Cabriolet	V-8	8	7	121/5,200-121	121
FAT 1200	V-6	6	9.0	83/5,000-92/1	92.1
1200 Station Wagon	V-6	6	9.0	83/5,000-92/1	92.1
1200 Cabriolet	V-6	6	9.0	83/5,000-92/1	92.1
124 Coupe	V-6	6	9.0	92/5,000-112	112
124 Sedan	V-6	6	9.0	92/5,000-112	112
124 Station Wagon	V-6	6	9.0	92/5,000-112	112
124 Cabriolet	V-6	6	9.0	92/5,000-112	112
HONDA Acura Sedan	V-6	6	9.5	97/5,000-95/5	95.5
3.0 Coupe	V-6	6	9.5	97/5,000-95/5	95.5
JAGUAR XJ 12 Roadster and 2-dr 2	V-12	12	9	113/4,000-105	105
XJ Sedan	V-12	12	9	113/4,000-104	104
JENSEN Healey V-8	V-8	8	9.0	200/4,000-100	100
LC 2.0 in Berlinetta and Coupe	V-6	6	9.5	97/5,000-97/1	97.1
Lexus 7	V-6	6	9.5	97/5,000-97/1	97.1
Exotic	V-6	6	10	97/5,000-97/1	97.1
Formula 2000	V-6	6	9.5	97/5,000-97/1	97.1
MATRO 5-door Station Wagon	Rotary	6	9	70/4,000-70	70
700 Sedan	Rotary	6	9	70/4,000-70	70
700 Coupe	Rotary	6	9	70/4,000-70	70
800 Wagon	Rotary	6	9	70/4,000-70	70
900 Coupe	Rotary	6	9	70/4,000-70	70
900 Sedan	Rotary	6	9	70/4,000-70	70
900 Station Wagon	Rotary	6	9	70/4,000-70	70
900 Coupe	Rotary	6	9	70/4,000-70	70
900 Station Wagon	Rotary	6	9	70/4,000-70	70
1000 Coupe	Rotary	6	9	70/4,000-70	70
1000 Station Wagon	Rotary	6	9	70/4,000-70	70
MERCEDES 190 2.3	V-6	6	8	112/5,000-114	114
2.0	V-6	6	8	112/5,000-114	114
3.0	V-8	8	9	112/5,000-114	114
2.5-24	V-6	6	9	112/5,000-114	114
2.8-24	V-6	6	9	112/5,000-114	114
3.0-24	V-6	6	9	112/5,000-114	114
250 SL 4.5	V-8	8	9	112/5,000-114	114
3.0 SEL 4.5	V-8	8	9	112/5,000-114	114

MAKE AND MODEL	ENGINE	No. cylinders	Compression ratio (to 1)	Maximum h.p. at r.p.m.	Displacement (cubic in.)
370 DEL 4.5	V-8	8	9	200/5,000-125	125
370 Gt	V-8	8	9	220/5,000-125	125
450 (V-8) Ferrari	V-8	8	9	220/4,500-125.5	125.5
MG-B Mk. II Roadster	V-6	6	8.8	78/5,500-109.8	109.8
MG-B GT Mk. II Coupe	V-6	6	8.8	78/5,500-109.8	109.8
Midget Mk. III	V-6	6	8.8	54/5,500-77.9	77.9
NSU 1000 C	V-6	6	8	G51/5,500-60.7	60.7
TT	V-6	6	9	G69/5,800-66.2	66.2
1200 C	V-6	6	8	G73/5,500-73.8	73.8
OPEL 2-door Sedan	V-6	6	7.6	75/4,800-115.8	115.8
Deluxe 2-door Sedan	V-6	6	7.6	75/4,800-115.8	115.8
Station Wagon	V-6	6	7.6	75/4,800-115.8	115.8
1900 2-door Sedan	V-6	6	7.6	75/4,800-115.8	115.8
1900 4-door Sedan	V-6	6	7.6	75/4,800-115.8	115.8
1900 Wagon	V-6	6	7.6	75/4,800-115.8	115.8
1900 Sport Coupe	V-6	6	7.6	75/4,800-115.8	115.8
1900 Rallye	V-6	6	7.6	75/4,800-115.8	115.8
GT	V-6	6	7.6	75/4,800-115.8	115.8
PANTERA	V-8	8	8.6	266/5,400-351	351
PEUGEOT 304 Sedan	V-6	6	8.8	58/5,500-78.5	78.5
304 Station Wagon	V-6	6	8.8	58/5,500-78.5	78.5
504 Sedan	V-6	6	8.4	92/5,500-120	120
POPSCH 914	V-6	6	8.2	85/5,000-102.5	102.5
911 T	V-6	6	7.5	157/5,600-142.8	142.8
911 E	V-6	6	8	185/6,200-142.8	142.8
911 S	V-6	6	8.5	210/6,500-142.8	142.8
RENAULT 12 Sedan	V-6	6	8.6	69/5,000-95.5	95.5
12 Station Wagon	V-6	6	8.6	69/5,000-95.5	95.5
16	V-6	6	8.6	67/5,200-95.5	95.5
ROLLS-ROYCE Silver Shadow Sedan	V-8	8	9	•	412
Silver Shadow Long Wheelbase Sedan	V-8	8	9	•	412
Corniche Coupe	V-8	8	9	•	412
Corniche Convertible	V-8	8	9	•	412
SAAB 99 Sedan	V-6	6	9	86/5,000-110.7	110.7
99 E Sedan	V-6	6	9	95/5,200-110.7	110.7
95 Sedan	V-4	4	8	65/4,700-103.6	103.6
Sonnen III	V-4	4	8	65/4,700-103.6	103.6
Station Wagon	V-4	4	8	65/4,700-103.6	103.6
SUBARU G 4-door Sedan	V-6	6	9	G80/6,400-77.3	77.3
G 2-door Sedan	V-6	6	9	G20/6,400-77.3	77.3
G Station Wagon	V-6	6	9	G60/6,400-77.3	77.3
TOYOTA Corolla 1200 Sedan	V-6	6	9	65/6,000-71.1	71.1
Corolla 1600 Coupe and Sedan	V-6	6	8.5	88/6,000-96.9	96.9
Corolla 1600 Station Wagon	V-6	6	8.5	88/6,000-96.9	96.9
Corolla 1600	V-6	6	8.5	88/6,000-96.9	96.9
Celica 2000	V-6	6	8.5	97/5,500-120	120
Corona Sedan	V-6	6	8.5	97/5,500-120	120
Corona Hardtop	V-6	6	8.5	97/5,500-120	120
Mark II Sedan	V-6	6	8.5	97/5,500-120	120
Mark II Hardtop	V-6	6	8.5	97/5,500-120	120
Mark II Station Wagon	V-6	6	8.5	97/5,500-120	120
TRIUMPH Stag	V-8	8	8.6	127/6,000-182.9	182.9
TR 5	V-8	8	8.5	106/4,900-152	152
GT 6 Mk. 3	V-8	8	9.25	79/4,900-22	22
Smiffie Mk. III	V-8	8	9	54/5,500-79.2	79.2
VOLKSWAGEN Beetle	V-4	4	7.3	45/4,000-95.65	95.65
Karmann Ghia Coupe	V-4	4	7.3	45/4,000-95.65	95.65
VW Type 3	V-4	4	7.3	51/4,300-95.65	95.65
VW Spacemaker Sedan	V-4	4	7.3	51/4,300-95.65	95.65
Super Beetle	V-4	4	7.3	45/4,000-95.65	95.65
Station Wagon	V-4	4	7.3	62/4,800-95.65	95.65
411 Four-door	V-4	4	7.3	76/4,900-102.5	102.5
411 Three-door	V-4	4	7.8	76/4,900-102.5	102.5
VOLVO 112 2-door Sedan	V-6	6	9.3	97/5,500-121	121
142 E 2-door Sedan	V-6	6	9.3	112/6,000-121	121
144 4-door Sedan***	V-6	6	9.3	97/5,500-121	121
145 4-door Station Wagon***	V-6	6	9.3	97/5,500-121	121
144 4-door Sedan****	V-6	6	9.3	126/5,000-132	132
1800 E Sports Coupe	V-6	6	8.7	112/6,000-121	121
1800 ES Sports Coupe	V-6	6	8.7	112/6,000-121	121

Corporation (1) Body & Frame		(2) Unitized		(3) Integral-Stub Frame
AMC		ALL		
Chrysler		<p>A BODIES</p> <p>Valiant (68-73) Dart (68-73) Duster (70-72) Demon (71-73) Dodge's (68-70) Challenger (70-72)</p> <p>E BODY</p> <p>Challenger (-73)</p>	<p>B BODIES</p> <p>Satellite (68-73) Roadrunner (70-73) G T X Coronet (68-73) Charger (68-73) Belvedere (68-70)</p>	<p>C BODIES</p> <p>Fury (68-73) Suburban (68-73) Polara (68-73) Monaco (68-73) Newport (68-73) New Yorker (68-73) Town & Country (68-73) Imperial (68-73)</p>
Ford	<p>Ford (70-73) Lincoln (70-73) Mercury (70-73) Thunderbird (70-73) Continental (70-73) Torino (72-73) Montego (72-73)</p>	<p>Torino (70-71) Pinto (71-73) Mustang (70-73) Cougar (70-73) Maverick (70-73) Montego (70-71) Ranchero (70-73)</p>	<p>Barracuda (71-73) Comet (70-73) Capri</p>	
GM	Most	Vega Opel		<p>Firebird Camaro, Ventura II Chevy II, Nova</p>

	'72 IMPORTS	BODY STRUCTURE
AUDI	90 Sedan	Unitized
	100 LS	Unitized
DATSUN	1200 2-Dr Sedan	Unitized
	1200 2-Dr Sport Coupe	Unitized
	1600 Pickup	Body-frame
	510 2-Dr Sedan	integral-stub
	510 4-Dr Sedan	integral-stub
	510 Station Wagon	integral-stub
	240 Z	integral-stub
DODGE COLT	2-Dr Coupe	Unitized
	2-Dr H/T	Unitized
	4-Dr Sedan	Unitized
	4-Dr Station Wagon	Unitized
FIAT	850 Spider Convertible	Unitized
FORD	Capri	Unitized
OPEL	1900	Unitized
	1900 Wagon	Unitized
	Rallye	Unitized
	G.T.	Unitized
PLYMOUTH	Cricket 4-Dr Sedan	Unitized
PORSCHE	911	Unitized
	914	Unitized
TOYOTA	Carina 2-Dr Sedan	Unitized
	Corona 4-Dr Sedan	Unitized
	Corona 2-Dr H/T	Unitized
	Corolla 2-Dr Coupe	Unitized
	Corolla 2-Dr Sedan	Unitized
	Corolla Station Wagon	Unitized
	Celica 2-Dr H/T	Unitized
V W	Beetle	platform
	Fastback	platform
	Squareback	platform
	411 2-Dr and 4-Dr	Unitized
	411 3-Dr Hatchback	Unitized

BODY STRUCTURE: IMPORTS 73

<u>Make</u>	<u>Model</u>	<u>Body Structure</u>
Audi	90 Sedan - 2 dr. (Fox)	Unitized
	90 Sedan - 4 dr. (Fox)	Unitized
	100 LS - 4 dr.	Unitized
Datsun	1200 - 2 dr. Sedan	Unitized
	1200 - 2 dr. Sport Coupe	Unitized
	1600 Pickup	Body-frame
	610 - 4 dr. Sedan	
	610 - 4 dr. Station Wagon	Integral - stub
	610 - 2 dr. Hardtop	Integral - stub
	240 Z	Integral - stub
Dodge	Colt - 2 dr. Coupe	
	Colt - 2 dr. Hardtop	Unitized
	Colt - 4 dr. Sedan	
	Colt - 4 dr. Station Wagon	
Fiat	850 Spider Convertible	Unitized
Ford	Capri	Unitized
Opel	1900 Luxus	Unitized
	1900 Wagon	Unitized
	Rallye Manta	Unitized
	G.T.	Unitized
Plymouth	Cricket - 4 dr. Sedan	None imported after 1/73
Porsche	911	Unitized
	914	Unitized
Toyota	Carina - 2 dr. Sedan	
	Corona - 4 dr. Sedan	
	Corona - 2 dr. Hardtop	
	Corona - Mark II MX	Unitized
	Corolla - 2 dr. Coupe	Unitized
	Corolla - 2 dr. Sedan	Unitized
Corolla - Station Wagon	Unitized	
Toyota	Ceica - 2 dr. Hardtop	Unitized
VW	Beetle	Semi-unitized
	Fastback	Semi-unitized
	Squareback	Semi-unitized
	412 - 2 dr.	Unitized
	412 - 4 dr.	Unitized
	412 - 3 dr. Hatchback	

C plat
C plat
C plat

ANTI-LOCK BRAKE SYSTEMS

	Optional	Standard
1969	T-Bird & Mark III	N/A
1970	T-Bird, Continental, Riviera, Toronado, Eldorado (Mark III until 1/6/70)	Mark III after 1/6/70
1971	T-Bird, Continental, Riviera, Toronado, Eldorado	Mark III
1972 - 1973	Continental, Mercury with 429 or 460 CID Engines, Imperial, Eldorado, Toronado	Mark IV & T-Bird

Ford System is limited to (2) wheels.

1972 BRAKE TYPES

C. BRAKE TYPE

Full-sized cars

AMC AMBASSADOR SST V8	Drum
BUICK LeSABRE V8	Disc/ drum
CHEVROLET IMPALA V8	Disc/ drum
CHRYSLER NEWPORT V8	Disc/ drum
DODGE MONACO V8	Disc/ drum
DODGE POLARA V8	Drum
FORD GALAXIE 500 V8	Drum
MERCURY MARQUIS V8	Disc/ drum
MERCURY MONTEREY V8	Disc/ drum
OLDSMOBILE DELTA 88 V8	Disc/ drum
PLYMOUTH FURY III V8	Drum
PONTIAC BONNEVILLE V8	Disc/ drum
PONTIAC CATALINA V8	Disc/ drum

C. BRAKE TYPE

SPECIALTY CARS continued

CADILLAC ELDORADO V8	Disc/ drum
CHEVROLET CAMARO 6	Disc/ drum
CHEVROLET CAMARO V8	Disc/ drum
CHEVROLET MONTE CARLO V8	Disc/ drum
DODGE CHALLENGER 6	Drum
DODGE CHALLENGER V8	Drum
FORD MUSTANG 6	Drum
FORD MUSTANG V8	Drum
FORD THUNDERBIRD V8	Disc/ drum
LINCOLN CONTINENTAL MARK IV V8	Disc/ drum
MERCURY CAPRI 2000 4	Disc/ drum
MERCURY COUGAR V8	Drum
OLDSMOBILE TORONADO V8	Disc/ drum
PLYMOUTH BARRACUDA 6	Drum
PLYMOUTH BARRACUDA V8	Drum
PONTIAC FIREBIRD 6	Disc/ drum
PONTIAC FIREBIRD V8	Disc/ drum
PONTIAC GRAND PRIX V8	Disc/ drum

Full-sized, luxury cars

BUICK ELECTRA 225 V8	Disc/ drum
CADILLAC DeVILLE V8	Disc/ drum
CHRYSLER NEW YORKER V8	Disc/ drum
IMPERIAL V8	Disc/ drum
LINCOLN CONTINENTAL V8	Disc/ drum
OLDSMOBILE NINETY-EIGHT V8	Disc/ drum

Specialty cars

AMC JAVELIN 6	Drum
AMC JAVELIN V8	Drum
BUICK RIVIERA V8	Disc/ drum

1972 BRAKE TYPES

C
BRAKE TYPE

Subcompact cars

AMC GREMLIN 6	Drum
CHEVROLET VEGA 4	Disc/ drum
DATSUN 1200 4	Disc/ drum
DATSUN 510 4	Disc/ drum
DODGE COLT 4	Disc/ drum
FIAT 124R 4	Disc
FORD PINTO 4	Drum
OPEL 1900 4	Disc/ drum
PEUGEOT 304 4	Disc/ drum
PLYMOUTH CRICKET 4	Disc/ drum
TOYOTA COROLLA 1200 4	Disc/ drum
TOYOTA CORONA 4	Disc/ drum
TOYOTA CORONA MARK II 4	Disc/ drum
VOLKSWAGEN BEETLE 4	Drum
VOLKSWAGEN TYPE 3 4	Disc/ drum

Compact cars

AMC HORNET 6	Drum
AMC HORNET V8	Drum
AUDI 100LS 4	Disc/ drum
CHEVROLET NOVA 6	Drum
CHEVROLET NOVA V8	Drum
DODGE DART 6 (for standard engine see Plymouth Valiant 6)	Drum
DODGE DART V8	Drum
FORD MAVERICK 6	Drum
FORD MAVERICK V8	Drum
MERCURY COMET 6	Drum

C
BRAKE TYPE

COMPACT CARS continued

MERCURY COMET V8	Drum
PEUGEOT 504 4	Disc
PONTIAC VENTURA II 6	Drum
PONTIAC VENTURA II V8	Drum
PLYMOUTH VALIANT 6	Drum
PLYMOUTH VALIANT V8	Drum
SAAB 99E 4	Disc
VOLKSWAGEN 411 4	Disc/ drum
VOLVO 144 4	Disc

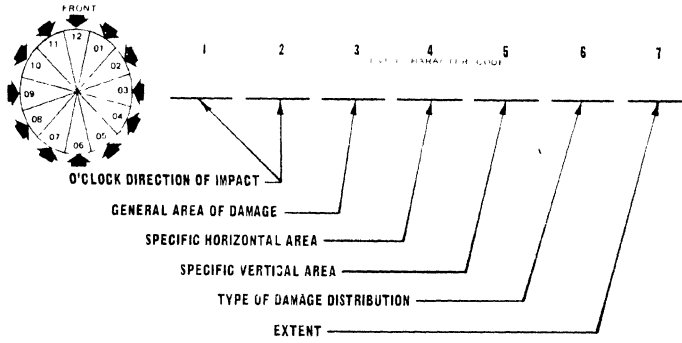
Intermediate cars

AMC MATADOR 6	Drum
AMC MATADOR V8	Drum
BUICK SKYLARK V8	Drum
CHEVROLET CHEVELLE 6	Drum
CHEVROLET CHEVELLE V8	Drum
DODGE CORONET 6	Drum
DODGE CORONET V8	Drum
FORD TORINO 6	Disc/ drum
FORD TORINO V8	Disc/ drum
MERCURY MONTEGO 6	Disc/ drum
MERCURY MONTEGO V8	Disc/ drum
OLDSMOBILE CUTLASS V8	Drum
PLYMOUTH SATELLITE 6	Drum
PLYMOUTH SATELLITE V8	Drum
PONTIAC LeMANS 6	Drum
PONTIAC LeMANS V8	Drum

FRONT DISK BRAKES

	<u>Optional 1967-to date</u>	<u>Standard</u>	<u>Standard in 72-73</u>
	Buick Riveria- 72 Special Eldorado Chevrolet Camaro Chevelle Chevy II Oldsmobile Toronado F-85 Pontiac Tempest Skylark Firebird Nova Ventura II	Corvette	Chevrolet Pontiac Oldsmobile Cadillac Toronado Eldorado Gran Prix Monte Carlo Riveria
Chrysler	<u>Optional 1967 to date</u>	<u>Optional Previous to 1967-to date</u>	<u>Standard 1967-to date</u>
	Dodge Coronet Dodge Charger Plymouth Belvedere Challenger Barracuda	Chrysler Dodge Polara Dodge Dart Plymouth Fury Plymouth Valiant	Imperial
Ford	<u>Optional 1967 to date</u>	<u>Optional Previous to 1967-to date</u>	<u>Standard Previous to 1967-to date</u>
	Falcon Fairlane Comet Cougar	Ford Mustang Mercury	Thunderbird Lincoln
AMC	Optional previous to 1967: Ambassador, American, Rebel, Marlin		
	Optional in 1972: Gremlin, Hornet, Matador, Javelin		

COLLISION DEFORMATION CLASSIFICATION - SAE J224a



Column No. 3

F - FRONT	T - TOP
R - RIGHT SIDE	U - UNDER CARRIAGE
B - BACK (REAR)	X - UNCLASSIFIABLE
L - LEFT SIDE	

Column No. 4

D - DISTRIBUTED	B - SIDE REAR - LEFT OR RIGHT
L - LEFT - FRONT OR REAR	Y - SIDE OR END F + P OR L + C
C - CENTER - FRONT OR REAR	Z - SIDE OR END - B + P OR R + C
R - RIGHT - FRONT OR REAR	
F - SIDE FRONT - LEFT OR RIGHT	
P - SIDE CENTER SECTION - LEFT OR RIGHT	

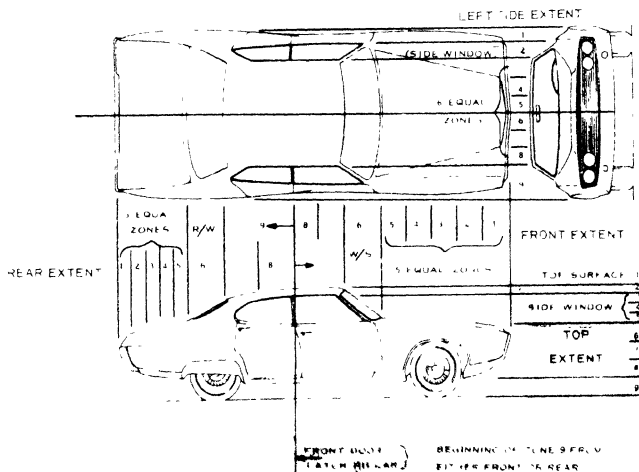
Column No. 5

A - ALL
H - TOP OF FRAME TO TOP
E - EVERYTHING BELOW GLASS
G - GLASS AND ABOVE
M - MIDDLE (TOP OF FRAME TO BELT LINE OR HOOD)
L - LOW (BELOW TOP OF FRAME)
X - UNDER CARRIAGE IN COLUMN 3

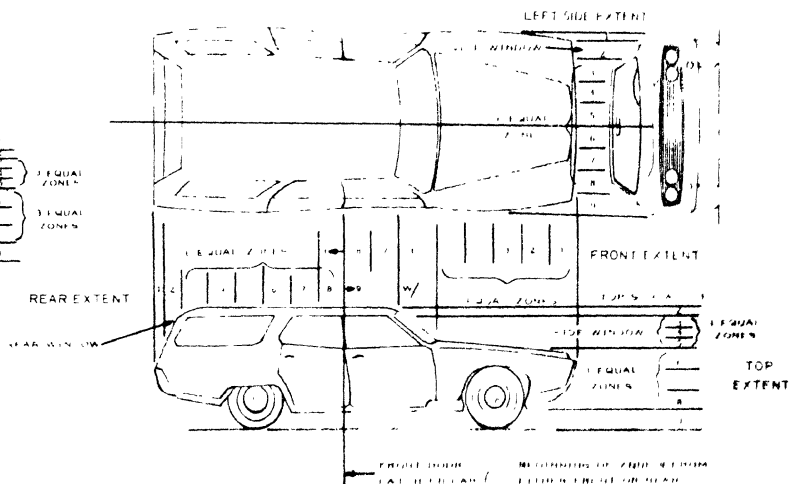
Column No. 6

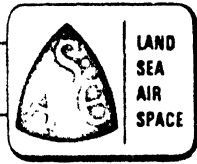
W - WIDE IMPACT AREA	O - ROLLOVER (INCLUDES ROLLING ONTO SIDE)
N - NARROW IMPACT AREA	A - OVERHANGING STRUCTURE
S - SIDE SWIPE $\le 4\text{ in.}$	E - CORNER $5-16\text{ in.}$

DEFORMATION EXTENT ZONES (FOR PASSENGER CARS)



DEFORMATION EXTENT ZONES (FOR STATION WAGONS)





SOCIETY OF AUTOMOTIVE ENGINEERS, INC. • TWO PENNSYLVANIA PLAZA • NEW YORK, NEW YORK 10001

TECHNICAL REPORT

J224a

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COLLISION DEFORMATION CLASSIFICATION — SAE J224a

SAE Recommended Practice

Report of Automotive Safety Committee approved January 1971 and revised February 1972

1. Purpose and Scope—The purpose and scope of this SAE Recommended Practice is to provide a basis for classification of the extent of deformation caused by vehicle accidents on the highway. It is necessary to classify collision contact deformation (opposed to induced deformation) so that the accident deformation may be segregated into rather narrow limits. Studies of collision deformation can then be performed on one or many data banks with assurance that the data under study are of essentially the same type.¹

It also is an expression, useful to persons engaged in automobile safety, to appropriately describe a field-damaged vehicle with conciseness in their oral and written communications. Although this classification system was established primarily for use by professional teams investigating accidents in depth, other groups may also find it useful.

The classification system consists of seven characters, three numeric and four alphanumeric, arranged in a specific order. Each character describes specific deformation detail concerning the direction, location, the size of the area, and extent, which combined together form a descriptive composite of the damaged vehicle. The individual character positions are referred to by column number for identification and compatibility with conventional computer system data storage. Fig. 1 illustrates the format and the general description for each character.

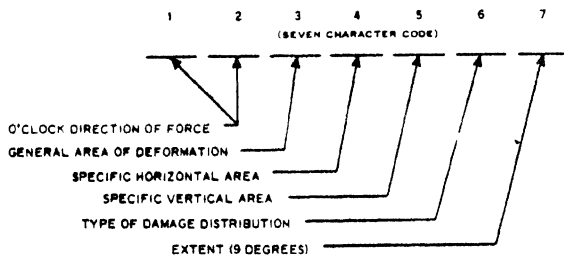


FIG. 1

2. Classification of Collision Damage—Vehicle collision damage is classified in the following respects.

2.1 Direction of Principal Force at Impact—Columns 1 and 2 are used.

The principal force is the force that caused the crush and sheet metal displacement on the damaged vehicle. The direction of the principal force is determined by the resultant of forces acting on the vehicle at the point of application. The direction of the principal force is designated by reference to hour sectors on a conventional clock face positioned over the point of application.

The clock face is assumed to be in a plane referenced to the horizontal plane of the car. "12 o'clock" characterizes a frontal directed force applied at the area of vehicle deformation. Other examples of clock positions, such as 3, 6, and 9 o'clock, refer to forces directed from the right, rear, and left respectively. The code classifications are the hour numerals from 01 to 12. Columns 1 and 2 of the classification system are used for direction of principal force. (See Fig. 2) The entry of 00 indicates that the impact is not horizontal, as in a rollover.

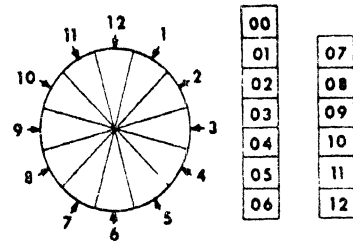
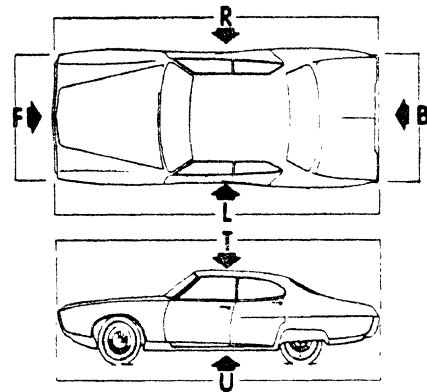


FIG. 2

2.2 Deformation Location and Classification Code—Column 3 is used.

This character of a classification expression broadly defines which projected area of the vehicle contains the deformation. (See Fig. 3.) Angle impacts at 45 deg to the front or rear corner may be difficult to classify. These impacts should be classified as "F" or "B" if the deformation area at the front or rear of the vehicle exceeds the deformation area at the side; "L" (or "R") should be used if the deformation area at the side is larger. Similar consideration should be given to top versus side deformation in rollover; if the deformation area on the top is greater than on the side, use "T." If the side deformation is greater, use "L" (or "R").



Location	Classification
Front	F
Right side	R
Back (rear)	B
Left side	L
Top	T
Undercarriage	U
Unclassifiable	X

FIG. 3

2.3 Specific Horizontal Location of Deformation and Classification Code—Column 4 is used.

The plan view of the vehicle (Fig. 4) illustrates the horizontal areas to be used in locating the deformation. Variations in vehicles require that some special definitions be given as guidelines for the classification code. "P" is defined as follows:

(a) Passenger cars— from the windshield to the rear of the rear-most seat.

¹ K. A. SANCHEZ, W. D. NEWELL, W. G. COLE, J. S. MURPHY, G. L. WILSON, J. G. COLLIER, and J. S. SANCHEZ, SAE Paper 690641, presented at the SAE Annual Meeting, Detroit, Michigan, January 1970.

COLLISION DEFORMATION CLASSIFICATION

- (b) Station wagons—from the windshield to the rear of the second seat.
 - (c) Vans—from the front-seat backrest to the center of the rear wheel.
 - (d) Pickups—from the windshield to the rear of the cab.
- "F" and "B" are side deformation areas forward and rearward of "P," respectively. Column 4 has meaning only in connection with column 3; that is, it is a suffix of column 3 rather than being independent of it.
- The classifications "R," "C," and "L" should not be used for vehicles with top deformation ("T" in column 3).

2.5 General Type of Damage Distribution and Classification Code—Column 6 is used. Definitions of the classifications are shown in Table 1.

TABLE 1

Type	Classification
Wide impact area	W
Narrow impact area	N
Side swipe	S
Rollover (includes rolling onto side)	O
Overhanging structure	A
Corner	E

These codes are illustrated by the following additional guidelines. To differentiate deformation which includes the corner of the vehicle in the longitudinal and lateral impacts, use the S, E or W classifications. The examples in Table 2 describe impacts at the front right corner.

TABLE 2

Classification	Max. Depth of Deformation from Side Surface
FRES	0 to 4 in (100 mm) (principally sheet metal)
FREE	5 to 16 in (130-410 mm) (wheel and suspension)
FREW	17 in (430 mm) and over (wide area)

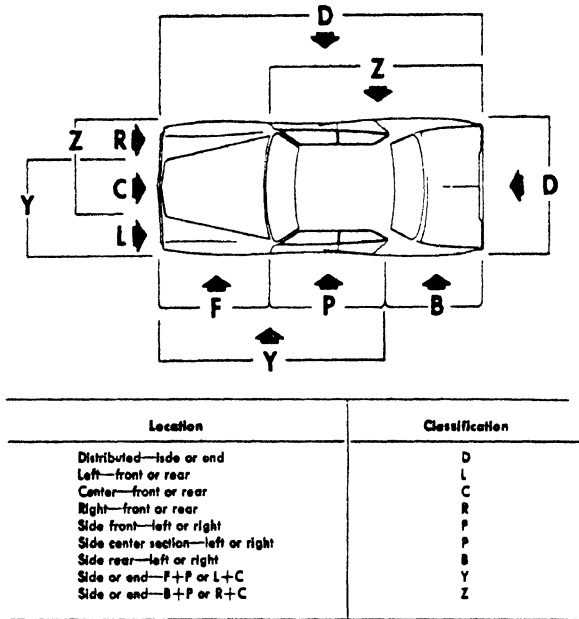


FIG. 4

2.4 Specific Vertical Location of Deformation and Classification Code—Column 5 is used.

Fig. 5 illustrates general locations of the classifications to be used for denoting the vertical location of all deformations.

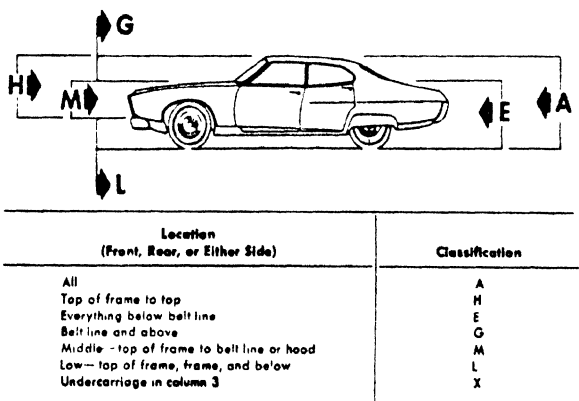


FIG. 5

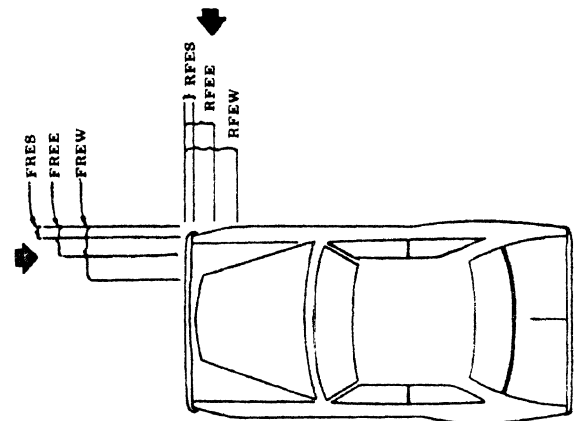


FIG. 6

2.6 Deformation Extent Guide—Column 7 is used

The extent of residual deformation is classified using a nine-zone extent system as shown in Figs. 7-10. Figs 7-10 are illustrative for passenger cars, station wagons, vans, and pickups, respectively. Extent zones are applied to front, rear, side, top, or undercarriage deformation and should be selected so that they are compatible with the principal damage selection in column three

COLLISION DEFORMATION CLASSIFICATION

In order to achieve uniformity, the deformation extent guide has been established in relation to specific points on the vehicle.

If the passenger compartment is involved in "top" damage, then the extent number should reflect the extent of damage to the passenger compartment. This is true even if the hood or deck lid are involved.

If the distance from the rearmost point of the vehicle to the top of the rear window is greater than the distance from the top of the rear window to the front door latch pillar (start of zone 9), then use the "passenger car" deformation rear extent zone guide for classifying rear deformation. Other vehicles are classified using the rear extent guide for station wagons and vans.

THE EXTENT NUMBER SHOULD NOT BE USED AS A TOOL FOR DETERMINING THE COLLISION SEVERITY OR ENERGY REQUIRED TO DUPLICATE THE DAMAGE FOR VEHICLES OF THE SAME BASIC TYPE, IT DOES SERVE AS A TOOL FOR GATHERING TOGETHER VEHICLES WHICH HAVE SIMILAR DAMAGE CHARACTERISTICS.

2.7 Summary of the Classification System—A summary of the classification system and the assignment of codes in columns is shown in Fig 11. This array shows most of the more likely classifications that can be made. This display may be of value in auditing reports.

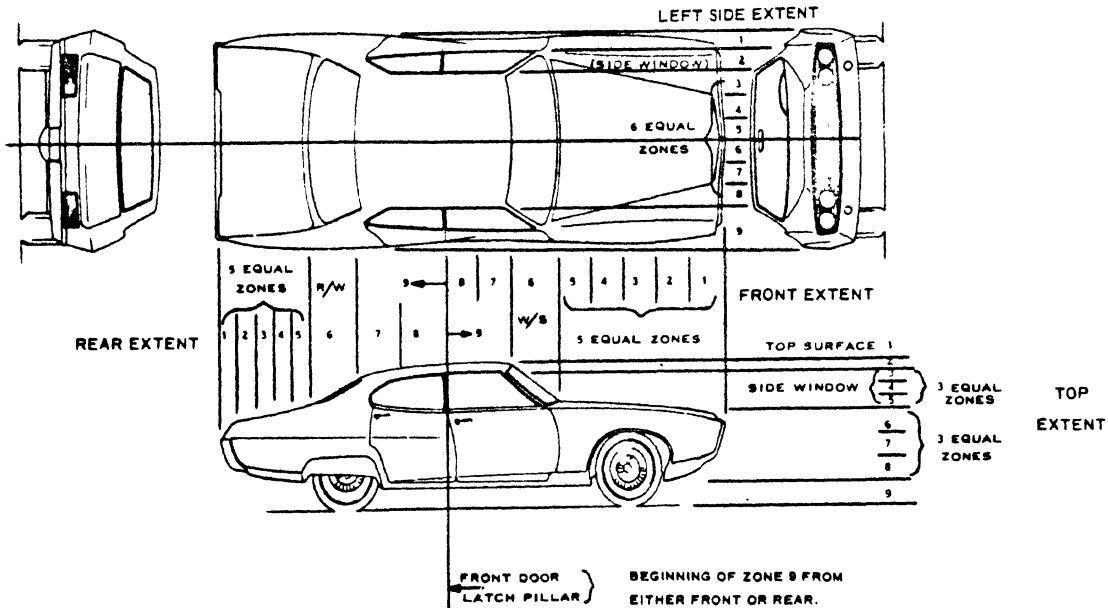


FIG. 7—DEFORMATION EXTENT ZONES (FOR PASSENGER CARS)

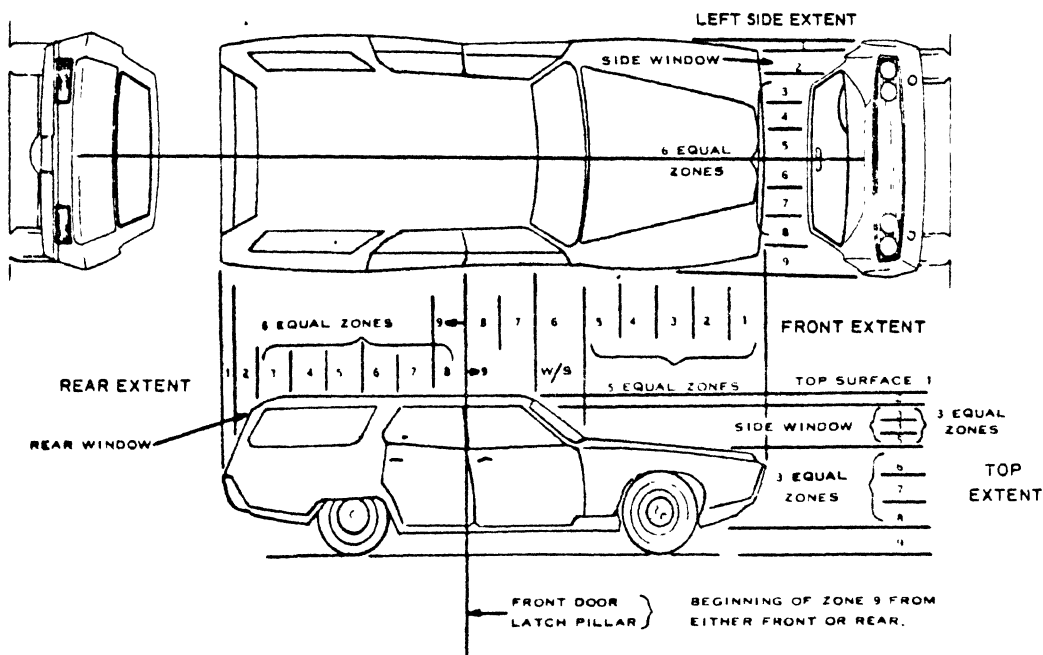


FIG. 8—DEFORMATION EXTENT ZONES (FOR STATION WAGONS)

COLLISION DEFORMATION CLASSIFICATION

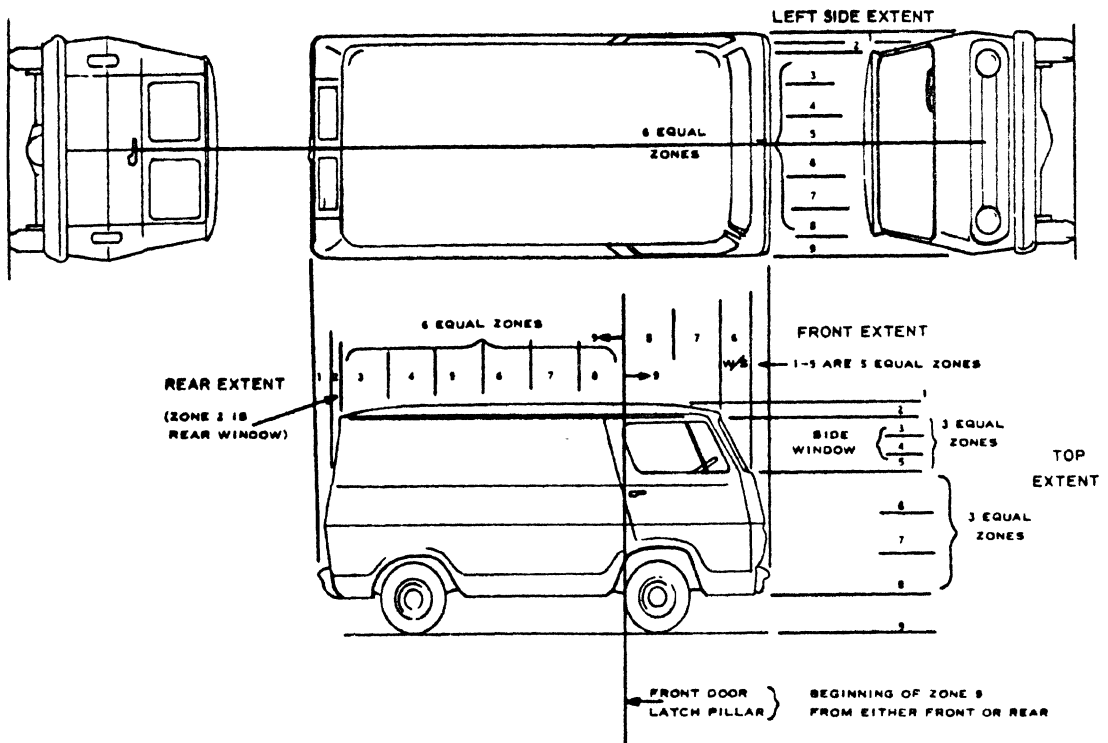


FIG. 9-DEFORMATION EXTENT ZONES (FOR VANS)

