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Superseding J1100 JUL2002

(R) Motor Vehicle Dimensions**1. Scope**

This SAE Recommended Practice defines a set of measurements and standard procedures for motor vehicle dimensions. The dimensions are primarily intended to measure the design intent of a vehicle within a design environment (i.e., CAD). All dimensions in this practice can be measured this way.

In addition, some dimensions can be taken in an actual vehicle. If measurements are taken on physical properties, some differences in values should be expected. Also, care should be taken to not confuse design intent measurements with those taken on a physical property. It is intended that the dimensions and procedures described in this practice be generic in their application to both the HPM, described in J826, and the HPM-II, described in J4002. In some circumstances, the figures may only reflect one or the other.

Unless otherwise specified, all dimensions are measured normal to the three-dimensional reference system (see SAE J182), except ground-related dimensions, which are defined normal to ground. All dimensions are taken with the vehicle at curb weight unless otherwise specified.

All dimensions are measured on the base vehicle and do not include Regular Production Options (RPO) or accessory parts, unless otherwise specified.

Although many terms and dimensions use human body parts in their name, they should not be construed as measures that indicate occupant accommodation, capabilities, or comfort.

1.1 Rationale

The majority of changes in this version of J1100 are editorial in nature. Specifically, fifty-four (54) dimension definitions were modified and eleven (11) were added to provide better guidance and clarity. Where feasible, procedures and figures were updated to better align to existing standards. Additional code consolidation was implemented, consistent with the 2002 version, and is described in Section 4.

Significant revisions were limited to certain HPM measures of leg room (L51-x) and knee clearance (L48-x), particularly for short- and long-coupled seating. Lastly, approach, departure, and ramp breakover angles (See Table 24) were revised to be consistent with definitions in the Code of Federal Regulations (49CFR523).

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2. References

2.1 Applicable Publications

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest version of SAE publications shall apply.

2.1.1 SAE PUBLICATIONS

Available from SAE, 400 Commonwealth Drive, Warrendale, PA, 15096-0001.

SAE J182—Motor Vehicle Fiducial Marks

SAE J287—Driver Hand Control Reach

SAE J826—Devices for Use in Defining and Measuring Vehicle Seating Accommodation

SAE J941—Motor Vehicle Driver's Eye Range

SAE J1052—Motor Vehicle Driver and Passenger Head Position

SAE J1516—Accommodation Tool Reference Point

SAE J1517—Driver Selected Seat Position

SAE J2732—Automotive Seat Dimensions (Pending)

SAE J4002—H-Point Machine (HPM-II) Specifications and Procedure for H-Point Determination—Auditing Vehicle Seats

SAE J4003—H-Point Machine (HPM-II) Procedure for H-Point Determination—Benchmarking Vehicle Seats

SAE J4004—Positioning the H-Point Design Tool—Seating Reference Point and Seat Track Length

2.1.2 ISO PUBLICATION

Available from ANSI, 25 West 43rd Street, New York, NY 10036-8002.

ISO 3832—Passenger cars—Luggage compartments—Method of measuring reference volume

2.2 Related Publications

The following publications are provided for information purposes only and are not a required part of this specification.

2.2.1 ISO PUBLICATIONS

Available from ANSI, 25 West 43rd Street, New York, NY 10036-8002.

ISO 1176—Road vehicles—Masses—Vocabulary and codes

ISO 3833—Road vehicles—Types—Terms and definitions

ISO 4131—Road vehicles—Dimensional codes for passenger cars

SAE J1100 Revised SEP2005

3. Definitions

3.1 Motor Vehicles

3.1.1 PASSENGER CAR

A motor vehicle designed for carrying 10 persons or less, excluding multipurpose vehicles, motorcycles, and trailers.

3.1.1.1 Station Wagon – Passenger car with an extended upper to increase the cargo and/or passenger capacity.

3.1.1.2 Hatchback – Passenger car with the rear access door encompassing the back light.

3.1.2 LIGHT TRUCK

An open bed or enclosed motor vehicle designed primarily for transporting cargo with a maximum gross vehicle rating (GVWR) of 4536 kg (10 000 lb) or less.

3.1.2.1 Multipurpose, Passenger Vehicle (MPV) – Light truck which has a cargo compartment open to the passenger compartment, and is constructed either on a truck chassis or with special features for occasional off-road operation. This category includes sport utility vehicles (SUV), vans, and cross-over vehicles.

3.1.3 HEAVY TRUCK

A motor vehicle designed primarily for transporting cargo with a maximum gross vehicle weight rating (GVWR) over 4356 kg (10 000 lb).

3.1.4 ADDITIONAL VEHICLE CLASSIFICATIONS

See Tables 1 and 2. The classification is based on a set of five dimensions. This classification is used to determine the appropriate procedure in other SAE practices (SAE J287, SAE J1516, SAE J1517, SAE J941, etc.)

TABLE 1—CLASS A VEHICLES

Dimension	Code	Range
Chair Height	H30-1	127 to 405 mm
Design H-point Rise	TH17	0.0 to 50 mm
Normal Driving and Riding Seat Track Travel	TL23	100 mm or more
Steering Wheel Diameter	W9	less than 450 mm
Back Angle	A40-1	5 to 40 degrees

TABLE 2—CLASS B VEHICLES

Dimension	Code	Range
Chair Height	H30-1	405 to 530 mm
Design H-point Rise	TH17	0 mm
Normal Driving and Riding Seat Track Travel	TL23	100 mm or more
Steering Wheel Diameter	W9	450 to 560 mm
Back Angle	A40-1	11 to 18 degrees

3.2 Vehicle Loads

3.2.1 CURB LOAD, CURB WEIGHT

The weight of the base vehicle (standard equipment only), with all fluids filled to maximum (fuel, oil, transmission, coolant, etc.). For heavy trucks, the curb weight does not include engine fuel.

3.2.2 GROSS VEHICLE WEIGHT RATING

The value specified by the vehicle manufacturer as the maximum loaded weight of a single vehicle.

3.3 Coordinate Dimension

All points of interest are described as coordinates dimensioned from the intersection of the zero planes in the three-dimensional reference system. X, Y, Z coordinates are dimensioned to their respective planes. (See Figure 1. See also SAE J182.)

3.4 Vehicle Fiducial Marks

See SAE J182.

3.5 General Vehicle Reference Points and Definitions

3.5.1 CARGO FLOOR

The surface for supporting cargo. If ribs are present, the cargo floor is at the top of the ribs. If the floor is covered, it is the undepressed floor covering surface.

3.5.2 CENTERLINE OF OCCUPANT (C/LO)

The lateral (Y) centerline of an occupant in a given designated seating position.

3.5.3 COWL POINT

The highest point on the cowl or hood at the vehicle centerline (See Figure 2.)

3.5.4 DAYLIGHT OPENING (DLO)

A line on the exterior glazing surface that defines the minimum unobstructed opening through any glass aperture. Opaque coatings, reveals, and garnish moldings are considered obstructions. Opaque coatings, reveals, and garnish moldings adjoining the interior glazing surface are projected normal and outward to the exterior surface. Interior components not adjoining the glass are projected horizontally to the interior glazing surface, then normal and outward to the exterior surface. Exterior components are projected horizontally to the exterior surface.

SAE J1100 Revised SEP2005

3.5.5 DECK POINT

The highest point on the deck lid panel at the vehicle centerline. (See Figure 2.)

3.5.6 DEPRESSED FLOOR COVERING

The surface of the floor covering at a designated point in the vehicle, with a load applied to the covering as specified by the manufacturer.

3.5.7 DESIGNATED SEATING POSITION

Any location intended by the manufacturer to provide seating for a driver or adult passenger while the vehicle is in motion, excluding temporary seating such as folding jump seats. Examples of designated seating positions include driver, 1st row (front seat) outboard passenger, 1st row center passenger, 2nd row outboard passenger, etc.

NOTE—In this document measurements are taken to one designated seating position in each row of seats. See Table 5.

3.5.8 EYELLIPSE

See SAE J941.

3.5.9 FRONT OF DASH

A vertical tangent to the foremost predominant surface of the dash panel at the centerline of the driver, disregarding flanges and small localized formations. The dash panel is usually the vertical extension of the toe panel.

3.5.10 HEAD POSITION CONTOUR

See SAE J1052. Dimensions specified in this practice are measured from sections cut through the appropriate 95th percentile head contour. After the head contour is constructed and oriented, sections are cut normal to grid in side view and rear view through the head centroid. The side view section is used for L38, L39, H46, and H47. The rear view section is used for W27, W35 and H35.

3.5.11 NORMAL TOP OF FRAME-TRUCK

The longest normal surface of the top flange of the truck frame within the wheel base.

3.5.12 UNDEPRESSED FLOOR COVERING

The surface of the floor covering at a designated point in the vehicle, without any load applied to the covering.

3.5.13 LONG-COUPLED SEATING

Successive row seating (2nd row, 3rd row or greater) where the distance between successive SgRP X-coordinates is large enough to permit an H-point device to be installed with an ankle angle greater than 130 degrees.

3.5.14 SHORT-COUPLED SEATING

Successive row seating (2nd row, 3rd row or greater) where the shoe or leg of an H-point device interferes with the preceding seat trim or structure when the preceding seat is in its design (SgRP) position. (See Figure 3B)

NOTE—At least one of the following dimensions – leg room (L51), leg clearance (L58), or knee clearance (L48) – will be affected by this condition.

3.5.15 BELT LINE

A line that constitutes the lower edge of the Daylight Opening (DLO), as defined in 3.5.4. In situations where it is necessary to define the belt line in an area where there is no glass aperture, such as along pillars or in the obstructed region between rear cargo doors, the belt line is defined by a straight line that connects the lower edges of the two adjacent openings. If the lower edges of the adjacent openings are not collinear then connect the endpoints of the two lower edges, not considering any points on a fillet radius. (See Figure 4)

3.5.16 MAXIMUM HOLD-OPEN POSITION

The maximum position of a vehicle closure that can be maintained without any applied force, or without the removal of any component or restraining device.

3.6 H-Point Devices – Reference Points and Definitions

H-point devices are used to establish key reference points and dimensions in the vehicle's interior. The most critical reference point established is the H-point. There are three types of devices that can be used to define the location of an H-point; the original H-Point Machine (HPM) and 2d H-point template as defined in J826, the new H-Point Machine (HPM-II) as defined in J4002, and the H-Point Design Tool (HPD) as defined in J4004. The HPM and HPM-II are physical devices used in physical properties for the purpose of auditing and benchmarking. The HPD is a CAD tool used during design for establishing the occupant package.

Terms and reference points related to the shoe are listed in section 3.7.

This document is supplemental to the procedures addressed in SAE J826, J4002, J4003, and J4004. It is a reference for key terms and definitions. However, it does not provide sufficient information for someone to properly position and use an H-point device.

3.6.1 BACK LINE

A line in side view on the back pan of the H-point device upward from the H-point that is used to define back angle. On the HPM-II, this line connects the H-point to the sliding thorax pivot. On the HPM, this line is parallel to the flat portion of the back pan contour. The angle of this line from vertical defines back angle. (See Figure 5.)

3.6.2 CUSHION LINE

A line in side view on the cushion pan of H-point device forward from the H-point that is used to define cushion angle. On the HPM, this line connects to the K-point (knee pivot center). (See Figure 5 and SAE J826.)

3.6.3 D-POINT

A point on the bottom surface of the HPM-II cushion pan, at the lateral centerline, 25.5 mm (15 degrees) rearward of the H-point. On the HPM, the D-point is the lowest point on the centerline of the bottom of the cushion pan in the installed position. (See Figure 5.)

3.6.4 H-POINT

The H-point is located on an H-point device. However, when an H-point device is properly positioned within a vehicle – either in CAD or in an actual physical property – the location of the H-point within the vehicle can be used as a vehicle reference point. Unless otherwise noted, this is how the term H-point is used in this practice.

On an H-point device, the H-point is at the pivot center of the back pan and cushion pan assemblies, on the lateral centerline of the device. The H-point is also the intersection of the cushion line and the back line. (See Figure 5.)