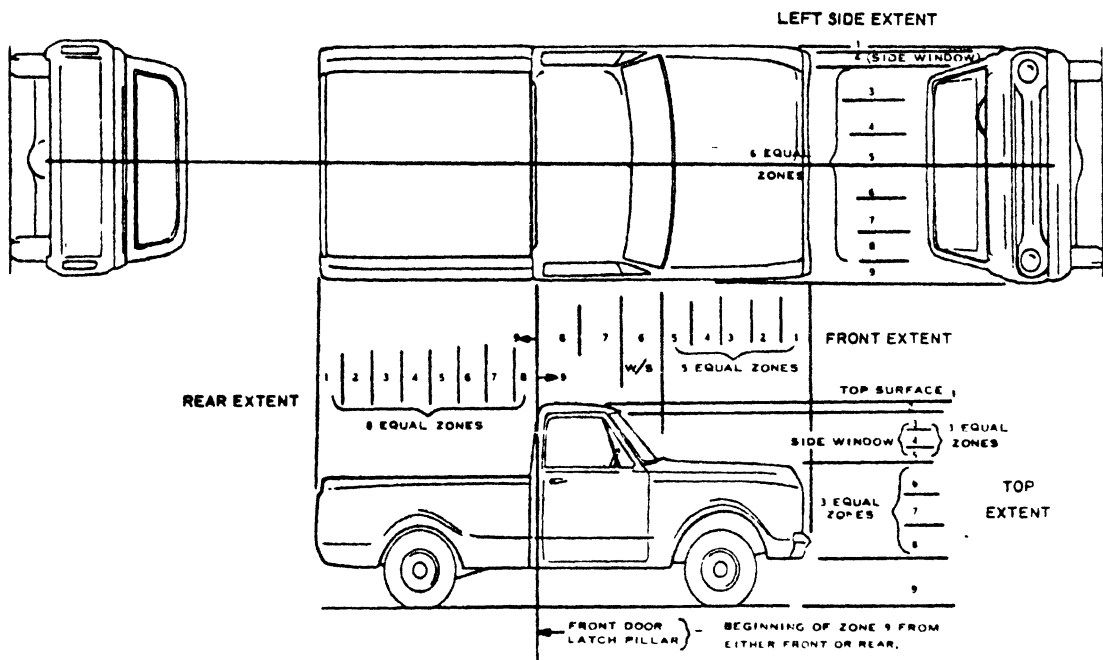


FIG. 10-DEFORMATION EXTENT ZONES (FOR PICKUP TRUCKS)

COLLISION DEFORMATION CLASSIFICATION

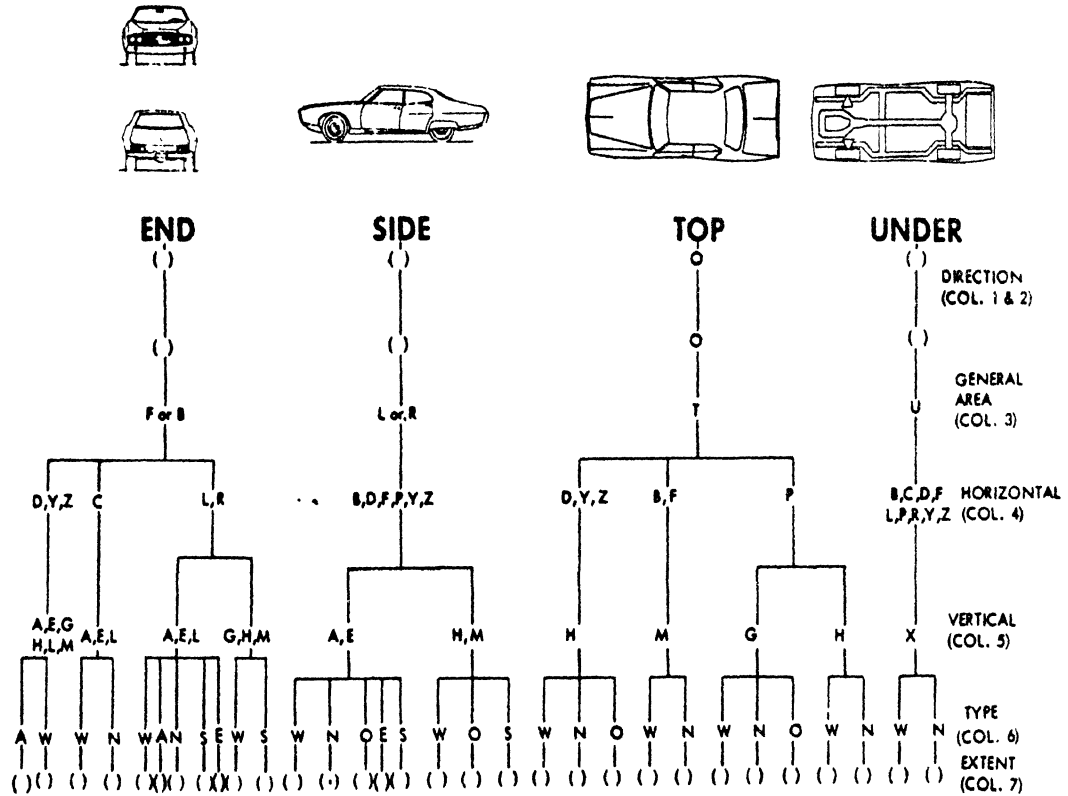


FIG. 11-DEFORMATION INDEX GUIDE

SAE Technical Board Rules and Regulations

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In formulating and approving technical reports, the Technical Board, its Councils and Committees will not investigate or consider patents which may apply to the subject matter. Prospective users of the report are responsible for protecting themselves against liability for infringement of patents.

Crash Events * (2/74)Vehicle to Vehicle

- (1) Both Moving
- (2) Case Vehicle Stopped
- (3) Other Vehicle Stopped

- (0) Direction Unknown
- (1) Same Direction: Struck Other Vehicle
- (2) Same Direction: Struck By Other Vehicle
- (3) Same Direction: Other, Unknown
- (4) Opposite Direction: Struck Other Vehicle
- (5) Opposite Direction: Struck By Other Vehicle
- (6) Opposite Direction: Other, Unknown
- (7) Angled (>15°): Struck Other Vehicle
- (8) Angled (>15°): Struck By Other Vehicle
- (9) Angled (>15°): Other, Unknown

Vehicle to Object

- On-Roadway Object Collision
- (4) Struck *:

- Off-Roadway Object Collision
- (5) Struck *:

- (0) And Other or Unknown
- (1) And Deflected (or Rebounded)
- (2) And Went Over *
- (3) And Crashed Through *
- (4) And Stopped
- (5) And Rotated Around *
- (6) And Was Impaled By *
- (7) And Remained on Top of *
- (8) From Behind

(* = specific object struck,
to be coded in the adjacent
Object Contacted columns)

- (7) Ran-Off/Re-Enter Roadway

- (0) Other or Unknown Action
- (1) Off Left Side, No Median
- (2) Off Left Side, Into Median
- (3) Off Right Side
- (4) Off, Other or Unknown
- (5) Re-Enter, Same Direction
- (6) Re-Enter, Opposing Direction
- (7) Re-Enter, Other or Unknown
- (8) Crossed Median Into Opposing Lanes
- (9) Crossed Centerline Into Opposing Lanes

- (8) Miscellaneous Events

Case Vehicle:

Towed Vehicle:

Vehicle or Driver:

- (0) Other, Unknown
- (1) Overturns (>90°)
- (2) Projected Into Air
- (3) Went Up/Down Embankment
- (4) Entered Body of Water
- (5) Spins, Skids, Swerves Out-of-Control
- (6) Struck by Falling, Protruding or
Thrown-Up Object
- (7) Stops Suddenly With Injury But No Collision
- (8) Breaks Loose or Jackknifes
- (9) Assaulted by Other Person With Weapon
or Other Vehicle

- (9) Concluding Event

- (0) Other, Unknown
- (1) Coasted to Rest
- (2) Braked/Skidded/Spun to Rest
- (3) Stopped Abruptly
- (7) Under-Control, Pulled-Over
- (8) Under-Control, Continued On

(00) Unknown

(99) No Event

*This is to be used only on the Damage Analysis Supplement.

DAMAGE ANALYSIS: VEHICLES/OBJECTS CONTACTED

Vehicles/Objects Contacted * (1/22/74)

01-39 Autos and Trucks **
 40-69 Other Vehicles **
 70-76 Pedestrians and On-Roadway Objects
 80-97 Off-Roadway Objects
 98 Other:
 99 No Object
 00 Unknown

Bus

40 Unknown Bus Type
 41 School Bus
 42 Inter City (between)
 43 Intra City (within)

Motorcycles

50 Unknown Motorcycle Type
 51 1-75cc
 52 76-125cc
 53 126-250cc
 54 251-500cc
 55 501-750cc
 56 751+cc
 57 3-wheels (or with Sidecar)

Special Purpose Vehicles

60 Unknown/Other Special Vehicle
 61 Snowmobile
 62 ATV, All Terrain Vehicles
 63 Amphibious Vehicle
 64 Farm Vehicles
 65 Construction Vehicles
 66 Trailer-Private (camper)
 67 Trailer-Commercial (cargo)
 68 Train (Cars)
 69 Locomotive, Switcher

Vehicles

01 Intermediate (GM A Body)
 02 Standard/Full Size (B Body)
 03 Luxury (C Body)
 04 Limousine (D Body)
 05 Personal Luxury (E Body)
 06 Specialty/Pony (F Body)
 07 Grand Prix (A-SP Body)
 08 Compact (X Body & Y Body)
 09 Sub-compact/Mini-Imported (VW)
 10 Super Sport (Corvette)
 17 Pickup-Car (Ranchero)
 18 Sub-compact/Mini-USA (H Body)
 19 European Sports Cars (MG)
 20 Unknown Automobile Body

Size	Standard	Specialty	Sports
Mini	09,18	--	19
Compact	08	06	10
Intermediate	01,17	07	--
Standard	02	05	--
Luxury Sedan	03	--	--
Limousine	04	--	--

Multipurpose Passenger Vehicle

14 Utility (Jeep, Bronco)
 15 Carryall/Panel Truck
 16 Pickup-Camper (Canopy, Shell)
 17 Pickup-Car (Ranchero)
 21 Motor Home
 22 Slide-in Camper
 31 Chassis-Mounted Camper

Truck

11 Small Van (Econoline)
 12 Pickup
 13 Unknown Light Truck (<1½ Ton)
 15 Carryall/Panel Truck
 16 Pickup-Camper (Canopy, Shell)
 22 Slide-in Camper
 30 Unknown Truck Type
 31 Chassis-Mounted Camper
 33 Delivery Van (Walk-in)
 34 Straight Truck
 35 Truck-Tractor
 36 Chassis-Cab
 37 Unknown Heavy Truck (>1½ Ton)
 38 Tractor + Semi-Trailer (Semi)
 39 Truck (or Semi) + Full Trailer(s)

Objects

70 Pedestrian
 71 Bicyclist, Other Pedalcycle
 72 Pedestrian Conveyance
 (e.g. Person Riding Animal, Cart, etc.)
 73 Large Animal
 74 Fallen Objects such as Objects Dislodged from Other
 Vehicles, Fallen Trees, Rocks, etc.
 75 Traffic Cones, Barrels, Construction Barriers
 76 Construction or Emergency Equipment
 77 Sign Posts, Utility Pole, Tree
 78 Ditch
 79 Embankment, Snowbank
 80 Ground (Rollover Only)
 81 Curb (Damage Producing Impacts Only)
 82 Culvert
 83 Fence
 84 Hydrants, Short Posts, Stumps
 85 Small Posts/Trees, Rural Mail Boxes, Delineators,
 Mile Markers
 86 Building
 87 Pier, Pillar (e.g. Bridge Support)
 88 Abutment, Retaining Wall
 89 Bridge Rail
 90 Guard Rail, Leading Section
 91 Guard Rail, Middle or Unknown Section
 92 Guard Rail, Trailing Section
 93 Guard Posts (Timber, Metal, Concrete)
 94 Cable, Fence Barrier
 95 Concrete Barrier (Median)
 96 Impact Attenuator
 97 Breakaway Fixtures

*This is to be used only on the Damage Analysis Supplement.

**These codes are the same as the last two digits (body type) of that vehicle's make/model code.

OVERALL DIMENSIONS - 1971
(Figures in Inches)

Models	Wheelbase L101	Overall Length L103	Overall Width W103	Overall Height H101	Minimum Running Ground Clearance h:56
<u>AMERICAN MOTORS CORPORATION</u>					
Ambassador	122.0	209.7 - 210.8	77.2	54.9 - 56.7	6.3 - 7.0
Matador	118.0	205.0 - 206.0	77.2	53.8 - 56.4	5.2 - 6.6
Hornet, Javelin	108.0 - 110.0	179.3 - 191.8	70.6 - 75.2	50.9 - 52.9	5.2 - 5.7
Gremlin	96.0	161.3	70.6	51.8	5.0
<u>CHECKER MOTORS CORPORATION</u>					
Checker	120.0 - 129.0	202.0	76.0	62.8	6.5
<u>CHRYSLER CORPORATION</u>					
Chrysler	122.0 - 124.0	224.6 - 224.8	79.0 - 79.1	54.8 - 57.4	5.9
Dodge	122.0	220.2 - 223.5	79.2 - 79.3	54.5 - 57.1	5.7
Coronet, Charger	115.0 - 118.0	205.4 - 213.4	76.9 - 78.7	52.3 - 56.4	4.7
Dart, Challenger	108.0 - 111.0	191.3 - 196.2	69.7 - 76.1	50.6 - 53.9	4.3 - 5.5
Imperial	127.0	229.7	79.0 - 79.1	55.6 - 56.1	6.7
Plymouth	115.0 - 122.0	203.2 - 220.2	78.6 - 79.6	52.0 - 57.1	4.4 - 6.1
Valiant, Barracuda	108.0	186.6 - 188.4	71.1 - 74.9	50.6 - 54.0	5.1 - 5.7
<u>FORD MOTOR COMPANY</u>					
Ford	121.0	216.2 - 219.2	79.3 - 79.7	53.0 - 57.0	4.5 - 6.5
Torino	114.0 - 117.0	206.2 - 209.0	75.4 - 76.8	51.0 - 56.7	4.2 - 6.5
Maverick, Mustang	103.0 - 109.9	179.4 - 189.5	70.5 - 74.1	50.1 - 53.1	4.6 - 6.1
Thunderbird	114.7 - 117.2	212.5 - 215.0	77.4 - 78.0	51.9 - 53.7	4.5 - 4.8
Pinto	94.0	163.0	69.4	50.1	5.1
Lincoln	127.0	225.0	79.6	54.5 - 55.5	4.9 - 5.3
Mercury	121.0 - 124.0	220.4 - 224.7	79.3 - 79.4	53.2 - 56.9	4.9 - 6.2
Montego, Mark III	114.0 - 117.2	205.9 - 216.1	75.4 - 79.4	52.5 - 56.1	4.2 - 5.4
Cougar	112.1	196.7	75.0	50.5 - 50.8	4.6
Comet	103.0 - 109.9	181.7 - 188.6	70.6 - 70.7	53.0 - 53.1	6.1
<u>GENERAL MOTORS CORPORATION</u>					
Buick	124.0 - 127.0	220.7 - 226.2	79.7	53.6 - 54.9	5.5 - 5.6
Riviera	122.0	217.4	79.9	54.0	5.5
Skylark	112.0 - 116.0	203.2 - 207.2	77.3	53.3 - 54.3	5.3 - 5.8
Cadillac	126.3 - 133.0	221.6 - 225.8	79.8	53.9 - 56.5	5.8 - 6.3
Chevrolet	121.5 - 125.0	216.8 - 223.2	79.5	53.4 - 54.1	5.7 - 6.6
Chevelle, Monte Carlo	112.0 - 116.0	197.5 - 206.5	75.4 - 75.6	52.7 - 54.4	4.6 - 6.2
Chevy Nova	111.0	189.4	72.4	52.5 - 53.9	4.9
Camaro	108.0	188.0	74.4	49.1	4.2
Corvette	98.0	182.5	69.0	47.8 - 47.9	4.5 - 4.8
Vega	97.0	169.7	65.4	50.0 - 52.0	4.8
Oldsmobile	121.0 - 127.0	218.3 - 226.1	76.8 - 79.5	53.4 - 58.5	5.3 - 6.7
Toronado	122.3	219.9	79.8	54.7	5.0
F-85	112.0 - 116.0	203.6 - 207.6	76.3 - 76.8	52.7 - 53.5	4.2 - 4.7
Pontiac	118.0 - 126.0	212.5 - 224.2	76.4 - 79.5	52.0 - 54.3	4.2 - 5.6
LeMans, GTO	112.0 - 116.0	203.3 - 206.8	76.7	52.0 - 54.5	4.3 - 5.3
Firebird	108.0	191.6	73.4	50.4	4.6
<u>JEEP CORPORATION</u>					
Jeepster, Jeep Wagoneer	101.0 - 110.0	175.3 - 83.7	65.2 - 75.6	62.8 - 63.8	7.5 - 7.8

FRONT OF CAR DIMENSIONS - 1971
(Figures in Inches)

REAR OF CAR DIMENSIONS - 1971
(Figures in Inches)

Models	LENGTH			WIDTH	
	Front of Car to Cowl Point L131	Upper Structure L123	Overhang Front L104	Track* W101	Overhang, Rear L105
<u>AMERICAN MOTORS CORPORATION</u>					
Ambassador	64.9	104.4 - 135.9	35.7	59.7 - 59.9	
Matador	60.4	104.4 - 135.9	34.9	59.7 - 59.9	60.0
Hornet, Javelin	54.4 - 63.8	96.1 - 118.0	33.3 - 42.3	57.2 - 59.7	52.1 - 53.1
Gremlin	54.4	94.4	33.3	57.5	38.0 - 39.5
<u>CHECKER MOTORS CORPORATION</u>					
Checker	56.0	108.9	32.8	63.6	32.0
<u>CHRYSLER CORPORATION</u>					
Chrysler	67.0	104.5 - 113.9	40.7	62.1	46.8
Dodge	65.8	100.9 - 104.5	39.4	62.1	63.0
Coronet, Charger	64.0 - 68.3	99.1 - 102.7	37.3 - 41.8	59.7 - 60.1	62.0 - 63.4
Dart, Challenger	59.9 - 64.4	92.0 - 99.7	35.3 - 38.5	57.4 - 60.7	58.8 - 62.1
Imperial	70.8	109.4 - 113.9	41.5	62.4	61.6 - 63.4
Plymouth	61.6 - 65.8	99.1 - 109.4	35.3 - 39.3	59.7 - 62.1	55.5 - 61.6
Valiant, Barracuda	55.8 - 63.2	91.4 - 99.7	31.2 - 37.3	57.4 - 60.7	62.0 - 63.4
<u>FORD MOTOR COMPANY</u>					
Ford	66.0	104.4 - 142.6	40.6	63.3	55.5 - 61.6
Torino	66.5	100.7 - 129.0	39.9	60.5	64.3
Maverick, Mustang	59.7 - 68.3	86.3 - 102.6	34.3 - 40.0	56.5 - 61.5	60.0
Thunderbird	74.4 - 74.6	96.0 - 100.9	45.0	62.3	56.5 - 61.0
Pinto	52.0	93.5	34.6	55.0	62.3
Lincoln	69.4	107.0 - 108.9	40.7	64.3	55.0
Mercury	67.3 - 67.4	103.7 - 142.6	41.9	63.3	64.3
Montego, Mark III	69.3 - 74.1	92.8 - 129.0	42.7 - 44.2	60.5 - 62.3	64.3
Cougar	65.7	85.8 - 94.0	37.6	61.5	60.0 - 62.3
Comet	62.0	93.9 - 102.2	36.6	56.5	61.0
<u>GENERAL MOTORS CORPORATION</u>					
Buick	67.1 - 67.4	---	40.2	63.6	57.1 - 59.0
Riviera	73.3	---	43.2	63.6	64.0
Skylark	68.4	---	41.5	59.0 - 59.4	64.0
Cadillac	---	101.2 - 112.7	39.0 - 42.2	63.6	59.0
Chevrolet	64.7	96.8 - 111.0	39.8	64.1	56.8
Chevelle, Monte Carlo	64.7 - 72.6	---	37.8 - 41.7	59.3 - 60.2	63.3
Chevy Nova	58.5	95.4 - 95.8	29.8	59.0	55.5 - 58.4
Camaro	67.8	94.1	38.1	61.3	41.7 - 53.0
Corvette	79.7	55.6	40.6	58.7	59.2 - 59.9
Vega	55.1	91.7 - 106.3	31.5	55.1	58.9
Oldsmobile	---	107.3 - 146.5	40.2 - 41.8	59.7 - 64.1	59.0
Toronado	---	101.5	43.7	63.5	54.1
F-85	---	96.6 - 103.8	42.1	59.7	64.0
Pontiac	---	93.9 - 146.5	40.8 - 42.3	62.0 - 64.0	63.6
LeMans, GTO	---	94.9 - 130.8	41.5 - 42.0	61.0	59.0
Firebird	---	93.9	40.3	61.3	60.0
<u>JEEP CORPORATION</u>					
Jeepster, Jeep Wagoneer	52.8 - 59.6	86.8 - 119.5	23.0 - 28.7	50.0 - 57.0	45.0 - 51.3

OVERALL DIMENSIONS - 1972
(Figures in inches)

Models	Wheelbase L101	Overall Length L101	Overall Width W103	Overall Height H101	Minimum Running Ground Clearance M156
AMERICAN MOTORS CORPORATION					
Ambassador	122.0	209.7 - 211.1	77.2	54.9 - 56.7	6.3 - 7.0
Matador	113.0	205.0 - 206.1	77.2	53.8 - 55.4	5.2 - 6.6
Hornet, Javelin	108.0 - 110.0	175.3 - 191.8	70.6 - 75.2	50.9 - 52.9	5.2 - 5.7
Gremlin	96.0	161.3	70.6	51.8	5.0
CHEVROLET MOTORS CORPORATION					
Chevrolet	120.0 - 129.0	202.0	76.0	62.8	6.5
CHRYSLER CORPORATION					
Chrysler	122.0 - 124.0	224.1 - 224.8	79.4	54.4 - 57.4	5.9 - 7.1
Dodge	122.0	219.4 - 222.8	79.2 - 79.6	54.5 - 57.6	6.3 - 7.7
Coronet, Charger	115.0 - 118.0	225.4 - 213.4	76.9 - 78.7	52.1 - 56.4	4.5 - 6.6
Dart, Challenger	105.0 - 111.0	191.3 - 196.2	69.6 - 76.3	50.9 - 54.0	5.0 - 5.8
Imperial	127.0	229.5	79.6	55.4 - 56.0	6.7
Plymouth	115.0 - 122.0	203.0 - 212.0	78.6 - 79.9	52.1 - 57.6	4.5 - 7.7
Villiant, Barracuda	105.0 - 111.0	186.6 - 192.1	71.0 - 74.9	50.9 - 54.3	5.0 - 5.8
FORD MOTOR COMPANY					
Ford	121.0	218.4 - 221.4	79.2 - 79.8	53.0 - 57.0	4.5 - 6.5
Torino	114.0 - 118.0	203.7 - 216.0	79.0 - 79.3	51.8 - 55.0	---
Maverick, Mustang	103.0 - 109.0	179.4 - 189.5	70.6 - 74.1	50.1 - 53.1	4.6 - 5.2
Thunderbird	120.4	216.0	79.3	52.1	5.4
Pinto	94.2	163.0	69.4	50.1	4.8
Lincoln	120.4 - 127.0	229.1 - 225.0	79.2 - 79.6	52.4 - 55.5	4.9 - 6.9
Mercury	121.0 - 124.0	220.4 - 224.8	79.3 - 80.0	53.2 - 56.9	4.7 - 6.5
Cougar, Montego	112.1 - 118.0	196.7 - 215.4	75.1 - 79.6	50.5 - 55.0	4.6
Conet	103.0 - 109.9	181.7 - 193.6	70.6	53.0 - 53.1	5.0 - 5.2
GENERAL MOTORS CORPORATION					
Buick	124.0 - 127.0	221.9 - 228.3	80.0	53.6 - 57.3	5.5 - 5.6
Riviera	122.0	218.3	80.0	54.0	5.5
Skylark	112.0 - 116.0	203.3 - 213.7	76.8	53.5 - 54.8	5.4 - 5.5
Cadillac	126.3 - 133.0	222.7 - 229.9	79.8	59.8 - 55.5	5.8 - 6.3
Chevrolet	121.5 - 125.0	219.9 - 225.2	79.5	53.4 - 57.1	5.7 - 6.6
Chevelle, Monte Carlo	112.0 - 116.0	197.5 - 206.8	75.4 - 75.6	52.7 - 54.4	4.6 - 6.2
Nova	111.0	189.4	72.4	52.5 - 53.9	4.9
Camaro	108.0	188.0	74.4	49.1	4.7
Corvette	98.0	182.5	69.0	47.8 - 47.9	4.5 - 4.8
Vega	97.0	169.7	65.4	50.0 - 52.0	4.8
Oldsmobile	121.0 - 127.0	218.3 - 227.2	76.8 - 79.6	53.4 - 58.5	5.1 - 6.7
Toronado	122.0	220.3	79.8	54.7	4.6
F-85	112.0 - 116.0	203.6 - 213.3	76.3 - 76.8	52.9 - 54.4	4.9 - 5.2
Pontiac	119.0 - 127.0	213.6 - 227.2	75.4 - 79.3	52.0 - 54.4	4.2 - 5.6
LeMans	112.0 - 116.0	203.2 - 211.3	76.7	52.0 - 54.2	4.3 - 5.0
Firebird, Ventura	108.0 - 111.0	191.6 - 194.5	72.4 - 73.4	50.4 - 53.9	4.6 - 4.9
JEEP CORPORATION					
Jeepster, Jeep Wagoneer	104.0 - 110.0	174.5 - 183.7	65.2 - 75.6	62.4 - 65.3	7.5 - 7.8

Models	LENGTH		WIDTH		Models	LENGTH	WIDTH
	Upper Structure L123	Overhang Front L104	Track* W101	Overhang Rear L105			
AMERICAN MOTORS CORPORATION							
Ambassador	104.4 - 135.9	35.7	59.9				
Matador	104.4 - 135.9	34.9	59.9				
Hornet, Javelin	96.1 - 118.0	33.3 - 42.3	57.5 - 59.7				
Gremlin	94.4	33.3	57.2 - 57.5				
CHEVROLET MOTORS CORPORATION							
Chevrolet	108.9	32.8	63.6				
CHRYSLER CORPORATION							
Chrysler	106.1 - 113.9	40.7	62.1				
Dodge	106.1 - 109.4	38.7	62.1				
Coronet, Charger	99.1 - 107.7	37.3 - 41.8	59.7 - 60.1				
Dart, Challenger	91.2 - 99.7	35.3 - 38.5	57.4 - 60.2				
Imperial	106.1 - 113.3	41.4	62.4				
Plymouth	99.1 - 108.5	35.3 - 39.3	59.7 - 62.1				
Villiant, Barracuda	91.2 - 99.7	31.2 - 37.3	57.4 - 60.2				
FORD MOTOR COMPANY							
Ford	104.4 - 142.6	42.8	63.3				
Torino	98.2 - 134.9	39.9 - 43.5	62.8 - 63.9				
Maverick, Mustang	86.3 - 102.6	34.3 - 40.0	56.5 - 61.5				
Thunderbird	104.5	45.2	63.0				
Pinto	93.5 - 96.3	34.6	55.0				
Lincoln	104.6 - 108.9	40.7 - 46.4	63.0 - 64.3				
Mercury	103.7 - 142.6	41.9 - 42.0	63.3				
Cougar, Montego	95.8 - 135.1	37.6 - 43.8	61.5 - 63.4				
Conet	93.9 - 102.2	36.6	56.5				
GENERAL MOTORS CORPORATION							
Buick	---	41.6	63.6				
Riviera	---	43.5	63.6				
Skylark	---	41.8	59.3				
Cadillac	101.2 - 112.7	40.1 - 43.3	63.6 - 63.7				
Chevrolet	96.8 - 146.5	41.9 - 42.3	64.1				
Chevelle, Monte Carlo	99.2 - 130.8	37.8 - 41.7	59.3 - 60.2				
Nova	95.4 - 95.8	29.8	59.0				
Camaro	94.1	38.1	61.3				
Corvette	55.5	40.6	58.7				
Vega	91.7 - 106.3	31.5	55.1				
Oldsmobile	100.3 - 146.5	41.5 - 41.8	59.3 - 63.6				
Toronado	101.5	44.0	63.7				
F-85	96.0 - 130.8	41.8 - 42.1	59.3				
Pontiac	93.9 - 146.5	40.7 - 43.9	62.0 - 64.0				
LeMans	95.4 - 130.8	42.0 - 43.9	61.0				
Firebird, Ventura	93.9 - 95.8	34.9 - 40.3	59.0 - 61.7				
JEEP CORPORATION							
Jeepster, Jeep Wagoneer	86.8 - 119.5	26.1 - 28.7	51.5 - 57.0				

OVERALL DIMENSIONS - 1973
(Figures in inches)

Models	Wheelbase L101	Overall Length L103	Overall Width W103	Overall Height H101	Minimum Running Ground Clearance H156
AMERICAN MOTORS CORPORATION					
Ambassador	122.0	212.0 - 212.9	77.2 - 77.3	55.3 - 55.9	7.0 - 7.5
Metador	118.0	207.7 - 208.5	77.2 - 77.3	54.3 - 57.4	6.0 - 7.5
Hornet, Javelin	108.0 - 110.0	184.9 - 192.3	71.0 - 75.4	51.3 - 53.6	4.8 - 5.9
Gremlin	96.0	165.5	70.6	53.4	6.0
CHECKER MOTORS CORPORATION					
Checker	120.0 - 129.0	206.9 - 215.9	76.0	62.8	7.5
CHRYSLER CORPORATION					
Chrysler	122.0 - 124.0	229.6 - 230.1	79.4	55.0 - 58.0	5.9 - 6.7
Dodge	122.0	226.6 - 227.9	79.6	55.9 - 58.3	5.6 - 6.7
Coronet, Charger	115.0 - 118.0	212.7 - 217.6	77.0 - 78.8	52.2 - 56.4	5.0 - 6.5
Dart, Challenger	108.0 - 111.0	198.2 - 203.8	69.6 - 76.4	50.9 - 54.1	4.8 - 5.8
Imperial	127.0	235.3	79.6	55.6 - 56.2	6.6
Plymouth	115.0 - 122.0	210.8 - 227.5	78.6 - 79.8	52.2 - 58.3	5.0 - 6.7
Valliant, Barracuda	108.0 - 111.0	193.0 - 199.6	71.0 - 75.6	50.9 - 54.3	4.8 - 5.8
FORD MOTOR COMPANY					
Ford	121.0	219.5 - 223.4	79.5 - 79.9	54.3 - 57.1	4.5 - 6.5
Torino	114.0 - 118.0	208.0 - 215.7	79.0 - 79.3	52.1 - 55.0	---
Maverick, Mustang	103.0 - 109.9	183.3 - 193.8	70.5 - 71.1	50.0 - 52.9	4.6 - 5.0
Thunderbird	120.4	218.9	79.7	53.1 - 53.4	5.2 - 5.6
Pinto	94.2	164.1 - 173.8	69.4 - 69.7	49.6 - 51.3	4.8
Lincoln	120.4 - 127.0	223.3 - 229.9	79.6 - 79.8	53.4 - 55.5	4.9 - 6.0
Mercury	121.0 - 124.0	222.5 - 223.4	79.3 - 79.8	53.9 - 57.1	4.7 - 6.5
Cougar, Montego	112.1 - 118.0	199.5 - 218.5	75.1 - 76.6	50.4 - 54.9	4.5 - 6.2
Comet	103.0 - 109.9	185.4 - 192.3	70.5	53.0 - 53.1	4.7 - 5.0
GENERAL MOTORS CORPORATION					
Buick	124.0 - 127.0	224.2 - 229.8	79.3 - 79.6	53.6 - 54.9	5.5 - 5.6
Riviera	122.0	223.4	79.9	54.0	5.5
Century, Regal	112.0 - 116.0	208.4 - 216.6	78.0	53.5 - 55.5	5.7
Cadillac	426.3 - 133.0	222.0 - 231.5	79.8	53.9 - 55.5	5.8 - 6.3
Chevrolet	121.5 - 125.0	221.9 - 226.8	79.5	53.7 - 58.3	5.6 - 6.4
Chevelle, Monte Carlo	112.0 - 116.0	202.9 - 213.3	76.6	52.7 - 55.7	4.9 - 5.8
Nova	111.0	194.3	72.4	52.5 - 53.9	4.6
Camaro	108.0	188.4	74.4	49.1	4.6
Corvette	98.0	184.7	69.0	47.7 - 47.8	4.3
Vega	97.0	172.2	65.4	50.0 - 52.0	5.0 - 5.2
Oldsmobile	124.0 - 127.0	225.0 - 230.3	79.5 - 79.6	53.4 - 57.2	5.3
Toronado	122.0	226.8	79.8	53.2	4.8
Cutlass	112.0 - 116.0	207.0 - 219.3	76.5 - 76.8	53.1 - 55.3	5.4 - 5.6
Omega	111.0	197.5	72.4	52.4 - 53.8	4.9
Pontiac	124.0 - 127.0	224.0 - 230.2	79.6	53.5 - 57.5	---
LeMans	112.0 - 116.0	207.4 - 216.6	77.7 - 78.7	55.0 - 55.9	---
Firebird, Ventura	108.0 - 111.0	192.1 - 197.5	72.4 - 73.4	50.4 - 53.9	---
JEEP CORPORATION					
Jeepster, Jeep Wagoneer	104.0 - 110.0	174.5 - 183.7	65.2 - 75.6	62.4 - 65.3	7.5 - 7.8

FRONT OF CAR DIMENSIONS - 1973
(Figures in inches)

REAR OF CAR DIMENSIONS - 1973
(Figures in inches)

Models	LENGTH			WIDTH	
	Upper Structure L123	Overhang, Front L104	Tread* W10	Overhang, Rear L105	Tread* W102
AMERICAN MOTORS CORPORATION					
Ambassador	104.4 - 135.9	37.1	59.9	52.9 - 53.8	60.0
Metador	104.4 - 135.9	36.7	59.9	52.9 - 53.8	60.0
Hornet, Javelin	96.8 - 123.7	36.7 - 42.5	56.4 - 59.3	39.8 - 40.3	56.6 - 60.0
Gremlin	95.6	35.2	57.5	34.3	57.0
CHECKER MOTORS CORPORATION					
Checker	108.9	38.0	64.5	48.9	63.3
CHRYSLER CORPORATION					
Chrysler	106.1 - 113.9	43.7	62.1	62.4 - 63.9	63.4
Dodge	106.1 - 109.4	41.9	62.1	62.7 - 64.0	63.4
Coronet, Charger	99.1 - 102.7	39.9 - 45.2	61.9	52.5 - 59.7	62.0 - 63.4
Dart, Challenger	91.2 - 99.7	39.6 - 42.4	59.1 - 60.2	45.8 - 53.2	55.6 - 60.7
Imperial	106.1 - 113.9	44.3	62.4	64.0	63.4
Plymouth	99.1 - 108.5	40.0 - 41.6	61.9 - 62.1	54.3 - 63.9	62.0 - 63.4
Valliant, Barracuda	91.2 - 95.7	35.4 - 40.3	59.1 - 60.2	40.7 - 53.2	55.6 - 60.7
FORD MOTOR COMPANY					
Ford	103.9 - 141.9	42.2	64.1 - 64.2	56.3 - 60.2	64.3 - 64.4
Torino	100.9 - 134.5	43.2	62.8 - 63.4	50.8 - 54.5	62.9 - 63.5
Maverick, Mustang	93.9 - 102.6	37.2 - 43.3	56.5 - 61.0	41.5 - 43.1	56.5 - 60.8
Thunderbird	104.5	47.2	63.0	51.3	63.1
Pinto	93.5 - 115.3	35.7	55.0	34.2 - 43.9	55.0
Lincoln	104.6 - 108.9	44.6 - 48.5	63.0 - 64.3	54.4 - 58.3	63.1 - 64.3
Mercury	104.2 - 142.5	42.2	64.1	56.3 - 60.2	64.3
Cougar, Montego	94.0 - 135.1	39.9 - 46.1	61.5 - 63.4	47.8 - 54.4	61.0 - 63.5
Comet	93.9 - 102.2	39.3	56.5	43.1	56.5
GENERAL MOTORS CORPORATION					
Buick	113.3 - 146.5	42.8	63.6	57.9 - 60.0	64.0
Riviera	116.0	46.7	63.6	54.8	64.0
Century, Regal	---	43.3 - 45.7	61.5	53.0 - 57.2	60.7
Cadillac	101.2 - 109.6	39.4 - 42.6	63.3 - 63.7	53.1 - 59.0	63.3 - 63.6
Chevrolet	108.5 - 146.5	43.4	64.1	57.0 - 58.4	64.0
Chevelle, Monte Carlo	95.3 - 133.4	40.1 - 43.6	61.5 - 61.9	50.8 - 57.2	60.7 - 61.1
Nova	95.4 - 95.8	32.8	59.8	50.5	59.6
Camaro	94.1	38.0	61.3	42.4	60.0
Corvette	97.2 - 61.3	42.8	58.7	43.9	59.5
Vega	91.7 - 106.3	34.0	55.2	41.3	54.1
Oldsmobile	104.4 - 116.1	42.9 - 43.7	63.7	58.8 - 60.4	64.0
Toronado	101.5	46.8	63.5	58.0	63.6
Cutlass	98.1 - 133.4	44.3 - 46.2	61.4	50.7 - 57.1	60.7
Omega	95.4 - 95.8	36.0	59.1	50.5	58.8
Pontiac	109.5 - 146.5	43.5	64.1	57.3 - 59.7	64.0
LeMans	95.3 - 133.4	40.1 - 44.8	61.5 - 61.9	55.3 - 57.2	60.7 - 61.1
Firebird, Ventura	93.9 - 95.8	36.0 - 40.2	59.9 - 61.6	43.9 - 50.5	59.6 - 60.3
JEEP CORPORATION					
Jeepster, Jeep Wagoneer	86.8 - 119.5	26.1 - 28.7	57.5 - 57.0	44.4 - 45.0	50.0 - 57.0

OVERALL DIMENSIONS - 1974
(Figures in inches)

Models	Wheelbase L101	Overall Length L103	Overall Width W103	Overall Width --Doors Open	Overall Height H101	Minimum Running Ground Clearance H156
AMERICAN MOTORS CORPORATION						
Ambassador	122.0	218.8 + 219.3	77.2 - 77.3	138.4 - 142.5	54.4 - 56.7	5.2 - 7.0
Matador	114.0 - 118.0	209.4 - 216.0	77.2 - 77.4	138.4 - 169.6	51.2 - 56.2	5.3 - 6.0
Hornet, Javelin	108.0 - 110.0	187.0 - 195.0	71.0 - 75.4	122.7 - 158.9	51.3 - 52.2	4.2 - 4.8
Gremlin	97.0	170.3	0.6	156.5	52.3	5.1
CHECKER MOTORS CORPORATION						
Checker	120.0 - 129.0	204.8 - 213.8	76.0	130.0 137.0	62.8	7.5
CHRYSLER CORPORATION						
Chrysler	124.0	224.7 - 227.2	79.4 - 79.7	147.2 - 184.0	54.7 - 59.1	5.2 - 6.6
Dodge	122.0 - 124.0	220.5 - 226.2	79.3 - 79.4	147.0 - 183.6	54.2 - 59.0	5.1 - 6.6
Coronet, Charger	115.0 - 118.0	212.4 - 221.8	77.0 - 78.8	135.6 - 168.2	52.2 - 56.4	5.0 - 6.9
Dart, Challenger	108.0 - 111.0	198.2 - 203.2	69.6 - 77.4	129.9 - 170.7	50.9 - 54.1	5.0 - 5.6
Imperial	124.0	231.1	79.7	156.0 - 184.0	54.7	5.3
Plymouth	115.0 - 124.0	208.9 - 222.8	78.6 - 77.9	135.7 - 184.2	52.5 - 59.1	5.0 - 6.9
Valiant, Barracuda	108.0 - 111.0	194.1 - 199.0	71.0 - 75.6	129.9 - 170.3	50.9 - 53.2	4.9 - 5.8
FORD MOTOR COMPANY						
Ford	121.0	222.4 - 225.1	79.5 - 79.9	---	53.5 - 57.1	5.3 - 5.8
Thunderbird	120.4	224.8	79.7	179.2	53.0	5.3
Torino	114.0 - 118.0	211.4 - 221.6	79.0 - 79.9	122.8 - 165.9	52.4 - 55.4	---
Mustang II, Maverick	96.2 - 109.9	175.0 - 193.9	70.2 - 70.5	128.8 - 157.6	49.6 - 52.8	5.0
Pinto	94.2	169.0 - 178.8	69.4 - 69.7	---	50.3 - 51.9	---
Lincoln	120.4 - 127.2	228.3 - 233.1	79.6 - 80.0	143.9 - 179.2	53.3 - 55.5	5.3
Mercury	121.0 - 124.0	225.7 - 226.8	79.6 - 79.8	---	53.3 - 56.6	5.1 - 5.6
Cougar, Montego	114.0 - 118.0	215.5 - 224.4	78.5 - 79.6	121.0 - 164.1	52.5 - 55.4	4.5
Comet	103.0 - 109.9	190.0 - 196.9	70.5	128.8 - 150.7	52.8 - 53.0	---
GENERAL MOTORS CORPORATION						
Buick	124.0 - 127.0	225.9 - 231.5	79.9	142.4 - 166.7	54.5 - 57.9	5.7 - 6.2
Riviera	122.0	226.4	80.0	166.5	53.7	5.6
Century, Regal	112.0 - 116.0	209.5 - 218.2	79.0	134.8 - 171.1	53.5 - 55.3	4.4
Apollo	111.0	200.3	72.7	126.5 - 144.8	52.8 - 54.2	5.1
Cadillac	126.3 - 133.0	224.1 - 233.7	79.8	---	53.9 - 55.6	5.7 - 6.4
Chevrolet	121.5 - 125.0	222.7 - 228.4	79.5	142.4 - 148.4	53.7 - 58.1	5.7 - 6.2
Chevelle, Monte Carlo	112.0 - 116.0	205.2 - 215.2	76.6 - 77.6	134.7 - 171.7	52.7 - 55.7	4.8 - 5.6
Nova	111.0	196.7	72.4	126.5 - 144.8	52.5 - 53.9	4.8
Camaro	103.0	195.4	74.4	140.5	49.2	4.7
Corvette	98.0	185.5	69.0	136.5	47.7 - 47.8	4.2
Vega	97.0	175.4	65.4	146.8	50.0 - 52.0	4.6 - 5.0
Oldsmobile	124.0 - 127.0	227.9 - 231.2	79.8 - 80.0	145.7 - 167.0	52.2 - 54.7	4.8 - 5.1
Toronado	122.0	223.0	79.5	166.5	53.3	5.6
Cutlass	112.0 - 116.0	210.6 - 215.5	76.5	134.7 - 170.6	53.2 - 54.1	5.4
Omega	111.0	199.5	72.8	126.5 - 144.8	52.4 - 53.8	4.9
Pontiac	124.0 - 127.0	225.2 - 230.5	79.6	141.6 - 166.0	53.3 - 58.1	5.3 - 6.0
LeMans	112.0 - 116.0	208.0 - 217.5	77.3 - 78.0	135.0 - 170.7	52.2 - 53.7	4.1 - 5.7
Firebird, Ventura	108.0 - 111.0	196.0 - 199.4	72.5 - 73.4	126.5 - 144.8	49.2 - 53.1	3.3 - 3.9
JEEP CORPORATION						
Jeep Wagoneer	109.0	183.7	75.6	---	65.3	8.0

FRONT OF CAR DIMENSIONS - 1974
(Figures in inches)

REAR OF CAR DIMENSIONS - 1974
(Figures in inches)

Models	LENGTH			WIDTH	
	Upper Structure L123	Overhang, Front L104	Tread* W101	Overhang, Rear L105	Tread* W102
AMERICAN MOTORS CORPORATION					
Ambassador	103.5 - 127.6	41.4	59.8	5.5 - 56.0	60.0
Matador	103.5 - 127.2	42.0 - 56.1	59.7	5.5 - 56.0	60.0
Hornet, Javelin	96.4 - 101.8	38.1 - 43.8	56.4 - 58.5	27.5 - 40.0	57.1 - 60.0
Gremlin	91.1	38.4	56.7	35.9	57.1
CHECKER MOTORS CORPORATION					
Checker	108.9 - 117.9	35.8	64.5	49.0	63.3
CHRYSLER CORPORATION					
Chrysler	113.4 - 117.5	41.2 - 42.0	64.0	59.5 - 61.2	63.4
Dodge	105.6 - 115.1	39.8 - 41.0	64.0	58.7 - 61.2	63.4
Coronet, Charger	99.1 - 102.7	40.2 - 45.2	61.9	53.8 - 62.5	62.0 - 63.4
Dart, Challenger	91.2 - 99.7	38.9 - 42.4	59.1 - 60.2	46.2 - 53.5	55.4 - 60.7
Imperial	112.5	45.5	64.0	61.6	63.7
Plymouth	99.1 - 115.1	37.1 - 41.5	61.9 - 64.0	55.9 - 63.0	62.0 - 63.4
Valiant, Barracuda	91.2 - 99.7	34.8 - 40.3	59.1 - 60.2	47.3 - 53.5	55.4 - 60.7
FORD MOTOR COMPANY					
Ford	103.9 - 141.9	42.7	64.2	58.7 - 61.4	64.3 - 64.4
Thunderbird	104.5	48.4	62.9	56.8	62.8
Torino	58.2 - 134.4	43.6 - 45.8	63.4	53.8 - 58.8	63.5
Mustang II, Maverick	86.3 - 102.2	38.0 - 39.4	55.6 - 56.5	39.4 - 46.1	55.8 - 56.5
Pinto	93.5 - 115.3	37.3	55.0	37.1 - 47.1	55.8
Lincoln	104.6 - 108.0	44.2 - 49.0	62.9 - 64.3	58.7 - 51.7	62.8 - 64.3
Mercury	104.2 - 142.3	43.3	64.1	59.5 - 61.4	64.3
Cougar, Montego	101.5 - 135.1	47.6	63.4	53.8 - 58.8	63.5
Comet	93.9 - 102.2	41.0	56.5	46.1	56.5
GENERAL MOTORS CORPORATION					
Buick	109.1 - 147.8	41.4	63.6	60.0 - 62.1	64.0
Riviera	104.5	41.2	63.6	57.3	64.0
Century, Regal	97.4 - 132.8	42.9 - 45.3	61.5	50.7 - 59.4	60.7
Apollo	95.4 - 95.8	36.9	59.1	52.4	59.7
Cadillac	101.9 - 112.3	39.7 - 42.9	63.3 - 63.7	54.9 - 61.0	63.3 - 63.6
Chevrolet	108.5 - 147.8	42.3	64.1	54.9 - 61.1	64.0
Chevelle, Monte Carlo	58.6 - 132.8	41.1 - 43.5	61.5 - 61.6	53.2 - 59.1	60.7 - 61.1
Nova	97.0 - 99.7	33.8	59.8	51.9	59.6
Camaro	94.4	42.0	61.3 - 61.6	45.4	60.0 - 60.3
Corvette	57.2 - 61.3	42.8	58.7	44.7	59.5
Vega	93.1 - 108.0	35.2 - 35.7	55.2	43.2	54.1
Oldsmobile	108.9 - 147.8	42.1 - 44.7	61.4 - 63.7	59.3 - 63.1	60.7 - 64.0
Toronado	101.6	47.3	63.5	58.7	63.6
Cutlass	97.4 - 102.0	43.8	64.7	54.7	60.7
Omega	97.8 - 99.7	34.5	59.1	52.0	58.8
Pontiac	104.7 - 147.8	42.3 - 42.8	64.1	58.9 - 61.3	64.0
LeMans	94.6 - 132.8	40.3 - 43.7	61.5 - 61.9	55.7 - 55.8	60.7 - 61.1
Firebird, Ventura	94.1 - 99.7	36.5 - 42.7	59.9 - 61.7	45.3 - 51.9	59.6 - 60.4
JEEP CORPORATION					
Jeep Wagoneer	119.5	29.7	59.0	45.0	57.5

*Tread = distance between centerline of tires at ground.

72 Foreign Imports

DIMENSIONS: IMPORTS 72

DIMENSIONS	Overall (in.)		
	Length	Height	Width
ALFA ROMEO 1600 Berlina	177.7	53.3	61.4
2000 Spider Veloce	177.9	50.8	64.2
2000 GT Veloce	161.4	51.8	62.2
ASTON MARTIN DB5 V-8	180.5	51.75	72
AUDI Super 90 2-door Sedan	173.8	57.2	64
Super 90 4-door Sedan	173.8	57.2	64
Super 90 Station Wagon	173.8	57.2	64
100, 100 LS 2-door Sedan	173.5	56.1	63.1
100 G 2-door Sedan	173.5	56.1	63.1
100, 100 LS 4-door Sedan	172.6	56.1	63.1
100 G 4-door Sedan	172.6	56.1	63.1
BENTLEY T-Series Sedan	201.5	57.75	71
BMW 2300 Sedan	172.5	56	61.5
2300 Turb	172.5	56	61.5
3.0 CS Coupe	183.5	57.5	65.6
3.0 Bavaria	183.5	57.5	65.6
CARD 1700 Coupe	167.8	50.7	64.8
2000 Coupe	167.8	50.7	64.8
2600 Coupe	167.8	50.7	64.8
CITROEN DS-21 Pallas	170.5	56	70.5
DS Coupé	170.5	56	70.5
DS-21 Station Wagon	170.5	56	70.5
SA	170.5	56	70.5
COJ 4-door Sedan	167.5	55.5	61.4
Coupe Coupé	167.5	55.5	61.4
Coupe Station Wagon	167.5	55.5	61.4
CORVET 4-door Sedan	161.7	54.9	62.5
Station Wagon	161.9	54.9	62.5
DATSUN 1200 Sedan	162.8	54.7	62.0
1200 Coupe	162.8	54.7	62.0
510 2-door Sedan	162.7	54.7	61.4
510 2-door Station Wagon	162.7	54.7	61.4
510 4-door Sedan	162.7	54.7	61.4
2400 Coupe	162.8	54.7	62.0
FIAT 127 Sedan	160.5	54	59
127 2-door Sedan	160.5	54	59
127 Station Wagon	160.5	54	59
127 Coupe	160.5	54	59
124 Sedan	160.1	53.7	62.4
124 Spider	160.3	49.9	67.5
124 Station Wagon	160.3	56.7	64
HONDA 600 Sedan	160.5	54.1	60.5
600 Coupe	160.5	54.1	60.5
JAGUAR V12 Panther and XJ-2	182.1	57.2	76.25
XJ Sedan	179.5	52.9	77.2
JENSON Interceptor II	175	53	69.9
LOTUS Elan Hatchback and Coupe	143.95	45	55
Elan Hatchback	143.95	45	55
Elan Coupe	143.95	45	55
Elan Twin Cab	143.95	45	55
MAZDA RX-7 Coupe	160.5	54	59
RX-7 Coupe	160.5	54	59
RX-7 Station Wagon	160.5	54	59
RX-7 Coupe	160.5	54	59
RX-7 Station Wagon	160.5	54	59
RX-7 Coupe	160.5	54	59
RX-7 Station Wagon	160.5	54	59
RX-7 Coupe	160.5	54	59
RX-7 Station Wagon	160.5	54	59
RX-7 Coupe	160.5	54	59
RX-7 Station Wagon	160.5	54	59
MERCEDES BENZ 190	172.5	56	61.5
190	172.5	56	61.5
190	172.5	56	61.5
190 Coupe	172.5	56	61.5
190 Sedan	172.5	56	61.5
190 Station Wagon	172.5	56	61.5
190 ES	172.5	56	61.5
190 ES 2.3	172.5	56	61.5
190 ES 2.6	172.5	56	61.5
190 ES 2.8	172.5	56	61.5
190 ES 3.0	172.5	56	61.5
190 ES 3.2	172.5	56	61.5

DIMENSIONS	Overall (in.)			
	Wheelbase	Length	Height	Width
2000	100	173.7	49.5	63.5
TPA	88	155	50	53
GT 1600	80	149	48	57
Saline MK III	83	149	48	57
VOLKSWAGEN Beetle	94.5	153.6	59.1	61
Karmann Ghia Coupe	94.5	164	52	61.3
VW Type 2	94.5	170.9	57.9	63.2
VW Squareback Sedan	94.5	170.9	57.9	63.2
Super Beetle	95.3	161.8	59.1	62.4
Station Wagon	94.5	170.4	76.4	69.5
411 Four door	91.4	179.2	58.5	64.9
411 Three door	98.4	179.2	58.5	64.9
VOLVO 142 2-door Sedan	103.2	182.7	56.7	68.1
142 E 2-door Sedan	103.2	182.7	56.7	68.1
142 G 2-door Sedan***	103.2	182.7	56.7	68.1
142 G 4-door Station Wagon***	103.2	182.7	56.7	68.1
142 G 4-door Sedan***	103.2	182.7	56.7	68.1
1600 E Sports Coupe	96.5	171.5	50.4	67
1800 ES Sports Coupe	96.5	172.6	50.4	67
ALFA ROMEO 1600 Berlina	177.7	53.3	61.4	
2000 Spider Veloce	177.9	50.8	64.2	
2000 GT Veloce	161.4	51.8	62.2	
ASTON MARTIN DB5 V-8	180.5	51.75	72	
AUDI Super 90 2-door Sedan	173.8	57.2	64	
Super 90 4-door Sedan	173.8	57.2	64	
Super 90 Station Wagon	173.8	57.2	64	
100, 100 LS 2-door Sedan	173.5	56.1	63.1	
100 G 2-door Sedan	173.5	56.1	63.1	
100, 100 LS 4-door Sedan	172.6	56.1	63.1	
100 G 4-door Sedan	172.6	56.1	63.1	
BENTLEY T-Series Sedan	201.5	57.75	71	
BMW 2300 Sedan	172.5	56	61.5	
2300 Turb	172.5	56	61.5	
3.0 CS Coupe	183.5	57.5	65.6	
3.0 Bavaria	183.5	57.5	65.6	
CARD 1700 Coupe	167.8	50.7	64.8	
2000 Coupe	167.8	50.7	64.8	
2600 Coupe	167.8	50.7	64.8	
CITROEN DS-21 Pallas	170.5	56	70.5	
DS Coupé	170.5	56	70.5	
DS-21 Station Wagon	170.5	56	70.5	
SA	170.5	56	70.5	
COJ 4-door Sedan	167.5	55.5	61.4	
Coupe Coupé	167.5	55.5	61.4	
Coupe Station Wagon	167.5	55.5	61.4	
CORVET 4-door Sedan	161.7	54.9	62.5	
Station Wagon	161.9	54.9	62.5	
DATSUN 1200 Sedan	162.8	54.7	62.0	
1200 Coupe	162.8	54.7	62.0	
510 2-door Sedan	162.7	54.7	61.4	
510 2-door Station Wagon	162.7	54.7	61.4	
510 4-door Sedan	162.7	54.7	61.4	
2400 Coupe	162.8	54.7	62.0	
FIAT 127 Sedan	160.5	54	59	
127 2-door Sedan	160.5	54	59	
127 Station Wagon	160.5	54	59	
127 Coupe	160.5	54	59	
124 Sedan	160.1	53.7	62.4	
124 Spider	160.3	49.9	67.5	
124 Station Wagon	160.3	56.7	64	
HONDA 600 Sedan	160.5	54.1	60.5	
600 Coupe	160.5	54.1	60.5	
JAGUAR V12 Panther and XJ-2	182.1	57.2	76.25	
XJ Sedan	179.5	52.9	77.2	
JENSON Interceptor II	175	53	69.9	
LOTUS Elan Hatchback and Coupe	143.95	45	55	
Elan Hatchback	143.95	45	55	
Elan Coupe	143.95	45	55	
Elan Twin Cab	143.95	45	55	
MAZDA RX-7 Coupe	160.5	54	59	
RX-7 Coupe	160.5	54	59	
RX-7 Station Wagon	160.5	54	59	
RX-7 Coupe	160.5	54	59	
RX-7 Station Wagon	160.5	54	59	
RX-7 Coupe	160.5	54	59	
RX-7 Station Wagon	160.5	54	59	
RX-7 Coupe	160.5	54	59	
RX-7 Station Wagon	160.5	54	59	
MERCEDES BENZ 190	172.5	56	61.5	
190	172.5	56	61.5	
190	172.5	56	61.5	
190 Coupe	172.5	56	61.5	
190 Sedan	172.5	56	61.5	
190 Station Wagon	172.5	56	61.5	
190 ES	172.5	56	61.5	
190 ES 2.3	172.5	56	61.5	
190 ES 2.6	172.5	56	61.5	
190 ES 2.8	172.5	56	61.5	
190 ES 3.0	172.5	56	61.5	
190 ES 3.2	172.5	56	61.5	
MINI 1000	100	173.7	49.5	63.5
TPA	88	155	50	53
GT 1600	80	149	48	57
Saline MK III	83	149	48	57
VOLKSWAGEN Beetle	94.5	153.6	59.1	61
Karmann Ghia Coupe	94.5	164	52	61.3
VW Type 2	94.5	170.9	57.9	63.2
VW Squareback Sedan	94.5	170.9	57.9	63.2
Super Beetle	95.3	161.8	59.1	62.4
Station Wagon	94.5	170.4	76.4	69.5
411 Four door	91.4	179.2	58.5	64.9
411 Three door	98.4	179.2	58.5	64.9
VOLVO 142 2-door Sedan	103.2	182.7	56.7	68.1
142 E 2-door Sedan	103.2	182.7	56.7	68.1
142 G 2-door Sedan***	103.2	182.7	56.7	68.1
142 G 4-door Station Wagon***	103.2	182.7	56.7	68.1
142 G 4-door Sedan***	103.2	182.7	56.7	68.1
1600 E Sports Coupe	96.5	171.5	50.4	67
1800 ES Sports Coupe	96.5	172.6	50.4	67

KINETIC ENERGY (FOOT POUNDS $\times 10^3$)
 Take the sum total of the magnitudes of the energies (not the vector sum).
 Use (9999) for Unknown, (9998) for over 9997. *

		Vehicle Weight (600-4,200 lbs.)										
		600	1200	1800	2100	2400	2700	3000	3300	3600	3900	4200
Vehicle Speed (m.p.h.)	5	1	1	2	2	2	2	3	3	3	3	4
	10	2	4	6	7	8	9	10	11	12	13	14
	15	5	9	14	16	18	21	23	25	28	30	32
	20	8	16	24	29	33	37	41	45	49	53	57
	25	13	25	38	45	51	57	64	70	76	83	89
	30	18	37	55	64	73	83	92	101	110	119	129
	35	25	50	75	87	100	112	125	137	150	162	175
	40	33	65	98	114	131	147	163	180	196	212	228
	45	41	83	124	145	165	186	207	227	248	269	299
	50	51	102	153	178	204	229	255	280	306	331	357
	55	62	123	185	216	247	278	309	339	370	401	432
	60	73	147	220	257	294	330	367	404	441	477	514
	65	86	172	259	302	345	388	431	474	517	560	603
	70	100	200	300	350	400	450	500	550	600	650	700
	75	115	220	344	402	459	516	574	631	688	746	803
	80	131	261	392	457	522	589	653	718	783	847	914
	85	147	295	442	516	590	663	737	811	884	958	1032
	90	165	330	496	579	661	744	826	909	991	1074	1157
	95	184	368	552	644	736	828	921	1013	1105	1197	1289

		Vehicle Weight (4,500-120,000 lbs.)										
		4500	5000	6000	8000	10000	20000	30000	50000	70000	90000	120000
Vehicle Speed (m.p.h.)	5	4	4	5	7	8	17	25	42	59	76	102
	10	15	17	20	27	34	69	102	170	238	306	408
	15	34	38	46	61	76	151	229	382	535	688	918
	20	61	68	82	109	136	272	408	680	952	1224	1632
	25	96	106	127	170	212	425	637	1062	1487	1912	2550
	30	138	153	184	245	306	612	914	1530	2142	2754	3672
	35	187	208	250	333	416	833	1249	2082	2915	3748	4998
	40	245	272	320	435	544	1089	1632	2720	3803	4896	6528
	45	310	344	413	551	688	1377	2065	3442	4819	6196	8262
	50	382	425	510	680	850	1700	2550	4250	5930	7650	9990
	55	463	514	617	823	1028	2057	3025	5142	7199	9256	12338
	60	551	612	734	979	1224	2443	3612	6120	8568	10998	14498
	65	646	718	862	1149	1436	2873	4302	7182	9998	12998	17098
	70	750	833	1000	1333	1666	3332	5008	8330	11498	14998	19998
	75	861	956	1147	1530	1912	3825	5737	9562	13338	17498	22998
	80	979	1088	1306	1741	2176	4352	6523	10998	15198	19998	26498
	85	1105	1229	1474	1965	2456	4913	7362	12498	17498	22998	30498
	90	1239	1377	1652	2203	2754	5508	8262	14498	20498	26998	35998
	95	1381	1534	1841	2455	3068	6137	9205	15998	22498	29998	39998

*This table has been recomputed since previous edition.

COUNTRY CORPORATION DIVISION LABEL BODY TYPE (del)

COUNTRY	CORPORATION	DIVISION	LABEL	BODY TYPE (del)
1	USA			
11	General Motors Corp.	4	England	
111	Buick	413	G. Vauxhall*	
112	Cadillac	42	Pord England	
113	Chevrolet	434	Chrysler (Cricket)	
114	Oldsmobile	45	British Leyland	
115	Pontiac	451	Austin	
116	GMC Truck and Coach	452	Austin Healy	
117	GMC Electromotive	453	MG	
12	Ford Motor Co.	454	Morris	
121	Ford	455	Jaguar	
122	Lincoln-Mercury	456	Triumph	
13	Chrysler Corp.	46	Rooths (Sunbeam)	
131	Chrysler	48	Other English	
132	Dodge	488	Rover	
133	Imperial			
134	Plymouth			
135	DeSoto			
14	American Motors Corp.	5	France	
141	American Motors	531	Chrysler (Simca)*	
15	Other USA Corporations	551	Citroen	
151	Checker	561	Renault	
152	Kaiser-Jeep	571	Peugeot	
153	International	58	Other French	
154	Studebaker/Wanti	6	Germany	
16	USA Truck Corp.	618	VW (Vedel)*	
160	USA Truck Corp. Unknown	622	Forl (Capri)	
161	Brockway	651	Mercedes Benz	
162	Diamond-Reo	661	Volkswagen	
163	FWD	662	Porsche	
164	Kenworth	671	BMW	
165	Pack	68	Other German	
166	Peterbilt	7	Italy	
167	White (Autocar, Freight Liner)	75	Alfa-Romeo	
168	Other USA Truck Corp.	76	Fiat	
17	Unknown/Other USA Manufacturer of Special Purpose Vehicle	77	Ferrari	
171	Plexible	78	Other Italian	
172	Preuhauf	8	Japan	
191	Male Pedestrian/Bicyclist	813	Chevrolet-Isuzu (LUV Pickup)	
192	Female Pedestrian/Bicyclist	832	Chrysler-Mitsubishi (Coit)*	
2	Canada	851	Toyo (Mazda)	
21	G4 Canada*	861	Nissan (Datsun)	
22	Pord Canada*	871	Toyota	
3	Australia	881	Honda	
317	GE (Holden)*	882	Puji Heavy Ind. (Subaru)	
		891	Suzuki	
		884	Kawasaki	
		685	Yamaha	
		9	Other Foreign	
		951	Saad (Sweden)	
		952	Volvo (Sweden)	
		000	Unknown, Missing Data	

* Corporation codes 1 to 4 (b) are always the same from country to country, e.g., 12 = USA/Ford and #2 = England/Ford. Codes 5-9 have different definitions in each country.

Passenger Cars	Bus	Motorcycles	Special Purpose Vehicles	Miscellaneous Body Types
01 Intermediate (G4 A Body)	40 Unknown Bus Type	50 Unknown Motorcycle Type	60 Unknown/Other Special Vehicle	70 Pedestrian
02 Standard/Full Size (B Body)	41 School Bus	51 1-75cc	61 Snowmobile	71 Bicyclist, Other Pedalcycle
03 Luxury (C Body)	42 Inter City (between)	52 76-125cc	62 ATV, All Terrain Vehicles	72 Pedestrian Conveyance (e.g. Person riding animal or in cart)
04 Limousine (D Body)	43 Intra City (within)	53 126-250cc	63 Amphibious Vehicle	98 Other Body Type
05 Personal Luxury (E Body)		54 251-500cc	64 Farm Vehicles	
06 Specialty/Pony (F Body)		55 501-750cc	65 Construction Vehicles	
07 Specialty Intermediate (A SP Body)		56 751+cc	66 Trailer-Private (Cabrer)	
08 Compact (X Body & Y Body)		57 3-wheels (or with Sidecar)	67 Trailer-Commercial (Cargo)	
09 Sub-compact/Mini-Imported (VW)			68 Train (Cars)	
10 Super Sport (Corvette)			69 Locomotive, Switcher	
17 Pickup-Car (Ranchero)				
18 Sub-compact/Mini-USA (H Body)				
19 Foreign Sports Cars (MG)				
20 Unknown Automobile Body				
Size Standard Specialty Sports				
Mini 09, 18 --				
Compact 08 06 19				
Intermediate 01, 17 --				
Standard 02 C5 --				
Luxury Sedan 03 --				
Limousine 04 --				
MULTI-PURPOSE PASSENGER VEHICLE				
14 Utility (Jeep, Bronco)				
15 Carryall/Panel Truck				
16 Pickup-Camper (Canopy, Shell)				
17 Pickup-Car (Ranchero)				
21 Motor Home				
22 Slide-in Camper				
31 Chassis-mounted Camper				
TRUCK				
11 Small Van (Econoline)				
12 Pickup				
13 Unknown Light Truck (<1-1/2 Ton)				
15 Carryall/Panel Truck				
16 Pickup-Camper (Canopy, Shell)				
22 Slide-in Camper				
30 Unknown Truck Type				
31 Chassis-mounted Camper				
33 Delivery Van (Walk-in)				
34 Straight Truck				
35 Truck-Tractor				
36 Chassis-Cab				
37 Unknown Heavy Truck (>1-1/2 Ton)				
38 Tractor + Semi-Trailer (Semi)				
39 Truck (or Semi) + Full Trailer(s)				

VEHICLE MAKE MODEL (ABCDE): (2/73)

AMERICAN MOTORS*

- 14101 Classic, Rebel, Matador
- 14102 Ambassador
- 14106 Marlin, Javelin, Jeepain AMX (71-)
- 14108 American, Hornet
- 14110 AMX (to 70)
- 14118 Gremlin

*See Also Kaiser Motors (Jeep)

CHRYSLER CORPORATION (1960 to-date)

Chrysler

- 13102 Newport, Chrysler 30, New Yorker, Town & Country (66-)
Windsor (6), 61, Saratoga (60)

Dodge

- 13201 Coronet (65-), Super Bee (67-69), Charger (71-)
Dart (62), Polara (62-64)
- 13202 Polara (60, 61, 65-), Monaco (65-), 880 (62-65),
Dart (60, 61), Matador (60)
- 13206 Charger (66-70), Challenger (70-), P/T
- 13208 Dart (63-), GTS, Swinger (69-), Custom (69), Demon,
Lancer (61, 62)
- 13211 Van, Sportsman Wagon, Tradesman
- 13212 Pickup, D100, D200, D300, Club Cab, Crew Cab,
Utiline, Sweptline
- 13214 Pamcharger
- 13215 Carryall
- 13233 Van Walk-in, Kary Van
- 13234 Straight Truck
- 13235 Truck Tractor
- 13238 Tractor-Trailer Combination (Semi)
(83209) Colt

Imperial

- 13305 Imperial, LeBaron, Crown, Custom (60-63)

Plymouth

- 13401 Fury (62-64), Savvy (62-64), Belvedere (62-), Savoy
(62-64), Satellite (65-), Sebring,
Road Runner, GTX (67-)
- 13402 Fury (-61) (65-), Suburban (68-), VIP (66-69),
Belvedere (60, 61)
- 13406 Barracuda (67-), Grand Coupe (70-)
- 13408 Valiant, Barracuda (64-66), Signet (62-69)
Duster (70-), Scamp (72)
- 13411 Van, Voyager
- 13414 Trail Duster
(43409) Cricket

DeSoto

- 13502 DeSoto (61), Fireflite (60), Adventurer (60)

FORD MOTOR COMPANY

Ford

- 12101 Fairlane, Torino, Cobra, Falcon (70 1/2-)
- 12102 Custom, Galaxie, (L, LTD, Country Squire, Ranch Wagon
- 12103 Thunderbird, Landau
- 12105 Mustang (-73), Mach 1, Grand, Boss, Mustang (74)
- 12108 Falcon (to 70), Maverick, Futura
- 12111 Econoline, E100, E200, E300, Station Bus, Club Wagon
- 12112 Pickup, F100 to F350, Courier
- 12114 Bronco
- 12117 Ranchero
- 12118 Pinto
- 12133 Van Walk-in (P Series), Parcel Delivery
- 12134 Straight Truck (C, F, L Series 500 and over)
- 12135 Truck-Tractor (C Series, L Series, W Series)
- 12138 Tractor-Trailer Combinations (Semi)
- 12141 School Bus (B Series)

Lincoln-Mercury

- 12201 Comet (67-69) Calliente (67-68)
Montego (68-), Voyager, Villager, Cyclone (67-)
- 12202 Mercury Monterey, Montclair, Park Lane, Marauder,
Merguis, Colony Park
- 12203 Lincoln Continental
- 12205 Continental Mark III, Mark IV (72-)
- 12206 Cougar (67-73)
- 12207 Cougar (74)
- 12208 Comet (65, 66, 71-)
- 12218 Bobcat (74)
(62209) Capri (Germany)

FORD OF CANADA LTD.

Lincoln-Mercury

- 22202 Meteor
- 22218 Mercury Bobcat

GENERAL MOTORS CORPORATION

Buick

- 11101 Special (64-), Skylark, GS, Sportwagon, Century, Century 350, Regal
- 11102 LeSabre (-73), Wildcat, Centurion
- 11103 LeSabre (74), Electra 225, Estate Wagon
- 11105 Riviera
- 11108 Special (to 63), Apollo
- (61809) Opel Kadett, 1950, Rallye
- (61819) Opel GT

Cadillac

- 11203 Calais, Deville, Fleetwood 60 Special, Brougham
- 11204 Fleetwood 75, Limousine
- 11205 Eldorado

Chevrolet

- 11301 Chevelle, Malibu, Nomad, Greenbrier, Laguna
- 11302 Biscayne, Bel Air, Impala, Caprice, Brookwood, Townsman, Kingswood, Chevrolet Wagon
- 11306 Camaro
- 11307 Monte Carlo
- 11308 Chevy II, Nova, Corvair, Monza
- 11310 Corvette, Sting Ray
- 11311 Van, Sport Van, Belleville
- 11312 Pickup, Cheyenne,
- 11314 Blazer
- 11315 Carryall, Suburban
- 11317 El Camino
- 11318 Vega
- 11333 Van Walk-in, Step-Van, High Cube Van
- 11334 Straight Truck
- 11335 Truck-Tractor
- 11338 Tractor-Trailer Combination (Semi)
- (81312) Chevrolet-Isuzu LUV Pickup

Oldsmobile

- 11401 F-85 (64-), Cutlass, Vista-Cruiser, 442
- 11402 Delmont 88, Delta 88, Starfire, Rocket 88, 88, Jetstar Dynamic 88, Jetstar 88
- 11403 98, Custom Cruiser
- 11405 Toronado, Toronado Brougham (74)
- 11408 F-85, (to 63), Omega

Pontiac

- 11501 Tempest (64-), Le Mans, GTO (-74), Safari (to 69)
- 11502 Catalina, Ventura, Executive, Bonneville, Grandville, Grand Prix (to 68), Brougham, Star Chief, Safari (71-)
- 11506 Firebird, Trans Am
- 11507 Grand Prix (69-), Grand Am
- 11508 Tempest (to 63), Ventura II, Ventura GTO (74)

GMC Truck and Coach

- 11611 Sportvan, Vandura
- 11612 Pick-up, Crew Cab
- 11614 Jimmy
- 11615 Carryall, Suburban
- 11617 GMC Sprint
- 11621 GMC Motor Home
- 11633 Van Walk-in, Value-Var
- 11634 Straight Truck
- 11635 Truck-Tractor
- 11638 Tractor-Trailer Combination (Semi)

GENERAL MOTORS OF CANADA LTD

Chevrolet

- 21301 Chevelle, Chevrolet, Acadian

Oldsmobile

- 21401 Oldsmobile

Pontiac

- 21501 Beaumont
- 21502 Pontiac, Parisienne, Grand Parisienne (to 69)
- 21503 Astre, Safari

KAISER MOTORS (JEEP)

- 15201 Wagoneer, J-100
- 15214 Jeep, Jeepster, CJ-5, CJ-6, Cherokee, Commando
- 15212 Pickup

CHECKER

- 15102 Checker, Marathon

INTERNATIONAL HARVESTER

- 15315 Travelall
- 15312 Pickup, Travelette
- 15314 Scout
- 15333 Van Walk-in
- 15334 Straight Truck
- 15335 Truck-Tractor
- 15338 Tractor-Trailer Combination (Semi)

STUDEBAKER

- 15405 Avanti II
- 15408 Lark

IMPORTED CARS - BY CODE (1/74)

Australia

31798 Holden

England

41908 Vauxhall
42209 Ford Anglia, Cortina, Escort
42401 Ford Zephyr
43409 Plymouth Cricket, Rootes
45--- British Leyland
45108 Austin Maxi, A60, 1800
45109 Austin Mini, Mini Cooper, America, 1300, Marina
45219 Austin Healy Sprite, 303
45319 MGA, MGB, MG, Midget, MGT/GT, MGC/GT
45409 Morris Mini
45503 Jaguar 420, XJ-6, XJ-12, V-12
45510 Jaguar E type (XKE)
45608 Triumph Herald
45619 Triumph Spitfire, GT6, TR3, TR4, TR250, TR6, GT6*, Stag
46--- Rootes
46109 Hillman Imp, Avenger
46209 Singer
46319 Sunbeam Alpine, Tiger, Rapier
48110 Aston Martin DB5, DB6, DBS
48219 Lotus Elan, Elite, +2s, Super 7, Europa
48319 Morgan
48403 Rolls Royce (shadow)
48404 Rolls Royce (limo)
48610 Jensen, Healey, Interceptor
48814 Land Rover

France

53109 Simca 1204, GLS
55101 Citroen 21, ID20, DS21
55108 Citroen GS
55109 Citroen 2CV, Dyane, Ami
55110 Citroen SM
56108 Renault 16
56109 Renault 8, 10, 12, 15, 17
57108 Peugeot 504
57109 Peugeot 204, 304, 404, 404, 403

Germany

61809 Opel Kadett, 1900, Rallye, Manta
61819 Opel GT
62209 Ford Capri
65101 Mercedes Benz 230, 190, 220, 230, 250, 280 (-73)
300 except SL, 450 SE
65104 Mercedes 600 (limo)
65110 Mercedes Benz 280 SL, 250SL, 300SL(-73), 190SL, 350SL, 450SL
66108 VW 411, 412, VW Dasher
66109 VW 1300, 1302, 1303, 1500, 1600, "Beetle"
66112 VW Van, Campmobile, "Bus"
66119 Karmann-Ghia
66120 VW Thing
66210 Porsche 911, 914-6
66219 Porsche 912, 914, 355B, 356B, 1600s

67108 BMW 2500/2800/3000 sedans, Bavaria, 3.3L, 525
67109 BMW 1600, 2002, 1800, 2002tii, 1602, Turbo 2002
67110 VW 2950cs, 2800 ca, 3000 CS, 3000 ca
63108 Audi 100S, 100GL, Fox, Super 9C
68309 NSU 1000, 1200
68301 NSU P08C

Italy

72210 De Tomaso Mangusta, Pantera, Deauville
75108 Alfa Romeo 1750 Berlina, Guila
75110 Alfa Romeo Montreal
75119 Alfa Romeo 1750 & 1600 GTV, Spyder
76109 Fiat 500, 650, 850, 124 & 128 sedans
76110 Fiat Dino
76119 Fiat 85C, 124, 128, Coupe and Spyder, 1500 Spider
77110 Ferrari
78110 Maserati
79108 Lancia Berlina 4 door
78219 Lancia 2 door
78410 Lamborghini

Japan

83209 Dodge-Mitsubishi Colt
85109 Mazda (except Cosmo)
85110 Mazda Cosmo
86108 Datsun 200L, Laurel
86109 Datsun 1000, Sunny, 1200(-73), PL510, PL61C
F-21 (74), Datsun 109A, 120A, Cherry
86112 Datsun PL620
86119 Datsun 1600, 2000, 240Z, 260Z
87108 Toyota Corona, Crown, MarkII
87109 Toyota Corolla, Sprinter, Celica, Carina
87110 Toyota 2000GT
87112 Toyota Hi-Lux
87114 Toyota Land Cruiser
881-- Honda (motorcycle)
88109 Honda, Civic, 600, S800
88209 Subaru
893-- Suzuki (motorcycle)
89309 Suzuki (automobile)
884-- Kawasaki (motorcycle)
885-- Yamaha (motorcycle)

Other (Sweden)

95108 Saab 95, 96, 99
95115 Saab Sonnett
95208 Volvo 122, 142, 144, 145, 164, 522
95219 Volvo P1800

MAKE/MODEL CODES 4

IMPORTED CARS - BY NAME (1/74)

75108	Alfa Romeo 1750 Berlina, Guila	78110	Maserati
75110	Alfa Romeo Montreal	85109	Mazda (except Cosmo)
75119	Alfa Romeo 1750 L 1600 GTV, Spider	85119	Mazda Cosmo
48110	Aston Martin DB5, DB6 DBS	65101	Mercedes Benz 2 1/2, 110, 220, 230, 250, 280 (-73)
68108	Audi 100LS, 100GL, Fox, Super 90		30, except SL, 450 SE
68119	Audi 100 Coupe	65104	Mercedes Benz 200 (Limo)
45219	Austin Healy Sprite	65112	Mercedes Benz 280 SL, 250 SL, 300SL (-73),
45219	Austin Healy 3000		190 SL, 350 SL, 450 SL
45108	Austin Maxi, A60, 1800	45319	MGA, MGB, MGC, MG, Midget MGB/GT, MGC/GT
45109	Austin Mini, Mini Cooper, America, 1300, Marina	45409	Morris Mini
15403	Avanti II	48319	Morgan
67108	BMW 2500/2800/3000 sedans, Bavaria, 3.3L, 525	68309	NSU 1000, 1200
67109	BMW 1600, 2002, 1800, 1602, 2002tii, Turbo 2002	68301	NSU Ro80
67110	BMW 2800cs, 2800cca, 3000cs, 3000cca	61809	Opel Kadett, 1900, Rallye, Manta
62209	Capri, Ford	61819	Opel GT
55101	Citroen 21, ID20, DS21	57108	Peugot 504
55108	Citroen GS	57109	Peugot 204, 304, 404, 403
55109	Citroen 2CV, Dyane, Ami	43209	Plymouth Cricket
55110	Citroen SM	66210	Porsche 911, 914-6
83209	Colt, Dodge-Mitsubishi	66219	Porsche 912, 914
43409	Cricket, Plymouth		
86108	Datsun 200L, Laurel	56108	Renault 16
86109	Datsun 1900, Sunny, 1200 (-73), PL510, PL610,	56109	Renault 8, 10, 12, 15, 17
	3-210 (74), 100A, 120A, Cherry	48403	Rolls Royce (shadow)
86112	Datsun PL620	48404	Rolls Royce (Limo)
86119	Datsun 1600, 2000, 240Z, 260Z	49508	Rover
72210	DeTomaso Mangusta, Pantera, Deauville	95108	Saab 95, 96, 99
83209	Dodge-Mitsubishi Colt	95119	Saab Sonnett
		53109	Simca 1204, GLS
77110	Ferrari	46209	Singer (automobile)
76109	Fiat 500, 650, 850, 124 & 128 sedans	88209	Subaru
76110	Fiat Dino	46319	Sunbeam Alpine, Tiger, Rapier
76119	Fiat 650, 124, 128, Coupe and Spyder, 1500 Spyder	88309	Suzuki (automobile)
42209	Ford Anglia, Cortina, Escort	883--	Suzuki (motorcycle)
62209	Ford Capri		
42401	Ford Zephyr	45619	Triumph Herald
		45608	Triumph 2000
		45610	Triumph Spitfire, GT6, TR3, TR4, TR250,
46109	Hillman Imp, Avenger		TR6, GT6+, Stag
31708	Holden	87108	Toyota Corona, Crown, MarkII
881--	Honda (motorcycle)	87109	Toyota Corolla, Sprinter, Celica, Carina
88109	Honda, Civic, 600, 800	87110	Toyota 2000GT
45503	Jaguar 420, XJ-6, XJ-12, V-12	87112	Toyota Hi-Lux
45510	Jaguar E type (XKE)	87114	Toyota Land Cruiser
48610	Jensen, Healey, Interceptor		
884--		41908	Vauxhall
66119	Kawasaki (motorcycle)	95208	Volvo 122, 142, 144, 145, 164, 522
	Karmann Ghia, VW	95219	Volvo P1800
78410	Lamborghini	66108	VW 411, 412, VW Dasher
78208	Lancia Berlina 4 door	66109	VW 1300, 1302, 1303, 1500, 1600, "Beetle"
78219	Lancia 2 door	66111	VW Van, Campmobile, "Bus"
48814	Land Rover	66119	VW Karmann Ghia
48219	Lectus Elan, Elite, +2s, Super 7, Europa	66120	VW Thing
48210	Lotus Europa	885--	Yamaha (motorcycle)

OCCUPATIONAL CLASSIFICATION SYSTEM

(11) PROFESSIONAL, TECHNICAL, AND KINDRED WORKERS

Accountants
 Architects
 Computer specialists
 Computer programmers
 Computer systems analysts
 Computer specialists, n.e.c.
 Engineers
 Aeronautical and astronautical engineers
 Chemical engineers
 Civil engineers
 Electrical and electronic engineers
 Industrial engineers
 Mechanical engineers
 Metallurgical and materials engineers
 Mining engineers
 Petroleum engineers
 Sales engineers
 Engineers, n.e.c.
 Farm management advisors
 Foresters and conservationists
 Home management advisors
 Lawyers and judges
 Judges
 Lawyers
 Librarians, archivists, and curators
 Librarians
 Archivists and curators
 Mathematical specialists
 Actuaries
 Mathematicians
 Statisticians
 Life and physical scientists
 Agricultural scientists
 Atmospheric and space scientists
 Biological scientists
 Chemists
 Geologists
 Marine scientists
 Physicists and astronomers
 Life and physical scientists, n.e.c.
 Operations and systems researchers and analysts
 Personnel and labor relations workers
 Physicians, dentists, and related practitioners
 Chiropractors
 Dentists
 Optometrists
 Pharmacists
 Physicians, medical and osteopathic
 Podiatrists
 Veterinarians
 Health practitioners, n.e.c.