3.6.4.1 *Actual H-Point, Actual H-Point Travel Path*

This refers to H-points measured in physical properties using a properly positioned H-point machine.

3.6.4.2 *Design H-Point, Design H-Point Travel Path*

This refers to H-points defined during design using an H-point design tool and appropriate procedures.

3.6.4.3 *H-Point Travel Path*

All possible locations of the H-point provided by the full range of seat adjustments (horizontal, vertical or rotational) for a given designated seating position. Only seat adjustments intended for driving and riding are included. Seat adjustments intended to facilitate entry, egress, cargo storage, etc. are excluded.

3.6.5 K-POINT OR KNEE PIVOT POINT

A point located at the pivot center between the thigh and lower leg segments on the H-point devices.

3.6.6 LOWER LEG LINE

A line connecting the K-point (Knee Pivot) to the ankle pivot center on the H-point devices.

SAE J1100 Revised SEP2005

3.6.7 SEATING REFERENCE POINT (SGRP)

SgRP is a specific and unique H-point for a given designated seating position. Although adjustable seats will have many design H-points within their design H-point travel path, there is one – and only one – H-point defined as the SgRP for any seat/seating position.

The SgRP is established early in the vehicle design process, and is the rearmost normal design driving and riding position of any designated seating position. The most critical SgRP is the one defined for the driver. It is used in positioning many other design tools, defining a number of key vehicle dimensions (e.g, legroom, shoulder room, etc.), and is referenced by several national and international standards and regulations.

For HPM SgRP determination, see SAE J1516/1517.

For HPM-II SgRP determination, see SAE J4004.

3.6.7.1 *SgRP – Front*

SgRP of the driver, unless otherwise specified.

3.6.7.2 *SgRP – Second*

SgRP of the second row outboard passenger on the driver side of the vehicle, unless otherwise specified.

3.6.7.3 *SgRP – Third*

SgRP of the third row outboard passenger on the driver side of the vehicle, unless otherwise specified.

3.6.7.4 *SgRP – Fourth*

SgRP of the fourth row outboard passenger on the driver side of the vehicle, unless otherwise specified.

3.6.7.5 *SgRP – Fifth*

SgRP of the fifth row outboard passenger on the driver side of the vehicle, unless otherwise specified.

3.6.8 THIGH LINE

A line in side view connecting the H-point to the K-point (knee pivot).

3.7 Shoe Reference Points and Definitions (See SAE J826/J4002)

HPM-II has a separate shoe tool that is necessary for the proper positioning of its legs in a vehicle (in CAD or in a physical property). For the J826 HPM, the shoe and lower leg are a single integral assembly.

3.7.1 ACCELERATOR HEEL POINT (AHP)

A point on the shoe located at the intersection of the heel of shoe and the depressed floor covering, when the shoe tool is properly positioned. (Essentially, with the ball of foot contacting the lateral centerline of the undepressed accelerator pedal, while the bottom of shoe is maintained on the pedal plane). (See Figure 5.)

SAE J1100 Revised SEP2005

3.7.2 BALL OF FOOT (BOF)

A point on the lateral centerline of the shoe 200 mm (J4002 and J4004) from the heel (HOS). See Figure 5.

NOTE—For pedals designed according to SAE J826 and J1516, a distance of 203mm from BOF to AHP is permitted.

3.7.3 BARE FOOT FLESH LINE

A line in side view, 6.5 degrees from the bottom of shoe. The origin of the angle is 286.9 mm forward of the heel of shoe on a line from AHP through the BOF.

3.7.4 BOTTOM OF SHOE (BOS)

The underside of the shoe, used in side view to establish planes or angles. Only the flat section of the BOS, from AHP to BOF, is of concern.

NOTE—For the shoe described in SAE J826, construct the flat section by connecting the AHP to BOF.

3.7.5 FLOOR PLANE AND FLOOR PLANE ANGLE (FPA)

A plane normal to the Y-Plane, established by the bottom of shoe contacting the floor, with the heel of shoe on the depressed floor covering at the floor reference point. The floor plane angle is the angle of the floor plane measured from the horizontal.

3.7.6 FLOOR REFERENCE POINT (FRP) - PASSENGERS

FRP is established using the shoe of an H-point device. It is the intersection of the heel of shoe and the depressed floor covering, with the bottom of shoe resting on the depressed floor covering. It is determined within 127 mm. to either side of centerline of occupant, with the shoe and/or lower leg segment moved forward to rest against the seat in front (contacting the underseat structure, lower portion of the seat back trim, etc.). (See Figure 5.)

NOTE 1—For long-coupled seating, the FRP and FPA are established using a maximum ankle angle of 130 degrees.

NOTE 2—The HPM-II lower leg may be attached to the shoe and detached from the H-point device to aid in positioning the shoe when determining the FRP. No interference is permitted below the ankle pivot circumference. Interference above the ankle pivot circumference is ignored. (See Figure 3A)

NOTE 3—For short-coupled seating, where the shoe cannot be fitted between the seats, the rear of the shoe is moved as far rearward as possible, with the front of the shoe intruding into the preceding seat trim and/or structure. (See Figure 3B)

3.7.7 HEEL OF SHOE (HOS)

A point on the shoe tool, located at the lateral centerline, bottom-back of the shoe.

SAE J1100 Revised SEP2005

3.7.8 PEDAL PLANE

A plane normal to the Y-Plane. Established for the undepressed accelerator in its design position. (1) Flat Pedals: The pedal plane is the same plane as the pedal face. (2) Curved Pedals: The pedal plane is established by finding a tangent on the accelerator surface at a 200 mm (J4002) straight line distance from the depressed floor covering. If the shoe tool is used, the pedal plane is defined by the bottom of the shoe when the heel of shoe is at the AHP, and the ball of foot is contacting the undepressed accelerator. (See Figure 5.)

NOTE—For designs based on SAE J826 and J1516, the carryover pedal plane and pedal plane angle established with the theta equation is permitted. In this case the BOF does not have to contact the undepressed accelerator pedal surface.

3.7.9 PEDAL REFERENCE POINT (PRP)

The point on the accelerator pedal lateral centerline where the ball of foot contacts the pedal when the shoe is properly positioned (heel of shoe at AHP, bottom of shoe on pedal plane). If a pedal plane based on SAE J826 and J1516 is used, the BOF point shall be taken as the PRP.

The PRP is a key landmark for occupant packaging. Several SAE tools are positioned relative to the PRP (e.g., Eyellipses, SgRP).

4. Code Explanation, Vehicle Set-Up, and Dimensioning Procedure

4.1 Codes

Each dimension is assigned a code, which consists of an alpha prefix and a number (e.g., H30 or A40). The letters denote the direction of measurement (e.g., height, width) or type of measurement (e.g., angle). See Tables 3 and 4.

TABLE 3—ALPHA PREFIXES

Letter	Meaning
W	Width measurements (cross car distance), or location of Y coordinate
L	Length measurements (longitudinal distance), or location of X coordinate
H	Height measurements or location of Z coordinate
A	Angular measurements
PW	Widths associated with pedal and pedal usage
PL	Lengths associated with pedal and pedal usage
PH	Heights associated with pedal and pedal usage
TL	Lengths defining H-point locations/travel
TH	Heights defining H-point locations/travel
PD	Passenger distribution
S	Surface area measurements
SW	Widths associated with seats
SL	Lengths associated with seats
SH	Heights associated with seats
V	Volume indices

TABLE 4—NUMERIC SCHEME (GENERAL)

Number Range	Type of dimension
1-99	Interior
100-199	Exterior
200-299	Cargo compartments
400-599	Dimensions unique to trucks, vans, sport utility vehicles, etc.

4.1.1 INTERIOR DIMENSION CODES

In addition, many of the interior dimensions can be applied in an identical manner to several designated seating positions. In this event, the basic alphanumeric code remains the same, but a suffix is added (e.g., H30-1, H30-2, H30-3, etc.). The suffix indicates the seating row of the designated seating position to which the particular measurement applies. See Table 5. When codes with suffixes are used in equations, the hyphen (-) is replaced with a tilde (~).

4.1.2 EXTERIOR DIMENSION CODES

Likewise, many of the exterior dimensions can be applied in a similar manner between the forward half and rearward half of the vehicle. Some examples of this condition are: the front and rear overhangs (L102-1 and L102-2), step heights (H115-1 and H115-2), and tread widths (W101-1 and W101-2). In this event, the basic alphanumeric code remains the same, but a suffix is added. The suffix indicates the condition to which the particular measurement applies. See Table 5. When codes with suffixes are used in equations, the hyphen (-) is replaced with a tilde (~).

TABLE 5—SUFFIXES

Suffix	Designated Seating Position
-1	(Front) Measurement taken at the driver's designated seating position.
-2	(Second) Measurement taken at the second row outboard passenger's designated seating position.
-3	(Third) Measurement taken at the third row outboard passenger's designated seating position.
-4	(Fourth) Measurement taken at the fourth row outboard passenger's designated seating position.
-5	(Fifth) Measurement taken at the fifth row outboard passenger's designated seating position.
Exterior Suffix	Forward/Rearward Position
-1	(Front) Measurement taken in the front portion of the vehicle.
-2	(Second) Measurement taken in the rear portion of the vehicle.

4.2 Vehicle Set-Up and Dimensioning Procedure

All vehicle dimensions are to be taken with the vehicle set-up in the following configuration:

4.2.1 INTERIOR DIMENSIONS

The seats are positioned as indicated in Table 6 for all measurements.

SAE J1100 Revised SEP2005

All interior dimensions, found in Tables 13 through 20, are defined with the seats at the Seating Reference Point (SgRP) location (See 3.6.7). Any seat contour adjustment, e.g. lumbar support, is set to the retracted, or least intrusive position. All other adjustable features, such as a steering wheel position and angle and seat height, including head restraint, a seatback that adjusts independently from the Seat Cushion, power 4-way, 6-way seats, etc., shall be positioned in the design location as specified by the manufacturer. Steering wheel shall be positioned with front wheels in straight-ahead position.

Measurements are taken at the centerline of occupant, unless otherwise specified. When an H-point device is required, the 95th percentile leg segment lengths (J826), or SgRP leg lengths (J4002) are used.

TABLE 6—SEAT POSITIONING AND ATTITUDE FOR MEASUREMENTS

Adjustment	1st Row Seats	2nd and 3rd Row Seats
Seat Position (x, z)	At Driver's SgRP _{x,z}	SgRP Position ⁽¹⁾
Back Angle	As specified ⁽¹⁾ , or 22 degrees ⁽²⁾	As specified ⁽¹⁾ , or 25 degrees if possible ⁽²⁾
Seat Contour Adjustment (e.g., lumbar support)	Set to retracted position. (i.e., deflated; least intrusive)	Set to retracted position.
Adjustable Pedals	As specified ⁽¹⁾ , or full forward ⁽²⁾	Not applicable
All Other Adjustments (e.g., tilt or telescoping steering wheel, cushion angle, etc.)	Normal Driving Position ⁽¹⁾	Normal Riding Position ⁽¹⁾

1. As specified by the manufacturer.

2. See SAE J4003.

4.2.2 EXTERIOR DIMENSIONS

All exterior dimensions terminate at the outside surface of the sheet metal, bumper, or integral moldings, unless otherwise specified. The front wheel shall be positioned in the straight-ahead position. All measurements are taken at curb load on a based equipped vehicle, unless otherwise specified. Tables 21 through 24 provide the codes and definitions for exterior dimensions.

For dimensions involving dual rear axles, measurement is taken to a point halfway between the centerlines of the rear wheels. See Table 21.

5. Fiducial Mark Dimensions

See Table 7 for definitions of dimensions.

6. Dimensions for Key Coordinates

All coordinates are established relative to the vehicle grid (see SAE J182).

6.1 Seating Reference Point (SgRP) Coordinates

See 3.6.7 and Table 8.

6.2 Accelerator Heel Point (AHP) Coordinates

These dimensions apply only to the driver's position. For definitions, see Table 9. For additional information, see Section 3.7.1 and SAE practices J4002, J4003, J4004 and J826.