PROFESSIONAL, TECHNICAL, AND KINDRED WORKERS—Continued

Nurses, dietitians, and therapists
 Dietitians
 Registered nurses
 Therapists
 Health technologists and technicians
 Clinical laboratory technologists and technicians
 Dental hygienists
 Health record technologists and technicians
 Radiologic technologists and technicians
 Therapy assistants
 Health technologists and technicians, n.e.c.
 Religious workers
 Clergymen
 Religious workers, n.e.c.
 Social scientists
 Economists
 Political scientists
 Psychologists
 Sociologists
 Urban and regional planners
 Social scientists, n.e.c.
 Social and recreation workers
 Social workers
 Recreation workers
 Teachers, college and university
 Agriculture teachers
 Atmospheric, earth, marine, and space teachers
 Biology teachers
 Chemistry teachers
 Physics teachers
 Engineering teachers
 Mathematics teachers
 Health specialties teachers
 Psychology teachers
 Business and commerce teachers
 Economics teachers
 History teachers
 Sociology teachers
 Social science teachers, n.e.c.
 Art, drama, and music teachers
 Coaches and physical education teachers
 Education teachers
 English teachers
 Foreign language teachers
 Home economics teachers
 Law teachers
 Theology teachers
 Trade, industrial, and technical teachers
 Miscellaneous teachers, college and university
 Teachers, college and university, subject not specified

OCCUPATION CLASSIFICATION

PROFESSIONAL, TECHNICAL, AND KINDRED WORKERS—Continued

Teachers, except college and university
 Adult education teachers
 Elementary school teachers
 Prekindergarten and kindergarten teachers
 Secondary school teachers
 Teachers, except college and university, n.e.c.

Engineering and science technicians
 Agriculture and biological technicians, except health
 Chemical technicians
 Draftsmen
 Electrical and electronic engineering technicians
 Industrial engineering technicians
 Mechanical engineering technicians
 Mathematical technicians
 Surveyors
 Engineering and science technicians, n.e.c.

Technicians, except health, and engineering and
 science
 Airplane pilots
 Air traffic controllers
 Embalmers
 Flight engineers
 Radio operators
 Tool programmers, numerical control
 Technicians, n.e.c.

Vocational and educational counselors

Writers, artists, and entertainers
 Actors
 Athletes and kindred workers
 Authors
 Dancers
 Designers
 Editors and reporters
 Musicians and composers
 Painters and sculptors
 Photographers
 Public relations men and publicity writers
 Radio and television announcers
 Writers, artists, and entertainers, n.e.c.

Research workers, not specified

(12) MANAGERS AND ADMINISTRATORS, EXCEPT FARM

Assessors, controllers, and treasurers; local public
 administration
 Bank officers and financial managers
 Buyers and shippers, farm products
 Buyers, wholesale and retail trade
 Credit men
 Funeral directors
 Health administrators
 Construction inspectors, public administration
 Inspectors, except construction, public administration
 Managers and superintendents, building
 Office managers, n.e.c.
 Officers, pilots, and pursers; ship
 Officials and administrators; public administration,
 n.e.c.
 Officials of lodges, societies, and unions
 Postmasters and mail superintendents
 Purchasing agents and buyers, n.e.c.
 Railroad conductors

MANAGERS AND ADMINISTRATORS, EXCEPT FARM—Continued

Restaurant, cafeteria, and bar managers
 Sales managers and department heads, retail trade
 Sales managers, except retail trade
 School administrators, college
 School administrators, elementary and secondary
Managers and administrators, n.e.c.

(13) SALES WORKERS

Advertising agents and salesmen
 Auctioneers
 Demonstrators
 Hucksters and peddlers
 Insurance agents, brokers, and underwriters
 Newsboys
 Real estate agents and brokers
 Stock and bond salesmen
 Salesmen and sales clerks, n.e.c.

(14) CLERICAL AND KINDRED WORKERS

Bank tellers
 Billing clerks
 Bookkeepers
 Cashiers
 Clerical assistants, social welfare
 Clerical supervisors, n.e.c.
 Collectors, bill and account
 Counter clerks, except food
 Dispatchers and starters, vehicle
 Enumerators and interviewers
 Estimators and investigators, n.e.c.
 Expeditors and production controllers
 File clerks
 Insurance adjusters, examiners, and investigators
 Library attendants and assistants
 Mail carriers, post office
 Mail handlers, except post office
 Messengers and office boys
 Meter readers, utilities
 Office machine operators
 Bookkeeping and billing machine operators
 Calculating machine operators
 Computer and peripheral equipment operators
 Duplicating machine operators

OCCUPATION CLASSIFICATION

CLERICAL AND KINDRED WORKERS—Continued

Office machine operators—Continued

- Key punch operators
- Tabulating machine operators
- Office machine operators, n.e.c.
- Payroll and timekeeping clerks
- Postal clerks
- Proofreaders
- Real estate appraisers
- Receptionists
- Secretaries
 - Secretaries, legal
 - Secretaries, medical
 - Secretaries, n.e.c.
- Shipping and receiving clerks
- Statistical clerks
- Stenographers
- Stock clerks and storekeepers
- Teacher aides, exc. school monitors
- Telegraph messengers
- Telegraph operators
- Telephone operators
- Ticket, station, and express agents
- Typists
- Weighers
- Miscellaneous clerical workers
- Not specified clerical workers

(21)

CRAFTSMEN AND KINDRED WORKERS

- Automobile accessories installers
- Bakers
- Blacksmiths
- Boilermakers
- Bookbinders
- Brickmasons and stonemasons
- Brickmasons and stonemasons, apprentices
- Bulldozer operators
- Cabinetmakers
- Carpenters
- Carpenter apprentices
- Carpet installers
- Cement and concrete finishers
- Compositors and typesetters
- Printing trades apprentices, exc. pressmen
- Cranemen, derrickmen, and hoistmen
- Decorators and window dressers
- Dental laboratory technicians
- Electricians
- Electrician apprentices
- Electric power linemen and cablemen
- Electrotypers and stereotypers
- Engravers, exc. photoengravers
- Excavating, grading, and road machine operators; exc. bulldozer
- Floor layers, exc. tile setters
- Foremen, n.e.c.
- Forgemen and hammermen
- Furniture and wood finishers
- Furniers
- Glaziers
- Heat treaters, annealers, and temperers
- Inspectors, scalers, and graders; log and lumber
- Inspectors, n.e.c.

CRAFTSMEN AND KINDRED WORKERS—Continued

- Jewelers and watchmakers
- Job and die setters, metal
- Locomotive engineers
- Locomotive firemen
- Machinists
- Machinist apprentices
- Mechanics and repairmen
 - Air conditioning, heating, and refrigeration
 - Aircraft
 - Automobile body repairmen
 - Automobile mechanics
 - Automobile mechanic apprentices
 - Data processing machine repairmen
 - Farm implement
 - Heavy equipment mechanics, incl. diesel
 - Household appliance and accessory installers and mechanics
 - Loom fixers
 - Office machine
 - Radio and television
 - Railroad and car shop
 - Mechanic, exc. auto, apprentices
 - Miscellaneous mechanics and repairmen
 - Not specified mechanics and repairmen
- Millers; grain, flour, and feed
- Millwrights
- Molders, metal
- Molder apprentices
- Motion picture projectionists
- Opticians, and lens grinders and polishers
- Painters, construction and maintenance
- Painter apprentices
- Paperhangers
- Pattern and model makers, exc. paper
- Photoengravers and lithographers
- Piano and organ tuners and repairmen
- Plasterers
- Plasterer apprentices
- Plumbers and pipe fitters
- Plumber and pipe fitter apprentices
- Power station operators
- Pressmen and plate printers, printing
- Pressman apprentices
- Rollers and finishers, metal
- Roofers and slaters
- Sheetmetal workers and tinsmiths
- Sheetmetal apprentices
- Shipfitters
- Shoe repairmen
- Sign painters and letterers
- Stationary engineers
- Stone cutters and stone carvers
- Structural metal craftsmen
- Tailors
- Telephone installers and repairmen
- Telephone linemen and splicers
- Tile setters
- Tool and die makers
- Tool and die maker apprentices
- Upholsterers
- Specified craft apprentices, n.e.c.
- Not specified apprentices

OCCUPATION CLASSIFICATION

CRAFTSMEN AND KINDRED WORKERS—

Continued

Craftsmen and kindred workers, n.e.c.
Former members of the Armed Forces

(22) OPERATIVES, EXCEPT TRANSPORT

Asbestos and insulation workers
Assemblers
Blasters and powdermen
Bottling and canning operatives
Chainmen, rodmen, and axmen; surveying
Checkers, examiners, and inspectors; manufacturing
Clothing ironers and pressers
Cutting operatives, n.e.c.
Dressmakers and seamstresses, except factory
Drillers, earth
Dry wall installers and lathers
Dyers
Filers, polishers, sanders, and buffers
Furnacemen, smeltermen, and pourers
Garage workers and gas station attendants
Graders and sorters, manufacturing
Produce graders and packers, except factory and farm
Heaters, metal
Laundry and dry cleaning operatives, n.e.c.
Meat cutters and butchers, exc. manufacturing
Meat cutters and butchers, manufacturing
Meat wrappers, retail trade
Metal platers
Milliners
Mine operatives, n.e.c.
Mixing operatives
Oilers and greasers, exc. auto
Packers and wrappers, except meat and produce
Painters, manufactured articles
Photographic process workers
Precision machine operatives
 Drill press operatives
 Grinding machine operatives
 Lathe and milling machine operatives
 Precision machine operatives, n.e.c.
Punch and stamping press operatives
Riveters and fasteners
Sailors and deckhands
Sawyers
Sewers and stitchers
Shoemaking machine operatives
Solderers
Stationary firemen
Textile operatives
 Carding, lapping, and combing operatives
 Knitters, loopers, and toppers
 Spinners, twistors, and winders
 Weavers
 Textile operatives, n.e.c.
Welders and flame-cutters
Winding operatives, n.e.c.
Machine operatives, miscellaneous specified
Machine operatives, not specified
Miscellaneous operatives
Not specified operatives

(23) TRANSPORT EQUIPMENT OPERATIVES

Boatmen and canalmen
Bus drivers
Conductors and motormen, urban rail transit
Deliverymen and routemen
Fork lift and tow motor operatives
Motormen; mine, factory, logging camp, etc.
Parking attendants
Railroad brakemen
Railroad switchmen
Taxicab drivers and chauffeurs
Truck drivers

(24) LABORERS, EXCEPT FARM

Animal caretakers, exc. farm
Carpenters' helpers
Construction laborers, exc. carpenters' helpers
Fishermen and oystermen
Freight and material handlers
Garbage collectors
Gardeners and groundskeepers, exc. farm
Longshoremen and stevedores
Lumbermen, raftsmen, and woodchoppers
Stock handlers
Teamsters
Vehicle washers and equipment cleaners
Warehousemen, n.e.c.
Miscellaneous laborers
Not specified laborers

(31) FARMERS AND FARM MANAGERS

Farmers (owners and tenants)
Farm managers

(32) FARM LABORERS AND FARM FOREMEN

Farm foremen
Farm laborers, wage workers
Farm laborers, unpaid family workers
Farm service laborers, self-employed

(41) SERVICE WORKERS, EXC. PRIVATE HOUSEHOLD

Cleaning service workers
Chambermaids and maids, except private household
Cleaners and charwomen
Janitors and sextons

Food service workers
Bartenders
Busboys
Cooks, except private household
Dishwashers
Food counter and fountain workers
Waiters
Food service workers, n.e.c., except private household

**SERVICE WORKERS, EXC. PRIVATE
HOUSEHOLD—Continued**

Health service workers

Dental assistants
Health aides, exc. nursing
Health trainees
Lay midwives
Nursing aides, orderlies, and attendants
Practical nurses

Personal service workers

Airline stewardesses
Attendants, recreation and amusement
Attendants, personal service, n.e.c.
Baggage porters and bellhops
Barbers
Boarding and lodging house keepers
Bootblacks
Child care workers, exc. private household
Elevator operators
Hairdressers and cosmetologists
Personal service apprentices
Housekeepers, exc. private household
School monitors
Ushers, recreation and amusement
Welfare service aides

Protective service workers

Crossing guards and bridge tenders
Firemen, fire protection
Guards and watchmen
Marshals and constables
Policemen and detectives
Sheriffs and bailiffs

(42)

PRIVATE HOUSEHOLD WORKERS

Child care workers, private household
Cooks, private household
Housekeepers, private household
Laundresses, private household
Maids and servants, private household

(50) Housewife

(60) Student

(70) Military

(80) Retired

(90) Unemployed (over a month)

(00) Unreported, Unknown

Note: If several jobs, use major time
If temp. unemployed, use last job

OCCUPANT CONTACT AREAS

OCCUPANT CONTACT CODES JANUARY 22, 1974 *

FRONT OF PASSENGER COMPARTMENT

- (12) WINDSHIELD
- (05) INSTRUMENT PANEL (SPECIFIC AREA UNKNOWN)
- (54) UPPER INSTRUMENT PANEL (X)
- (55) MIDDLE INSTRUMENT PANEL (Y)
- (56) LOWER INSTRUMENT PANEL (Z)
- (57) BENEATH INSTRUMENT PANEL
- (28) FOOT CONTROLS (INCLUDES PARKING BRAKE PEDAL)
- (84) PARKING BRAKE HANDLE (IN FRONT)
- (07) PARKING BRAKE HANDLE (LOCATION UNKNOWN)
- (09) STEERING ASSEMBLY (SPECIFIC AREA UNKNOWN)
- (65) STEERING WHEEL
- (66) STEERING WHEEL COLUMN
- (59) TRANSMISSION LEVER ON COLUMN
- (11) TRANSMISSION SELECTOR LEVER (LOCATION UNKNOWN)
- (67) IGNITION KEYS
- (06) MIRRORS
- (02) GLOVE COMPARTMENT AREA
- (03) HARDWARE ITEMS (SPECIFIC ITEM UNKNOWN)
- (81) ASHTRAY (INSTRUMENT PANEL)
- (82) INSTRUMENTS
- (83) CONTROL KNOBS AND LEVERS
- (04) HEATER OR AC DUCTS
- (01) AIR CONDITIONING OR VENTILATION OUTLETS
- (08) RADIO
- (58) ADD-ON TAPE DECK, RADIO, AIR CONDITIONER
- (53) PARCEL TRAY
- (86) VERTICAL CONSOLE

SIDES

- (20) SURFACE OF SIDE INTERIORS
- (19) HARDWARE
- (13) ARMRESTS
- (22) WINDOW GLASS
- (21) WINDOW FRAMES
- (14) A-PILLAR
- (15) B-PILLAR
- (16) C-PILLAR
- (17) D-PILLAR

INTERIOR

- (29) FRONT SEATBACKS
- (33) RESTRAINT SYSTEM HARDWARE
- (34) RESTRAINT SYSTEM WEBBING
- (87) AIR CUSHION SKIN (AIRBAG)
- (30) HEAD RESTRAINTS
- (32) OTHER OCCUPANTS
- (31) INTERIOR LOOSE OBJECT
- (50) REAR SEAT CUSHION AND BACK
- (51) FRONT SEAT CUSHION
- (52) INTERNAL FLYING GLASS (FROM ANY SOURCE)
- (89) UNDER SEAT BOTTOM
- (40) FLOOR
- (27) CONSOLE
- (44) TRANSMISSION LEVER (ON FLOOR OR CONSOLE)
- (85) PARKING BRAKE HANDLE (ON FLOOR OR CONSOLE)

ROOF

- (26) ROOF SIDE RAILS
- (10) SUNVISORS & FITTINGS AND/OR TOP MOULDING (HEADER)
- (25) ROOF OR CONVERTIBLE TOP
- (39) BACKLIGHT HEADER
- (24) COAT HOOKS
- (18) DOME LIGHT

REAR

- (88) SURFACE OF REAR INTERIOR
- (23) BACKLIGHT (REAR WINDOW)
- EXTERIOR SURFACE OF CASE VEHICLE
- (37) OUTSIDE SURFACE OF CASE VEHICLE (SPECIFIC AREA UNKNOWN)
- (35) HOOD OF CASE VEHICLE
- (60) EXTERIOR OF CASE VEHICLE HARDWARE (E.G., OUTSIDE MIRRORS, ANTENNA, TRIM, DOOR HANDLES, ETC.)
- (62) EXTERIOR SIDE ROOF RAIL OF CASE VEHICLE
- (63) TRUNK LID OF CASE VEHICLE
- (64) TIRES OF CASE VEHICLE

BEYOND CASE VEHICLE BOUNDARY

- (36) AREA EXTERIOR TO CAR (SPECIFIC AREA UNKNOWN)
- (70) HOOD OF OTHER VEHICLE
- (71) OTHER VEHICLE EXTERIOR HARDWARE (E.G., OUTSIDE MIRRORS, ANTENNA, TRIM, ORNAMENTS, DOOR HANDLES, ETC.)
- (73) EXTERIOR SIDE ROOF RAIL OF OTHER VEHICLE
- (74) HEADLIGHT OR FRONT GRILL OF OTHER VEHICLE
- (75) TRUNK OF OTHER VEHICLE
- (76) OUTSIDE SURFACE OF OTHER VEHICLE
- (77) TIRES OF OTHER VEHICLE
- (78) GROUND
- (79) WATER
- (80) EXTERIOR OBJECT (NOT VEHICLE, GROUND OR WATER):

PENETRATING OBJECTS

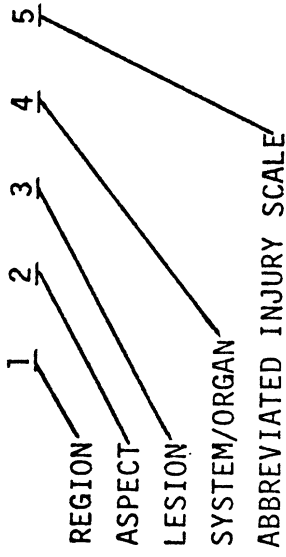
- (61) OTHER VEHICLE
- (72) OBJECTS: _____

MISCELLANEOUS

- (38) OTHER: _____
- (98) IMPACT FORCE, "WHIPLASH", HYPEREXTENSION/COMPRESSION
- (99) MISSING/NO CONTACT
- (00) UNKNOWN AREA OF CONTACT

*For use in CPIR Revision 3 and in CPIR Occupant Supplement.

OCCUPANT INJURY CLASSIFICATION -OIC-



1 BODY REGION

- H HEAD - SKULL
- F FACE
- N NECK - CERVICAL SPINE
- S SHOULDER
- X UPPER EXTREMITIES (ARMS)
 - A ARM (UPPER)
 - E ELBOW
 - R FOREARM
 - W WRIST - HAND
- C CHEST
- M ABDOMEN
- B BACK - THORACOLUMBAR SPINE
- P PELVIC - HIP
- Y LOWER EXTREMITIES (LEGS)
 - T THIGH
 - K KNEE
 - L LEG (LOWER)
 - Q ANKLE - FOOT
 - O WHOLE BODY
 - U UNKNOWN, UNCLASSIFIED

2 ASPECT

- R RIGHT
- L LEFT
- B BILATERAL
- C CENTRAL
- A ANTERIOR/FRONT
- P POSTERIOR/BACK
- S SUPERIOR/UPPER
- I INFERIOR/LOWER
- W WHOLE REGION
- U UNKNOWN

3 LESION

- L LACERATION
- C CONTUSION
- A ABRASIONS
- F FRACTURES
- P PAIN
- K CONCUSSION
- H HEMORRHAGE
- V AVULSION
- R RUPTURE
- S SPRAINS
- D DISLOCATIONS
- N CRUSHING
- M AMPUTATION
- B BURN
- X ASPHYXIA
- O OTHER
- U UNKNOWN

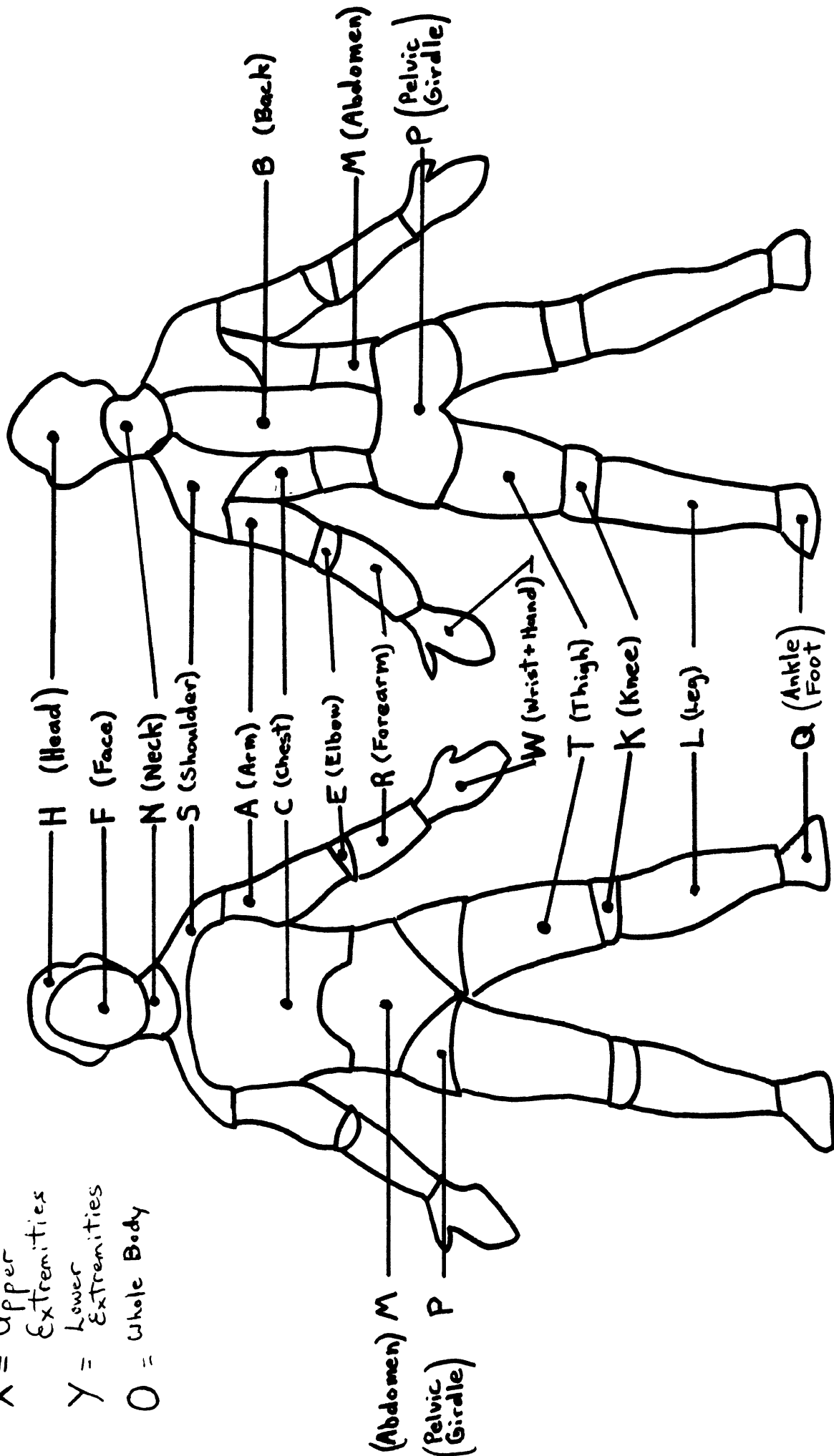
4 SYSTEM/ORGAN

- S SKELETAL
- V VERTEBRAE
- J JOINTS
- D DIGESTIVE
- L LIVER
- N NERVOUS SYSTEM
- B BRAIN
- C SPINAL CORD
- E EYES, EARS
- CARDIOVASCULAR
- A ARTERIES, VEINS
- H HEART
- Q SPLEEN
- G UROGENITAL
- K KIDNEYS
- R RESPIRATORY
- P PULMONARY, LUNGS
- M MUSCLES
- I INTEGUMENTARY
- U UNKNOWN, UNCLASSIFIED

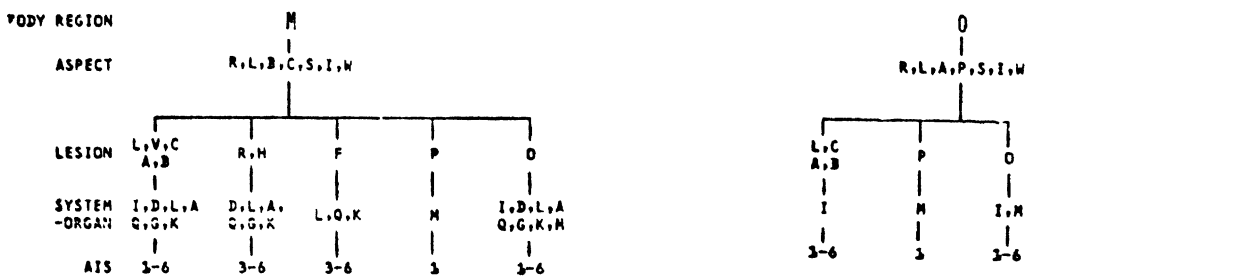
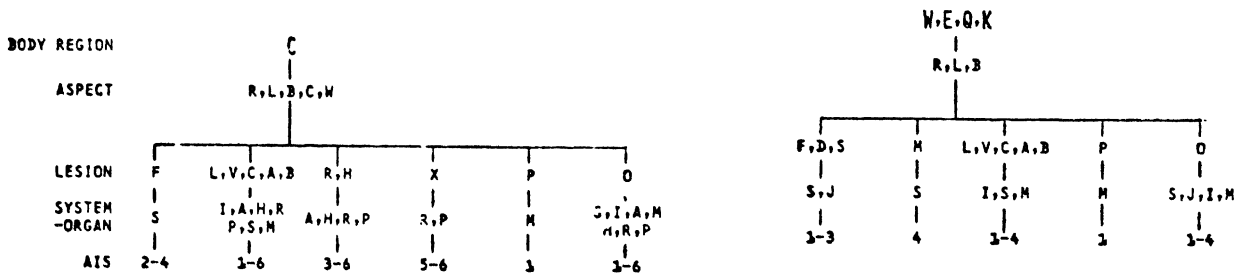
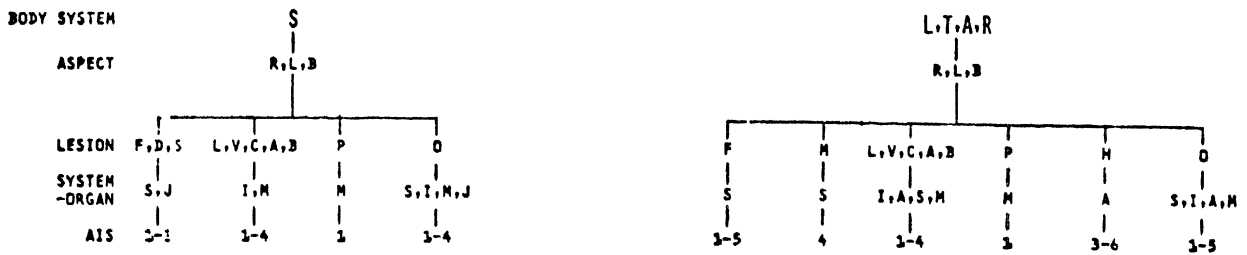
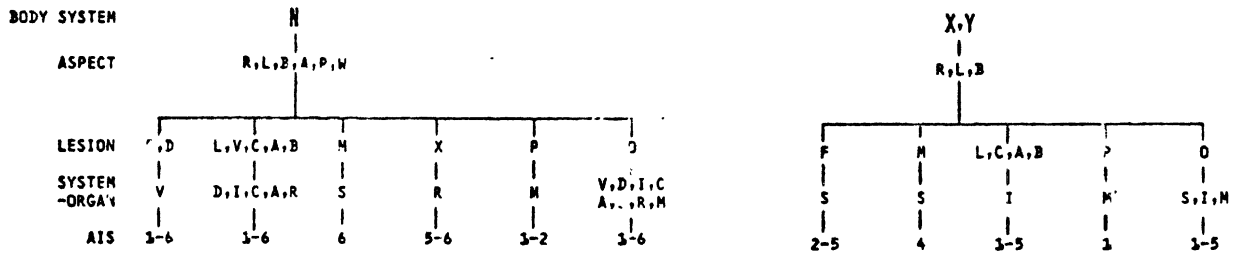
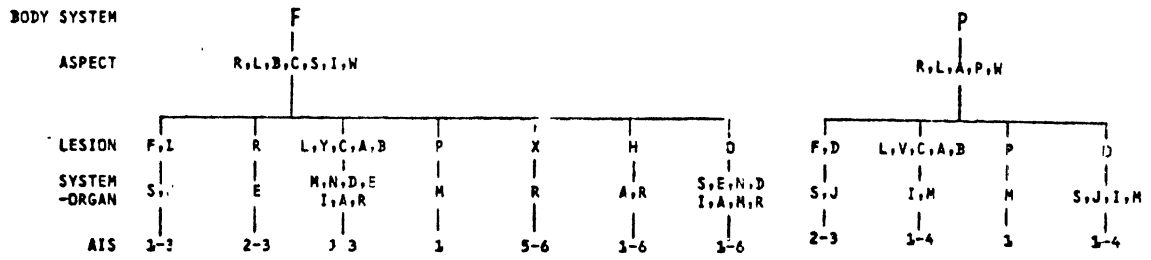
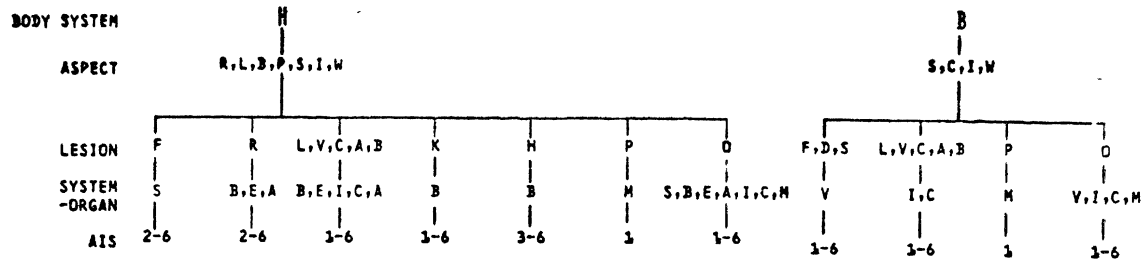
5 AIS

- 0 NONE
- 1 MINOR
- 2 MODERATE
- 3 SEVERE
- 4 SERIOUS
- 5 CRITICAL
- 6 FATAL
- 9 UNKNOWN

X = Upper
Extremities
Y = Lower
Extremities
O = Whole Body



VALID OIC COMBINATIONS



RESTRAINT SYSTEM: BELT AVAILABILITY

Standard Lap Belt Equipment

	<u>GM</u>	<u>Chrysler</u>	<u>Ford</u>	<u>AMC</u>
Two front-seat Lap Belts	1965 Model yr.	January 4, 1964	Jan. 1, 1964	Jan. 1, 1964
Two rear-seat Lap Belts	1966 Model yr.	April 1, 1965	1966 Model yr.	1966 Model yr.
All 6 Seated Positions (Mandatory Jan. 1, 1968)	1968 Model yr.	January 1, 1968	Jan. 1, 1968	Jan. 1, 1968

Optional Shoulder-Belt Equipment

	<u>GM</u>	<u>Chrysler</u>	<u>Ford</u>	<u>AMC</u>
Shoulder Belts (Front seat)	1967	1967	Became option in 1967	Became option in 1967

RESTRAINT SYSTEM: CHILD RESTRAINTS

Child Restraint Codes (6-25-73)

I. Harness Restraint

A. Anchored by strap over seat to floor

10. Unknown or other harness anchored to floor
11. Sears Child Safety Harness # 6401
12. Sears Child Safety Harness # 6402
13. Irvin Auto Safety Harness # CH-102
14. Wards Harness # 6686053
15. Volpex Harness # (-2000
16. Mark IV Monitor Harness # 61B12690 (Wards)

B. Anchored by adult lap belt

17. Unknown or other harness anchored by lap belt
18. Life Auto Babe Nylon Car Harness
19. Circle Square Ea-Re Safety Harness

C. Anchored by straps from the waist to the floor

20. Unknown or other harness anchored with waist straps
21. American Motors Harness # 8992188
22. American Motors Harness # CV250

II. Seat Type Restraint

A. Rear facing and anchored by adult lap belt

23. Unknown or other rear facing seat
24. GM Infant Carrier # 0993970

B. Encapsulating shell with anchorage by adult lap belt

25. Unknown or other encapsulating shell
26. Ford Tot Guard
27. Donlee Plastics Safety Seat (Guardwell)
28. Firestone Protecta Tot
29. Bobby Mac Safety Shield (Hookunder)
30. Irvin Industries "Irvin The Magnificent"

*C. Forward facing seat - Hookover and Hookunder type

34. Unknown or other hookover and hookunder
35. Bunny-Bear Seat # T8905H

*D. Forward facing seat - Hookover type (all non-pedestal)

36. Unknown or other hookover seat
37. Union Carbide High Back Sports Car Seat (no headrest)
38. Thayer Seat # 34936 (no headrest)
39. Century Seat # 4625 (no headrest)
40. Fabric seat and back with no child seat belts (no headrest)
41. International Seat # 4513
42. Strollee Seat # 509
43. Trimble Products Seat (Wards # 821)
44. Peterson Swinger Seat # 60EC
45. Five-Filer Brothers Bail Seat
46. George B. Walker Safety Seat (also with straps to go around seat and anchor to floor)

*E. Forward facing seat - Hookunder type

47. Unknown or other hookunder seat
48. Jamy Seat # 5420
49. Bunny Bear Seat # 3505
50. Ross Derry Seat
51. Fitz-All Kantwet Child Seat (tiltable), Kant-Wet noozler # 872

52. Bunny Bear N-50 (hookunder bends down, in foreign cars)
53. Trimble-Guardian Child Seat # 8750-879
54. International Seat # 4613 (no headrest)
55. Century Seat # 4865 (no headrest)
56. Dennis Mitchell Seat (no headrest)
57. Five Filer Brothers Hookunder Seat (No head rest)
58. Sears Seat # 2816400C (GM Made) (high cushion pedestal, no headrest)
59. GM Standard Seat # 993502 (high cushion, pedestal, no handbar, no headrest)

*F. Forward facing seat - anchored by adult lap belt

65. Unknown or other seat anchored by lap belt
66. Strollee Seat # 589, # 590 (Wards # 6101)
67. Trimble Seat # 875 (Wards # 6102)
68. Century Seat # 4845
69. Thayer Bobby-Mac Tri-Chair
70. Bunny Bear 61 E-Z Fit
71. Peterson Seat # 61, 63, 68
72. Teddy Tot 620 (Sears # 85285), 6600
73. Kantwet # 78
74. Sears Seat # 5516 (high cushion pedestal, hookover, no handbar, no headrest, no child seat belts)
75. Sears Safety Seat # 2-AR6401 (molded plastic shell, non pedestal, no head restraint, no handbar, harness belt)
80. Unknown or other like Cosco Go-Seat
81. Hamilton Cosco Go-Seat (steel rod pedestal, no handbar, no head restraint, no child seat belts)
82. Unknown or other high cushion only
83. Beam's Tot Booster Cushion (high cushion pedestal, no seat back, no handbar, no head restraint, no child seat belts)
84. Kelly Kiddy Faddy (high cushion pedestal, no seat back, no handbar, no head restraint, no child seat belts)

*G. Forward facing seat - tiedown with strap around adult seat back

85. Unknown or other strapped around seat back
86. Strollee Seat # 587
87. Volvo Child Safety Seat (moulded child seat back, straps to adult seat back, no other features, for use in reversed adult seat)

H. Forward facing seat - rear seat mounted, rear deck and floor, non pedestal, no handbar, with head restraints and child seat belts.

88. Unknown or other seat strapped to floor
89. KL Jeenay Child Safety Seat
90. Klippan Safety Seat

00. Unknown if child seat involved

98. Child seat of completely unknown type

99. Not applicable - no child seat

NOTE: Child seats referring to head restraint availability can be integral or separate.

* All forward facing seats are tubular pedestal, with padded handbar and head restraint, and with separate child seat belts unless noted otherwise.

RESTRAINT SYSTEM: HEAD RESTRAINT AVAILABILITY

Standard Head Restraint Equipment

(Mandatory January 1, 1969)

GM	1969 Model Year
Chrysler	January 1, 1969
Ford	January 1, 1969
AMC	1969 Model Year

Optional Head Restraint Equipment

GM	Before 1967
Chrysler	1967
Ford	1967
AMC	Before 1967

RESTRAINT SYSTEM: LOCKING RETRACTORS, USA

LOCKING SEAT BELT RETRACTOR AVAILABILITY (1/72)

<u>CORPORATION</u>	<u>YEAR</u>	<u>AVAILABILITY</u>
Chrysler	1969	Standard on Option C-Body Imperial
	1970	None Standard
	1971	Standard on Imperial, Others Optional
	1972	All
Ford	1970	All Standard, Except Maverick (no option)
	1971	All Standard, Except Maverick (optional) Comet (optional) Pinto (no option)
VW	All	None

RESTRAINT SYSTEM: LOCKING RETRACTORS, IMPORTS

Restraint System

	'72 IMPORTS	Type	Lap Retractor	Shoulder Retractor
AUDI	90 Sedan	3 pt	One Inertia Reel	for Both
	100 LS	3 pt	One Inertia Reel	for Both
DATSUN	1200 2-Dr Sedan	3 pt	Locking	None
	1200 2-Dr Sport Coupe	3 pt	Locking	None
	1600 Pickup	3 pt	None	None
	510 2-Dr Sedan	3 pt	None	None
	510 4-Dr Sedan	3 pt	Locking	None
	510 Station Wagon	3 pt	Locking	None
	240 Z	3 pt	Locking	None
DODGE COLT	2-Dr Coupe	3 pt	Locking	None
	2-Dr H/T	3 pt	Locking	None
	4-Dr Sedan	3 pt	None	None
	4-Dr Station Wagon	3 pt	Locking	None
FIAT	850 Spider Convertible	2 pt	Locking	N/A
FORD	Capri	3 pt	Inertia Reel	None
OPEL	1900	3 pt	Locking	None
	1900 Wagon	3 pt	Locking	None
	Rallye	3 pt	Locking	None
	G.T.	3 pt	Locking	None
PLYMOUTH	Cricket 4-Dr Sedan	3 pt	Locking	None
PORSCHE	911	3 pt	None	None
	914	3 pt	One Inertia Reel	for Both
TOYOTA	Carina 2-Dr Sedan	3 pt	Locking	None
	Corona 4-Dr Sedan	3 pt	Locking	None
	Corona 2-Dr H/T	3 pt	Locking	None
	Corolla 2-Dr Coupe	3 pt	Locking	None
	Corolla 2-Dr Sedan	3 pt	Locking	None
	Corolla Station Wagon	3 pt	Locking	None
	Celica 2-Dr H/T	3 pt	Locking	None
V W	Beetle	3 pt	One Inertia Reel	for Both
	Fastback	3 pt	One Inertia Reel	None
	Squareback	3 pt	One Inertia Reel	None
	411 2-Dr and 4-Dr	3 pt	None	None
	411 3-Dr Hatchback	3 pt	None	None

RESTRAINT SYSTEM: LOCKING RETRACTORS
IMPORTS, 73

Restraint System

<u>M. e</u>	<u>Model</u>	<u>Type</u>	<u>Lap Retractor</u>	<u>Shoulder Retractor</u>
Audi	90 Sedan - 2 dr. (Fox)	3 pt	One Inertia	Reel for both
	90 Sedan - 4 dr. (Fox)	3 pt	One Inertia	Reel for both
	100 LS - 4 dr.	3 pt	One Inertia	Reel for both
Datsun	1200 - 2 dr. Sedan	3 pt	Locking	None
	1200 - 2 dr. Sport Coupe	3 pt	Locking	None
	1600 Pickup	3 pt	None	None
	610 - 4 dr. Sedan			
	610 - 4 dr. Station Wagon	3 pt	Locking	None
	610 - 2 dr. Hardtop	3 pt	Locking	None
	240 Z	3 pt	Locking	None
Dodge	Colt - 2 dr. Coupe			
	Colt - 2 dr. Hardtop	3 pt	Locking	None
	Colt - 4 dr. Sedan			
	Colt - 4 dr. Station Wagon			
Fiat	850 Spider Convertible	2 pt	Locking	None
Ford	Capri	3 pt	One Inertia	Reel for both
Opel	1900 Luxus	3 pt	Locking	
	1900 Wagon	3 pt	Locking	None
	Rallye Manta	3 pt	Locking	None
	G. T.	3 pt	Locking	None
Plymouth	Cricket - 4 dr. Sedan	None imported after 1/73		
Porsche	911	3 pt	One Inertia	Reel for both
	914	3 pt	One Inertia	Reel for both
Toyota	Carina - 2 dr. Sedan			
	Corona - 4 dr. Sedan			
	Corona - 2 dr. Hardtop			
	Corona - Mark II MX	3 pt	Locking	None
	Corolla - 2 dr. Coupe	3 pt	Locking	None
	Corolla - 2 dr. Sedan	3 pt	Locking	None
	Corolla - Station Wagon	3 pt	Locking	None
	Celica - 2 dr. Hardtop	3 pt	Locking	None
VW	Beetle	3 pt	One Inertia	Reel for both
	Fastback	3 pt	One Inertia	Reel for both
	Squareback	3 pt	One Inertia	Reel for both
	412 - 2 dr.	3 pt	One Inertia	Reel for both
	412 - 4 dr.	3 pt	Inertia Reel	None
	412 - 3 dr. Hatchback			

RESTRAINT SYSTEM USAGE CODE

<u>FIRST COLUMN</u>		<u>SECOND COLUMN</u>	
<u>Lap Belt</u>		<u>Upper Torso Restriant</u>	
<u>Code</u>	<u>Description</u>	<u>Code</u>	<u>Description</u>
0	None Used	0	None Used
1	Non-Locking Retractor, Used	1	Non-Locking Retractor, Used
2	Inline Retractor, Used	2	Inline Retractor, Used
3	Automatic Locking Retractor, Used	3	Automatic Locking Retractor, Used
4	Inertia Retractor, Used	4	Inertia Retractor, Used
5	No Retractor, Used	5	No Retractor, Used
6	Competition Type (3" webbing)	6	Competition Type (Double Strap)
7		7	
8	Used, Type Unknown or Other	8	Used, Type Unknown or Other
9	Unknown Useage	9	Unknown Useage

USE OF RESTRAINT CODES

<u>Code</u>	<u>When to Use</u>
1-7	Use these codes only if the particular lap-belt or shoulder belt was <u>used</u> . If lap-belt only was <u>used</u> , then use "0" in 2nd column
8	Use when restraint was <u>used but type unknown</u> or other than 1-7
0	Use this if restraint was <u>not used</u> , even if it was not available for <u>use or</u> availability is not known.
9	Use this if usage is unknown, even if type available is known.

TYPICAL COMBINATIONS

- 10 Lap-Belt only used (Standard, Front Seat)
- 15 Lap-Shoulder Belt Used (Standard, Front Seat)
- 20 Lap-Belt only used (Standard, Rear Seat)

RESTRAINT SYSTEM: WARNING SYSTEM

Identification of 1972 Model year automobiles equipped with seat belt warning system.

Cars manufactured or sold after January 1, 1972 were equipped with a seat belt warning system (MVSS 208). American cars equipped with the systems may be identified in the following ways:

AMC products - 1972 cars with push button buckles

GM products - 1972 cars with 3 point systems

Chrysler

products - 1972 cars with rear seat retractors

Ford products- Those 1972 cars which are equipped have a wire from the right front seat to the right outboard retractor, and the driver's retractor has a plastic covered plug which can be removed to abort the system.

74 AMERICAN MOTORS SEAT BACK ANGLES

Hornet	Hatchback	64°
	4-Dr Sedan	66°
	2-Dr Sedan	66°
	Wagon	66°
Matador	4-Dr Sedan	66°
	Coupe	66°
	Wagon	66°
Gremlin	2-Dr	66°
Javelin	2-Dr	64°
Ambassador	4-Dr Sedan	66°
	Wagon	66°

SEAT BACK ANGLES: CHRYSLER

71-73 CHRYSLER FRONT SEAT BACK ANGLES

All Models $64.5^{\circ} \pm 1^{\circ}$

1974 CHRYSLER FRONT SEAT BACK ANGLES

All Chrysler cars except Colt 64°

Colt not available

1970 Ford Front Seat Back Angles

MODEL & YEAR	MAVERICK - 1970			MUSTANG - 1970			COUGAR - 1970			
SERIES #	62			65	63	76			65	76
FRONT SEAT BACK ANGLE TO HORIZONTAL (BENCH)	68°			68°	*	*				
FRONT SEAT BACK ANGLE TO HORIZONTAL (BUCKET)									68°	*

MODEL & YEAR	TORINO - 1970						MONTEGO - 1970							
SERIES #	54	57	62	63	65	66	71	76	54	57	62	65	71	76
FRONT SEAT BACK ANGLE TO HORIZONTAL (BENCH)	66.5°	*	66.8°	*	66.8°	68°	67.5°	*	66.5°	*	66.8°	66.8°	67.5°	*
FRONT SEAT BACK ANGLE TO HORIZONTAL (BUCKET)														66°

MODEL & YEAR	FORD - 1970						MERCURY - 1970							
SERIES #	54	57	62	63	65	71	76	54	53	57	65	63	76	71
FRONT SEAT BACK ANGLE TO HORIZONTAL (BENCH)	66°	*	*	*	*	65°	67°	68°	*	*	*	*	*	67°
FRONT SEAT BACK ANGLE TO HORIZONTAL (BUCKET)														65°

MODEL & YEAR	THUNDERBIRD - MARK III			LINCOLN		
SERIES #	65	57		65		53
FRONT SEAT BACK ANGLE TO HORIZONTAL (BENCH)	67.5°	67°		67°		
FRONT SEAT BACK ANGLE TO HORIZONTAL (BUCKET)	67.5°			69°		

SERIES NO.	BODY STYLE
53	4-dr. Sedan (Concealed "B"-Pillar)
54	4-dr. Sedan
57	4-dr. Hardtop
62	2-dr. Sedan
63	2-dr. Hardtop (Fastback)
65	2-dr. Hardtop
66	2-dr. Pickup Type Car (Ranchero)
71	4-dr. Station Wagon
76	2-dr. Convertible

NOTE: ALL DIMENSIONS REFLECT CURB ATTITUDE
 * - SAME AS BASE MODEL
 Δ - SAME AS MODEL - 57

1971 Ford Front Seat Back Angles

VEHICLE ACCIDENT INVESTIGATION DIMENSIONS

Model & Year Series #	Maverick '71 62 54	Comet '71 62 54	Pinto '71 62	Mustang '71 65 63 76	Cougar '71 65 76	Torino '71 54 57 63	Montego '71 54 57 65
Front Seat Back* (Bench) Angle to Horizontal	66.2°	66.2°	66.2°	70° +	66.8°	66.5° +	66.8° +
(Bucket)	70.2°	70.2°	71°	70° +	66.0°	66.8°	66.0°

*Dimensions at Curb Attitude

+ Same as Base Model

Model & Year Series #

Model & Year Series #	Mark III '71 65	Ford '71 53 57 65 76 71	Mercury '71 53 57 71	Lincoln '71 65 53
Front Seat Back* (Bench) Angle to Horizontal	67.5°	65.5° +	65.5°	67.5°
(Bucket)	67.5°	68.5°	68.5°	68°

SERIES NO.	BODY STYLE	SERIES NO.	BODY STYLE
53	4-dr. Sedan (Concealed "B"-Pillar)	65	2-dr. Hardtop
54	4-dr. Sedan	66	2-dr. Pickup Type Car (Ranchero)
57	4-dr. Hardtop	71	4-dr. Station Wagon
62	2-dr. Sedan	76	2-dr. Convertible
63	2-dr. Hardtop (Fastback)		

SEAT BACK ANGLES: FORD 72

1972 Ford Front Seat Back Angles

Model and Year	Maverick--1972		Comet--1972		Pinto--1972		
	62	54	62	54	62	64	73
Series Number	62	54	62	54	62	64	73
Front Seat Back** (Bench)	66.2°	66.2°	66.2°	66.2°	71.3°	71.3°	70.0°
Angle to Horizontal (Bucket)	70.2°		70.2°				
Door Sill Angle** to Horizontal	-0.5°	-0.5°	-0.5°	-0.5°	-0.6°	-0.6°	0.0°

Model and Year	Thunderbird--1972	Mark IV--1972
Series Number	65	65
Front Seat Back** (Bench)	68.5°	63°
Angle to Horizontal (Bucket)		
Door Sill Angle** to Horizontal	0.5°	0.5°

Overall Length	225.0	225.0	168.0
Model and Year	Lincoln--1972		Capri--1970-1972
Series Number	65	53	
Front Seat Back** (Bench)			
Angle to Horizontal (Bucket)	67.5°	68°	64°
Door Sill Angle** to Horizontal	0.5°	0°	0.6°

Model and Year	Torino--1972					Montego--1972			
	53	63	65	66	71	53	65	63	71
Series Number									
Front Seat Back** (Bench)	64°	64°	64°	64°	64°	64°	64°	64°	64°
Angle to Horizontal (Bucket)	68.5°	68.5°	68.5°	68.5°	68.5°	68.5°	68.5°	68.5°	68.5°
Door Sill Angle** to Horizontal	0.5°	0.0°	0.0°	0.0°	0.5°	0.5°	0.0°	0.0°	0.3°

- * same as model 54
- \$ same as model 71
- # same as model 65
- 0 same as model 53

Model and Year	Mustang--1972			Cougar--1972	
Series Number	65	63	76	65	76
Front Seat Back** (Bench)					
Angle to Horizontal (Bucket)	70°	*	*	70°	*
Door Sill Angle** to Horizontal	0.5°	*	*	0.5°	*

Model and Year	Ford--1972						Mercury--1972			
	54	53	57	65	76	71	65	53	57	71
Series Number	54	53	57	65	76	71	65	53	57	71
Front Seat Back** (Bench)	63.5°	*	*	66°	*	66.5°	#	*	*	#
Angle to Horizontal (Bucket)				68.5°	#		#			
Door Sill Angle** to Horizontal	0.3°	*	*	0.2°	*	*	#	*	*	*

SERIES NO.	BODY STYLE	SERIES NO.	BODY STYLE
53	4-dr. Sedan (Concealed "B"-Pillar)	65	2-dr. Hardtop
54	4-dr. Sedan	66	2-dr. Pickup Type Car (Ranchero)
57	4-dr. Hardtop	71	4-dr. Station Wagon
62	2-dr. Sedan	76	2-dr. Convertible
63	2-dr. Hardtop (Fastback)		

1973 Ford Front Seat Back Angles

<u>Model</u>	<u>Series No.</u>	<u>Angle</u>	<u>Model</u>	<u>Series No.</u>	<u>Angle</u>
Maverick	62	Be 61.5 ^o Bu 70.2 ^o	Montego	53	Be 66.8 Bu 67.6
	54	61.5		65	Be 67.0 Bu 67.8
Comet	62	Be 61.5 ^o Bu 70.2 ^o		63	Be 67.0 Bu 67.7
	54	61.5 ^o		71	Be 67.3 Bu 68.1
Pinto	62	64.1	Mustang	53	69.0
	64	64.1		65	69.0
	73	63.9		63	69.0
T-Bird	65	64.3		71	69.0
Mark IV	65	69.3 ^o	Cougar	65	69.0
Lincoln	65	67.5		76	69.0
	53	68 ^o	Ford	53	63.8
Capri	--	66 ^o		57	63.8
Torino	53	Be 66.8 ^o Bu 67.6 ^o		65	63.8
	63	Be 67.0 Bu 67.7	Mercury	71	64.3
	65	Be 67.0 Bu 67.8		65	64
	66	Be 67.7 Bu 68.4		53	64
	71	Be 67.3 Bu 68.1		57	64
				71	64.3

<u>SERIES NO.</u>	<u>BODY STYLE</u>
53	4-dr. Sedan (Concealed "B"-Pillar)
54	4-dr. Sedan
57	4-dr. Hardtop
62	2-dr. Sedan
63	2-dr. Hardtop (Fastback)
64	2-dr. Hatchback
65	2-dr. Hardtop
66	2-dr. Pickup Type Car (Ranchero)
71	4-dr. Station Wagon
73	2-dr. Station Wagon
76	2-dr. Convertible

1974 FORD MOTOR COMPANY CARS

	SEAT BACK ANGLE	Seat Back Angle	Door Sill Angle
Maverick	2 Door Sedan	66°	-0.2°
	2 Door Grabber	66	-0.2
	4 Door Sedan	66	-0.5
Comet	2 Door Sedan	66	-0.2
	4 Door Sedan	66	-0.5
Pinto	2 Door Sedan	64	-0.1
	3 Door Model	64	-0.1
	2 Door Wagon	64	-0.9
Torino/Ranchero	4 Door Sedan/Hardtop	64	-0.1
	2 Door Hardtop	64	0.0
	Ranchero	64	-0.7
	Station Wagon	64	-0.3
Montego	4 Door Sedan/Hardtop	64	-0.1
	2 Door Hardtop	64	0.0
	Station Wagon-4 Door	64	-0.3
Mustang	3 Door 4 Pass. Hatchback	64	0.0
	2 Door 4 Pass. Notchback	64	unk.
Cougar	2 Door Hardtop	64	0.0
Ford	4 Door Pillar Hardtop	63	0.0
	4 Door Hardtop	63	0.0
	2 Door Hardtop	63	0.0
	Station Wagons	63	0.5
Lincoln	2 Door Hardtop	65	0.3
	4 Door Sedan/Hardtop	65	0.0
Thunderbird	2 Door Hardtop	64	-0.2
Mark IV	2 Door Hardtop	64	-0.2
Mercury	2 Door Hardtop	63	0.0
	4 Door Pillar Hardtop	63	0.0
	4 Door Hardtop	63	0.0
	4 Door 6 Pass. (Monterey, Rideau, Montcalm, Marquis)	63	0.0
			0.5

1970-1973 GM FRONT SEAT BACK ANGLES *

Division	Body Type	70-72	73	
Chevrolet	H	71°		
Chevrolet	X	68°		
Chevrolet	F	65°		
Chevrolet	A, A wagon & SP-A	67°		
Chevrolet	B	69°		
Pontiac	F	65°		
Pontiac	A	67°		
Pontiac	G	66°		
Pontiac	B & B wagon	67°		
Oldsmobile	A & A wagon	67°	66°	Omega:
Oldsmobile	B	67°	66°	coupe-70
Oldsmobile	C	67°	66°	sedan-68
Oldsmobile	E	68°	67°	
Buick	A	67°		
Buick	B	67°		
Buick	C	67°		
Buick	E	68°		
Cadillac	C	69°	64°	
Cadillac	D	69°	64°	
Cadillac	E	69°	64°	

* Body Type Chart on Following Page

GM BODY STYLE CHART

Style	Description	35 Sta. Wagon - 4 Dr. - 2 Seat - Dual Act. T/G	36 Sta. Wagon - 4 Dr. - 3 Seat - Dual Act. T/G
O	11 Sed. - 2 Dr. - Notch Back - Hardtop	35 Cpe. - 2 Dr. - Notch Back - Hardtop	66 Sta. Wagon - 4 Dr. - 3 Seat - Dual Act. T/G
L	15 Sta. Wagon - 2 Dr.	45 Sta. Wagon - 4 Dr. - 3 Seat	67 Cpe. - 2 Dr. - Convertible
D	23 Sed. - 4 Dr. - Aux. Seat	40 Sta. Wagon - 4 Dr. - 3 Seat	69 Sed. - 4 Dr. - Notch Back - Pir. - 4 Wido.
S	27 Cpe. - 2 Dr. - Notch Back - Pir.	47 Cpe. - 2 Dr. - Notch Back - Hardtop	77 Cpe. - 2 Dr. - Plain Back - Pir.
M	33 Sed. - 4 Dr. - Aux. St. Cir. Part	49 Sed. - 4 Dr. - Notch Back - Hardtop - 4 Wido.	80 Pick-Up Delivery
O	38 Sta. Wagon - 4 Dr. - 2 Seat	55 Sta. Wagon - 4 Dr. - 2 Seat - Dual Act. T/G	40 Short Sill Cowd
B		57 Cpe. - 2 Dr. - Notch Back - Hardtop	50 Short Sill Cowd
U			90 Short Sill Cowd
I			
J			
K			
C			
A			
D			
L			
E			
C			

Style	Description	37 Sport Wagon	37 Sport Wagon
A	332	69 87	F 85 (Sport Option for 87)
A	336	36 69 77 87	Curtiss
A	342	39 57 67	"442"
A	344	67 87	Vista Cruiser
A	348	56 66	Delta 88 (Custom Trim Option)
B	354	39 57 59	Delta 88 Custom
B	364	39 57 69	Delta 88 Royale
B	366	47 67	Delta 88 Cruiser
B	368	35 45	Ninety Eight
C	384	37 39	Ninety Eight Luxury
C	386	37 39	Short Sill Cowd
C	388	40 90	Tornado
E	396	57	Tornado Deluxe
E	398	57	
E	398	57	
A	433	27 37 69	Skyline (Custom Trim Option)
A	434	36 37 67	GS (35 Sport Wagon) & Custom Trim Option for 37 & GSX Option for 37
A	444	37 39 67 69	Skyline Custom
B	452	39 57 69	Le Sabre
B	454	39 57 67 69	Le Sabre Custom
B	450	35 45	Estate Wagon (Wood Grain & Custom Trim Options)
B	466	39 47 67	Centurion
C	482	37 39	Electra "225" (Custom Trim Option)
C	494	37 39	Electra "225" (Custom Trim Option)
E	496	87	Riviera (Custom Trim Option)
CSP	681	69	Fleetwood Braugham
C	682	47 49	Calais
C	683	47 49	DaVile
C	688	40 59 90	Short Sill Cowd
E	693	67 67	Eldorado
D	697	23 33	Fleetwood "75" Limousine



FISHER BODY
ENGINEERING ACTIVITY

*Canadian Series Built only in Canada
**Canadian Series Built only in U.S.A.
NOTE: No Right Hand Drive Styles Available.

1971 BODY STYLE
A & D
NAME CHART
ORIGINAL RELEASE
DATED 5 8 73
REVISED 7 6 73
235-56 ADDED & SALES
NAME CHANGED TO
GMC SER. #1 FOR
531-55-50 & 137
FOR 235-56

Model	F	124	87	Cherolt Camaro (Custom, Rally Sport & SS Options)
H	141	05 11-15-77		Cherolt Vega (Custom Option for 11 15 77 & Sport Option for 77)
X	114	27 69		Cherolt Monza (Custom Option for 27 69 & SS Option for 27)
A	132	36		Chevrolet Nova 33
A	134	36 37 46 69 80		Chevrolet (35-45) Greenbrier & 80 El Camino
A	136	36 37 39 45 67 69 80		Chevrolet (35-45) Monte Carlo (SS Option)
A	138	36 46		Chevrolet (Concept Estate)
ASP	139	57		Monte Carlo
A	534	80		GMC Sprint
A	536	80		GMC Sprint
B	154	35 69		Chevrolet Blazer (35 Blackwax)
B	156	35 45 69		Chevrolet Blazer (35 45 Custom)
B	164	35 39 45 47 57 67 69		Chevrolet Impala (35-45 Kingswood & 47 Impala Custom)
B	166	35 39 45 47		Chevrolet Caprice (35-45 Kingswood Estate)
<hr/>				
Acadian	X	**714	27 69	Acadian (Custom Option for 27 69 & SS Option for 27)
F	223	87		Firebird (Custom, Sprint & 400 Options)
X	214	27 69		Name N/A
A	233	27 37 69		T-37 (Decor Option)
A	235	27 36 37 39 46 69		Tempest Le Mans (Wood Grain Option for 36 46 & Decor Option for 27 37 39 69)
A	237	37 39 67		Tempest Le Mans Sport (Decor Option)
A	242	37 67		GTO (Decor Option)
ASP	276	57		Grand Prix (Custom & Decor Option)
B	252	35 39 45 57 67 69		Catalina (35-45 Safari) & Wood Grain Option for 35 45
B	258	39 57 69		Catalina Braugham
B	262	35 39 40 45 57 69 90		Bonnevile (35 45 Grand Safari, 40 50 Short Sill Cowd) & Wood Grain Option for 35 45
B	269	47 49 67		Grand Ville (Custom Option for 47 49)
B	*756	35 45 57 69		Laurentian
B	*764	39 57 69		Persephone

SEAT BACK ANGLES: IMPORTS 72

	'72 IMPORTS	SEATBACK ANGLE
AUDI	90 Sedan	74°
	100 LS	95°
DATSUN	1200 2-Dr Sedan	*
	1200 2-Dr Sport Coupe	*
	1600 Pickup	73°
	510 2-Dr Sedan	70°
	510 4-Dr Sedan	82° up
	510 Station Wagon	82° up
	240 Z	110° up
DODGE COLT	2-Dr Coupe	*
	2-Dr H/T	*
	4-Dr Sedan	*
	4-Dr Station Wagon	*
FIAT	850 Spider Convertible	67°
FORD	Capri	67° up
OPEL	1900	*
	1900 Wagon	*
	Rallye	*
	G.T.	72°
PLYMOUTH	Cricket 4-Dr Sedan	65°
PORSCHE	911	80°
	911	67.5° up 60° back
TOYOTA	Corina 2-Dr Sedan	*
	Corona 4-Dr Sedan	70°
	Corona 2-Dr H/T	*
	Corolla 2-Dr Coupe	*
	Corolla 2-Dr Sedan	*
	Corolla Station Wagon	*
	Celica 2-Dr H/T	*
V W	Beetle	71° up 61° back
	Fastback	71.5° up 62.5° back
	Squareback	71.5° up 62.5° back
	411 2-Dr and 4-Dr	*
	411 3-Dr hatchback	*

* Many Positions - Recliner

SEAT BACK ANGLES: IMPORTS 73

<u>Make</u>	<u>Model</u>	<u>Seatback Angle</u>
Audi	90 Sedan - 2 dr. (Fox)	73° up *
	90 Sedan - 4 dr. (Fox)	73° up *
	100 LS - 4 dr.	72° up *
Datsun	1200 - 2 dr. Sedan	77° up *
	1200 - 2 dr. Sport Coupe	77° up *
	1600 Pickup	72° up
	610 - 4 dr. Sedan	
	610 - 4 dr. Station Wagon	75° up *
	610 - 2 dr. Hardtop	75° up *
	240 Z	73° up *
Dodge	Colt - 2 dr. Coupe	*
	Colt - 2 dr. Hardtop	66° up *
	Colt - 4 dr. Sedan	*
	Colt - 4 dr. Station Wagon	*
Fiat	850 Spider Convertible	67°
Ford	Capri	70° up * (Optional)
Opel	1900 Luxus	72° up 3 position
	1900 Wagon	*
	Rallye Manta	*
	G. T.	72° up 3 position
Plymouth	Cricket - 4 dr. Sedan	None imported after 1/73
Porsche	911	80° up *
	914	65° up *
Toyota	Carina - 2 dr. Sedan	
	Corona - 4 dr. Sedan	
	Corona - 2 dr. Hardtop	
	Corolla - 2 dr. Coupe	*
	Corolla - 2 dr. Sedan	*
	Corolla - Station Wagon	*
	Celica - 2 dr. Hardtop	*
	Corona - Mark II MX	*
VW	Beetle	75° up 3 position
	Fastback	70° up *
	Squareback	76° up *
	412 - 2 dr.	74° up *
	412 - 4 dr.	78° up *
	412 - 3 dr. Hatchback	

*Reclining

SEAT BACKS: IMPORTS 72

	'72 IMPORTS	Folding Seatbacks	
		Front	Rear
AUDI	90 Sedan	2	2
	100 LS	2	2
DATSUN	1200 2-Dr Sedan	1	2
	1200 2-Dr Sport Coupe	1	1 (locks on both sides)
	1600 Pickup	1	3
	510 2-Dr Sedan	1	2
	510 4-Dr Sedan	1	2
	510 Station Wagon	1	1 (locks on both sides)
	240 Z	1	3
DODGE COLT	2-Dr Coupe	1	2
	2-Dr H/T	1	2
	4-Dr Sedan	1	2
	4-Dr Station Wagon	1	1 (locks on both sides)
FIAT	850 Spider Convertible	1	3
FORD	Capri	1	2 (rear seat armrest)
OPEL	1900	1	2
	1900 Wagon	1	1 (locks on both sides)
	Rallye	1	2
	G.T.	1	3
PLYMOUTH	Cricket 4-Dr Sedan	2	2
PORSCHE	911	1	1 (strap&snap both sides)
	914	2	3
TOYOTA	Carina 2-Dr Sedan	1	2
	Corona 4-Dr Sedan	2	2
	Corona 2-Dr H/T	1	1 (locks on both sides)
	Corolla 2-Dr Coupe		
	Corolla 2-Dr Sedan	1	2
	Corolla Station Wagon	1	1 (locks on both sides)
	Celica 2-Dr H/T	1	2
V W	Beetle	1	1 (locks on both sides)
	Fastback	1	2
	Squareback	1	1 (locks on both sides)
	411 2-Dr and 1-Dr	1	2
	411 3-Dr Hatchback	1	1 (locks on both sides)

1=yes 2=no 3=not applicable

Folding Seatbacks

<u>Make</u>	<u>Model</u>	<u>Front</u>	<u>Rear</u>
Audi	90 Sedan - 2 dr. (Fox)	1	2
	90 Sedan - 4 dr. (Fox)	2	2
	100 LS - 4 dr.	1	2
Datsun	1200 - 2 dr. Sedan	1	2
	1200 - 2 dr. Sport Coupe	1	1*
	1600 Pickup	1	3
	610 - 4 dr. Sedan		
	610 - 4 dr. Station Wagon	1	1*
	610 - 2 dr. Hardtop	1	2
	240 Z	1	3
Dodge	Colt - 2 dr. Coupe		
	Colt - 2 dr. Hardtop	1	2
	Colt - 4 dr. Sedan		
	Colt - 4 dr. Station Wagon		
Fiat	850 Spider Convertible	1	3
Ford	Capri	1	2
G.M.	1900 Luxus	1	2
	1900 Wagon	1	1*
	Rallye Manta	1	2
	G. T.	1	3
Plymouth	Cricket - 4 dr. Sedan	None imported after 1/73	
Porsche	911	1	1*
	914	2	3
Toyota	Carina - 2 dr. Sedan		
	Corona - 4 dr. Sedan		
	Corona - 2 dr. Hardtop		
	Corona - Mark II MX	1	2
	Corolla - 2 dr. Coupe	1	2
	Corolla - 2 dr. Sedan	1	2
	Corolla - Station Wagon	1	1*
	Celica - 2 dr. Hardtop	1	2
VW	Beetle	1	1*
	Fastback	1	2
	Squareback	1	1*
	412 - 2 dr.	1	2
	412 - 4 dr.	1	2
	412 - 3 dr. Hatchback		

*Locks on both sides

1=no 2=yes 3=not applicable

SIDE DOOR REINFORCEMENT

Side Door Reinforcement Beams

Corporation	Body Models	Model Code	Year Introduced
GM	B, C, D	02, 03, 04	1969
GM	A, G	01, 07	1970
GM	F	06	Mid-1970
GM	E, H	05, 18	1971
GM	X, Sp	08, 10	1973 or (model year intro)
Chrysler	E	06	1970
Ford	Mustang, Cougar, Ford (B body) Mercury (B body) Lincoln (B body)	06, 02	1971
AMC	Javelin, AMX	06	1971

Note(1): Particular car lines listed would include two-door and four-door models if that particular car line offered four door models.

Note(2): January 1, 1973 - all makes and models are equipped with side-door reinforcement beams.

STATE CODES (FIPS 5-2)

<u>Name</u>	<u>Code</u>	<u>Name</u>	<u>Code</u>
Alabama	01	Montana	30
Alaska	02	Nebraska	31
Arizona	04	Nevada	32
Arkansas	05	New Hampshire	33
California	06	New Jersey	34
Colorado	08	New Mexico	35
Connecticut	09	New York	36
Delaware	10	North Carolina	37
District of Columbia	11	North Dakota	38
Florida	12	Ohio	39
Georgia	13	Oklahoma	40
Hawaii	15	Oregon	41
Idaho	16	Pennsylvania	42
Illinois	17	Rhode Island	44
Indiana	18	South Carolina	45
Iowa	19	South Dakota	46
Kansas	20	Tennessee	47
Kentucky	21	Texas	48
Louisiana	22	Utah	49
Maine	23	Vermont	50
Maryland	24	Virginia	51
Massachusetts	25	Washington	53
Michigan	26	West Virginia	54
Minnesota	27	Wisconsin	55
Mississippi	28	Wyoming	56
Missouri	29	Non-USA	99
		Unknown	00

Federal Information Processing Standards
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CANADIAN

Alberta	81	Ontario	88
British Columbia	82	Prince Edward Is.	89
Manitoba	83	Quebec	90
New Brunswick	84	Saskatchewan	91
Newfoundland	85	Unknown Canada	80
Northwest Territory	86	Yukon	92
Nova Scotia	87		

STEERING COLUMN ANGLES: AMC

71-74 AMC Steering Column Angles

Series	Column Type	Column Angle (Degrees)
Hornet Gremlin	All	19
Javelin Javelin AMX	All	18
Matador Ambassador	All All	20 (except 74 Coupe, which is 19 71 + 73-20, 72-18, 74-unknown)

STEERING COLUMN ANGLES: CHRYSLER

71-73 Chrysler Steering Column Angles

A Body Cars

22 (degrees)

B Body Cars

19 (degrees)

C Body Cars

21 (degrees)

Chrysler Body Type Chart

A Bodies

Valiant

Dart

Duster

Demon

Barracuda

Challenger

B Bodies

Satellite

Roadrunner

G T X

Coronet

Charger

Belvedere

C Bodies

Fury

Suburban

Polara

Monaco

Newport

New Yorker

Town& Country

Imperial

STEERING COLUMN ANGLES1974 Chrysler Cars

Swinger Valiant Duster Dart	All Body Types	22.4°
Barracuda 'Cuda Challenger	2-Door Hardtop	17.8°
Satellite Road Runner Charger Coronet	All Body Types	19.5°
Fury Suburban Monaco Newport New Yorker Town & Country Imperial Le Baron Gran	All Body Types	22.5°

1970 Ford Steering Column Angles

MODEL & YEAR SERIES #	MUSTANG					COUGAR					MONTEGO - 1970				
	65	63	76	65	75	54	57	62	65	71	76	65	71	76	
STEERING COLUMN ANGLE TO HORIZONTAL		20.3° *	*	20.3° *	*	24.3° *	*	*	*	*	*	*	25.0° *	*	
DOOR SILL ANGLE TO HORIZONTAL		0.5° *	*	0.5° *	*	0.5° *	*	*	*	*	0.3° *	0.5° *	0.5° *	0.5° *	

MODEL & YEAR SERIES #	TORINO - 1970					T-BIRD					MARK III					LINCOLN				
	54	57	62	63	65	66	71	76	65	57	65	65	53	53						
STEERING COLUMN ANGLE TO HORIZONTAL	24.5° *	*	25.5° *	*	25.0° *	*	25.0° *	24.5° *	23.5° *	23.8° *	23.8° *	23.8° *	23.8° *	23.8° *						
DOOR SILL ANGLE TO HORIZONTAL	0.5° *	0.3° *	0.3° *	0.3° *	0.3° *	0.3° *	0.3° *	0.5° *	0.5° *	0.5° *	0.5° *	0.5° *	0.5° *	0.5° *						

MODEL & YEAR SERIES #	FORD - 1970					MERCURY - 1970								
	54	57	62	63	65	71	76	54	53	57	65	63	76	71
STEERING COLUMN ANGLE TO HORIZONTAL	24.6° 25°	Δ	Δ	Δ	Δ	24.3° *	*	24.6° Δ	Δ	25° Δ	Δ	Δ	Δ	24.3°
DOOR SILL ANGLE TO HORIZONTAL	0°	0.3°	Δ	Δ	Δ	Δ	Δ	0°	Δ	0.3°	Δ	Δ	Δ	Δ

NOTE: ALL DIMENSIONS REFLECT CURB ATTITUDE SERIES NO. BODY STYLE

* - SAME AS BASE MODEL
Δ - SAME AS MODEL-57

53	4-dr. Sedan (Concealed "B"-Pillar)
54	4-dr. Sedan
57	4-dr. Hardtop
62	2-dr. Sedan
63	2-dr. Hardtop (Fastback)
65	2-dr. Hardtop
66	2-dr. Pickup Type Car (Ranchero)
71	4-dr. Station Wagon
76	2-dr. Convertible

1971 Ford Steering Column Angles

Model & Year Series #	Maverick '71		Comet '71		Pinto '71		Mustang '71		Cougar '71		Torino '71		Monte Carlo '71	
	62	54	62	54	62	54	65	63	65	76	54	57	66	71
Steering Column Angle* to Horizontal	24°	24°	24°	24°	23°	22.5°	+	22.5°	+	22.5°	+	24.3°	+	25.5°
Door Sill Angle*to Horizontal	-0.5°	-0.5°	-0.5°	-0.5°	-0.8°	0.5°	+	0.5°	+	0.5°	+	0.5°	+	0.3°

*Dimensions at Curb Attitude

+ Same as Base Model

Model & Year Series #	T-Bird '71		Mark III '71		Ford '71		Mercury '71		Lincoln '71	
	65	57	65	57	54	53	57	65	53	57
Steering Column Angle* to Horizontal	23.5°	23.8°	23.8°	23.8°	26°	+	+	26°	26°	26°
Door Sill Angle*to Horizontal	0.5°	0.8°	0.8°	0.8°	0.3°	+	+	0.2°	0.3°	0.3°

SERIES NO.	BODY STYLE	SERIES NO.	BODY STYLE
53	4-dr. Sedan (Concealed "B"-Pillar)	65	2-dr. Hardtop
54	4-dr. Sedan	66	2-dr. Pickup Type Car (Ranchero)
57	4-dr. Hardtop	71	4-dr. Station Wagon
62	2-dr. Sedan	76	2-dr. Convertible
63	2-dr. Hardtop (Fastback)		

STEERING COLUMN ANGLES: FORD 72

1972 Ford Steering Column Angles

Model and Year	Maverick--1972		Comet--1972		Pinto--1972		
Series Number	62	54	62	54	62	64	73
Steering Column Angle** to Horizontal	24°	24°	24°	24°	23°	23°	23.3°
Door Sill Angle** to Horizontal	-0.5°	-0.5°	-0.5°	-0.5°	-0.6°	-0.6°	0.0°

Model and Year	Thunderbird--1972	Mark IV--1972
Series Number	65	65
Steering Column Angle** to Horizontal	19.9°	19.9°
Door Sill Angle** to Horizontal	0.5°	0.5°

Model and Year	Lincoln--1972		Capri--1970-1972
Series Number	65	53	
Steering Column Angle** to Horizontal	23°	23.5°	24.6°
Door Sill Angle** to Horizontal	0.5°	0°	0.6°

Model and Year	Torino--1972					Montego--1972				
Series Number		53	63	65	66	71	53	65	63	71
Steering Column Angle** to Horizontal		19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9
Door Sill Angle** to Horizontal		0.5°	0.0°	0.0°	0.0°	0.5°	0.5°	0.0°	0.0°	0.5°

Model and Year	Mustang--1972			Cougar--1972		Bronco
Series Number	65	63	76	65	76	U15-SW
Steering Column Angle** to Horizontal	22.5°	*	*	22.5°	*	19.8
Door Sill Angle** to Horizontal	0.5°	*	*	0.5°	*	0.0

* same as model 54
 \$ same as model 71
 # same as model 65
 0 same as model 53

Model and Year	Ford--1972						Mercury--1972			
Series Number	54	53	57	65	76	71	65	53	57	71
Steering Column Angle** to Horizontal	26°	*	*	*	*	26.5°	*	*	*	\$
Door Sill Angle** to Horizontal	0.3°	*	*	0.2°	*	*	*	*	*	*

SERIES NO.	BODY STYLE
53	4-dr. Sedan (Concealed "B"-Pillar)
54	4-dr. Sedan
57	4-dr. Hardtop
63	2-dr. Sedan
65	2-dr. Hardtop (Fastback)
64	2-dr. Hatchback

SERIES NO.	BODY STYLE
65	2-dr. Hardtop
66	2-dr. Pickup Type Car (Ranchero)
71	4-dr. Station Wagon
73	2-dr. Station Wagon
76	2-dr. Convertible

STEERING COLUMN ANGLES: FORD 73

'73 Steering Column Angle

<u>Name</u>	<u>Series No.</u>	<u>Angle</u>	<u>Name</u>	<u>Series No.</u>	<u>Angle</u>
Maverick	62	24	Montego	53	20.0
	54	23.9		65	20.3
Comet	62	24		63	20.2
	54	23.9		71	20.6
Pinto	62	23.0	Mustang	65	22.5
	64	23.0		63	22.5
	73	23.3		76	22.5
Thunderbird	65	20.2	Cougar	65	22.5
Mark IV	65	20.2		76	22.5
Lincoln	65	23.0	Ford	53	26.4
	53	23.5		57	26.4
Capri	--	24.9		65	26.4
Torino	53	20.0		71	26.5
	63	20.2	Mercury	65	26.0
	65	20.3		53	26.0
	66	20.9		57	26.0
	71	20.6		71	26.5

STEERING COLUMN ANGLES: FORD 74

STEERING COLUMN ANGLE

1974 FORD MOTOR COMPANY CARS

		Steering Column Angle	Door Sill Angle
Maverick	2 Door Sedan	23.6°	-0.2°
	2 Door Grabber	23.6	-0.2
	4 Door Sedan	23.6	-0.5
Comet	2 Door Sedan	23.6	-0.2
	4 Door Sedan	23.6	-0.5
Pinto	2 Door Sedan	23.0	-0.1
	3 Door Model	23.0	-0.1
	2 Door Wagon	22.3	-0.9
Torino/Ranchero	4 Door Sedan/Hardtop	19.9	-0.1
	2 Door Hardtop	19.9	0.0
	Ranchero	19.9	-0.7
	Station Wagon	19.9	-0.3
Montego	4 Door Sedan/Hardtop	19.9	-0.1
	2 Door Hardtop	19.9	0.0
	Station Wagon-4 Door	19.9	-0.3
Mustang	3 Door 4 Pass. Hatchback	19.9	0.0
	2 Door 4 Pass. Notchback	19.9	unk.
Cougar	2 Door Hardtop	19.9	0.0
Ford	4 Door Pillar Hardtop	25.7	0.0
	4 Door Hardtop	25.7	0.0
	2 Door Hardtop	25.7	0.0
	Station Wagons	25.7	0.5
Lincoln	2 Door Hardtop	25.7	0.3
	4 Door Sedan/Hardtop	25.7	0.0
Thunderbird	2 Door Hardtop	19.9	-0.2
Mark IV	2 Door Hardtop	19.9	-0.2
Mercury	2 Door Hardtop	25.7	0.0
	4 Door Pillar Hardtop	25.7	0.0
	4 Door Hardtop	25.7	0.0
	4 Door 6 Pass. (Monterey, Rideau, Montcalm, Marquis)	25.7	0.5
			-

STEERING COLUMN ANGLES: GM 70-72

70-72 GM Steering Column Angles

<u>Vehicle Body</u>	<u>Column Angles (degrees)</u>		
	<u>70</u>	<u>71</u>	<u>72</u>
A Body	19	19	19
A-Sp Body - Chev	--	19	19
B Body	26	20	20*
C Body - Buick, Olds	26	20	20
C Body - Cadillac	27	24	24
E Body - Buick, Olds	23	20	20
E Body - Cadillac	23	24	24
F Body	18	17	18
G Body	19	19	19
H Body	--	17	18
X Body	26	25	25
Corvette	14	14	14

71 GM BODY STYLE CHART

Style	Description	35 Sta. Wag. - 4 Dr. - 2 Seat - Dual Act. T/G 37 Cpe. - 2 Dr. - Notch Back - Hardtop 39 Sed. - 4 Dr. - Notch Back - Hardtop 4 Wdo. 45 Sta. Wag. - 4 Dr. - 3 Seat - Dual Act. T/G 46 Sta. Wag. - 4 Dr. - 3 Seat - Dual Act. T/G 47 Cpe. - 2 Dr. - Notch Back - Hardtop - 4 Wdo. 49 Sed. - 4 Dr. - Notch Back - Hardtop - 4 Wdo. 56 Sta. Wag. - 4 Dr. - 2 Seat - Dual Act. T/G 57 Cpe. - 2 Dr. - Notch Back - Hardtop	66 Sta. Wag. - 4 Dr. - 3 Seat - Dual Act. T/G 67 Cpe. - 2 Dr. - Convertible 69 Sed. - 4 Dr. - Notch Back - Pir. - 4 Wdo. 71 Cpe. - 2 Dr. - Plain Back - Pir. 77 Cpe. - 2 Dr. - Plain Back - Hardtop 80 Pick-Up Delivery 80 Short Sill Cowl 50 Short Sill Cowl 90 Short Sill Cowl
A	332	69 87	F-85 (Sport Option for 87)
A	336	36 69 77-87	Cutlass Supreme
A	342	39 57 67	Cutlass Supreme "442"
A	344	67 87	Vista Cruiser
A-EX	348	56 56	Delta 88 (Custom Trim Option)
B	354	39 57 69	Delta 88 Custom
B	364	39 57 69	Delta 88 Royale
B	366	47 67	Delta 88 Cruiser
B	369	35 45	Ninety Eight
C	383	37 39	Ninety Eight Luxury
C	386	37 39	Short Sill Cowl
C	388	40 90	Toronado
E	396	57	Toronado Deluxe
E	358	57	
A	433	27 37 69	Skyhawk (Custom Trim Option)
A	434	36 37 67	GS (35 Sport Wagon) & Custom Trim Option for 37 & GSX Option for 37
A	444	37-39 67 69	Skyhawk Custom
B	452	39 57 69	Le Sabre
B	454	39 57 67 69	Le Sabre Custom
B	450	35 45	Estate Wagon (Wood Grain & Custom Trim Options)
B	466	39 47 67	Centurion
C	482	37 39	Electra "225"
C	454	37 39	Electra "225" (Custom Trim Option)
E	484	87	Riviera (Custom Trim Option)
C	681	69	Fleetwood Brougham
C	682	47 49	Calais
C	683	47 49	DeVille
C	698	40 50 90	Short Sill Cowl
E	683	47 67	Eldorado
D	687	23 33	Fleetwood "78" Limousine



FISHER BODY ENGINEERING ACTIVITY
NOTE: No Right Hand Drive Styles Available.
*Canadian Series Built only in Canada.
**Canadian Series Built only in U.S.A.