6.3 Pedal Reference Point (PRP) Coordinates

These dimensions apply only to the driver's position. For definitions, see Table 10. For additional information, see Section 3.7.9 and SAE practices J4002, J4003, J4004 and J826.

6.4 Floor Reference Point (FRP) Coordinates

For definitions, see Table 11. For additional information, see Section 3.7.6 and SAE practices J4002, J4003, J4004 and J826.

6.5 Additional Coordinates

For definitions of additional coordinates used in this practice, see Table 12.

7. *Cargo Dimensions and Cargo Volume Indices*

The cargo dimensions and cargo volume indices provide estimates of cargo compartment size. As with all measurements in this document, they were developed to assist during the design and engineering of a vehicle.

Discrete measurements of irregular spaces – such as the point to point measurements made of a vehicle's interior – are often ambiguous to interpret. Further, different values can result from minor and local variations.

Tables 25 through 27 provide the codes and definitions for cargo dimensions. Table 28 lists the codes and formulas for cargo volume indices.

7.1 Cargo Dimensions, Length

See Table 25. For cargo lengths measured along the floor, the cargo surface to the rear of the forward measurement point should be unobstructed. Seats to the rear of the forward measurement point must be in their stowed or cargo optimized position. If there is an obstruction, such as that caused by a second row seat being folded up to the rear of the front seat, the measurement is taken from the most rearward surface of the limiting obstruction.

7.2 Cargo Dimensions, Width

See Table 26.

7.3 Cargo Dimensions, Height

See Table 27.

7.4 Cargo Volume Indices (CVI)

The intent of the cargo volume indices is to provide reasonable estimates of the cargo compartment stowage potential. They do not yield actual cargo volumes. Further, although due care has been taken to clarify the dimensions used in the calculations, it is possible that innovations to interior design will result in equivocal interpretations.

SAE J1100 Revised SEP2005

The indices are all calculated using the same basic formula:

$$\frac{\text{Length} \times \text{Width} \times \text{Height}}{10^6} = \text{Liters} \quad (\text{Eq. 1})$$

The definitions provided in Table 28 indicate the L dimensions to use for length, the W dimensions to use for width and the H dimensions to use for height. Measurements are taken in millimeters.

In the formulas, the suffix indicating measurement row is separated from the code by a tilde (~) rather than a dash (i.e., L204~1, W3~2 rather than L204-1 or W3-2) to avoid confusion with a minus sign.

NOTE—In order to calculate the CVIs in English units, the formula is:

$$\frac{\text{Length}(\text{inches}) \times \text{Width}(\text{inches}) \times \text{Height}(\text{inches})}{1728} = \text{ft}^3 \quad (\text{Eq. 2})$$

Or if dimensions were measured in metric units use: Liters / 28.32 = ft³

8. Luggage Capacity Dimensions

The luggage set is defined in Table 29. Luggage capacity, as defined in Table 30, is determined with all vehicle standard equipment, including spare tires, convertible tops, tool kits, etc., in place and in their intended stored locations. Randomly place as many A through G luggage pieces as possible in the compartment to be measured. H-boxes are then used to complete the loading. One or more pieces of the standard luggage set may be removed to place H-boxes, provided the removed luggage pieces can be replaced. For large compartment spaces, one entire set of luggage (A through G) must be used before adding pieces from a subsequent set. If space is available, more than the standard set of 20 H-boxes may be used. The trunk lid or other access door must close and latch freely after the luggage is fitted.

9. ISO Cargo Volumes

ISO uses modules of various lengths, widths, and heights to determine cargo volume and luggage capacity. The modules, procedures for use, and dimensions used in reporting can be found in ISO 3832.

10. Glass Area Dimensions

See Table 31 for codes.

11. Figures

Figures are provided at the back of this document in numerical order.

12. Dimension Indices

This revision builds on the coding scheme introduced in 2002, which resulted in new codes for many dimensions. To assist the user, several conversion tables are provided in the Appendix (see Tables A1 through A19).

SAE J1100 Revised SEP2005

12.1 Dimensions Index Listed by Alphanumeric Codes

See Tables A1 through A10 for lists of all dimensions in this practice.

12.2 Deleted Dimensions Index

Dimensions not kept in this revision are listed in order of their former codes. See Tables A11 through A15.

12.3 Dimensions Index Listed by Old Codes

Dimensions kept in this revision are listed by their former codes (see Tables A15 through A19). Items in bold font have been assigned a new alphanumeric code. However, all items in this practice should be considered revised, whether they have been assigned a new code or not.

TABLE 7—FIDUCIAL MARK DIMENSIONS

Code	Dimension	Definition	Notes
L54	Fiducial Mark No. 1 – X Coordinate	The distance from the zero X plane to fiducial mark number 1.	Grid Coordinate (See J182)
L55	Fiducial Mark No. 2 – X Coordinate	The distance from the zero X plane to fiducial mark number 2.	Grid Coordinate (See J182)
L56	Fiducial Mark No. 3 – X Coordinate	The distance from the zero X plane to fiducial mark number 3.	Grid Coordinate (See J182)
W21	Fiducial Mark No. 1 – Y Coordinate	The distance from the zero Y plane to fiducial mark number 1.	Grid Coordinate (See J182)
W22	Fiducial Mark No. 2 – Y Coordinate	The distance from the zero Y plane to fiducial mark number 2.	Grid Coordinate (See J182)
W23	Fiducial Mark No. 3 – Y Coordinate	The distance from the zero Y plane to fiducial mark number 3.	Grid Coordinate (See J182)
H81	Fiducial Mark No. 1 – Z Coordinate	The distance from the zero Z plane to fiducial mark number 1.	Grid Coordinate (See J182)
H82	Fiducial Mark No. 2 – Z Coordinate	The distance from the zero Z plane to fiducial mark number 2.	Grid Coordinate (See J182)
H83	Fiducial Mark No. 3 – Z Coordinate	The distance from the zero Z plane to fiducial mark number 3.	Grid Coordinate (See J182)
H161	Fiducial Mark No. 1 – Z Coordinate to Ground	The distance from fiducial mark number 1 to the ground line at curb weight.	Curb Load
H162	Fiducial Mark No. 2 – Z Coordinate to Ground	The distance from fiducial mark number 2 to the ground line at curb weight.	Curb Load
H167	Fiducial Mark No. 3 – Z Coordinate to Ground	The distance from fiducial mark number 3 to the ground line at curb weight.	Curb Load

SAE J1100 Revised SEP2005

TABLE 8—SGRP COORDINATES

Code	Dimension	Definition
L31	SgRP X Coordinate (SgRP_x)	The longitudinal (X) coordinate of the SgRP location for a given designated seating position. The suffix following L31 identifies the designated seating position.
L31-1	SgRP _x – Front	Driver
L31-2	SgRP _x – Second	Second row outboard passenger.
L31-3	SgRP _x – Third	Third row outboard passenger.
L31-4	SgRP _x – Fourth	Fourth row outboard passenger.
L31-5	SgRP _x – Fifth	Fifth row outboard passenger.
W20	SgRP Y Coordinate (SgRP_y)	The lateral (Y) coordinate of the SgRP location for a given designated seating position. The suffix following W20 identifies the designated seating position.
W20-1	SgRP _y – Front	Driver
W20-2	SgRP _y – Second	Second row outboard passenger.
W20-3	SgRP _y – Third	Third row outboard passenger.
W20-4	SgRP _y – Fourth	Fourth row outboard passenger.
W20-5	SgRP _y – Fifth	Fifth row outboard passenger.
H70	SgRP Z Coordinate (SgRP_z)	The vertical (Z) coordinate of the SgRP location for a given designated seating position. The suffix following H70 identifies the designated seating position. The suffix following H70 identifies the designated seating position.
H70-1	SgRP _z – Front	Driver
H70-2	SgRP _z – Second	Second row outboard passenger.
H70-3	SgRP _z – Third	Third row outboard passenger.
H70-4	SgRP _z – Fourth	Fourth row outboard passenger.
H70-5	SgRP _z – Fifth	Fifth row outboard passenger.

TABLE 9—AHP COORDINATES

Code	Dimension	Definition
L8	AHP X Coordinate (AHP_x)	The longitudinal (X) coordinate of the accelerator heel point (driver only).
W8	AHP Y Coordinate (AHP_y)	The lateral (Y) coordinate of the accelerator heel point (driver only).
H8	AHP Z Coordinate (AHP_z)	The vertical (Z) coordinate of the accelerator heel point (driver only).

TABLE 10—PRP COORDINATES

Code	Dimension	Definition
L1	PRP X Coordinate (PRP_x)	The longitudinal (X) coordinate of the pedal reference point (driver only).
W1	PRP Y Coordinate (PRP_y)	The lateral (Y) coordinate of the pedal reference point (driver only).
H1	PRP Z Coordinate (PRP_z)	The vertical (Z) coordinate of the pedal reference point (driver only).

SAE J1100 Revised SEP2005

TABLE 11—FLOOR REFERENCE POINT (FRP) COORDINATES

Code	Dimension	Definition
L98	FRP X Coordinate (FRP_x)	The longitudinal (X) coordinate of the floor reference point location for a given designated seating position. The suffix following L98 identifies the designated seating position.
L98-2	FRP _x – Second	Second row outboard passenger.
L98-3	FRP _x – Third	Third row outboard passenger.
W98	FRP Y Coordinate (FRP_y)	The lateral (y) coordinate of the floor reference point location for a given designated seating position. The suffix following W98 identifies the designated seating position.
W98-2	FRP _y – Second	Second row outboard passenger.
W98-3	FRP _y – Third	Third row outboard passenger.
H98	FRP Z Coordinate (FRP_z)	The vertical (Z) coordinate of the floor reference point location for a given designated seating position. The suffix following H98 identifies the designated seating position.
H98-2	FRP _z – Second	Second row outboard passenger.
H98-3	FRP _z – Third	Third row outboard passenger.

TABLE 12—ADDITIONAL COORDINATES

Code	Dimension	Definition
L30	Front of Dash – X Coordinate	The longitudinal (x) coordinate of front of dash.
L125	Cowl or Deck Point X Coordinate	The longitudinal (x) coordinate of the appropriate reference point. The suffix following L125 indicates the location of measurement.
L125-1	Cowl Point X Coordinate	The longitudinal (x) coordinate of the cowl point.
L125-2	Deck Point X Coordinate	The longitudinal (x) coordinate of the deck point.
L128	Wheel Centerline X Coordinate	The longitudinal (x) coordinate of the wheel centerline. The suffix following L128 indicates the location of measurement.
L128-1	Wheel Centerline X Coordinate-Front	Measured at the center of the front wheels
L128-2	Wheel Centerline X Coordinate-Rear	Measured at the center of the rear wheels. In the case of dual rear wheels, measure from a point halfway between the center of the rear wheels.
W7	Steering Wheel Center – Y Coordinate	The intersection of the steering column axis with a plane tangent to the face of the steering wheel rim.
H142	Cowl or Deck Point Z Coordinate	The vertical (z) coordinate of the appropriate reference point. The suffix following H142 indicates the location of measurement.
H142-1	Cowl Point Z Coordinate	The vertical (z) coordinate of the cowl point.
H142-2	Deck Point Z Coordinate	The vertical (z) coordinate of the deck point.

TABLE 13—INTERIOR DIMENSIONS—PASSENGER DISTRIBUTION

Code	Dimension	Definition
PD1	Passenger Distribution – Front	The number of occupants in the front row.
PD2	Passenger Distribution – Second	The number of occupants in the second row.
PD3	Passenger Distribution – Third	The number of occupants in the third row.

SAE J1100 Revised SEP2005

TABLE 14—INTERIOR DIMENSIONS—LENGTH

Code	Dimension	Definition	Figure and Notes
L3	Minimum Compartment Room	The minimum longitudinal distance between the seatbacks of a given row. The measurement is taken at a height tangent to the top of the current row seat cushion, within 127 mm to either side of the outboard occupant centerline. The suffix following L3 identifies the compartment area for measurement.	6A
L3-2	Minimum Compartment Room – Second	Second row. Measured between the back of the front seat and the front of the second row seatback.	
L3-3	Minimum Compartment Room – Third	Third row. Measured between the back of the second row seat and the front of the third row seatback.	
L6	Pedal Reference Point to Steering Wheel Center	The longitudinal distance between the PRP and the steering wheel center. The steering wheel center is defined as the intersection of the steering wheel centerline with a plane tangent to the face of the steering wheel rim.	–
L7	Steering Wheel Torso Clearance	The minimum distance from the rearmost edge of the steering wheel to the back line.	6A
L11	Accelerator Heel Point to Steering Wheel Center	The longitudinal distance between the AHP and the steering wheel center W7.	6A
L13	Brake Pedal Knee Clearance	The minimum distance between the lower edge of the steering wheel rim to the centerline of the brake pedal face in the free position. Measured in the Y-Plane side view (SV).	14
L18	Entrance Foot Clearance – Front	The minimum distance in the horizontal Z-Plane (PV) between the trimmed front seat cushion or supporting structure and the trimmed door or pillar at a height between the sill plate bead and 102 mm above the bead with the door in the maximum hold-open position.	6B, 8A
L19	Entrance Foot Clearance – Second	a. Four-Door Models – Same as L18. b. Two-Door Models – The minimum distance in the horizontal Z-Plane (PV) between the trimmed front seat with the front seatback tilted forward, and the trimmed lock pillar, trimmed quarter panel, or trimmed rear seat cushion. Measured at a height between the sill plate bead and 102 mm above the bead with the door in the maximum hold-open position.	6B, 8A
L22	Steering Wheel to Seatback	The minimum distance between the steering wheel and the undepressed seatback on the steering wheel center Y plane.	–
L32	SgRP–Second to Rear Wheel Centerline	The longitudinal distance from the SgRP–second to the centerline of the rear wheels.	–
L33	Maximum Leg Room – Accelerator	The maximum distance along a line from the ankle pivot center to the farthest design H-point in the travel path, plus 254 mm, measured with the right foot on the undepressed accelerator pedal.	–
L34	Effective Leg Room – Accelerator	The distance along a line from the ankle pivot center to the SgRP – front, plus 254 mm, measured with the right foot on the undepressed accelerator pedal.	7

SAE J1100 Revised SEP2005

TABLE 14—INTERIOR DIMENSIONS—LENGTH (CONTINUED)

Code	Dimension	Definition	Figure and Notes
L38	Head Clearance to Windshield Garnish – Driver	The minimum distance between the appropriate SAE 95th percentile head position contour and the lowest horizontal tangent point on the windshield garnish molding, weather strip, headlining, or header. Measured using a side view section cut through the head centroid (occupant centerline).	7 See 3.5.10 and SAE J1052
L39	Head Clearance to Backlight Garnish	The minimum distance between the appropriate SAE 95th percentile head position contour and the lowest horizontal tangent point on the backlight garnish molding, weather strip, headlining, or header. Measured using a side view section cut through the head centroid (occupant centerline). For an interference condition, the section is moved horizontally forward, and a negative value is recorded. The suffix following L39 indicates the designated seating position.	7 See 3.5.10 and SAE J1052
L39-1	Head Clearance to Backlight Garnish – Driver	Driver	
L39-2	Head Clearance to Backlight Garnish – Second	Second row outboard passenger	
L39-3	Head Clearance to Backlight Garnish – Third	Third row outboard passenger	
L48	Minimum Knee Clearance (Passengers)	The minimum distance in side view, within a lateral space 127 mm either side of the occupant centerline, measured from the knee pivot center (K-point) to the seat back minus 51 mm. If the knee interferes with the preceding seat back, knee clearance is a negative value equal to the minimum distance from the knee pivot center to the interference minus 51 mm. The suffix following L48 identifies the designated seating position. Note: If the seat back interference is rearward of the knee pivot center, the distance from the knee pivot center to the interference is added to 51 mm. The total value is considered negative.	7,3A See Table 6 3B
L48-2	Minimum Knee Clearance – Second	Second row outboard passenger K –point to front row seatback.	
L48-3	Minimum Knee Clearance – Third	Third row outboard passenger K –point to second row seatback.	
L50	SgRP Couple Distance	The longitudinal distance between the SgRPs of adjacent rows. The suffix following L50 identifies the designated seating positions.	7
L50-2	SgRP Couple Distance, Front to Second	SgRP-Front to SgRP-Second.	
L50-3	SgRP Couple Distance, Second to Third	SgRP-Second to SgRP-Third.	

SAE J1100 Revised SEP2005

TABLE 14—INTERIOR DIMENSIONS—LENGTH (CONTINUED)

Code	Dimension	Definition	Figure and Notes
L51	Effective Leg Room (Passengers)	The dimension measured along a line from the ankle pivot center to the SgRP plus 254 mm with the heel of the shoe at the FRP and the bottom of the shoe at the FPA.	7 See Table 6
		Note 1: For long-coupled seating, leg room is measured with the shoe at its most forward location within a lateral space 127 mm either side of the occupant centerline regardless of the ankle angle. The shoe is not located at the FRP or FPA.	See 3.5.13
		Note 2: For short-coupled seating, leg room is measured with the shoe located at the FRP. When the front of the shoe interferes with the preceding seat, the amount of seat track travel needed to clear the interference is subtracted. If the preceding seat does not adjust, the horizontal interference is subtracted. The suffix following L51 identifies the designated seating position.	3B See 3.5.14
L51-2	Effective Leg Room – Second	Second row outboard passenger	
L51-3	Effective Leg Room – Third	Third row outboard passenger	
L53	SgRP to Heel – Front	The longitudinal distance from SgRP – front to the accelerator heel point (AHP).	7
L58	Leg Clearance (Passengers)	The minimum distance between the front of the leg or knee and the seat back within 127mm to either side of occupant centerline. Measurement is made in side view normal to the lower leg line within the leg clearance/interference zone.	3A See Table 6
		If the leg interferes with the preceding seat back, leg clearance is a negative value equal to the amount of maximum interference. The suffix following L58 indicates the designated seating position.	3B
L58-2	Leg Clearance – Second	Second row outboard passenger	
L58-3	Leg Clearance – Third	Third row outboard passenger	
L62	Minimum Knee Clearance – Front	The minimum distance between the right leg K-point (knee pivot point) and the nearest interference, minus 51 mm. Measured in side view, on the same Y plane as the K-point., with the heel of shoe at FRP.	–
L81	Lumbar Support Prominence (LSP)	LSP is a measure of the attitude (posture) of the H-point device. It is defined as 57 mm minus the distance from the lumbar-pelvic pivot point to the back line, measured normal to the back line. When LSP = 0, the posture is referred to as neutral. The suffix following L81 identifies the designated seating position.	See SAE J4002
L81-1	LSP – Front	Driver	
L81-2	LSP – Second	Second row outboard passenger	
L81-3	LSP – Third	Third row outboard passenger	
L90	Engine Cover Length	The maximum longitudinal distance from the front of dash to the rear of the engine cover, excluding the flanges on floor.	–

SAE J1100 Revised SEP2005

TABLE 15—INTERIOR DIMENSIONS—WIDTH

Code	Dimension	Definition	Figure and Notes
W3	Shoulder Room (Minimum Cross Car Width at Beltline Zone)	The minimum cross car distance between the trimmed door or quarter trim surfaces within the measurement zone. The zone lies between the beltline and 254 mm above SgRP, on the X plane through SgRP. The door assist strap is excluded. The suffix following W3 identifies the compartment area for measurement.	8A W3-2 and W3-3 are used in cargo volume indices.
W3-1	Shoulder Room – Front	Front row.	
W3-2	Shoulder Room – Second	Second row.	
W3-3	Shoulder Room – Third	Third row.	
W5	Hip Room (Minimum Cross Car Width at SgRP Zone)	The minimum cross car distance between the trimmed door or quarter trimmed surfaces within the measurement zone. The zone extends 25 mm below and 76 mm above SgRP, and 76 mm fore and aft of SgRP. If any portion of this 101 mm by 152 mm area is obstructed by the seat, it is excluded. If the area is totally obstructed by the seat, then measure to the unobstructed trimmed surfaces closest to the SgRP location. The suffix following W5 identifies the compartment area for measurement.	8A
W5-1	Hip Room – Front	Front row.	
W5-2	Hip Room – Second	Second row.	
W5-3	Hip Room – Third	Third row.	
W9	Steering Wheel Maximum Outside Diameter	The maximum width across the steering wheel face from outside rim to outside rim, measured in rear view.	8A
W27	Head Clearance Diagonal	Measured using a rear view section cut through the head centroid of the appropriate SAE 95th percentile head contour. The rear view section is shifted along a diagonal line, originating at the intersection of C/LO and the bottom of the section, and at an angle 30 degrees above horizontal, extending outboard. The dimension is the minimum shift of the contour along this line until any contact is made, while maintaining the contour's attitude (the contour is not tilted or rotated, etc.). For an interference condition, the section is moved in the opposite direction, and a negative value is recorded. The suffix following W27 identifies the designated seating position.	8B See 3.5.10 and SAE J1052
W27-1	Head Clearance Diagonal – Driver	Driver position.	
W27-2	Head Clearance Diagonal – Second	Second row outboard passenger.	
W27-3	Head Clearance Diagonal – Third	Third row outboard passenger.	
W31	Elbow Room (Cross Car Width at Armrest)	The cross car distance between the trimmed door or quarter trimmed surfaces. The measurement is taken on the X plane through the SgRP, at a height 30 mm above the highest point on the flat surface of the armrest. If no armrest is provided, measure at a height of 180 mm above the SgRP. The suffix following W31 identifies the compartment area for measurement.	–
W31-1	Elbow Room – Front	Front row.	
W31-2	Elbow Room – Second	Second row.	
W31-3	Elbow Room – Third	Third row.	

SAE J1100 Revised SEP2005

TABLE 15—INTERIOR DIMENSIONS—WIDTH (CONTINUED)

Code	Dimension	Definition	Figure and Notes
W35	Head Clearance Lateral	Measured using a rear view section cut through the head centroid of the appropriate SAE 95th percentile head contour. The minimum lateral shift of the head contour section until contact is made with any surface or object. For an interference condition, move the head contour in the opposite direction and indicate a negative dimension. The suffix following W35 identifies the designated seating position.	8C See 3.5.10 and SAE J1052
W35-1	Head Clearance Lateral – Driver	Driver position.	
W35-2	Head Clearance Lateral – Second	Second row outboard passenger.	
W35-3	Head Clearance Lateral – Third	Third row outboard passenger.	
W38	Head Clearance Minimum	The true minimum 3-D distance between the appropriate SAE 95th percentile head contour and any surface (headlining, molding, sunroof, etc.). For an interference condition, move the head contour in the opposite direction and indicate a negative dimension. The suffix following W38 identifies the designated seating position.	33 See SAE J1052
W38-1	Head Clearance Minimum – Driver	Driver position.	
W38-2	Head Clearance Minimum – Second	Second row outboard passenger.	
W38-3	Head Clearance Minimum – Third	Third row outboard passenger.	
W90	Engine Cover Width – Left	The maximum lateral distance between the vehicle centerline and the left side of engine cover, excluding flanges at floor.	–
W91	Engine Cover Width – Right	The maximum lateral distance between the vehicle centerline and the right side of engine cover, excluding flanges at floor.	–