1971 BODY STYLE NAME CHART ORIGINAL RELEASE DATED 8/8/70 REVISED 7/5/73 235-45 ADDED & SALES NAME CHANGED TO GMC SPORT FOR 538-539 & 737 FOR 235-45	1971 BODY STYLE NAME CHART ORIGINAL RELEASE DATED 8/8/70 REVISED 7/5/73 235-45 ADDED & SALES NAME CHANGED TO GMC SPORT FOR 538-539 & 737 FOR 235-45				
C	F	124	87	Chevrolet Camaro (Custom, Rally Sport & SS General)	
H	X	141	05-11-15-77	Chevrolet Vega (Custom Option for 11-15-77 & Sport Option for 77)	
X	X	114	27 69	Chevrolet Nova (Custom Option for 27 69 & SS Custom for 27)	
A	A	132	36	Chevrolet Corvair	
H	A	134	36 37 46 69 90	Chevrolet (35-45 Greenbrier & 20 El Camino)	
E	A	136	36 37 39 43 67 69 90	Chevrolet Malibu (36-46 Concours, 80 El Camino) & SS Option for 37 67 90	
V	A	138	36 46	Corvair (Conco-ri Estate)	
R	A-SP	139	57	Monte Carlo (SS Option)	
O	A	534	80	Monte Carlo (SS Option)	
R	A	536	80	GMC Sprint	
L	A	536	80	GMC Sprint	
E	B	154	35 69	Chevrolet Buick (35-69 Blackwood)	
E	B	156	35 45 69	Chevrolet Bel Air (35-45 Turnpike)	
L	B	184	35 39 45 47 67 69	Chevrolet Impala (35-45 K-limited & 47 Impala Custom)	
E	B	186	35 39 45 47	Chevrolet Caprice (35-45 K-limited Estate)	
Aceolan	X	**714	27 69	Aceolan (Custom Option for 27 69 & SS Option for 27)	
	F	223	87	Firebird (Custom, Sprint & 400 Option)	
	X	214	27 69	Name N/A	
P	A	233	27-37 69	T37 (Decor Option)	
O	A	235	27-36-37-39-46-69	Tempest Le Mans (Wood Grain Custom for 36-46 & Decor Option for 27 37 39 69)	
N	A	237	37-39 67	Tempest Le Mans Sport (Decor Option)	
O	A	242	37 67	GTO (Decor Option)	
N	A-SP	276	57	Grand Prix (Custom & Decor Option)	
T	B	252	35 39 45 57 67 69	Cadillac (35-45 Sedan) & Wood Grain Custom for 35 45	
A	B	258	39 57 69	Cadillac Brougham	
A	B	262	35 39 40 45 47 69 90	Bonneville (35-45 Grand Sedan, 40 90 Short Sill Cowl) & Wood Grain Option for 35 45)	
C	B	269	47 49 67	Grand Ville (Custom Option for 47 49)	
	B	**756	35 45 57 69	Laurentian	
	B	**764	39 57 69	Panorama	

STEERING COLUMN ANGLES: GM 73

73 GM Steering Column Angles

Cadillac

Cadillac	24°
Eldorado	23°

Oldsmobile

Omega -- 24°

Cutlass, Cutlass Supreme and Vista Cruiser -- 17°

All others -- 20°

STEERING COLUMN ANGLES: IMPORTS 72

	'72 IMPORTS	Shear Capsule Equipped (1,2,3,0)	Steering Column Angle
AUDI	90 Sedan	2	*
	100 LS	2	*
DATSUN	1200 2-Dr Sedan	1	31°
	1200 2-Dr Sport Coupe	1	34°
	1600 Pickup	2	22°
	510 2-Dr Sedan	2	27°
	510 4-Dr Sedan	2	27°
	510 Station Wagon	2	27°
	240 Z	2	22°
DODGE COLT	2-Dr Coupe	2	30° up 25° down
	2-Dr H/T	2	30° up 25° down
	4-Dr Sedan	2	30° up 25° down
	4-Dr Station Wagon	2	30° up 25° down
FIAT	850 Spider Convertible	2	28.5°
FORD	Capri	2	25°
OPEL	1900	1	28°
	1900 Wagon	1	28°
	Rallye	1	28°
	G.T.	1	16°
PLYMOUTH	Cricket 4-Dr Sedan	2	33°
PORSCHE	911	2	*
	914	2	*
TOYOTA	Carina 2-Dr Sedan	1	26°
	Corona 4-Dr Sedan	1	23°
	Corona 2-Dr H/T	1	24°
	Corolla 2-Dr Coupe	1	30°
	Corolla 2-Dr Sedan	1	27°
	Corolla Station Wagon	1	29°
	Celica 2-Dr H/T	1	22°
V W	Beetle	2	25°
	Fastback	2	25°
	Squareback	2	25°
	411 2-Dr and 4-Dr	2	*
	411 3-Dr Hatchback	2	*

* Shroud Makes it Impossible to Measure.

STEERING COLUMN ANGLE: IMPORTS 73

<u>Make</u>	<u>Model</u>	<u>Shear Capsule</u>	<u>Steering Column Angle</u>
Audi	90 Sedan - 2 dr. (Fox)	2	B-26 ⁰ *
	90 Sedan - 4 dr. (Fox)	2	B-23 ⁰ *
	100 LS - 4 dr.	2	B-21 ⁰ *
Datsun	1200 - 2 dr. Sedan	1	B-29 ⁰ *
	1200 - 2 dr. Sport Coupe	1	B-32 ⁰
	1600 Pickup	2	B-22 ⁰
	610 - 4 dr. Sedan		
	610 - 4 dr. Station Wagon	1	B-27 ⁰
	610 - 2 dr. Hardtop	1	B-27 ⁰
	240 Z	2	B-23 ⁰ *
Dodge	Colt - 2 dr. Coupe		
	Colt - 2 dr. Hardtop	1	T-30 ⁰ B-25 ⁰
	Colt - 4 dr. Sedan		
	Colt - 4 dr. Station Wagon		
Fiat	850 Spider Convertible	2	B-28.5 ⁰
Ford	Capri	2	B-26 ⁰
Opel	1900 Luxus	1	B-16 ⁰
	1900 Wagon	1	
	Rallye Manta	1	
	G. T.	1	B-16 ⁰
Plymouth	Cricket - 4 dr. Sedan	None imported after 1/73	
Porsche	911	2	B-19 ⁰ *
	914	2	B-13 ⁰ *
Toyota	Carina - 2 dr. Sedan		
	Corona - 4 dr. Sedan		
	Corona - 2 dr. Hardtop		
	Corona - Mark II MX	1	T-22 ⁰ B-22 ⁰
	Corolla - 2 dr. Coupe	1	T-28 ⁰ B-26 ⁰
	Corolla - 2 dr. Sedan	1	T-27 ⁰ B-27 ⁰
	Corolla - Station Wagon	1	T-27 ⁰ B-27 ⁰
	Celica - 2 dr. Hardtop	1	B-24 ⁰
VW	Beetle	2	
	Fastback	1	B-24 ⁰
	Squareback	1	B-24 ⁰
	412 - 2 dr.	2	B-31 ⁰
	412 - 4 dr.	2	B-29 ⁰
	412 - 3 dr. Hatchback	2	B-26 ⁰

*Shroud

B - Measured at Bottom.

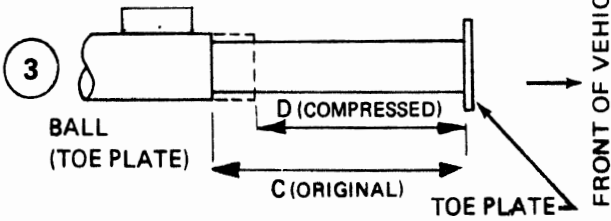
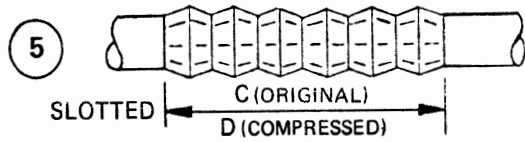
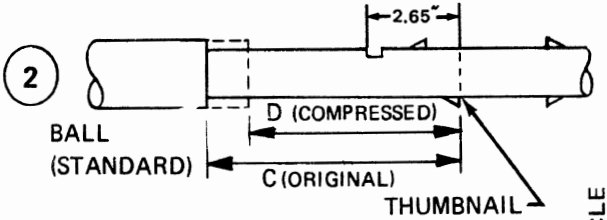
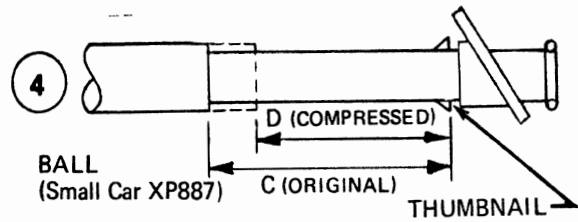
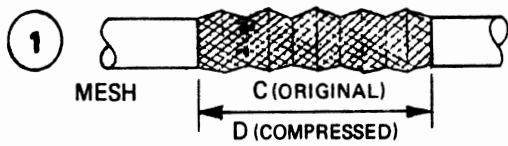
T - Measured at Top

STEERING COLUMN ANGLES: PICKUPS

Pickups Steering Column Angle

<u>Make</u>	<u>Type</u>	<u>Year</u>	<u>Angle</u>
GMC	100 200	70-73	22.5°
Chevrolet	C/10 C/20	70-73	22.5°
Dodge	D-100 D-200 D-300 W-100 W-200 W-300	71-73	23°

STEERING COLUMN ENERGY ABSORBING DEVICES



⑥ Other, e.g. Colt

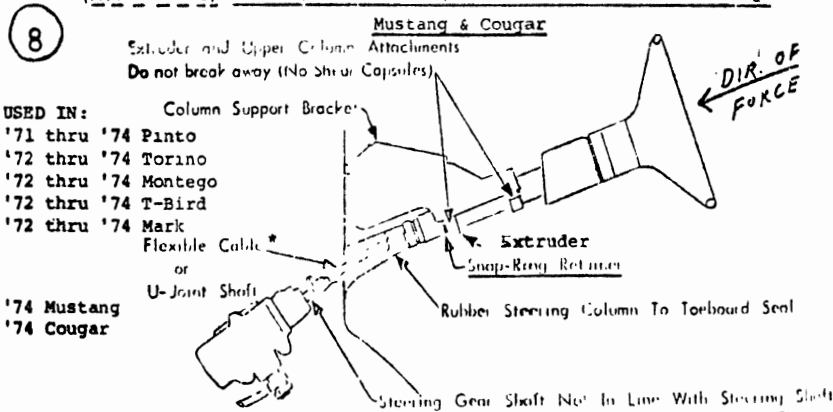
⑦ Not Equipped

ALL MAKES EXCEPT BARRACUDA, CHALLENGER, AND COLT

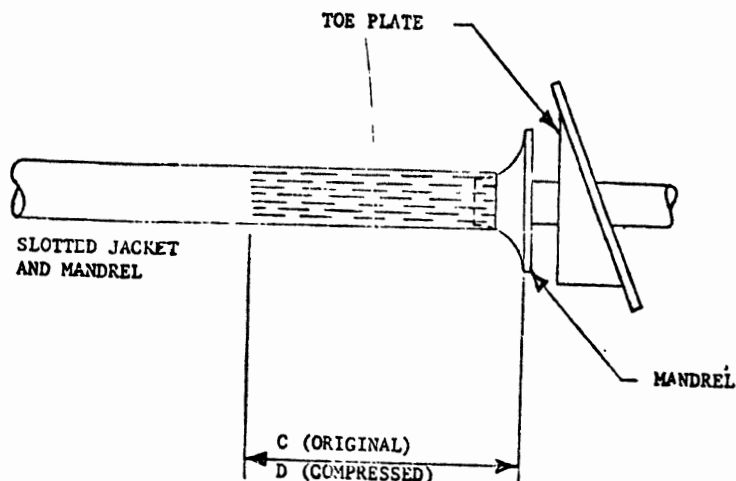
ORIGINAL LENGTH
C = 29.75 in.

FORD ENERGY ABSORBING "MINI" COLUMN

(1971 - 74 PINTO, 1972 - 74 TORINO, MONTEGO, T-BIRD, MARK IV) &



⑨ NEW (1974 CHRYSLER CORPORATION ENERGY ABSORBING STEERING COLUMN)



STEERING COLUMN ENERGY ABSORBING DEVICE TABLE					
CORPORATION	MODEL YEAR	MAKE	STEERING COLUMN TYPE	E.A. DEVICE TYPE	ORIGINAL LENGTH C
GENERAL MOTORS	71-73	B-C-E	Tilt and Standard	2	8.75
	69-70	B-C-E	Tilt and Standard	2	8.25
	73	A	Tilt	2	7.81
	72	A	Tilt	2	8.31
	69-71	A	Tilt	2	7.81
	71	A	Standard	2	9.75
	69-72	A	Standard	2	8.75
	69-73	CORVETTE	ALL TYPES	3	8.25
		CADILLAC (EXCEPT ELDORADO)	TILT-TELESCOPE	2	7.8
	71-73	GM VEGA	STANDARD	4	8.1
	67-73	OPEL	ALL TYPES	1	10.3
	67-68	CORVAIR	ALL TYPES	1	10.3
	67-68	ALL (EXCEPT CORVAIR & OPEL)	ALL TYPES	1	9.7

Ford	68-74	All Make - Column Combinations Except Below 71-74 Pinto, 72-74 Torino, Montego, T-Bird, Mark IV Capri Mustang & Cougar	5	9.5
	71-74		8	0.0
	71-74		See Steering wheel EA	
	74		8	0.0
Chrysler	67-69	All Make - Column Combinations All (Except Barracuda, Challenger & Colt) All (Except Barracuda, Challenger & Colt) Barracuda & Challenger Colt	1	9.7
	70-73		1	9.7
	74			9.75
	70-74		See Steering wheel EA	
	70-74			7.0
AMC	67-69	All Make - Column Combinations All Make - Column Combinations Except Tilt, 71 & 73 All Make - Column Combinations Including Tilt	1	9.7
	70-73		2	8.25
	72-74		2	7.8
Jeep	73	Commando, Wagoneer, Jeep Trucks	2	8.25
Inter-national	71&72	Scout II 1000 thru 1500 Series	2	8.12
	69-72		1	9.72

STEERING COLUMN EA: IMPORTS 72

Steering Column E.A.D.

	'72 IMPORTS	Type (7=not equipped)	Dimension
AUDI	90 Sedan	1	6.4
	100 LS	1	6.4
DATSUN	1200 2-Dr Sedan	1	10.5
	1200 2-Dr Sport Coupe	1	10.5
	1600 Pickup	7	N/A
	510 2-Dr Sedan	6	8
	510 4-Dr Sedan	6	8
	510 Station Wagon	6	8
	240 Z	6	9.5
DODGE COLT	2-Dr Coupe	9	7.0
	2-Dr H/T	9	7.0
	4-Dr Sedan	9	7.0
	4-Dr Station Wagon	9	7.0
FIAT	850 Spider Convertible	2 U-Joints	N/A
FORD	Capri	7	N/A
OPEL	1900	1	10.375
	1900 Wagon	1	10.375
	Rallye	1	10.375
	G.T.	7	N/A
PLYMOUTH	Cricket 4-Dr Sedan	9 (?)	Unknown
PORSCHE	911	1	6.4
	914	1	6.4
TOYOTA	Carina 2-Dr Sedan	1	10.74
	Corona 4-Dr Sedan	1	10.74
	Corona 2-Dr H/T	1	10.74
	Corolla 2-Dr Coupe	1	10.74
	Corolla 2-Dr Sedan	1	10.74
	Corolla Station Wagon	1	10.74
	Celica 2-Dr H/T	1	10.74
V W	Beetle	1	6.4
	Fastback	1	6.4
	Squareback	1	6.4
	411 2-Dr and 4-Dr	1	6.4
	411 3-Dr Hatchback	1	6.4

STEERING WHEEL CODES: GM CODES

GM STEERING WHEEL CODES

<u>CODES</u>				
69	70	71	72	
				<u>CHEVROLET</u>
02	02	01	01	<u>Standard</u> (All models except Camaro & Corvette)
--	03	--	--	<u>Sport</u> (Optional all models)
03	03	03	03	<u>Sport</u> (Corvette Standard and T & T)
01	01	--	--	<u>Standard Camaro</u> (Camaro only)
--	--	04	04	<u>Standard II</u> (Vega only)
--	--	02	02	<u>Optional</u> (All models except Vega and Corvette)
--	--	20	20	<u>Sport</u> (Optional all models except full size Chevrolet and Corvette)
51	--	--	--	<u>Corvair Std.</u>
52	--	--	--	<u>Corvair Dlx.</u>
53	--	--	--	<u>Chevy Sport</u> Option (except corvair & corvette)
				<u>PONTIAC</u>
--	05	--	--	<u>Standard</u> (Firebird, Catalina, Tempest)
05	--	05	05	<u>Standard</u> (All models)
--	06	--	--	<u>Deluxe</u> (Standard GTO, Grand Prix, Executive, Bonneville)
06	06	06	06	<u>Deluxe</u> (All models)
19	19	19	19	<u>Sport</u> (Optional all models)
--	07	07	07	<u>Formula</u> (Optional all models)
				<u>OLDSMOBILE</u>
08	08	--	--	<u>Standard</u> (Vistacruiser, Delta 88)
--	08	08	08	<u>Standard</u> (Cutlass only)
09	09	--	--	<u>Deluxe</u> ([Rim or Pad below] All models; Standard Toronado & 98)
--	--	09	--	<u>Deluxe</u> (Cutlass only)
11	11	13	13	<u>T & T</u> (Toronado, 98, with T & T Column)
--	10	10	10	<u>Sport</u> (Optional Cutlass)
--	--	11	11	<u>Standard II</u> (Delta 88, 98 & Toronado)
54	--	--	--	<u>Oldsmobile Sport</u> Option (All models)
				<u>BUICK</u>
12	12	12	12	<u>Standard I</u> (Standard Skylark, Sportwagon)
13	13	--	--	<u>Standard II</u> (Standard Le Sabre, Wildcat; Optional Skylark, Sportwagon)
--	--	14	14	<u>Standard II</u> (Centurion, Le Sabre, Delux Skylark, Sportwagon)
14	14	--	--	<u>Standard III</u> (Standard Riviera, Electra; Optional Le Sabre, Wildcat)
--	--	16	16	<u>Standard III</u> (Standard Riviera, Electra, Delux Centurion, Le Sabre)
--	16	--	--	<u>Deluxe</u> (Optional all models)
--	15	15	15	<u>Sport</u> (Optional Skylark)
--	--	17	--	<u>Optional</u> (All models)
15	--	--	--	<u>Buick Sport</u> Option (All models)
				<u>CADILLAC</u>
17	17	18	18	<u>Standard</u> (All models)
--	99	99	99	All other models unknown

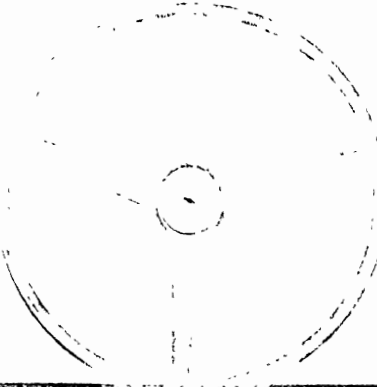
1969 GENERAL MOTORS STEERING WHEELS

PASSENGER CARS

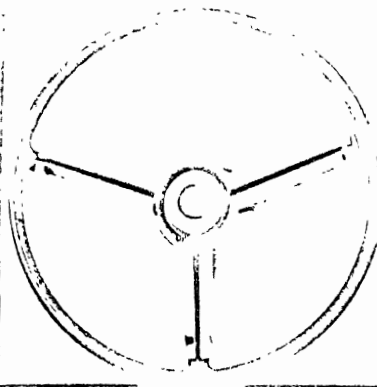
CHEVROLET 51

52

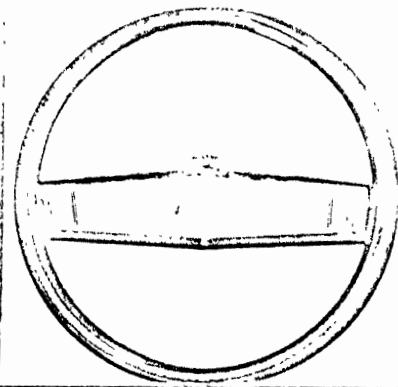
01



CORVAIRE STD.



CORVAIRE DLX,
CORVAIRE TELESCOPE

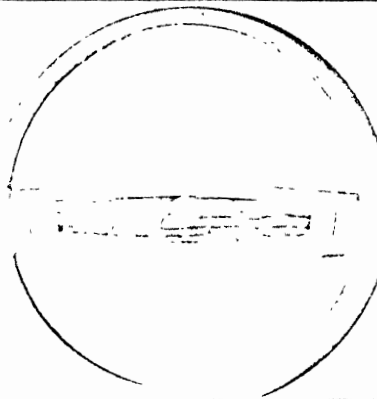


CHEVROLET DLX.
(ALL MODELS EXCEPT
CORVAIRE & CORVETTE)

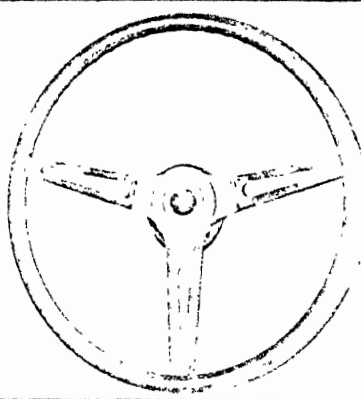
02

53

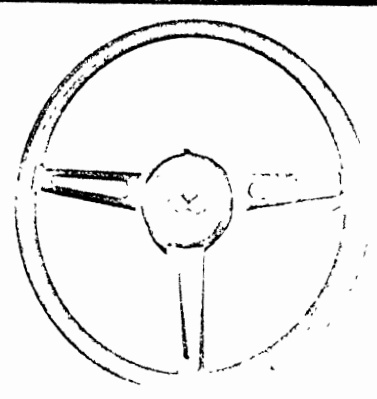
03



CHEVROLET DLX.
(ALL MODELS EXCEPT
CORVAIRE & CORVETTE)



CHEVROLET SPORT OPT.
(ALL MODELS EXCEPT
CORVAIRE & CORVETTE)

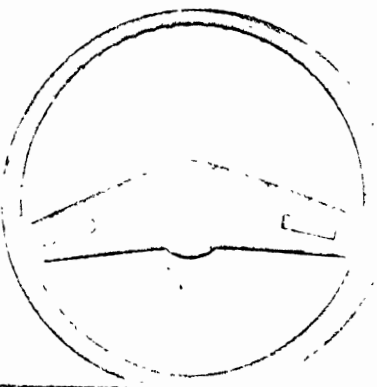


CORVETTE STD.
CORVETTE TELESCOPE

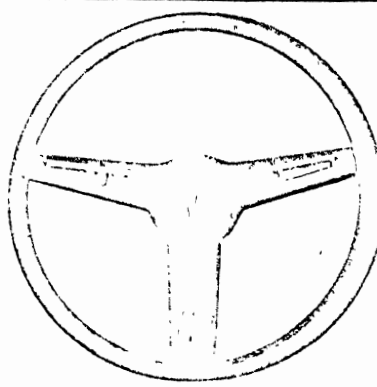
PONTIAC 05

06

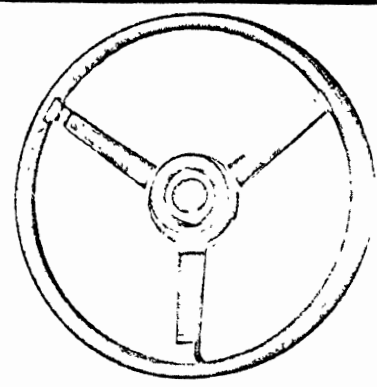
19



PONTIAC STD.
(ALL MODELS)



PONTIAC DLX.
(ALL MODELS)



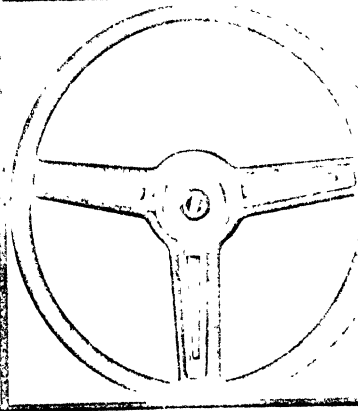
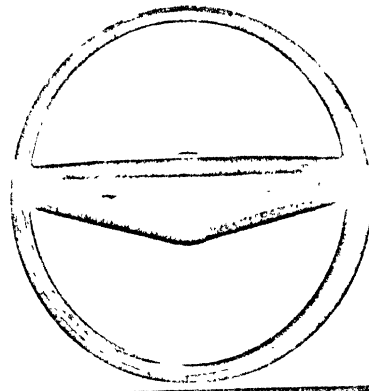
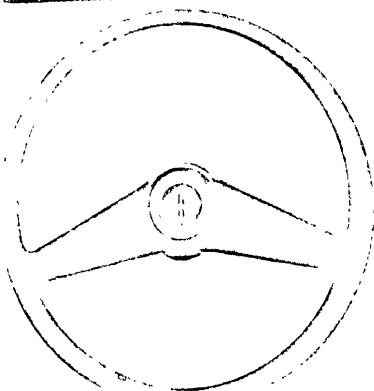
PONTIAC SPORT OPT.
(ALL MODELS)

1969 GM STEERING WHEELS (PASS. CARS)

OLDSMOBILE 08

09

54



P.L.S. & VISTA-CRUISER STD.
 DELTA 88 STD.
 DELTA 88 CUSTOM & ROYALE STD.
 NINETY EIGHT STD.

OLDSMOBILE DLX.
 (ALL MODELS EXCEPT
 TORONADO)
 TORONADO STD.

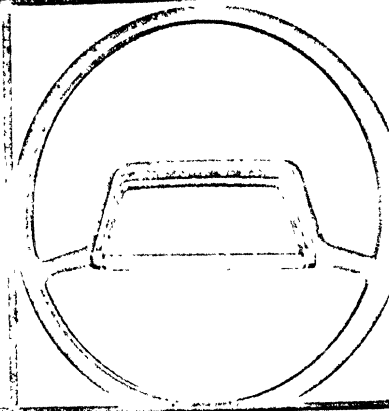
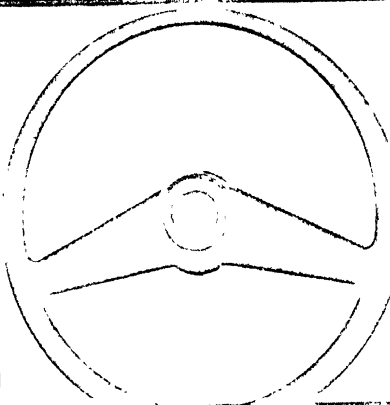
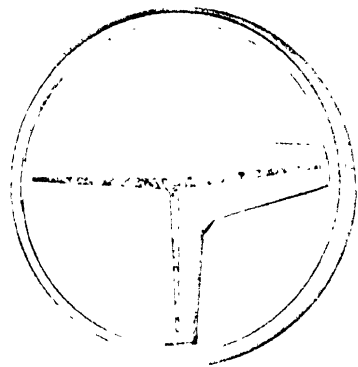
OLDSMOBILE SPORT OPT.
 (ALL MODELS)

11

BUICK

12

13



DELTA 88 T&T
 DELTA 88 CUSTOM & ROYALE T&T
 NINETY EIGHT T&T
 TORONADO T&T

SPECIAL STD.
 SPORTWAGON STD.

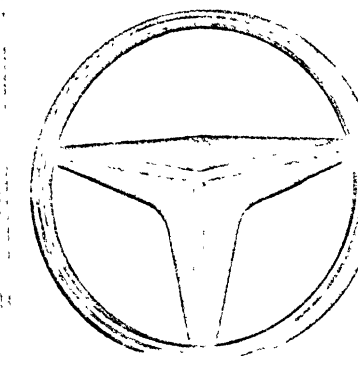
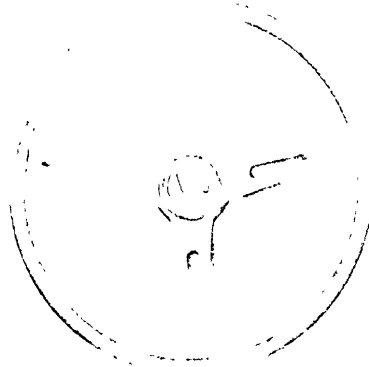
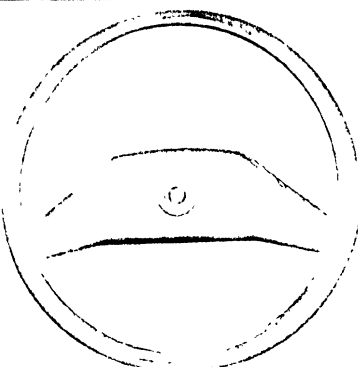
LESABRE & WILDCAT STD.
 ELECTRA STD.
 SPECIAL DLX.
 SPORTWAGON DLX.

14

15

CADILLAC

17



RIVIERA STD.
 WILDCAT DLX.

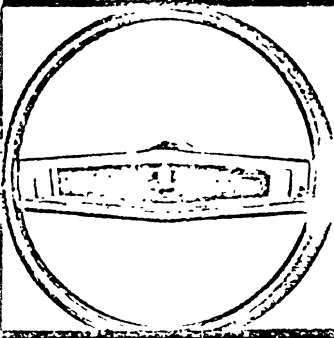
BUICK SPORT OPT.
 (ALL MODELS)

CADILLAC STD.
 CADILLAC T&T

1970 GENERAL MOTORS STEERING WHEELS PASSENGER CARS

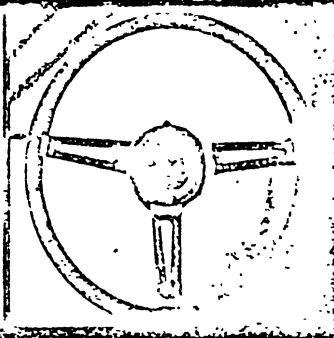
INDIVIDUAL STEERING WHEELS MAY HAVE TRIM FEATURES DIFFERENT FROM THOSE ILLUSTRATED. THE BASIC WHEEL DESIGN REMAINS THE SAME HOWEVER.

CHEVROLET 02



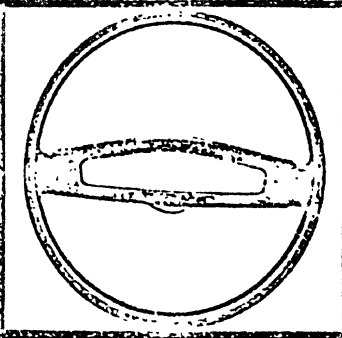
STANDARD
(ALL MODELS EXCEPT CAMARO & CORVETTE)

03



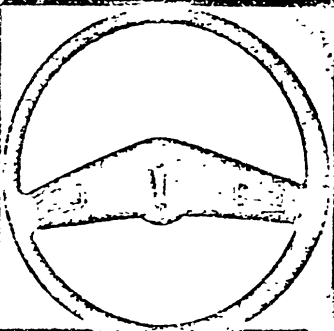
SPORT
(OPTIONAL ALL MODELS; CORVETTE STANDARD & T & T)

01



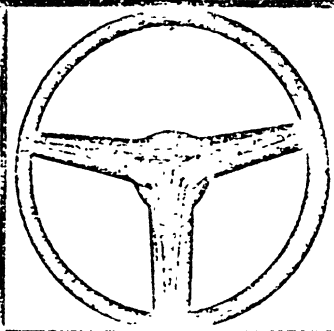
STANDARD CAMARO
(CAMARO ONLY)

PONTIAC 05



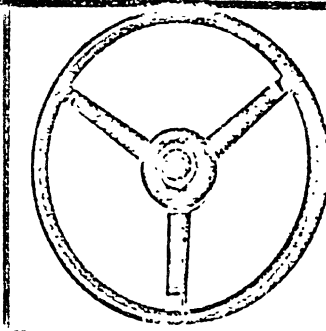
STANDARD
(FIREBIRD, CATALINA, TEMPEST)

06



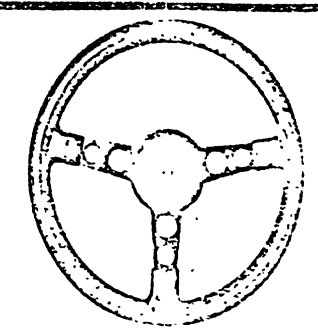
DELUXE
(ALL MODELS, STANDARD GTO, GRAND PRIX, EXECUTIVE, BONNEVILLE)

19



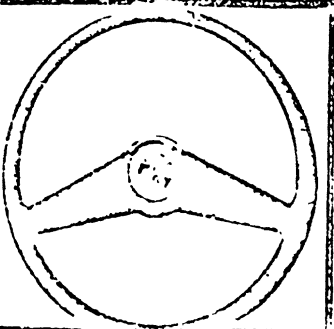
SPORT
(OPTIONAL ALL MODELS)

07



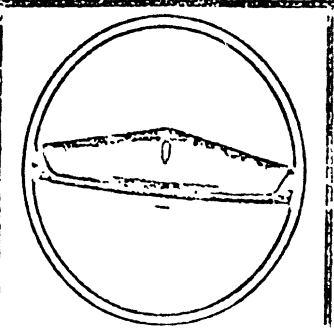
FORMULA
(OPTIONAL ALL MODELS)

OLDSMOBILE 08



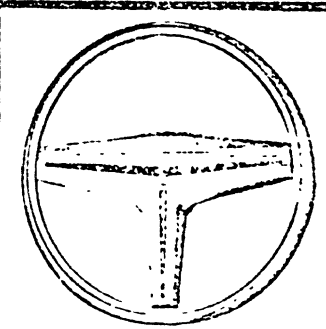
STANDARD
(CUTLASS, VISTACRUISER, DELTA 63)

09



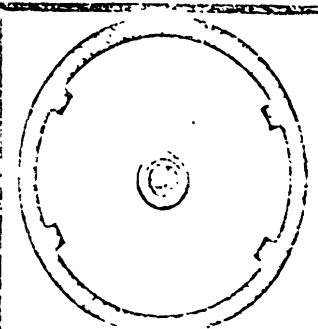
DELUXE
(RIM OR PAD BLOW)
(ALL MODELS, STANDARD TORONADO & 93)

11



T & T
(TORONADO & 98 WITH T & T COLUMN)

10



SPORT
(OPTIONAL CUTLASS)

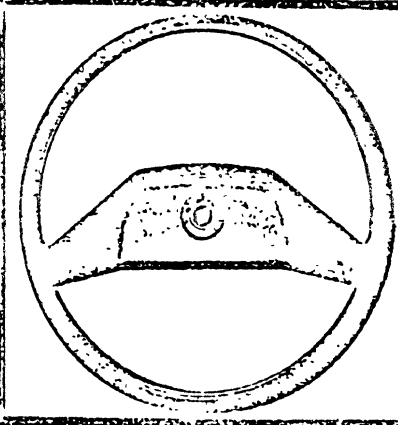
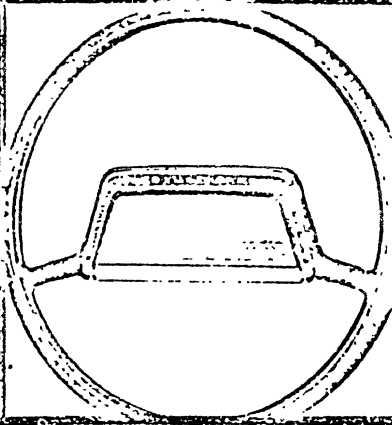
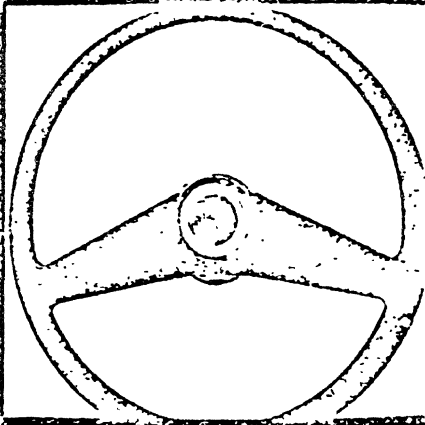
1970 GM STEERING WHEELS (PASS. CARS)

BUICK

12

13

14



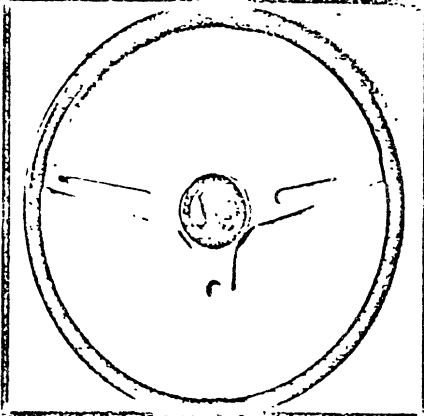
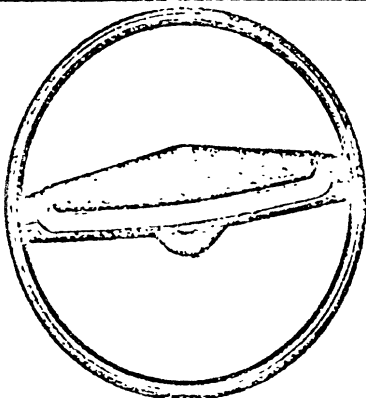
STANDARD I
(STANDARD SKYLARK,
SPORTWAGON)

16

STANDARD II
(STANDARD LESABRE, WILDCAT;
OPTIONAL SKYLARK,
SPORTWAGON)

15

STANDARD III
(STANDARD RIVIERA, ELECTRA;
OPTIONAL LESABRE, WILDCAT)

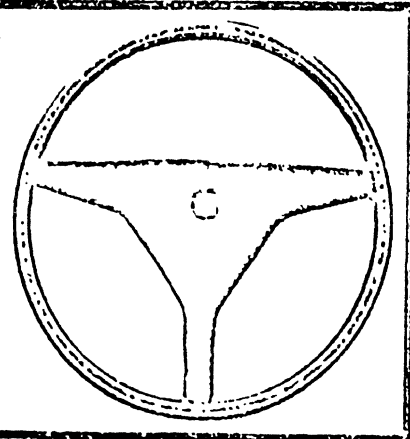


DELUXE
(OPTIONAL ALL MODELS)

SPORT
(OPTIONAL SKYLARK)

CADILLAC

17

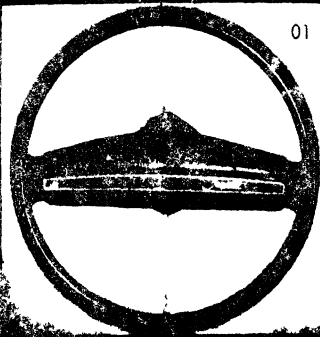


STANDARD
(ALL MODELS)

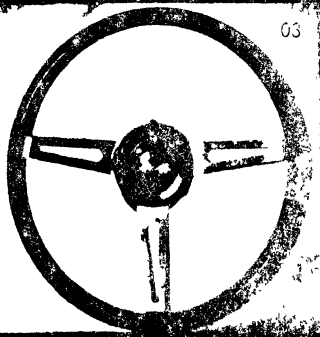
1971 GENERAL MOTORS STEERING WHEELS PASSENGER CARS

INDIVIDUAL STEERING WHEELS MAY HAVE TRIM FEATURES DIFFERENT FROM THOSE ILLUSTRATED. THE BASIC WHEEL DESIGN REMAINS THE SAME HOWEVER.