SAE J1100 Revised SEP2005

TABLE 16—INTERIOR DIMENSIONS—HEIGHT

Code	Dimension	Definition	Figure and Notes
H5	SgRP to Ground	The vertical distance from SgRP to ground. The suffix following H5 identifies the designated seating position.	10
H5-1	SgRP to Ground – Front	Driver position.	
H5-2	SgRP to Ground – Second	Second row outboard passenger.	
H5-3	SgRP to Ground – Third	Third row outboard passenger.	
H11	Entrance Height	The vertical distance from the SgRP to the upper trimmed body opening. The suffix following H11 indicates the location of measurement.	10
H11-1	Entrance Height – Front	Measured on the SgRP-front X plane.	
H11-2	Entrance Height – Second	Measured on the X plane 330mm forward of SgRP-second.	
H13	Steering Wheel to Thigh Line	The minimum distance from the bottom of the steering wheel rim to the thigh line.	9A
H14	Eyellipse to Bottom of Inside Rearview Mirror	The vertical distance between the eyellipse and the inside rearview mirror. Measurement is taken from a horizontal plane tangent to the top of the SAE 95th percentile eyellipse to the bottom edge of the mirror frame. The mirror is set in the lowest usable position. If the bottom of the mirror is located below the horizontal plane, measure the distance and indicate a negative dimension.	9A
H17	Accelerator Heel Point (AHP) to Steering Wheel Center	The vertical distance between the steering wheel center (W7) and the AHP.	9A
H25	Belt Height, Beltline	The vertical distance between the SgRP and the bottom of the side window DLO at the SgRP X plane. The suffix following H25 identifies the designated seating position.	26 3.5.15
H25-1	Belt Height – Front	Driver position.	
H25-2	Belt Height – Second	Second row outboard passenger.	
H25-3	Belt Height – Third	Third row outboard passenger.	
H30	Seat Height	The vertical distance from SgRP to the appropriate heel reference point (AHP or FRP). Measure with floor mats if they are standard equipment. The suffix following H30 identifies the designated seating position.	9A
H30-1	Seat Height – Front	Driver position, AHP.	
H30-2	Seat Height – Second	Second row outboard passenger, FRP.	
H30-3	Seat Height – Third	Third row outboard passenger, FRP.	
H35	Head Clearance Vertical	Measured using a rear view section cut through the head centroid of the appropriate SAE 95th percentile head contour. The minimum vertical distance between the head contour section and any surface (headlining, molding, sunroof, etc.) For an interference condition, move the head contour in the opposite direction and indicate a negative dimension. The suffix following H35 identifies the designated seating position.	9B See 3.5.10 and SAE J1052
H35-1	Head Clearance Vertical – Front	Driver position.	
H35-2	Head Clearance Vertical – Second	Second row outboard passenger.	
H35-3	Head Clearance Vertical – Third	Third row outboard passenger.	

SAE J1100 Revised SEP2005

TABLE 16—INTERIOR DIMENSIONS—HEIGHT (CONTINUED)

Code	Dimension	Definition	Figure and Notes
H46	Head Clearance Vertical2	Measured using a side view section cut through the head centroid of the appropriate SAE 95th percentile head contour. The minimum vertical distance between the head contour section and any surface (headlining, molding, sunroof, etc.) For an interference condition, move the head contour in the opposite direction and indicate a negative dimension. The suffix following H46 identifies the designated seating position.	7 See 3.5.10 and SAE J1052
H46-1	Head Clearance Vertical2 – Front	Driver position.	
H46-2	Head Clearance Vertical2 – Second	Second row outboard passenger.	
H46-3	Head Clearance Vertical2 – Third	Third row outboard passenger.	
H47	Minimum SV Head Clearance	Measured using a side view section cut through the head centroid of the appropriate SAE 95th percentile head contour. The minimum distance between the head contour section and any surface (headlining, molding, sunroof, etc.) For an interference condition, move the head contour in the opposite direction and indicate a negative dimension. The suffix following H47 identifies the designated seating position.	7 See 3.5.10 and SAE J1052
H47-1	Minimum SV Head Clearance – Front	Driver position.	
H47-2	Minimum SV Head Clearance – Second	Second row outboard passenger.	
H47-3	Minimum SV Head Clearance – Third	Third row outboard passenger.	
H49	Eyellipse to Top of Steering Wheel	The vertical distance between the eyellipse and the steering wheel. Measurement is taken from a horizontal plane tangent to the bottom of the SAE 95th percentile eyellipse to the top of the steering wheel. If the top of the steering wheel is above the horizontal plane, measure the distance and indicate a negative value.	9A
H50	Upper-Body Opening to Ground	The vertical distance from the trimmed body opening to the ground on the X plane specified below. The suffix following H50 indicates the location of measurement.	10
H50-1	Upper-Body Opening to Ground – Front	Measured on the SgRP-front X plane.	
H50-2	Upper-Body Opening to Ground – Second	Measured on the X plane 330 mm forward of the SgRP-second.	
H56	D-point to Floor	The vertical distance from the D-point to the underbody sheet metal at the occupant centerline. The suffix following H56 identifies the designated seating position.	9A
H56-1	D-point to Floor – Front	Driver position.	
H56-2	D-point to Floor – Second	Second row outboard passenger.	
H56-3	D-point to Floor – Third	Third row outboard passenger.	
H61	Effective Head Room	The distance along a line 8 degrees rear of vertical from the SgRP to the headlining, plus 102 mm. The suffix following H61 identifies the designated seating position.	10
H61-1	Effective Head Room – Front	Driver position.	
H61-2	Effective Head Room – Second	Second row outboard passenger.	
H61-3	Effective Head Room – Third	Third row outboard passenger.	

SAE J1100 Revised SEP2005

TABLE 16—INTERIOR DIMENSIONS—HEIGHT (CONTINUED)

Code	Dimension	Definition	Figure and Notes
H67	Undepressed Floor Covering Thickness	The vertical distance from the surface of the undepressed floor covering to the underbody sheet metal, measured at the appropriate heel reference point location (AHP or FRP). Measurement includes floor mats if standard equipment. The suffix following H67 indicates the location of measurement.	–
H67-1	Undepressed Floor Covering Thickness – Front	Driver's AHP.	
H67-2	Undepressed Floor Covering Thickness – Second	Second row outboard occupant's FRP.	
H67-3	Undepressed Floor Covering Thickness – Third	Third row outboard occupant's FRP.	
H68	Depressed Floor Covering Thickness	The vertical distance from the heel point (surface of the depressed floor covering) to the underbody sheet metal. Measurement includes floor mats if standard equipment. The suffix following H68 indicates the location of measurement.	–
H68-1	Depressed Floor Covering Thickness – Front	Driver's AHP.	
H68-2	Depressed Floor Covering Thickness – Second	Second row outboard occupant's FRP.	
H68-2	Depressed Floor Covering Thickness – Third	Third row outboard occupant's FRP.	
H74	Steering Wheel to Cushion	The minimum distance between the steering wheel and the undepressed seat cushion. Measurement is taken on the Y plane through the steering wheel center (W7).	10
H79	SgRP, Side to Center Difference	The vertical distance from the outboard occupant SgRP to the center occupant SgRP. The suffix following H79 identifies the row for measurement.	–
H79-1	SgRP, Side to Center Difference – Front	First row occupants.	
H79-2	SgRP, Side to Center Difference – Second	Second row occupants.	

TABLE 17—INTERIOR DIMENSIONS—ANGLES

Code	Dimension	Definition	Figure and Notes
A18	Steering Wheel Angle	The angle of a plane tangent to the face of the steering wheel rim, measured from vertical.	12
A19	Track Rise Angle	The angle of the H-point travel path, measured from horizontal. If vertical adjustment is available, measurement is of the full down H-point travel path.	15A, 15B
A27	Cushion Angle	The angle of the cushion line from horizontal. See paragraph 3.6.2 above and SAE J826. The suffix following A27 identifies the designated seating position.	11
A27-1	Cushion Angle – Front	Driver	
A27-2	Cushion Angle – Second	Second row outboard passenger	
A27-3	Cushion Angle – Third	Third row outboard passenger	

SAE J1100 Revised SEP2005

TABLE 17—INTERIOR DIMENSIONS—ANGLES (CONTINUED)

Code	Dimension	Definition	Figure and Notes
A40	Back Angle	The angle of the back line from vertical. See paragraph 3.6.1 above. The suffix following A40 identifies the designated seating position.	11
A40-1	Back Angle – Front	Driver	
A40-2	Back Angle – Second	Second row outboard passenger	
A40-3	Back Angle – Third	Third row outboard passenger	
A42	Hip Angle	The angle between the back line and the thigh line. The suffix following A42 identifies the designated seating position.	11
A42-1	Hip Angle – Front	Driver	
A42-2	Hip Angle – Second	Second row outboard passenger	
A42-3	Hip Angle – Third	Third row outboard passenger	
A44	Knee Angle	The angle between the thigh line and the (lower) leg line, measured on the right leg. The suffix following A44 identifies the designated seating position.	11
A44-1	Knee Angle – Front	Driver	
A44-2	Knee Angle – Second	Second row outboard passenger	
A44-3	Knee Angle – Third	Third row outboard passenger	
A46	Ankle Angle	The angle between the (lower) leg line and the bare foot flesh line, measured for the right leg. The suffix following A46 identifies the designated seating position.	11
A46-1	Ankle Angle – Front	Driver	
A46-2	Ankle Angle – Second	Second row outboard passenger	
A46-3	Ankle Angle – Third	Third row outboard passenger	
A47	Pedal Plane Angle	The angle of the pedal plane from horizontal (see 3.7.7).	11
A48	Floor Plane Angle	The angle of the floor plane from horizontal. See 3.7.4. The suffix following A48 identifies the designated seating position.	–
A48-2	Floor Plane Angle – Second	Second row outboard passenger	
A48-3	Floor Plane Angle – Third	Third row outboard passenger	
A57	Thigh Angle	The angle of the thigh line from horizontal. See 3.6.9. The suffix following A57 identifies the designated seating position.	11
A57-1	Thigh Angle – Front	Driver	
A57-2	Thigh Angle – Second	Second row outboard passenger	
A57-3	Thigh Angle – Third	Third row outboard passenger	
A60	Vision Angle to Upper DLO	The angle between the highest tangent on the SAE 95th percentile eyellipse and the upper DLO. Measured from horizontal at occupant centerline. The suffix following A60 indicates which window to measure to.	12
A60-1	Vision Angle to Upper DLO – Windshield	Windshield upper DLO	
A60-2	Vision Angle to Upper DLO – Backlight	Backlight/rear window DLO.	
A61	Vision Angle to Lower DLO	The angle between the lowest tangent on the SAE 95th percentile eyellipse and the lower DLO. Measured from horizontal, at occupant centerline. The suffix following A61 indicates which window to measure to.	12
A61-1	Vision Angle to Lower DLO – Windshield	Windshield lower DLO	
A61-2	Vision Angle to Lower DLO – Backlight	Backlight (rear window) lower DLO.	

SAE J1100 Revised SEP2005

TABLE 18—INTERIOR DIMENSIONS—PEDALS

Code	Dimension	Definition	Notes	Figure
PL1	Accelerator to Brake Liftoff (Step Over)	The distance between the accelerator pedal plane and a parallel plane tangent to the undepressed brake pedal, measured perpendicular to the pedal plane.	See 3.7.7	14
PL2	Brake to Clutch Liftoff	The perpendicular distance between two planes, parallel to the accelerator pedal plane, one tangent to the brake and the other tangent to the clutch. If the clutch is forward of the brake, a negative value is recorded.	See 3.7.7	—
PW1	Clutch Pedal Width	The maximum width of the clutch pedal.	<i>Actual Pedal Width</i>	13A
PW2	Brake Pedal Width	The maximum width of the brake pedal.	<i>Actual Pedal Width</i>	13A
PW3	Accelerator Pedal Pad Width	The width of the accelerator pedal measured at the PRP.	<i>Actual Pedal Width</i>	13A
PW7	Pedal Reference Point to Driver Centerline	The lateral distance between the PRP and the C/L of driver.	<i>(Normal to Grid)</i>	13A
PW8	Pedal Reference Point to Brake Centerline	The lateral distance between the centerline of the brake and the PRP.	<i>(Normal to Grid)</i>	13A
PW9	Pedal Reference Point to Clutch Centerline	The lateral distance between the centerline of the clutch and the PRP.	<i>(Normal to Grid)</i>	13A
PW12	Brake to Clutch Lateral Separation	The minimum lateral distance between the rightmost edge of the clutch and the leftmost edge of the brake.	<i>(Normal to Grid)</i>	13B
PW14	AHP to PRP Lateral Offset	The distance the shoe tool needs to be shifted in order for it to clear any interference. For left-hand drive vehicles, the shift would be outboard to clear interference from the tunnel or floor. For right-hand drive vehicles, the shift would be inboard to clear interference from the wheelhouse or cowl side inner. The measurement is the lateral distance from the PRP (at centerline of pedal) to the final AHP (after the interference is cleared).	<i>(Normal to Grid)</i>	13B, 13C
PW15	Accelerator to Brake Lateral Separation	The minimum lateral distance between the rightmost edge of the brake and the leftmost edge of the accelerator.	<i>(Normal to Grid)</i>	13B
PW16	Accelerator to Brake Minimum Separation	Minimum distance measured between the right edge of the brake pedal pad and the left edge of the accelerator pedal viewed normal to the Accelerator Foot Plane.		13B

SAE J1100 Revised SEP2005

TABLE 18—INTERIOR DIMENSIONS—PEDALS (CONTINUED)

Code	Dimension	Definition	Notes	Figure
PW20	Left Foot Space	The minimum distance between the leftmost edge of the leftmost pedal (brake, or clutch if available) and the rightmost edge of the nearest interference (wheelhouse, footrest, rocker, tunnel, etc.) throughout the pedal travel path.	<i>(Normal to Grid)</i>	13B
PW31	Accelerator Pedal to Right Foot Support Structure	The minimum distance from the right edge of the accelerator pedal to the left edge of the nearest interference (tunnel, console, wheelhouse, rocker, etc.) throughout the accelerator travel path.	<i>(Normal to Grid)</i>	13B
PH1	Clutch Pedal Pad Size	The maximum height of the clutch from the top to the bottom of the pedal.	<i>Actual Pedal Size</i>	–
PH2	Brake Pedal Pad Size	The maximum height of the brake from the top to the bottom of the pedal.	<i>Actual Pedal Size</i>	14
PH3	Accelerator Pedal Pad Size	The maximum height of the accelerator from the top to the bottom of the pedal.	<i>Actual Pedal Size</i>	14
PH30	PRP to AHP	The vertical distance from the pedal reference point to the accelerator heel point.	<i>(Normal to Grid)</i>	14
PH31	Middle of Brake Pedal to AHP	The vertical distance from the center of the brake pedal (mid height) to the accelerator heel point.	<i>(Normal to Grid)</i>	14
PH32	Middle of Clutch Pedal to Floor	The vertical distance from the center of the clutch pedal (mid height) to the accelerator heel point.	<i>(Normal to Grid)</i>	–

SAE J1100 Revised SEP2005

TABLE 19—INTERIOR DIMENSIONS—H-POINT TRAVEL PATH⁽¹⁾

Code	Dimension	Definition	Notes	Figure
TL1	H-point Travel Length	The longitudinal distance from the full down rearmost to the full down foremost H-point location.	(Normal to Grid)	15A, 15B
TL2	SgRP to Rearmost Lowest H-point Length	The longitudinal distance from the SgRP to the full down rearmost H-point location.	(Normal to Grid)	15A, 15B
TL18	H-point Travel, Maximum Length	The longitudinal distance between the foremost and rearmost H-point locations. (For tracks without vertical adjustment, this value will be the same as TL1.)	(Normal to Grid)	15A, 15B
TL23	Normal Driving and Riding Seat Track (H-point) Travel	The longitudinal distance from the SgRP to the foremost H-point location.	(Normal to Grid)	15A, 15B
TH1	H-point Travel Height	The vertical distance from the full down rearmost to the full up rearmost H-point location.	(Normal to Grid)	16A
TH2	SgRP to Rearmost Lowest H-point Height	The vertical distance from SgRP to the full down rearmost H-point location.	(Normal to Grid)	16A, 16B
TH8	Vertical H-point Adjustment	Measured through SgRP and normal to the (lower) H-point travel path. The distance from the lower to the upper H-point locations.	(Normal to Track Travel)	16A
TH17	H-point Travel Rise	The vertical distance from the full down rearmost to the full down foremost H-point locations.	(Normal to Grid)	16A, 16B
TH18	H-point Travel, Maximum Height	The vertical distance from the full down rearmost to the full up foremost H-point locations.	(Normal to Grid)	16A, 16B
TH23	Normal Driving and Riding Seat Track (H-point) Rise	The vertical distance from the SgRP to the foremost and highest H-point location.	(Normal to Grid)	16A, 16B

1. Only H-point locations that are used for driving are to be considered for these dimensions (i.e., do not include seat positions used to facilitate entry/egress, stowing cargo, etc.).

SAE J1100 Revised SEP2005

TABLE 20—INTERIOR DIMENSIONS—SEATS⁽¹⁾

Code	Dimension	Definition	Figure and Notes
SL9	Cushion Depth	The longitudinal distance from the front edge of the cushion to the undepressed seatback at occupant centerline. A horizontal plane drawn tangent to the top of the seat cushion defines the seat back location. The suffix following SL9 identifies the designated seating position.	17
SL9-1	Cushion Depth – Front	Driver	
SL9-2	Cushion Depth – Second	Second row outboard passenger	
SL9-3	Cushion Depth – Third	Third row outboard passenger	
SL10	Effective Cushion Depth	The longitudinal distance from the front edge of the cushion to the SgRP. The suffix following SL10 identifies the designated seating position.	17
SL10-1	Effective Cushion Depth – Front	Driver	
SL10-2	Effective Cushion Depth – Second	Second row outboard passenger	
SL10-3	Effective Cushion Depth – Third	Third row outboard passenger	
SL14	Seatback Thickness	The maximum normal distance measured through the seatback, excluding bolsters at C/L occupant. The suffix following L14 identifies the designated seating position.	17
SL14-1	Seatback Thickness – Front	Driver	
SL14-2	Seatback Thickness – Second	Second row outboard passenger	
SL14-3	Seatback Thickness – Third	Third row outboard passenger	
SW16	Cushion Width	The maximum lateral distance across the trimmed width of the seat cushion. The suffix following SW16 identifies the designated seating position.	18A, 18B
SW16-1	Cushion Width – Front	Driver	
SH32	Cushion Deflection	The vertical distance between the undeflected seat cushion surface, and the location of D-point when the H-point device is properly installed and fully loaded (see SAE J826). The suffix following SH32 identifies the seat for measurement.	17
SH32-1	Cushion Deflection – Front	Drivers seat.	
SH32-2	Cushion Deflection – Second	Second row outboard passenger seat.	
SH32-3	Cushion Deflection – Third	Third row outboard passenger seat.	
SH77	Seatback Height	Measured along the back line. The distance from SgRP to the top of the seat back. The top of the seat back is determined by a line normal to the back line and tangent to the top of the seat back's soft trim or head restraint in the stowed position. The suffix following SH77 identifies the seat for measurement.	17
SH77-1	Seatback Height – Front	Driver's seat.	
SH77-2	Seatback Height – Second	Second row outboard passenger's seat.	
SH77-3	Seatback Height – Third	Third row outboard passenger's seat.	

1. Table 20 – Interior Dimensions – Seats is included for reference. SAE J2732 – Automotive Seat Dimensions, when published, will obsolete this table.

SAE J1100 Revised SEP2005

TABLE 21—EXTERIOR DIMENSIONS—LENGTH

Code	Dimension	Definition	Figure and Notes
L101	Wheelbase	The longitudinal distance from the front wheel centerline to the rear wheel centerline.	19 If dual rear axle, see 4.2.2
L102	Tire Size	Report the T&RA specification of the base tire. The suffix following L102 indicates the tire.	—
L102-1	Tire Size – Front	Size of the base front tire.	
L102-2	Tire Size – Rear	Size of the base rear tire. (Report only if it is different than the front.)	
L103	Vehicle Length	The maximum longitudinal distance between the foremost point and the rearmost point on the vehicle, including bumper, bumper guards, tow hooks and/or rub strips, if standard equipment.	19
L104	Overhang – Front	The longitudinal distance from the centerline of the front wheels to the foremost point on the vehicle, including bumper, bumper guards, tow hooks, and/or rub strips, if standard equipment.	19
L105	Overhang – Rear	The longitudinal distance from the centerline of the rear wheels to the rearmost point on the vehicle, including rear bumpers, bumper guards, tow hooks, and rubstrips, if standard equipment.	19 If dual rear axle, see 4.2.2
L106	Overhang – Front, RPO	Measured in the same manner as the L104, except all regular production options (RPO items) are included.	19
L107	Overhang – Rear, RPO	Measured in the same manner as the L105, except all regular production options (RPO items) are included.	19 If dual rear axle, see 4.2.2
L108	Vehicle Length, RPO	Measured in the same manner as the L103, except all regular production options (RPO items) are included.	19 If dual rear axle, see 4.2.2
L114	Front Wheel Centerline to SgRP-Front	The longitudinal distance between the front wheel centerline and SgRP-front.	6A
L403	Front Bumper to Back of Cab (BBC)	The longitudinal distance from the front of the front bumper to the back of the cab at the vehicle centerline (zero Y plane).	20
L404	Cab to Rear Axle (CA)	The longitudinal distance from the back of the cab to the center of the rear axle.	20 If dual rear axle, see 4.2.2
L504	Cab to Pickup Body	The longitudinal distance from the rear of the cab to the front of the pickup bed, measured at the vehicle centerline (zero Y plane).	20
L505	Pickup Body Length at Floor	The longitudinal distance from the inside front of the pickup bed to the inside of the closed tailgate. Measured at the cargo floor surface along vehicle centerline.	20

SAE J1100 Revised SEP2005

TABLE 21—EXTERIOR DIMENSIONS—LENGTH (CONTINUED)

Code	Dimension	Definition	Figure and Notes
L507	Cargo Body Overall Length	The longitudinal distance from the front to the back of the pickup bed (excluding bumpers). Measured to exterior surfaces along vehicle centerline.	20
L508	Minimum Loading Length (Width) of Side Cargo Door	The minimum longitudinal distance of the unobstructed area of the side door opening, free of any interference from the trimmed door surfaces, handles, hinges or other trimmed structures such as pillars. Measured with the doors in the maximum hold open position.	19
L512	Cargo Length to Engine Cover	The longitudinal distance from the rear of the engine cover to the closed tailgate or tail door at the zero Y plane. Measured at the height of the cargo floor surface, unless the floor surface at the engine cover is above the cargo floor surface. In that event, measure at the height of the floor at the engine cover.	—

TABLE 22—EXTERIOR DIMENSIONS—WIDTH

Code	Dimension	Definition	Figure and Notes
W101	Tread Width	The lateral distance between the centerlines of the base tires at ground, including camber angle. The suffix following W101 indicates the location of measurement.	21A, 21B
W101-1	Tread Width – Front Tires	Measured at the front tires.	
W101-2	Tread Width – Rear Tires	Measured at the rear tires. If there are dual rear wheels, measure from the midway points between the inner and outer tires.	
W102	Track Width	The lateral distance between the centers of the wheels, measured along the spindle, or axle axis. The suffix following W102 indicates the location of measurement.	21A, 21B
W102-1	Track Width – Front Tires	Measured at the front tires.	
W102-2	Track Width – Rear Tires	Measured at the rear tires. If there are dual rear wheels, measure from the midway points between the inner and outer tires.	
W103	Vehicle Width, Maximum	The maximum lateral distance between the widest points on the vehicle, including all trim and hardware except the mirrors.	23
W104	Vehicle Width, Including Mirrors	The maximum lateral distance between the widest points on the outside mirrors, or mirror housings, with the mirrors adjusted for normal driving.	22
W105	Vehicle Width, Mirrors Folded	The maximum lateral distance between the widest points on the outside mirrors, or mirror housings, with the mirrors folded.	22
W106	Fender Width – Front	Measured in the same manner as W103, on the X plane through the center of the front tires.	21A
W107	Fender Width – Rear	Measured in the same manner as W103, on the X plane through the center of the rear tires.	21A

SAE J1100 Revised SEP2005

TABLE 22—EXTERIOR DIMENSIONS—WIDTH (CONTINUED)