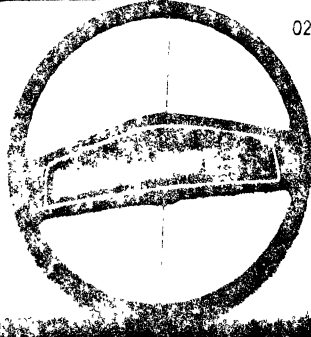
CHEVROLET



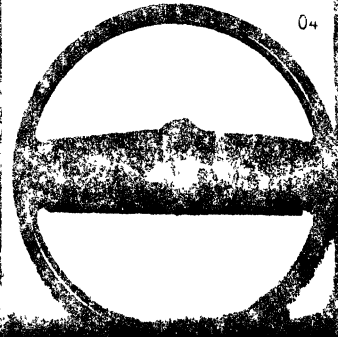
01



03



02



04

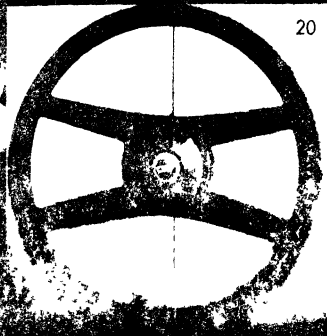
STANDARD
(ALL MODELS EXCEPT
VEGA & CORVETTE)

SPORT
(CORVETTE STANDARD & T & T)

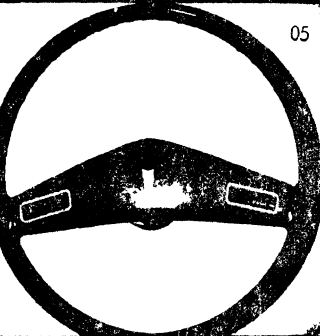
OPTIONAL
(ALL MODELS EXCEPT
VEGA & CORVETTE)

STANDARD II
(VEGA ONLY)

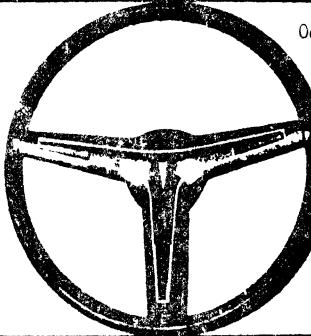
CHEVROLET



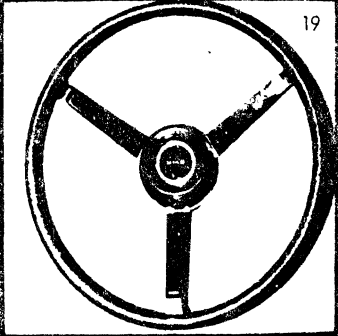
20



05



06



19

SPORT
(OPTIONAL ALL MODELS EXCEPT
FULL SIZE CHEVROLET &
CORVETTE)

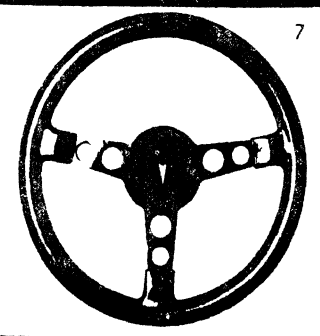
STANDARD
(ALL MODELS)

DELUXE
(ALL MODELS)

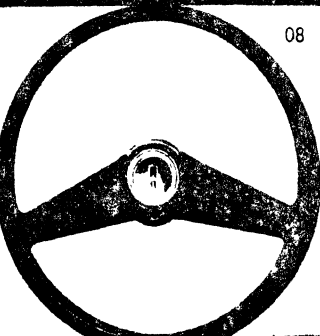
SPORT
(OPTIONAL ALL MODELS)

PONTIAC

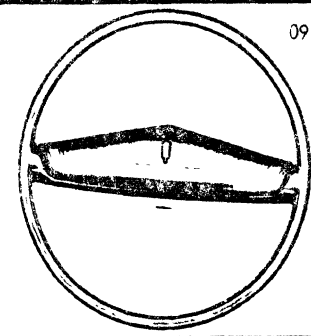
OLDSMOBILE



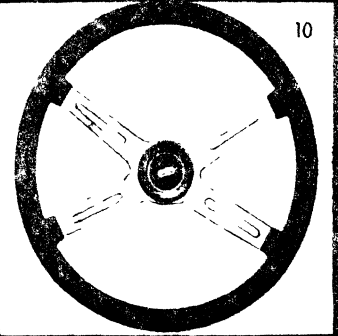
7



08



09



10

FORMULA
(OPTIONAL ALL MODELS)

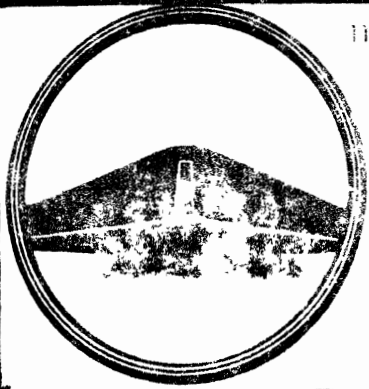
STANDARD
(CUTLASS ONLY)

DELUXE
(CUTLASS ONLY)

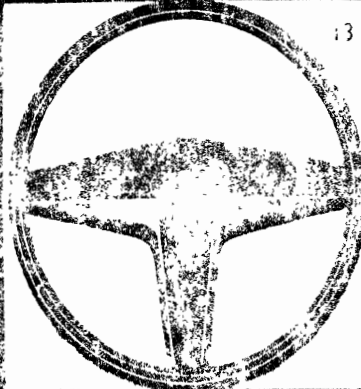
SPORT
(OPTIONAL CUTLASS)

1971 GM STEERING WHEELS (PASS. CARS)

OLDSMOBILE

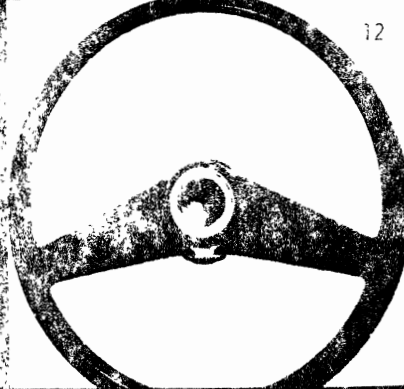


STANDARD II
(DELTA 88, 98 &
TORONADO)



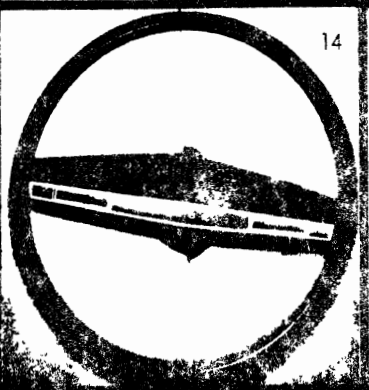
T & T OPTION
(98 & TORONADO)

BUICK

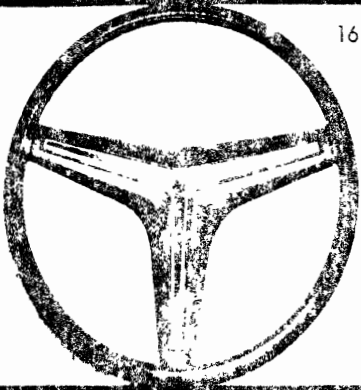


STANDARD I
(STANDARD SKYLARK,
SPORTWAGON)

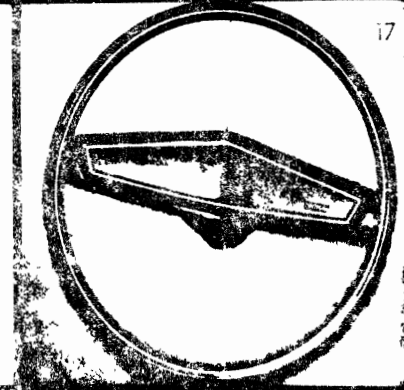
BUICK



STANDARD II
(CENTURION, LESABRE;
DELUXE SKYLARK, SPORT-
WAGON)

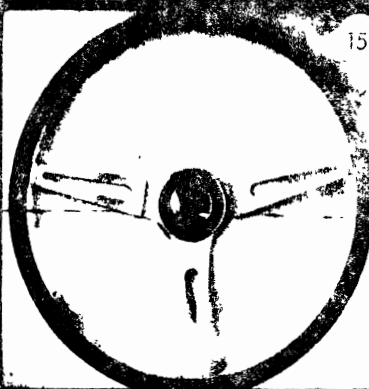


STANDARD III
(STANDARD RIVIERA, ELECTRA;
DELUXE CENTURION, LESABRE)



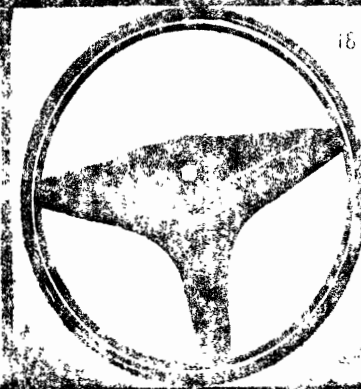
OPTIONAL
(ALL MODELS)

BUICK



SPORT
(OPTIONAL SKYLARK)

CADILLAC

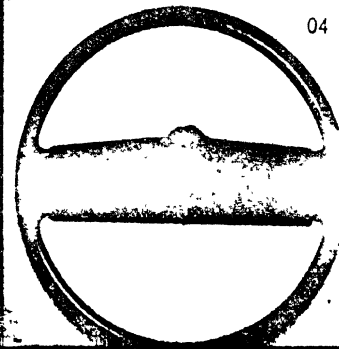
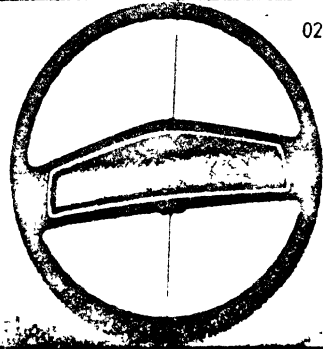
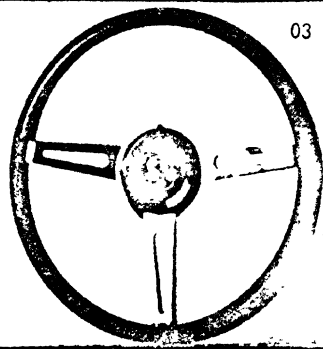
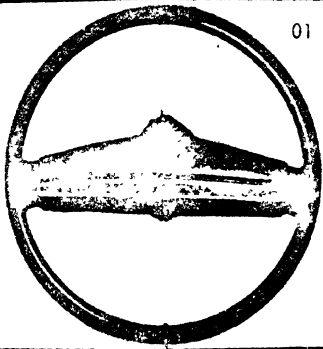


STANDARD
(ALL MODELS)

1972 GENERAL MOTORS STEERING WHEELS PASSENGER CARS

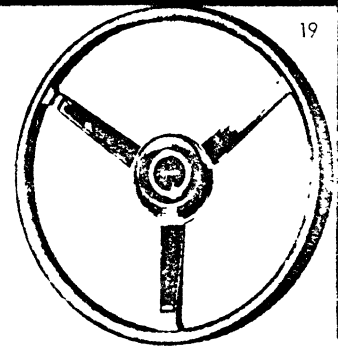
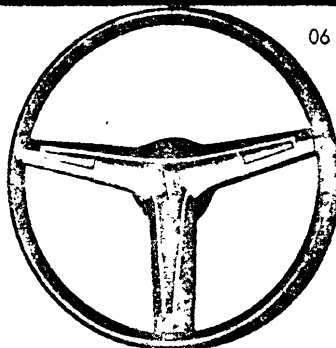
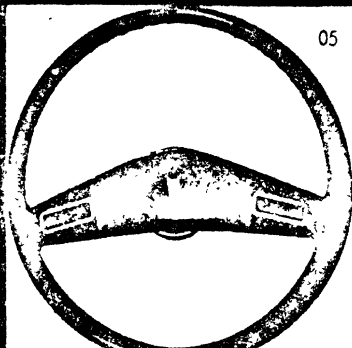
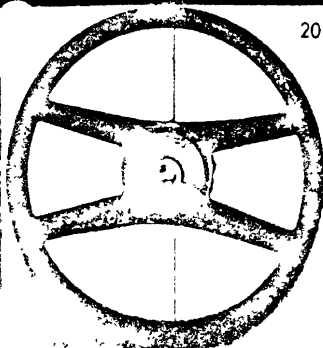
INDIVIDUAL STEERING WHEELS MAY HAVE TRIM FEATURES DIFFERENT FROM THOSE ILLUSTRATED. THE BASIC WHEEL DESIGN REMAINS THE SAME HOWEVER.

CHEVROLET



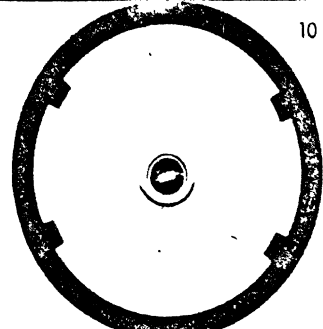
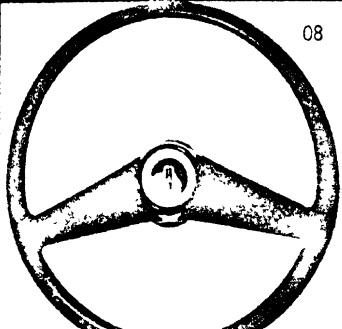
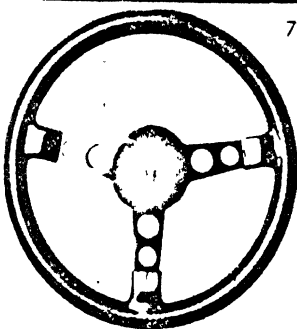
CHEVROLET

PONTIAC



PONTIAC

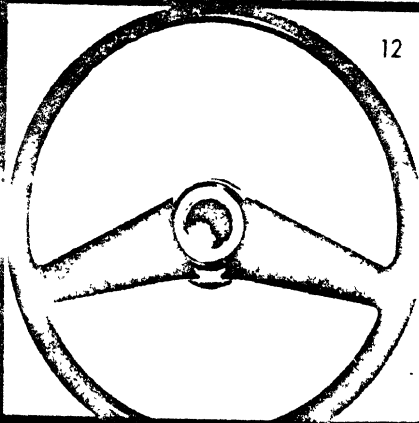
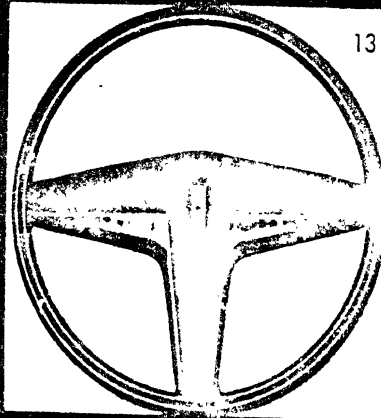
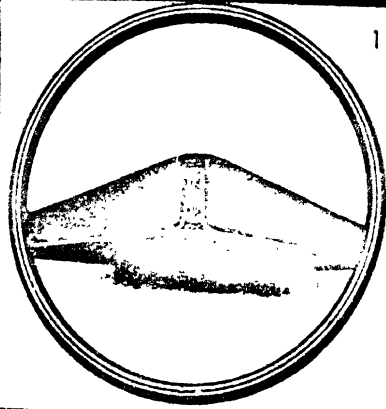
OLDSMOBILE



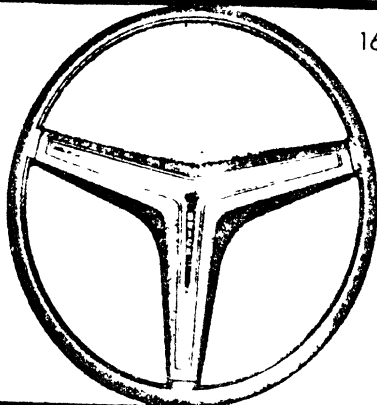
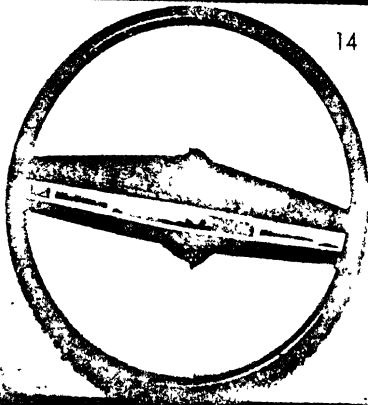
1972 GM STEERING WHEELS (PASS. CARS)

OLDSMOBILE

BUICK

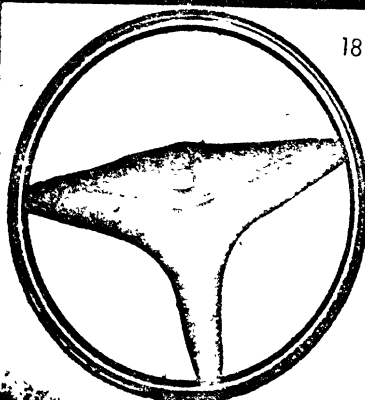
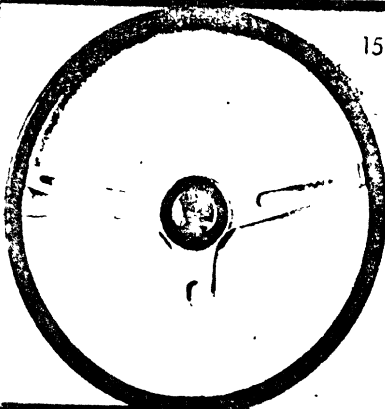


BUICK



BUICK

CADILLAC



STEERING COLUMN EA : IMPORTS 73

Steering Column E. A. D.

<u>M e</u>	<u>Model</u>	<u>Type</u>	<u>Dimension</u>
Audi	90 Sedan - 2 dr. (Fox)	6	6.4
	90 Sedan - 4 dr. (Fox)	6	6.4
	100 LS - 4 dr.	1	6.4
Datsun	1200 - 2 dr. Sedan	1	12.5
	1200 - 2 dr. Sport Coupe	1	13.0
	1600 Pickup	7	N/A
	610 - 4 dr. Sedan		
	610 - 4 dr. Station Wagon	6	8.0
	610 - 2 dr. Hardtop	9	13.75
	240 Z	6	9.5
Dodge	Colt - 2 dr. Coupe		
	Colt - 2 dr. Hardtop	9	7.0
	Colt - 4 dr. Sedan		
	Colt - 4 dr. Station Wagon		
Fiat	850 Spider Convertible	7	N/A
Ford	Capri	7	N/A
Opel	1900 Luxus	1	10.50
	1900 Wagon	1	10.50
	Rallye Manta	1	10.50
	G. T.	7	N/A
Plymouth	Cricket - 4 dr. Sedan	None imported after 1/73	
Porsche	911	7	N/A
	914	1	6.4
Toyota	Carina - 2 dr. Sedan		
	Corona - 4 dr. sedan		
	Corona - 2 dr. Hardtop		
	Corona - Mark II MX	6	99.9
	Corolla - 2 dr. Coupe	1	10.74
	Corolla - 2 dr. Sedan	1	10.74
Toyota	Corolla - Station Wagon	1	10.74
	Celica - 2 dr. Hardtop	1	10.74
VW	Beetle	1	6.4
	Fastback	1	6.4
	Squareback	1	6.4
	412 - 2 dr.	1	6.4
	412 - 4 dr.	1	6.4
	412 - 3 dr. Hatchback	1	6.4

Steering Wheel Energy Absorbing Device Table

<u>Corporation</u>	<u>Year</u>	<u>Make</u>	<u>Length</u>
Chrysler	70-74	Barracuda	4.9 (in)
		Challenger	4.9 (in)
Ford	71-74	Capri	6.0 (in)

Also included as a Steering Wheel Energy Absorbing Device is the Steering Wheel Pad (17.7.14). The cars below are the only ones with pads that serve that purpose.

Cricket- All year models

Fords- 67

Mercury Cougar--67

STEERING WHEEL EA DEVICE: IMPORTS

STEERING WHEEL EA DEVICE: IMPORTS 72

Steering Wheel E.A.D.

	'72 IMPORTS	Type (3-N/A)	Dimension (3-N/A)
AUDI	90 Sedan	Mesh (Inside Hub)	3.75"
	100 LS	Mesh (Inside Hub)	3.75"
FORD	Capri	Barracuda Type	3" Exposed (Total Unk)
PORSCHE	911	Mesh (Inside Hub)	3.75"
	914	Mesh (Inside Hub)	3.75"
V W	Beetle	Mesh (Inside Hub)	3.75"
	Fastback	Mesh (Inside Hub)	3.75"
	Squareback	Mesh (Inside Hub)	3.75"
	411 2-Dr and 4-Dr	Mesh (Inside Hub)	3.75"
	411 3-Dr Hatchback	Mesh (Inside Hub)	3.75"

STEERING WHEEL EA DEVICE: IMPORTS 73

Steering Wheel E. A. D.

<u>Make</u>	<u>Model</u>	<u>Type</u>	<u>Dimension</u>
Audi	90 Sedan - 2 dr. (Fox)	Mesh	3.75"
	90 Sedan - 4 dr. (Fox)	Mesh	3.75
	100 LS - 4 dr.	Mesh	3.75
Ford	Capri	Barracuda	3.25
Porsche	911	Mesh	3.75
	914	Mesh	3.75

TEAM PREFIX & CASE NUMBERS

TEAM LETTERS AND REPORT SEQUENCE NUMBERS

TEAM LETTERS	REPORT SEQUENCE NUMBER	TEAM NUMBER	TEAM SPONSOR*	TEAM CASE NUMBER**	TEAM
<u>V2</u>	<u>V3</u>	<u>V5</u>	<u>V6</u>	<u>V16</u>	
AA	00105	1	1	AA 105	Ann Arbor, HSPI-III
BA	00012 00031	2	1	MVD 12 4ME31	Baylor Coll. of Medicine
BU	70017	3	1	BU 70 17	Boston University
CA	71063	4	3	CAL 71 63A	Calspan-III A
CB	71016 73045	5	3	CAL 71 16B CAL 73 45	Calspan-III B
DT	71027	6	4	DTS 027 71	Ministry of Transport Ottawa, Canada
GI	00122	7	1	GIT 260 122	Georgia Inst. Technology
HS	00131	8	2	HSRI 131	Highway Safety Res. Inst.
IU	69013	9	1	MCR 69 13	Indiana University
MG	71021	10	4	MGU 021 71	McGill Univ., Montreal
MI	00121 00240	11	1	MI-697121 MIAMI 72 240	University of Miami
ML	70008	12	1	MMF 70 8	Maryland Medical/Legal Foundation
MU	71016	13	4	EPM 016 71	Univ. of Montreal, Ecole Polytechnique
NB	71009	14	4	UNB 009 71	Univ. of New Brunswick
NM	00039	15	1	UNM 39	Univ. of New Mexico
OK	00582	16	2	OK 582 73	Oakland County, HSPI-III
OS	00012	17	1	OSU 12	Ohio State University
RT	00032 00083	18	1	RTI 32 RTI 095 83	Research Triangle Inst.
RU	00099	19	1	RAI 99	University of Rochester
SC	00038 73020	20	1	USC 71 38 USC 73 20	Univ. of S. California
SI	00004 74001	21	1	SRI 2 004 SRI 8096 01	Stanford Res. Inst. (2)
SP	00081	22	1	SRI-0081	Stanford Res. Inst. (1)
SU	00019	23	1	SU 019	Stanford University
SW	72003	24	1	SWRI 7203	Southwest Res. Institute
TR	01143	25	1	UC 1143D	Trauma Res. Group, UCLA
TU	00013 71005	26	1	TU 13B2970 TU 71 5	Tulane University
UC	00450	27	2	UC 450	Univ. California (Siegel)
UH	00002	28	1	HOU-2	University of Houston
UK	00001	29	1	321 KY 01	University of Kentucky
UM	00513	30	2	UM 513 71	Univ. Michigan (Huelke)
UO	72002	31	1	UCK 72 2	University of Oklahoma
UT	71023	32	4	TOR 023 71	University of Toronto
UU	70013	33	1	UTAH 013-70	University of Utah
VA	71004	34	4	VOA 004 71	Univ. of Alberta
VB	71005	35	4	BCR 005 71	Univ. of British Columbia
VM	71006	36	4	UOM 006 71	Univ. of Manitoba
VS	71007	37	4	UOS 007 71	Univ. of Saskatchewan

*Sponsor Number: 1 - NHTSA/DOT

2 - MVMA

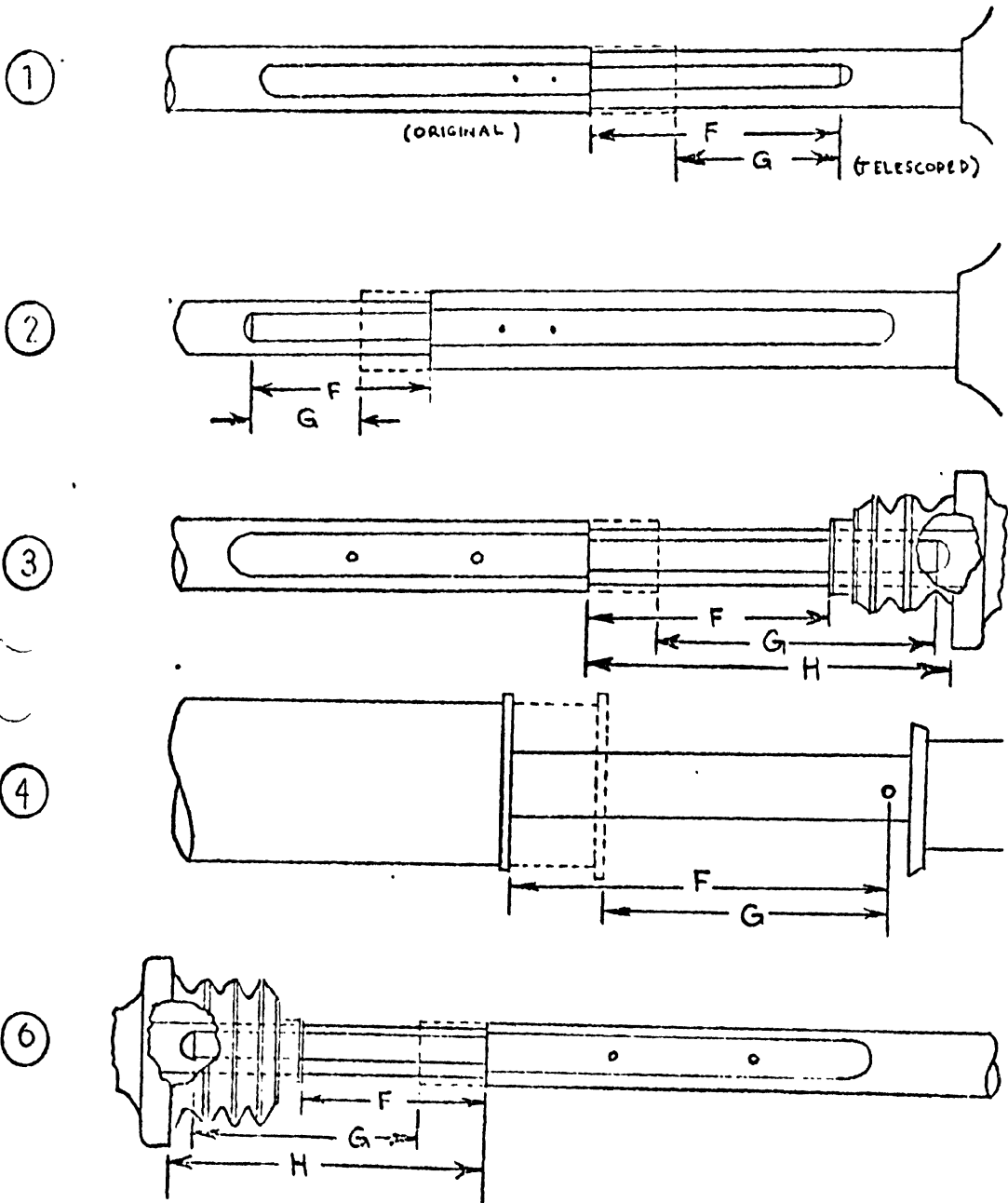
3 - Joint MVMA-NHTSA

4 - Ministry of Transport, Canada

** For teams having two versions the most recent is shown last.

TELESCOPING UNIT: DIAGRAM

ENGINE COMPARTMENT TELESCOPING UNIT



TELESCOPING UNIT: USA

GM Engine Compartment Telescoping Unit Dimensions

<u>Make</u>	<u>Year</u>	<u>Type</u>	<u>F dim</u>	<u>H dim</u>
<u>A-Bodies</u>	67	1	8.45	--
Chevelle	68-70	2	5.74	--
El Camino	71-72	2	5.69	--
Tempest	73	2	6.08	--
LeMans				
Cutlass				
F-85				
Vista Cruiser				
Special				
Skylark				
SportWagon				
Century				
Regal				
<u>F-Bodies</u>	70	2	5.74	--
Firebird	71-73	6	--	8.18
Camaro				
<u>Grand Prix</u>	69-70	2	5.79	--
	71-73	6	--	8.74
<u>Monte Carlo</u>	70	2	6.53	--
	71-73	6	--	8.70
<u>Chevrolet B-bodies</u>	71-73	6	--	6.21
Biscayne				
Brookwood				
Bel Air				
Townsmen				
Impala				
Kingwood				
Caprice				
<u>B&C Bodies</u>	71-73	6	--	7.20
Catalina				
Bonneville				
Grand Safari				
Delta 88				
98				
LeSabre				
Estate Wagon				
Centurion				
Electra 225				
<u>Grandville</u>	71-72	6	--	8.45
<u>Riviera</u>				
Chevy II	Thru-73		Not Equipped	
Eldorado				
Cadillac				
Buick Opel				
Ford Cortina				
Omega				

Corporation	Make	Model Year	Unit Type	Original Length F
AMC	Hornet	71	1	8.25
		72	1	6.56
	Javelin	71-72	1	7.53
		Javelin AMX		
	Matador	71-72	2	6.28
	Ambassador	67	1	8.4
		68-69	2	6.1
70		2	7.7	
71-72		2	7.62	
Chrysler	Barracuda	70-72	4	10.2 (Manual)
	Challenger			9.0 (Power)

TELESCOPING UNIT: IMPORTS

Engine Compartment Telescoping Unit

	'72 IMPORTS	Steering Column Flex. Coup. Equipped	Type	Dimension
AUDI	90 Sedan	1	N/A	N/A
	100 LS	1	N/A	N/A
DATSUN	1200 2-Dr Sedan	2	N/A	N/A
	1200 2-Dr Sport Coupe	2	N/A	N/A
	1600 Pickup	2	N/A	N/A
	510 2-Dr Sedan	1 (U-Joint)	N/A	N/A
	510 4-Dr Sedan	1 (U-Joint)	N/A	N/A
	510 Station Wagon	1 (U-Joint)	N/A	N/A
	240 Z	1*	N/A	N/A
DODGE COLT	2-Dr Coupe	2	N/A	N/A
	2-Dr H/T	2	N/A	N/A
	4-Dr Sedan	2	N/A	N/A
	4-Dr Station Wagon	2	N/A	N/A
FIAT	850 Spider Convertible	2	U-Joint	N/A
FORD	Capri	2**	N/A	N/A
OPEL	1900	1	N/A	N/A
	1900 Wagon	1	N/A	N/A
	Rallye	1	2	7.5
	G.T.	1	U-Joint	N/A
PLYMOUTH	Cricket 4-Dr Sedan	2	N/A	N/A
PORSCHÉ	911	2	N/A	N/A
	914	2	N/A	N/A
TOYOTA	Carina 2-Dr Sedan	1	N/A	N/A
	Corona 4-Dr Sedan	1	N/A	N/A
	Corona 2-Dr H/T	1	N/A	N/A
	Corolla 2-Dr Coupe	2	N/A	N/A
	Corolla 2-Dr Sedan	2	N/A	N/A
	Corolla Station Wagon	2	N/A	N/A
	Celica 2-Dr H/T	1	N/A	N/A
V W	Beetle	1	N/A	N/A
	Fastback	1	N/A	N/A
	Squareback	1	N/A	N/A
	411 2-Dr and 4-Dr	1	N/A	N/A
	411 3-Dr Hatchback	1	N/A	N/A

* Flex Coup & U-Joint

** Disk Coupling

TELESCOPING UNIT: IMPORT 73

Engine Compartment
Telescoping Unit

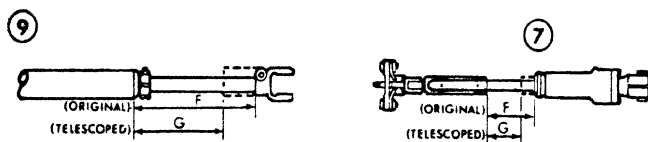
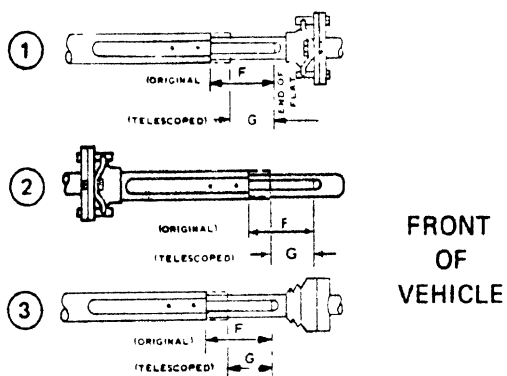
<u>Make</u>	<u>Model</u>	<u>Steering Column Flexible Coupling Equipped</u>	<u>Type</u>	<u>Dimension</u>
Audi	90 Sedan - 2 dr. (Fox)	1	N/A	N/A
	90 Sedan - 4 dr. (Fox)	1	N/A	N/A
	100 LS 4 dr.	1	N/A	N/A
Datsun	1200 - 2 dr. Sedan	2	N/A	N/A
	1200 - 2 dr. Sport Coupe	2	N/A	N/A
	1600 Pickup	2	N/A	N/A
	610 - 4 dr. Sedan			
	610 - 4 dr. Station Wagon	1	8	***
	610 - 2 dr. Hardtop	1	N/A	N/A
	240 Z	1*	N/A	N/A
Dodge	Colt - 2 dr. Coupe			
	Colt - 2 dr. Hardtop	2	N/A	N/A
	Colt - 4 dr. Sedan			
	Colt - 4 dr. Station Wagon			
Fiat	850 Spider Convertible	2	8	***
Ford	Capri	2**	N/A	N/A
Opel	1900 Luxus	1	8	
	1900 Wagon	1	N/A	N/A
	Rallye Manta	1	2	***
	G.T.		8	***
Plymouth	Cricket - 4 dr. Sedan	none imported after 1/73		
Porsche	911	1	8	***
	914	1	N/A	N/A
Toyota	Carina - 2 dr. Sedan			
	Corona - 4 dr. Sedan			
	Corona - 2 dr. Hardtop			
	Corona - Mark II MX	1	N/A	N/A
	Corolla - 2 dr. Coupe	2	N/A	N/A
	Corolla - 2 dr. Sedan	2	N/A	N/A
	Corolla - Station Wagon	2	N/A	N/A
	Celica - 2 dr. Hardtop	1	N/A	N/A
VW	Beetle	1	N/A	N/A
	Fastback	1	N/A	N/A
	Squareback	1	N/A	N/A
	412 - 2 dr.	1	N/A	N/A
	412 - 4 dr.	1	N/A	N/A
	412 - 3 dr. Hatchback			

*Flexible coupling and V joint

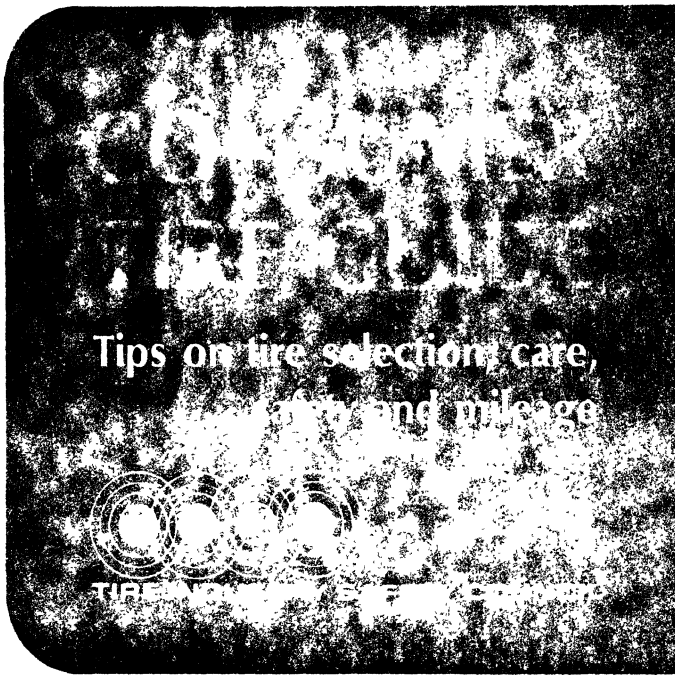
**Disk coupling

***Immeasurable

ENGINE COMPARTMENT TELESCOPING UNIT



CORP.	MAKE	MODEL YEAR	TYPE UNIT	ORIG. LENGTH (F)	
				MANUAL	POWER
IHC	1000 Series	69 & Up	2	6.75"	5.50"
	1100	69 & Up		7.00"	6.75"
	1200				
	1300				
	1100 (4x4)				
	1200 (4x4)				
	1300 (4x4)	69 & Up	7	7.30"	5.80"
1500					
	Scout 800	69-71	3	5.90"	-
	Scout II	71 & Up	9	9.75"	9.75"
GMC	CHEV & GMC	68	1	5.70"	5.70"
		69	1	5.70"	5.70"
		70	1	5.70"	5.70"
		71	1	5.70"	5.70"