Code	Dimension	Definition	Figure and Notes
W113	Axle Width at Wheel	The lateral distance between the wheel mounting faces, measured along the spindle axis. Measurement is independent of both wheel offset and camber angle. NOTE—This dimension is equivalent to W102 plus twice the wheel offset. The suffix following W113 indicates the location of measurement.	21A, 21B
W113-1	Axle Width – Front Wheel	Front axle.	
W113-2	Axle Width – Rear Wheel	For single wheels only.	
W116	Body Width	The lateral distance between the widest points on the body-in-white. Excluded from this measurement are mirrors, door handles, marker and signal lamps, molding, appliques and cladding. Running boards may be excluded if they do not extend beyond the mirrors.	23
W117	Body Width at SgRP – Front	Measured in the same manner as W116, on the X plane through SgRP-front.	23
W120	Vehicle Width, Doors Open	Measured with the doors in the maximum hold-open position. The lateral distance between the widest points on the doors including all trim and hardware, except mirrors. The suffix following W120 indicates which door to use for measurement.	21A 3.5.16
W120-1	Vehicle Width, Doors Open – Front	Front doors.	
W120-2	Vehicle Width, Doors Open – Second Row	Second row doors. For vehicles with only one second door, measure to the vehicle centerline.	
W203	Rear Body Opening at Floor	The minimum lateral distance of the rear body opening at the cargo floor surface.	24
W204	Rear Body Opening at Belt Line	The minimum lateral distance of the rear body opening at the belt line or top of pickup box.	24 3.5.15
W208	Minimum Loading Width of Rear Opening	The minimum lateral distance of the unobstructed area of the rear opening, free of any interference from the trimmed surfaces of the tailgate, lift gate, doors, handles, hinges, other trimmed structures (e.g. the D-pillar), prop rods, etc. Measured with the doors in the maximum hold open position.	25 3.5.16
W209	Maximum Loading Width of Rear Opening	The maximum lateral distance of the unobstructed area of the rear opening, free of any interference from the trimmed surfaces of the tailgate, lift gate, doors, handles, hinges, other trimmed structures (e.g. the D-pillar), prop rods, etc. Measured with the doors in the maximum hold open position.	25 3.5.16
W408	Tail Door Width-Hold Open	The lateral distance between the widest point on the tail doors in the maximum hold-open position	25 3.5.16
W409	Maximum Width-Tail Doors Unrestrained	The maximum lateral distance between the widest points on the vehicle tail doors, in their unstrapped, or unrestrained position.	24

SAE J1100 Revised SEP2005

TABLE 23—EXTERIOR DIMENSIONS—HEIGHT

Code	Dimension	Definition	Figure and Notes
H100	Body Height	The vertical distance from the ground to the highest point on the body in white. Exclude all hardware and trim from this measurement (e.g., roof racks, running lamps, antennas, spoilers, and aeroshields.)	26
H101	Vehicle Height, Maximum	The vertical distance from the ground to the highest point on the vehicle including all hardware and trim (e.g. roof racks, running lamps, spoilers, etc.), or the fixed, nonflexible portion of any antenna.	26
H103	Fascia (Bumper) to Ground	The minimum vertical distance from the ground to the lowest point on the fascia or bumper, including air dams, skirts or bumper guards. The suffix following H103 indicates the location of measurement.	26
H103-1	Fascia to Ground – Front	Measure from the front fascia.	
H103-2	Fascia to Ground – Rear	Measure from the rear fascia.	
H108	Static Load Radius	Specified by the manufacturer in accordance with Composite Tire Section Standard. The suffix following H108 indicates the tire.	27
H108-1	Static Load Radius – Front Tire	Specify for the front tire.	
H108-2	Static Load Radius – Rear Tire	Specify for the rear tire.	
H111	Rocker Panel Height	The vertical distance from the bottom of the rocker to the ground, excluding flanges. The suffix following H111 indicates the location of the measurement.	26
H111-1	Rocker Panel Height – Front	Measured at the foremost point of the rocker panel.	
H111-2	Rocker Panel Height – Rear	Measured at the rearmost point of the rocker panel.	
H115	Step Height	The vertical distance from the top of the sill plate bead to ground, measured at the longitudinal center of the lower door opening. If there is a step, measurement is from the lowest step to the ground. The suffix following H115 indicates which door opening to use for the measurement.	26, 8A
H115-1	Step Height – Front	Measured at the front door opening.	
H115-2	Step Height – Second	Measured at the second row door opening.	
H127	Headlamp Height	The vertical distance from the center of the lowest headlamp lens to ground.	26
H128	Taillamp Height	The vertical distance from the center of the upper bulb to ground.	26
H132	Bottom of Opened Door to Ground	Measured with the door in the maximum hold-open position. The vertical distance from the bottom outside corner of the door (lock pillar side) to ground. The suffix following H132 indicates which door to use for measurement.	See 3.5.16
H132-1	Bottom of Opened Door to Ground – Front	Front door.	
H132-2	Bottom of Opened Door to Ground – Second	Second row door.	
H136	Zero Z Plane to Ground	The vertical distance between the ground line and the zero Z plane. The suffix following H136 indicates the location of measurement.	–
H136-1	Zero Z Plane to Ground – Front	Measured at the center of the front wheels.	
H136-2	Zero Z Plane to Ground – Rear	Measured at the center of the rear wheels. In the case of dual rear wheels, measure from a point halfway between the centers of the rear wheels.	

SAE J1100 Revised SEP2005

TABLE 23—EXTERIOR DIMENSIONS—HEIGHT (CONTINUED)

Code	Dimension	Definition	Figure and Notes
H143	Cowl or Deck Point to Ground	The vertical distance from the ground to the appropriate reference point. The suffix following H143 indicates the location of measurement.	2 See 3.5.3 and 3.5.5
H143-1	Cowl Point to Ground	The vertical distance from the ground to the Cowl Point.	
H143-2	Deck Point to Ground	The vertical distance from the ground to the Deck Point.	
H148	Suspension or Axle to Ground	The minimum vertical distance from the axle or suspension to the ground. Specify component. The suffix following H148 indicates the location of measurement.	—
H148-1	Suspension or Axle to Ground – Front	Front suspension or axle.	
H148-2	Suspension or Axle to Ground – Rear	Rear suspension or axle.	
H156	Ground Clearance	The minimum vertical distance from the underside of the vehicle to ground, excluding only the unsprung parts and assemblies (e.g., shock mounts, suspension mounts, wheels, etc.) Specify location.	—
H195	Liftover Height	The vertical distance from the ground to the lower opening of the luggage compartment, including strikers, locking mechanisms, or any other obstructions to the opening. Measured at vehicle centerline.	—
H202	Rear Opening Height	The vertical distance from the top of the cargo floor surface to the upper trimmed opening with rear door fully open. Measured at vehicle centerline.	—
H250	Tailgate to Ground	The vertical distance from the top of the cargo floor surface on the lowered tailgate to ground. Measured at vehicle centerline.	—
H251	Liftgate to Ground	The minimum vertical distance from the lowest point of the raised liftgate – including trim, hardware, etc. – to ground. Flexible hand straps should be excluded.	—
H252	Cargo Floor Height	The vertical distance from the cargo floor surface to the ground at vehicle centerline. Measured at the intersection of the cargo floor surface and the closed rear tailgate or cargo door.	—
H445	Second Step Height	The vertical distance from the first step to the second step (the first step is the one closest to the ground). If there is no second step, measure to the top of the sill plate bead. Measured at the longitudinal center of the lower door opening. The suffix following H445 indicates which door opening to use for the measurement.	8A
H445-1	Second Step Height – Front	Measured at the front door opening.	
H445-2	Second Step Height – Second	Measured at the second row door opening.	
H504	Wheelhouse Height	The maximum vertical distance from top of cargo floor to the top of rear wheelhouse.	—
H508	Side Cargo Door Opening Height	The minimum vertical distance from the cargo floor surface to the upper trimmed opening of the side cargo door. Measured with the door opened.	—

SAE J1100 Revised SEP2005

TABLE 24—EXTERIOR DIMENSIONS—ANGLES

Code	Dimension	Definition	Figure and Notes
A106	Angle of Approach or Departure	The angle measured between a line tangent to the tire static-loaded radius arc and the initial interference to ground. The suffix following A106 indicates the location of measurement.	2, 27
A106-1	Angle of Approach	Measured from the front tire to the forward limiting interference.	
A106-2	Angle of Departure	Measured from the rear tire to the rearward limiting interference.	
A121	Window Slope Angle	The angle from vertical. Measured from a 457 mm chord from the lower DLO on the vehicle centerline to the intersecting point on the exterior glazing surface. The suffix following A121 indicates the location of measurement.	26
A121-1	Window Slope Angle – Windshield	Measured along the windshield glazing surface.	
A121-2	Window Slope Angle – Backlight	Measured along the backlight glazing surface.	
A122	Tumblehome	The angle from vertical of the front door windows (outside surface). Measured on the X plane through SgRP-front. For curved side glass, measure to a chord extending from the upper DLO to the lower DLO.	28
A147	Ramp Breakover Angle	The supplement of the largest angle, in the plane side view of an automobile, that can be formed by two lines tangent to the front and rear static loaded radii arcs and intersecting at a point on the underside of the automobile which defines the largest ramp over which the vehicle can roll.	27

TABLE 25—CARGO DIMENSIONS—LENGTH

Code	Dimension	Definition	Notes	Figure
L202	Cargo Length at Floor	Measured at the height of the cargo floor surface. The longitudinal distance from the back of the seatback, seat riser, or other limiting surface to the rearmost point of the closed tailgate or tail door at vehicle centerline. The suffix following L202 indicates the forward measurement row.	See Section 7 and 7.1. Used in V6.	31
L202-1	Cargo Length – Behind Front Row	Most rearward point of front row.		
L202-2	Cargo Length – Behind Second Row	Most rearward point of second row.		
L202-3	Cargo Length – Behind Third Row	Most rearward point of third row.		
L204	Cargo Length at Belt Line	The longitudinal distance from the “X” plane tangent to the most rearward point on the seat back, including head restraints, or other limiting surface to the foremost normal surface of the closed tailgate or inside cab back panel at the height of the belt line at the zero Y plane. The suffix following L204 indicates the forward measurement point.	See Section 3.5.15, 7 and 7.1. Used in V2 and V6.	31
L204-1	Cargo Length at Beltline – Behind Front Row	Most rearward point of front row.		
L204-2	Cargo Length at Beltline – Behind Second Row	Most rearward point of second row.		
L204-3	Cargo Length at Beltline – Behind Third Row	Most rearward point of third row.		