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Bias		Bias and Belted Bias			Radial		
1968-On	Pre-1968	'78 Series'	'70 Series'	'60 Series'	Metric	'78 Series'	'70 Series'
6 00-13		A7B-13	A70-13		165 R 13	AR 78-13	AR 70-13
6 50-13		B7B-13	B70-13		175 R 13	BR 78-13	BR 70-13
7 00-13		C7B-13	C70-13			CR 78-13	CR 70-13
			D70-13		185 R 13	DR 78-13	DR 70-13
			E70-13		195 R 13	ER 78-13	ER 70-13
6 45-14			A70-14		155 R 14		AR 70-14
6 45-14	6 00-14	B7B-14	B70-14		165 R 14	BR 78-14	BR 70-14
6 95-14	6 50-14	C7B-14	C70-14		175 R 14	CR 78-14	CR 70-14
7 35-14		D7B-14	D70-14			DR 78-14	DR 70-14
7 35-14	7 00-14	E7B-14	E70-14		185 R 14	ER 78-14	ER 70-14
7 75-14	7 50-14	F7B-14	F70-14		195 R 14	FR 78-14	FR 70-14
8 25-14	8 00-14	G7B-14	G70-14		205 R 14	GR 78-14	GR 70-14
8 55-14	8 50-14	H7B-14	H70-14		215 R 14	HR 78-14	HR 70-14
8 85-14	9 00-14	J7B-14	J70-14		225 R 14	JR 78-14	JR 70-14
	9 50-14		L70-14			KR 70-14	LR 70-14

Bias		Bias and Belted Bias			Radial		
1968-On	Pre-1968	'78 Series'	'70 Series'	'60 Series'	Metric	'78 Series'	'70 Series'
	6 00-15				165 R 15	BR 78-15	
6 85-15	6 50-15	C7B-15	C70-15		175 R 15	CR 78-15	CR 70-15
7 35-15		D7B-15	D70-15			DR 78-15	DR 70-15
7 75-15	6 70-15	E7B-15	E70-15	E60-15	185 R 15	ER 78-15	ER 70-15
	7 10-15	F7B-15	F70-15	F60-15	195 R 15	FR 78-15	FR 70-15
8 25-15	7 60-15	G7B-15	G70-15	G60-15	205 R 15	GR 78-15	GR 70-15
8 55-15	8 00-15	H7B-15	H70-15		215 R 15	HR 78-15	HR 70-15
8 85-15		J7B-15	J70-15		225 R 15	JR 78-15	JR 70-15
9 00-15	8 20-15		K70-15				KR 70-15
9 15-15		L7B-15	L70-15		235 R 15	LR 78-15	LR 70-15
		M7B-15					
		N7B-15					
8 90-15							
6 00-16							
6 50-16							
7 00-16							
7 00-16							

TIRES FOR IMPORTED CARS

"Super Balloon" Sizes (Bias)	"Low Section" Sizes (Bias)	"Super Low Section" Sizes (Bias)
5 20-10	5 00-12	145-10/5 95-10
5 90-10	5 50-12	125-12/5 35-12
5 20-12	6 00-12	135-12/5 65-12
5 60-12	5 00-13	145-12/5 95-12
5 90-12	5 50-13	155-12/6 15-12
6 20-12	7 25-13	135-13/5 65-13
5 70-13	7 50-13	145-13/5 95-13
5 60-13	5 50-15L	155-13/6 15-13
5 90-13	6 00-15L	165-13/6 45-13
6 20-13	6 50-15L	175-13/6 95-13
6 40-13	7 00-15L	185-13/7 35-13
6 70-13		195-14/6 65-14
6 90-13		148-14/8 95-14
5 20-14		155-14/6 15-14
5 60-14		165-14
5 90-14		175-14
6 40-14		185-14
5 20-15		195-14
5 60-15		205-14
5 90-15		215-14
6 40-15		225-14
		125-15/5 35-15
		135-15/5 65-15
		145-15/5 95-15
		155-15/6 15-15
		165-15/6 45-15
		175-15/6 95-15
		185-15/7 35-15
		195-15
		205-15
		215-15
		225-15



TIRE INFORMATION

When a new tire size is designated as H78-15, what do those figures mean? The H is the load capacity designation which replaces the old tire width numbers (8.55 in this case). The further into the alphabet you go (B after A for example) the higher the load capacity. The following table shows the letters which replace number designations:

Letter	Replaces Number
A	6.00
B	6.45
C	6.95
D (new designation)	—
E	7.35
F	7.75
G	8.25
H	8.55
J	8.85
L	9.15

The 78 is what engineers refer to as Aspect Ratio. The Aspect Ratio is determined by the relationship:

$$\frac{\text{Tire Section Height}}{\text{Tire Section Width}}$$

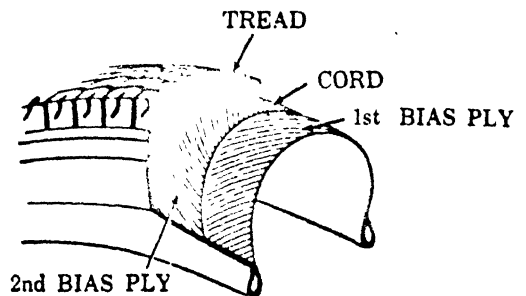
Using that calculation, you can see that the wider the tire section, the smaller the Aspect Ratio. As a general guide, an Aspect Ratio of 78 (as in F78-15) is considered standard, while an Aspect Ratio of 70 indicates a Wide-Oval and an Aspect Ratio of 60 indicates a Super-Wide-Oval tire.

Sometimes you may see an R included with the tire designation, such as HR78-15. The R stands for radial ply, as compared to the conventional bias ply or belted bias ply which have no R marking. You may see the R listed on tires as HR78-15 or with metric designations such as 175R-13. In the latter case, the 175 refers to the Nominal Tire Section Width of 175 millimeters.

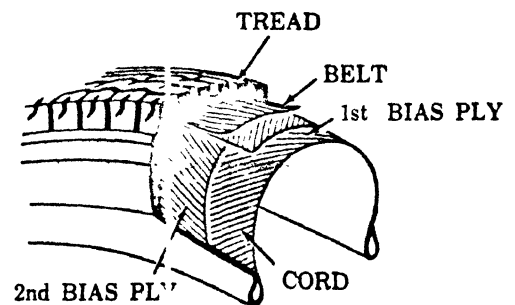
To sum up these "translations," new tire designations would be:

HR78-15 = H Load-Carrying Capacity
 R for radial ply
 78 for a "standard" or "conventional" Aspect Ratio
 15 for fitting a 15-inch rim.
 175R-13 = 175 millimeter Nominal Tire Section Width
 R for radial ply
 13 for fitting a 13-inch rim.

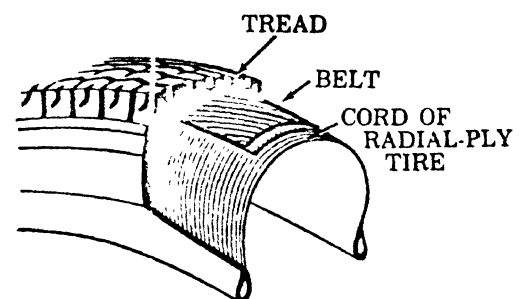
The car manufacturer matches the weight of its different car models, including equipment, to the tire with the appropriate load-carrying capacity.



The bias-ply tire has two or more plies. Each ply consists of cord imbedded in a layer of fabric. The layers constitute the carcass of the tire. The cords in each layer, or ply, in a bias-ply tire run at an angle (bias) to the tread. In a 2-bias-ply tire, shown above, the cords in one ply run at a bias in one direction, and the cords in the other ply run at a bias in the opposite direction.

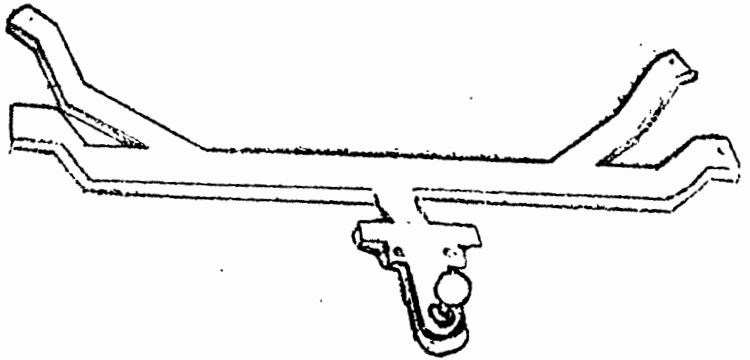
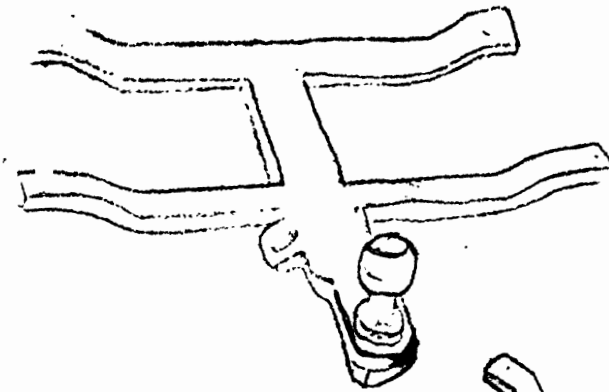


The belted bias-ply tire is a bias-ply tire (as shown in top drawing) with a belt of material added, as used in the radial-ply tire, underneath the thick tire tread.

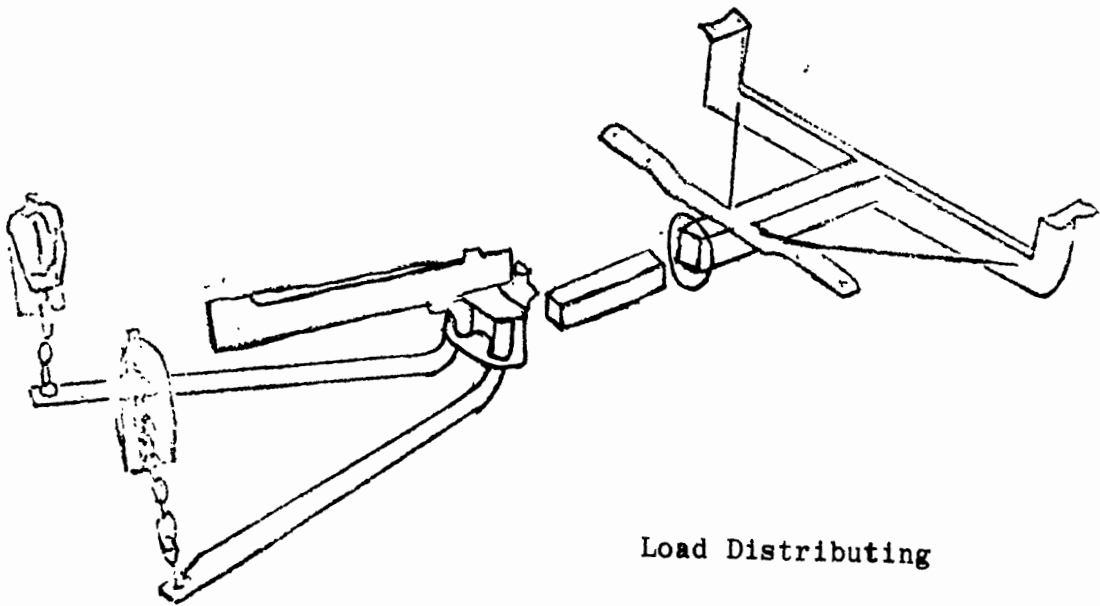


The radial-ply tire has one cord-imbedded-layer, with cords running radial to the tire, from bead to bead of the tire. This construction requires a belt or belts of material running completely around the tire, below the thick tire tread.

TRAILER HITCH INFORMATION

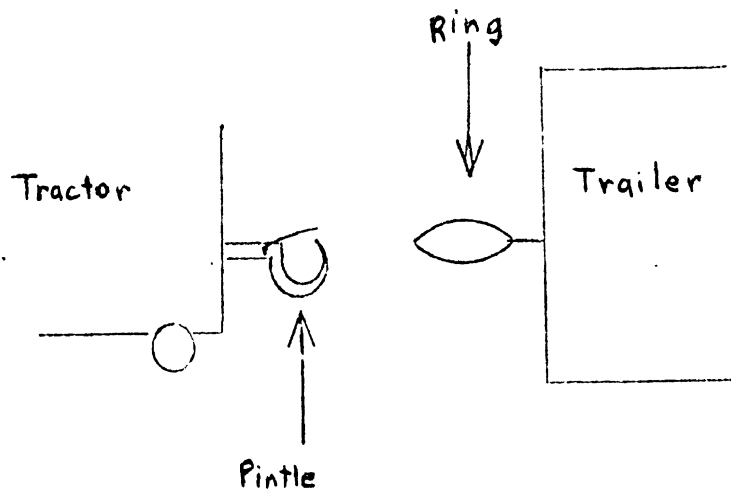


Frame Hitch

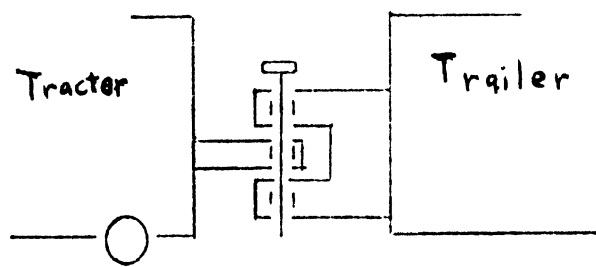


Load Distributing

TRAILER HITCH INFORMATION



Ring and Pintle



Clevis and Pin

VIN SUMMARY

VIN - Vehicle Identification Number

Standard Form (73)

Manufacturers	CHARACTER SYMBOLS							PRODUCTION NUMBER					
	1	2	3	4	5	6	7	8	9	10	11	12	13
American Motors	M	1	T	4	5	6	E	9 ^P	9	9	9	9	9
Chrysler Corp.	M	S	5	5	E	1	P	9	9	9	9	9	9
Ford Motor Co.	1	P	4	5	E	9 ^M	9	9	9	9	9	9	9
General Motors*	3	S	5	5	E	1	P	9	9	9	9	9	9

* for 72 and 73

VW=9 digits through 69, 10 digits after 69

Cadillac 10 digits before 71

<u>Character Symbol *</u>	<u>Contents</u>
1	Model Year
2,P	Assembly Plant
3,M	Make
4,S	Series
5	Body Style (see below)
T	Transmission
E	Engine
9	Sequential Production Number
6	Group Type (AMC only)

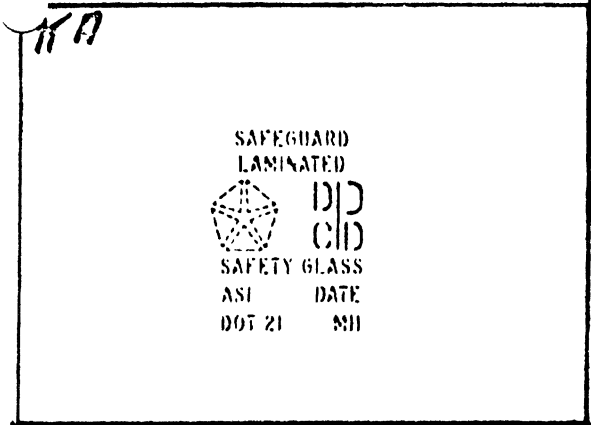
9^P AMC Production Numbers
 100,001 - 699,999
 Kenosha Plant
 700,000 - 999,999
 Brampton Plant

9^M Ford Production Numbers
 100,001 - 499,999
 Ford
 500,000 - 799,999
 Mercury
 800,000 - 999,999
 Lincoln

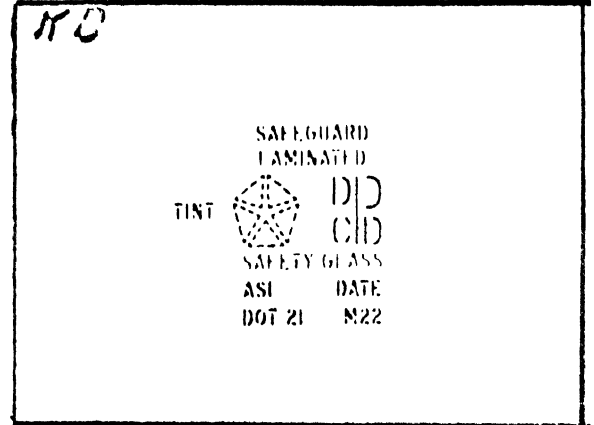
*If character symbol is alphanumeric, content item is a letter or word. If character symbol is numeric, content item is a number.

Chrysler

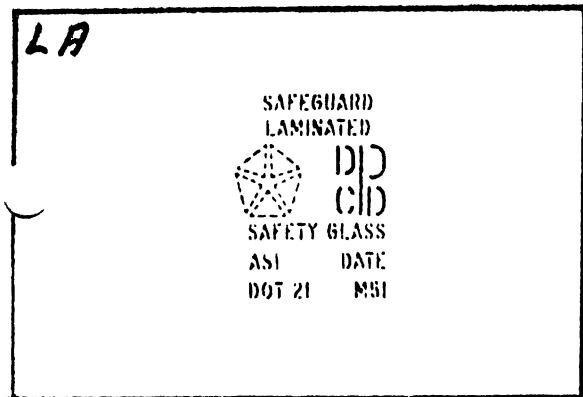
WINDSHIELD MONOGRAMS



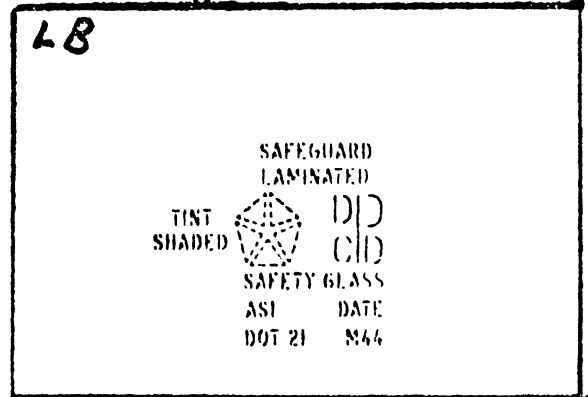
SAFEGUARD LAMINATED SAFETY GLASS -
DCPD, AS-1
laminated safety glass, AS-1,
with 30 mil interlayer



TINT SAFEGUARD LAMINATED SAFETY GLASS
DCPD, AS-1
laminated, heat absorbing,
safety glass, AS-1, with
30 mil interlayer



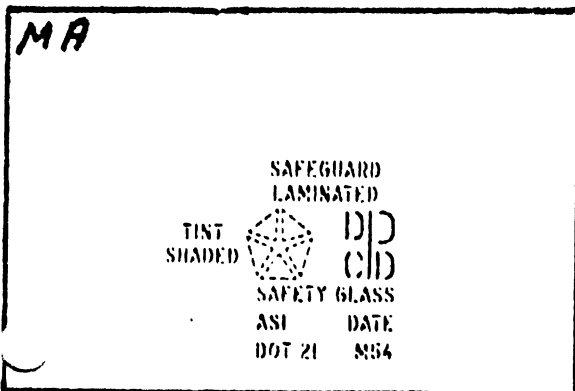
SAFEGUARD LAMINATED SAFETY GLASS -
DCPD, AS-1
laminated safety float glass, AS-1
with 30 mil interlayer



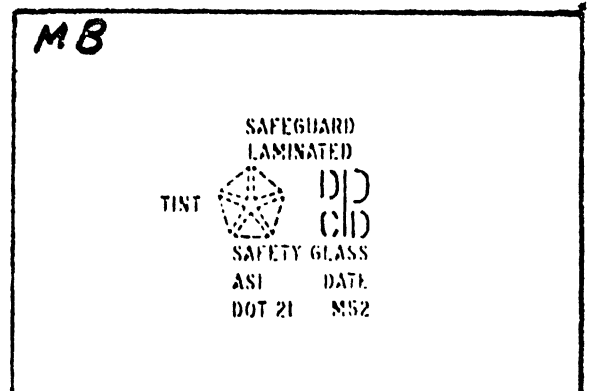
TINT SHADED SAFEGUARD LAMINATED
SAFETY GLASS - DCPD, AS-1
laminated, heat absorbing
safety glass, AS-1, with
30 mil interlayer colored band

UNKNOWN CHRYSLER

YL



TINT SHADED SAFEGUARD LAMINATED
SAFETY GLASS - DCPD, AS-1
laminated, heat absorbing, safety float glass, AS-1,
with 30 mil interlayer with colored band




TINT SAFEGUARD LAMINATED SAFETY GLASS -
DCDD, AS-1
laminated, heat absorbing, safety float glass,
AS-1, with 30 mil interlayer

1971-SAFETY GLAZING MONOGRAMS FOR WINDSHIELDS

Ford WITH _____ ANTENNA

JA

SUPER 30
LAMINATED
SAFETY GLASS




9D FM-M5H ASI

FLOAT-CLEAR
HIDDEN ANTENNA

JB

SUPER 30
LAMINATED
SAFETY GLASS




SUN VISOR
9D SUN-X ASI
FM-M59

FLOAT-TINT
GRADIENT BAND
HIDDEN ANTENNA

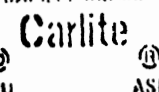


6D

SOLID
SAFETY GLASS



TEMPERED
2H SUN-X AS2
DOT-75 FM-M00

TEMPERED FLOAT
TINT - HEATED


<p>6E</p> <p>SUPER-30 LAMINATED SAFETY GLASS</p>  <p>2H ASI DOT-75 FM-M90</p> <p>LAMINATED FLOAT CLEAR (7/32")</p>	<p>6F</p> <p>SUPER-30 LAMINATED SAFETY GLASS</p>  <p>SUN VISOR 2H SUN-X ASI DOT-75 FM-M91</p> <p>LAMINATED FLOAT TINT - GRADIENT (7/32")</p>	<p>6G</p> <p>SUPER-30 LAMINATED SAFETY GLASS</p>  <p>SUN-X ASI 2K SUN-X ASI DOT-75 FM-M92</p> <p>LAMINATED FLOAT TINT (7/32")</p>
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1971 SAFETY GLAZING MONOGRAMS FOR WINDSHIELDS

Ford WITHOUT ANTENNA

FA

SOLID SAFETY GLASS




TEMPERED

4G FM-M30 AS2

TEMPERED SHEET
CLEAR

GA

SOLID SAFETY GLASS




TEMPERED

4G FM-M60 AS2

TEMPERED FLOAT
CLEAR

HA

SUPER-30 LAMINATED SAFETY GLASS




4G FM-M55 ASI

LAMINATED FLOAT
CLEAR

FB

SOLID SAFETY GLASS




TEMPERED

4G SUN-X AS2 FM-M31

TEMPERED SHEET
TINT

GB

SOLID SAFETY GLASS




TEMPERED

4G SUN-X AS2 FM-M81

TEMPERED FLOAT
TINT

HB

SUPER-30 LAMINATED SAFETY GLASS



4G SUN-X ASI FM-M56

LAMINATED FLOAT
TINT

GC

SUPER-30 LAMINATED SAFETY GLASS



SUN VISOR

4G SUN-X ASI FM-M57

LAMINATED FLOAT
TINT - BLUE GRADIENT

Unknown
Carlite

YK

1974

SAFETY GLASS IDENTIFICATION MARKINGS

FORD MOTOR COMPANY

<p>GH</p> <p>SOLID SAFETY GLASS Carlite Ⓢ TEMPERED Ⓢ 2H AS2 DOT-75 FM-M60</p> <p>TEMPERED FLOAT CLEAR (5/32" & 7/32")</p>	<p>GI</p> <p>SOLID SAFETY GLASS Carlite Ⓢ TEMPERED Ⓢ 2H AS2 DOT-75 FM-M62</p> <p>TEMPERED FLOAT CLEAR (3/16")</p>	<p>GJ</p> <p>DOT-75 FM-M95 AS2</p> <p>3C</p> <p>LAMINATED FLOAT TINT - 0.060" PVB OPERA</p>
<p>KD</p> <p>SOLID SAFETY GLASS Carlite Ⓢ TEMPERED Ⓢ 2H SUN-X AS2 DOT-75 FM-M61</p> <p>TEMPERED FLOAT TINT (5/32" & 7/32")</p>	<p>KE</p> <p>SOLID SAFETY GLASS Carlite Ⓢ TEMPERED Ⓢ 2H SUN-X AS2 DOT-75 FM-M63</p> <p>TEMPERED FLOAT TINT (3/16")</p>	<p>KF</p>
<p>GE</p> <p>SUPER-30 LAMINATED SAFETY GLASS Carlite Ⓢ Ⓢ 2H ASI DOT-75 FM-M90</p> <p>LAMINATED FLOAT CLEAR (7/32")</p>	<p>GF</p> <p>SUPER-30 LAMINATED SAFETY GLASS Carlite Ⓢ SUN VISOR Ⓢ 2H SUN-X ASI DOT-75 FM-M91</p> <p>LAMINATED FLOAT TINT - GRADIENT (7/32")</p>	<p>GG</p> <p>SUPER-30 LAMINATED SAFETY GLASS Carlite Ⓢ Ⓢ 2K SUN-X ASI DOT-75 FM-M92</p> <p>LAMINATED FLOAT TINT (7/32")</p>
<p>KG</p> <p>SUPER-30 LAMINATED SAFETY GLASS Carlite Ⓢ Ⓢ 2H ASI DOT-75 FM-M93</p> <p>LAMINATED FLOAT CLEAR (1/4")</p>	<p>KH</p> <p>SUPER-30 LAMINATED SAFETY GLASS Carlite Ⓢ Ⓢ 2H SUN-X ASI DOT-75 FM-M96</p> <p>LAMINATED FLOAT TINT (1/4")</p>	<p>KJ</p> <p>SUPER-30 LAMINATED SAFETY GLASS Carlite Ⓢ SUN VISOR Ⓢ 2H SUN-X ASI DOT-75 FM-M97</p> <p>LAMINATED FLOAT TINT - GRADIENT (1/4")</p>

1974

SAFETY GLASS IDENTIFICATION MARKINGS

FORD MOTOR COMPANY













<p>GD</p> <p>SOLID SAFETY GLASS</p> <p>Carlite</p> <p>Ⓢ TEMPERED Ⓢ 2H SUN-X ASI DOT-75 FM-MB0</p> <p>TEMPERED FLOAT TINT - HEATED</p>	<p>KL</p> <p>SUPER-30 LAMINATED SAFETY GLASS</p> <p>Carlite</p> <p>Ⓢ HEATED Ⓢ 2L ASI DOT-75 FM-MB1</p> <p>LAMINATED FLOAT HEATED</p>	<p>KM</p> <p>SUPER-30 LAMINATED SAFETY GLASS</p> <p>Carlite</p> <p>Ⓢ HEATED Ⓢ 2L SUN VISOR ASI DOT-75 FM-MB2</p> <p>LAMINATED FLOAT HEATED - GRADIENT</p>
<p>KN</p> <p>SUPER-30 LAMINATED SAFETY GLASS</p> <p>Carlite</p> <p>Ⓢ ASI Ⓢ 2H DOT-75 FM-M5B</p> <p>LAMINATED FLOAT CLEAR - HIDDEN ANTENNA</p>	<p>KP</p> <p>SUPER-30 LAMINATED SAFETY GLASS</p> <p>Carlite</p> <p>Ⓢ SUN VISOR Ⓢ 2H SUN-X ASI DOT-75 FM-M5D</p> <p>LAMINATED FLOAT TINT - GRADIENT HIDDEN ANTENNA</p>	<p>KR</p> <p>SUPER-30 LAMINATED SAFETY GLASS</p> <p>Carlite</p> <p>Ⓢ ASI Ⓢ 2K SUN-X DOT-75 FM-M5E</p> <p>LAMINATED FLOAT TINT - HIDDEN ANTENNA</p>

UNKNOWN
CARLITE
YK

Windshield Code

The two letters in the lower left corner of each glazing monogram are used to code original equipment. Codes for service replacements are in brackets in the lower right corner. Note special codes for antenna.

GM 70 WINDSHIELDS WITHOUT ANTENNA

MONOGRAMS					
SAFETY  PLATE AS-1 LAMINATED DOT 18 M 21 AA (DN)	PPG *	SAFETY  PLATE AS-1 LAMINATED DOT 15 M 3 AB	LOF *		DCL *
SAFETY  FLO-LITE AS-1 LAMINATED DOT 18 M 25 AE (BB)	CA M52 (CE)	SAFETY  FLO-LITE AS-1 LAMINATED DOT 15 M 23 AF (BC)	DA M31 (DE)	SAFETY  FLO-LITE AS-1 LAMINATED DOT 19 M 43 EA	
SHADED ** SOFT-RAY SAFETY  FLO-LITE AS-1 LAMINATED DOT 18 M 30 AL (BH)		SHADED ** SOFT-RAY SAFETY  FLO-LITE AS-1 LAMINATED DOT 16 M 24 AM (BJ)	** DB M32 (DF)	SHADED ** SOFT-RAY SAFETY  FLO-LITE AS-1 LAMINATED DOT 19 M 34 AN (BK)	
SHADED ** SOFT-RAY SAFETY  PLATE AS-1 LAMINATED DOT 18 M 23 AS (BP)		SHADED ** SOFT-RAY SAFETY  PLATE AS-1 LAMINATED DOT 18 M 4 AT (BO)			
SOFT-RAY** SHADED NEUTRAL SAFETY  PLATE AS-1 LAMINATED DOT 18 M 23.1 AW (BT)		SOFT-RAY** SHADED NEUTRAL SAFETY  PLATE AS-1 LAMINATED DOT 18 M 6 AX (BU)			

YY-Unknown MFG or Type
 YX-LOF; unknown Type
 YW-PPG; unknown Type
 YV-DCL; unknown Type
 YU-Float Glass; unknown MFG.

YT-Plate Glass; unknown MFG.
 YS-LOF; Float; other info. unknown
 YR-LOF; Plate; other info. unknown
 YP-PPG; Float; other unknown
 YN-PPG; Plate; other unknown
 YM-DCL; Float; other unknown













NOTE

ORIGINAL MARK	REPLACEMENT MARK		
Flo-Lite Soft-Ray	<u>PPG</u> Float Sun-Shade Solex Duplate	<u>LOF</u> Float E-Z-Eye	<u>DCL</u> Float

*Manufacturers model numbers shown below will be used in addition to those shown in monogram
 **ANSI (location-rt. side adjacent to shading fade out line) indicates level required for driving visibility on shaded windshields only.

GM 70 WINDSHIELDS WITH ANTENNA

(Codes For Service Replacement In Parenthesis - See Replacement Identifying Marks At Bottom Of Page)

MONOGRAMS					
SAFETY  PLATE AN-1 LAMINATED ANTENNA DOT 18 M 211 AD	PPG *	SAFETY  PLATE AN-1 LAMINATED ANTENNA DOT 15 M 20 AC	LOF *		DCL *
SAFETY  FLO-LITE AN-1 LAMINATED ANTENNA DOT 18 M 251 (BF) AJ	CR M52.1 (CP)	SAFETY  FLO-LITE AN-1 LAMINATED ANTENNA DOT 15 M 25 (BF) AH	DK M27 (DP)	SAFETY  FLO-LITE AN-1 LAMINATED ANTENNA DOT 19 M 451 EK	
SHADED ** SOFT-RAY SAFETY  FLO-LITE AN-1 LAMINATED ANTENNA DOT 16 M 302 (BH) AQ	** CL M53.1 (CR)	SHADED ** SOFT-RAY SAFETY  FLO-LITE AN-1 LAMINATED ANTENNA DOT 15 M 26 (BL) AP	** DL M28 (DR)	SHADED ** SOFT-RAY SAFETY  FLO-LITE AN-1 LAMINATED ANTENNA DOT 19 M 461 EL	
SHADED ** SOFT-RAY SAFETY  PLATE AN-1 LAMINATED ANTENNA DOT 18 M 232 (BS) AV		SHADED ** SOFT-RAY SAFETY  PLATE AN-1 LAMINATED ANTENNA DOT 15 M 21 (BR) AU			
		SOFT-RAY ** SHADED NEUTRAL SAFETY  PLATE AN-1 LAMINATED ANTENNA DOT 15 M 22 (BV) AY			
		SOFT-RAY ** SHADED NEUTRAL SAFETY  FLO-LITE AN-1 LAMINATED ANTENNA DOT 15 M 23 (BW) BA	** DM M35 (DS)		

(ALL UNKNOWN CODES SAME AS THOSE ON PREVIOUS PAGE)

ORIGINAL MARK	REPLACEMENT MARK		
Flo-Lite Soft-Ray	PPG Float Sun-Shade Solex Flo-Lite	LOF Float E-Z-Eye	DCL Float

*Manufacturers model numbers shown below will be used in addition to those shown in monogram.

**ANSI (location-rt. side adjacent to shading fade out line) indicates level required for driving visibility on shaded windshields only.

1972 SAFETY GLAZING MONOGRAMS GM

WINDSHIELD CODES: GM

TYPE OF GLAZING	MONOGRAMS				REMARKS
<p style="text-align: center; font-weight: bold; font-size: 1.2em;">AS-1</p> <p style="text-align: center; font-weight: bold;">LAMINATED SAFETY GLASS</p> <p style="text-align: center;">Safety Glazing Material For Use Anywhere in Motor Vehicle</p>	SAFETY AB-1 PPG FLO-LITE LAMINATED ANTENNA DOT 18 M 52 (CE)	SAFETY AB-1 LAMINATED ANTENNA DOT 15 M 31 (DE)	SAFETY AB-1 LAMINATED ANTENNA DOT 15 M 27 (DP)	SAFETY AB-1 DCL LAMINATED ANTENNA DOT 19 M 45	
	SAFETY AB-1 PPG FLO-LITE LAMINATED ANTENNA DOT 18 M 52 (CP)	SAFETY AB-1 LAMINATED ANTENNA DOT 15 M 31 (DE)	SAFETY AB-1 LAMINATED ANTENNA DOT 15 M 27 (DP)	SAFETY AB-1 DCL LAMINATED ANTENNA DOT 19 M 45	
	SAFETY AB-1 PPG FLO-LITE LAMINATED ANTENNA DOT 18 M 53	SAFETY AB-1 LAMINATED ANTENNA DOT 15 M 28	SAFETY AB-1 LAMINATED ANTENNA DOT 15 M 29	SAFETY AB-1 DCL LAMINATED ANTENNA DOT 19 M 46	NOTE: The following Manufacturer's Model Numbers will also be used with those monograms to the left. D. C. L. M34 (Location-Rt. side adjacent to shading fade out line) indicates A ↓ level required for driving visibility on shaded windshields only.
	CL (CR)	DL (DR)	DM (DS)	EL	(location-Rt. side adjacent to shading fade out line) indicates A ↓ level required for driving visibility on shaded windshields only.

(Codes For Service Replacement In Parenthesis)

- YY - Unknown MFG or Type
- YX-LOF; unknown Type
- YW-PPG; unknown Type
- YV-DCL; unknown Type
- YU-Float Glass; unknown MFG.
- YT-Plate Glass; unknown MFG.
- YS-LOF; Float; other info. unknown
- YR-LOF; Plate; other info. unknown
- YP-PPG; Float; other unknown
- YN-PPG; Plate; other unknown
- YM-DCL; Float; other unknown

ORIGINAL MARK	REPLACEMENT MARK	
Flo-Lite Soft-Ray	PPG Float Sun-Shade Solex Duplate	LOF Float E-Z-Eye DCL Float

FOR ALL GENERAL MOTORS CORPORATION 1972 VEHICLES
PRODUCED IN THE UNITED STATES

1972 VEHICLE WINDSHIELDS

AS-2 MA
 Securit
 of
 Belgium
 D-106 Solid
 Temp.
 Code: NA

Solex
 Shaded
 PPG
 Safety Plate
 1-2A
 Code: NB

Super 30
 Laminated
 Safety Glass
 Car-Lite
 FM-M59
 Sun-Visor
 OA SUN X ASI
 Code: NC

Triplex
 V
 T
 X
 Super-L
 EUM 11 A51
 Laminated
 Code: ND

(LACKTEX)
 Belgium
 Laminated
 Super
 M3 ASI
 TPGS 76
 DOT 32 Clear
 Code: NE

SICURSN
 I C C
 Hi Laminated
 IGM 4874 VSP
 ASI M1 D-139
 DOT 36
 Code: NF

(LACKTEX)
 °BELGIUM°
 Lam. Super
 Tinted
 GR M5 ASI
 DOT 32
 TPGS 88 D150
 Code: NG

Sun Shade
 SOLEX
 PPG
 Duplate
 Safety Float
 Antenna
 ASI 189 DOT18
 M30.2
 Code: BM

1971 SAFETY GLAZING MONOGRAMS AND PG-2070
FORM CODES

Other WINDSHIELDS WITHOUT ANTENNA

CORNING CHEMCOR
WINDSHIELD
CLEAR

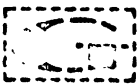
CORNING
CHEMICALLY
TEMPERED
LAMINATED
SAFETY GLASS
AS-1, CGW, M15
DOT-26, D.O.

PA

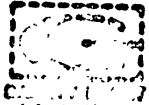
CORNING CHEMCOR
WINDSHIELD
TINTED

CORNING
CHEMICALLY
TEMPERED
LAMINATED
SAFETY GLASS
AS-1, CGW, M-16
DOT-26, D.O.

QA


GUARDIAN
SAFETY FLOAT
SHADED
LAMINATED
AS-1-70 66-M05
DOT 22

RK


(AS-1-70) AS-1-70 66-M05
DOT 22

RA

66-M78
DOT-22

Identifying Marks

SAFETY [DCI] FLO-LITE
AS-1 [DCI] AD-69
LAMINATED
DOT-19 M-33


RE

SHADED
SOFT-RAY

SAFETY [DCI] FLO-LITE
AS-1 [DCI] AD-69
LAMINATED
DOT-19 M-34

RF


SUPER-30
LAMINATED
SAFETY GLASS



(D) AS2
66-M78

RB

SAFEGUARD
LAMINATED



SAFETY GLASS
AS-1 1-70
DOT-22 66-M78

RC


SAFETY FLOAT

AS-1 Guardian J-70

LAMINATED
DOT 22 66-M78

RD

SAFEGUARD
LAMINATED

TINT
SHADED 

SAFETY GLASS
AS-1 1-70
DOT-22 66-M05

RG

SHADED
SOFT RAY

SAFETY FLOAT
AS-1 Guardian J-70
DOT 22 66-M05

RH

REFERENCES

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- ⁴ Vehicle Data and Code Supplement, General Motors Corporation, Safety Research and Development Laboratories; and Motor Vehicle Manufacturers Association, Inc., 1973.
- ⁵ Vehicle Data and Code Supplement, General Motors Corporation, Safety Research and Development Laboratories; and Motor Vehicle Manufacturers Association, Inc., 1974.
- ⁶ Red Book, National Market Reports, Inc., Chicago, Illinois. Canadian: National Automotive Publishers, Ltd., Toronto, Ontario, Published eight (8) times yearly.
- ⁷ Motor Vehicle Identification Manual, by the National Automobile Theft Bureau, Palmer Publications Company, Downers Grove, Ill., published yearly.

USER'S
REPLY
SHEET

Your comments, criticisms, and suggestions on how to improve this manual would be appreciated. Please mail this reply sheet to your team sponsor (NHTSA, MVMA, or Canadian Ministry of Transport), or to Joe Marsh, Highway Safety Research Institute, Huron Parkway and Baxter Road, Ann Arbor, MI 48105.

Possible topics for comment are:

Clarity Accuracy Completeness Organization Figures Examples
Legibility Reference Information Section (Additions)

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