SAE J1100 Revised SEP2005

TABLE 25—CARGO DIMENSIONS—LENGTH (CONTINUED)

Code	Dimension	Definition	Notes	Figure
L208	Hatchback Cargo Length at Seatback Height	Measured at the height of the front seat back, including head restraints. The minimum longitudinal distance from "X" plane tangent to the rearmost point of the seatback or other limiting surface to the inside limiting interference of the hatchback door at vehicle centerline. The suffix following L208 indicates the forward measurement point.	See Section 7 and 7.1. Used in V3.	29
L208-1	Hatchback Cargo Length at Seatback Height – Behind Front Row	Most rearward point of front row.		
L208-2	Hatchback Cargo Length at Seatback Height – Behind Second Row	Most rearward point of second row.		
L209	Hatchback Cargo Length at Floor	Measured at the height of the cargo floor surface. The minimum longitudinal distance from the back of the seatback or other limiting surface to the inside of the hatchback door at vehicle centerline. The suffix following L209 indicates the forward measurement row.	See Section 7 and 7.1. Used in V3.	29
L209-1	Hatchback Cargo Length at Floor – Behind Front Row	Most rearward point of front row.		
L209-2	Hatchback Cargo Length at Floor – Behind Second Row	Most rearward point of second row.		
L506	Pickup Body Length at Top of Body	The longitudinal distance from the inside front of the pickup bed to the inside of the closed tailgate. Measured at the height of the top of the pickup bed along vehicle centerline.	Used in CVI V5.	20

TABLE 26—CARGO DIMENSIONS—WIDTHS

Code	Dimension	Definition	Notes	Figure
W201	Cargo Width – Wheelhouse	The minimum lateral distance between the trimmed wheelhouses, measured at cargo floor surface. For any vehicle not trimmed, measure to the sheet metal.	See Section 7. Used in V6, V7, V9, and V10.	30
W500	Cargo Width at Floor	The maximum lateral distance between the limiting trimmed surfaces at the cargo floor surface. This dimension excludes wheelhouses, local protrusions, and local depressions or pockets.	See Section 7. Used in V5. May be used in V6, V7, and V9.	30

SAE J1100 Revised SEP2005

TABLE 27—CARGO DIMENSIONS—HEIGHT

Code	Dimension	Definition	Notes	Figure
H197	Seatback Height	The vertical distance from the top of the seatback, including head restraints, to the cargo floor surface. The suffix following H197 identifies the designated seating position.	See Section 7. Used in V3 and V11.	29
H197-1	Seatback Height – Front	Driver		
H197-2	Seatback Height – Second	Second row outboard passenger		
H197-3	Seatback Height – Third	Third row outboard passenger		
H201	Cargo Height	The vertical distance from the top of the cargo floor or other limiting surface to the headlining, with the second and third row seats in their stowed or cargo optimized position. Measured at the rear wheel X coordinate, at vehicle centerline.	See Section 7. Used in V2, V6, V7, & V9.	31
H503	Pickup Box Height	The minimum vertical distance between cargo floor surface to the top of the pickup box. Measured at the rear wheel X coordinate.	See Section 7. Used in V5.	20
H505	Maximum Cargo Height	The maximum vertical distance behind the front seat from the cargo floor surface to headlining. Measured at vehicle centerline.	See Section 7. Used in V6 & V7.	31

TABLE 28—CARGO VOLUME INDICES—CVI (SEE 7.4)

Code	Cargo Volume Index ⁽¹⁾⁽²⁾	Length	Width	Height
V2	Station Wagon CVI – Maximum Estimate	L204~1	W3~2	H201
V3	Hatchback CVI – Maximum Estimate	$\frac{(L208-1 + L209-1)}{2}$	W3~2	H197~1
V5	Open Truck and MPV CVI – Maximum	L506	W500	H503
V6 ⁽³⁾	Enclosed Truck and MPV CVI – Maximum Behind Front Seat	$\frac{(L202-1 + L204-1)}{2}$	$\frac{(W3-2 + W201)}{2}$	$\frac{(H201 + H505)}{2}$
V7 ⁽³⁾	Enclosed Truck and MPV CVI – Maximum Behind Second Seat	$\frac{(L202-2 + L204-2)}{2}$	$\frac{(W3-3 + W201)}{2}$	$\frac{(H201 + H505)}{2}$
V9 ⁽³⁾	Enclosed Truck and MPV CVI – Maximum Behind Third Seat	$\frac{(L202-3 + L204-3)}{2}$	$\frac{(W3-3 + W201)}{2}$	H201
V10	Station Wagon CVI – Maximum Behind Second Seat	L204~2	$\frac{(W3-2 + W201)}{2}$	H201
V11	Hatchback Cargo Volume-Maximum Behind Second Seat	$\frac{(L208-2 + L209-2)}{2}$	W3~2	H197~2

1. CVI (in liters) = (Length x Width x Height) / 10⁶

2. CVI (in ft³) = (Length in inches x Width in inches x Height in inches) / 1728, or CVI (in liters) / 28.32

3. For V6, V7, and V9, if W3~3 is not defined, use the following expression for width: (W201 + W500) / 2

SAE J1100 Revised SEP2005

TABLE 29—LUGGAGE SET

Luggage Pieces	No. pieces/set	Size (in mm)	Liters ⁽¹⁾
A. Men's 2-Suiter	4	229 x 483 x 610	67
B. Small Overnight	4	165 x 330 x 457	25
C. Pullman	2	229 x 406 x 660	61
D. Wardrobe	2	216 x 457 x 533	53
E. Train Case	2	203 x 229 x 381	18
F. Large Overnight	2	178 x 356 x 533	34
G. Golf Bag, containing: 2 woods, 4 irons, 1 putter, 3 golf balls, 1 pair of golf shoes (size 10 ½)	2	See Figure 32	43
H. H-boxes	20	152 x 114 x 325	6 (5.6)

1. Values are rounded to the nearest liter.

TABLE 30—LUGGAGE CAPACITY DIMENSIONS

Code	Dimension	Definition
V1	Luggage Capacity – Passenger Cars	The total volume of the individual pieces of the luggage set(s) plus H-boxes that can be stowed in the luggage compartment. This measurement applies to passenger cars, including hatchbacks and stations wagons if they are partitioned to secure hidden cargo.
V4	Hidden Luggage Capacity – Behind Front Seat	Measured in the same manner as V1 for any hidden cargo area below the load floor, to the rear of the front seat.

TABLE 31—GLASS AREA DIMENSIONS

Code	Dimension	Definition
S1	Windshield Area	The clear glass area measured on the outside surface of the glass to the edge of the limiting outside molding, weatherstrip and/or point line (DLO), taken at a perpendicular to the surface of the glass around the periphery of the windscreen.
S2	Side Windows Areas	The total surface area of the front doors, rear doors, vents and rear quarter window glass is measured on the outside surface of the glass as follows: All doors, vents and rear quarter window glass extending to the belt line are measured to lines perpendicular to the glass surface at the upper and side limiting outside moldings or weather-strips (DLO). At the lower DLO (belt line) the surface is measured to the limiting outside moldings or weather-strips parallel to the ground. Opera-type rear quarter window glass is measured on the outside glass surface and perpendicular to the limiting outside moldings or weather-strips. Includes all windows except the windshield and back light.
S3	Backlight Areas	The clear glass area measured on the outside surface of the glass to the edge of the limiting outside molding, weather-strip, sheet metal and/or paint line (DLO), taken perpendicular to the surface of the glass around the periphery of the opening.
S4	Total Areas	Total of all areas (S1 + S2 + S3)

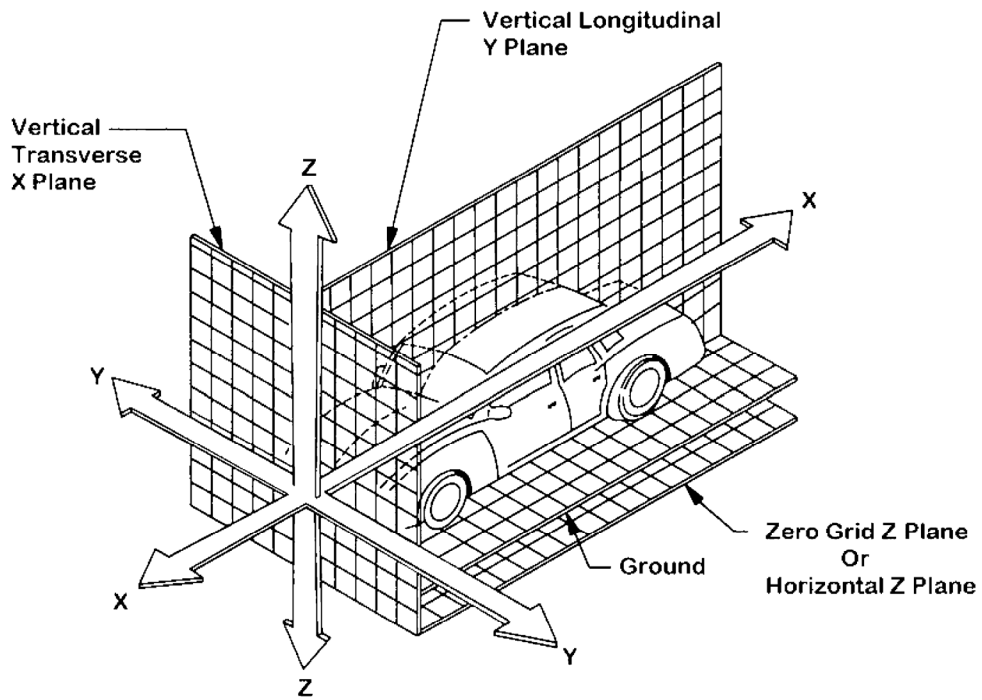


FIGURE 1—THREE DIMENSIONAL REFERENCE SYSTEM

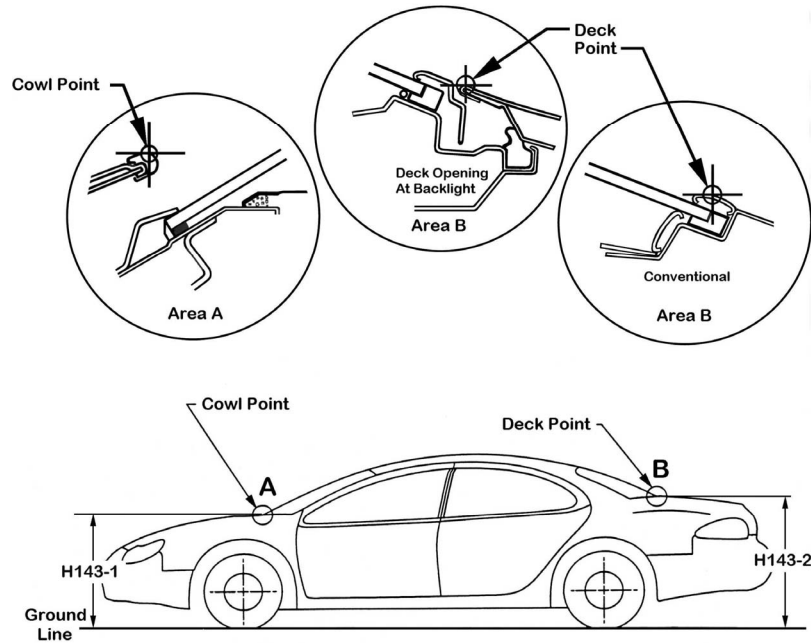


FIGURE 2—COWL AND DECK POINTS

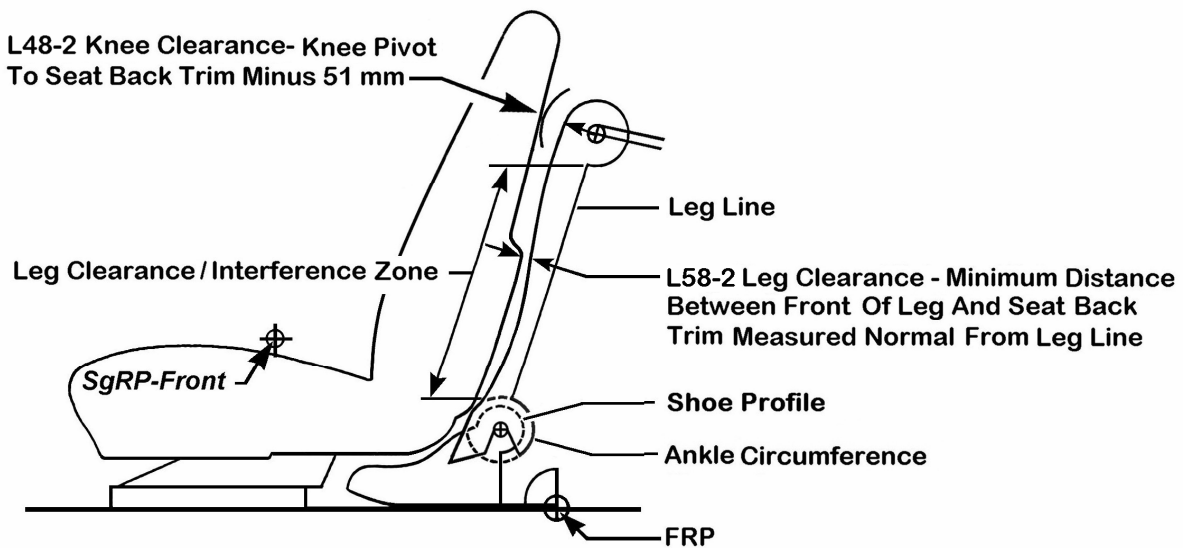


FIGURE 3A—KNEE AND LEG CLEARANCES

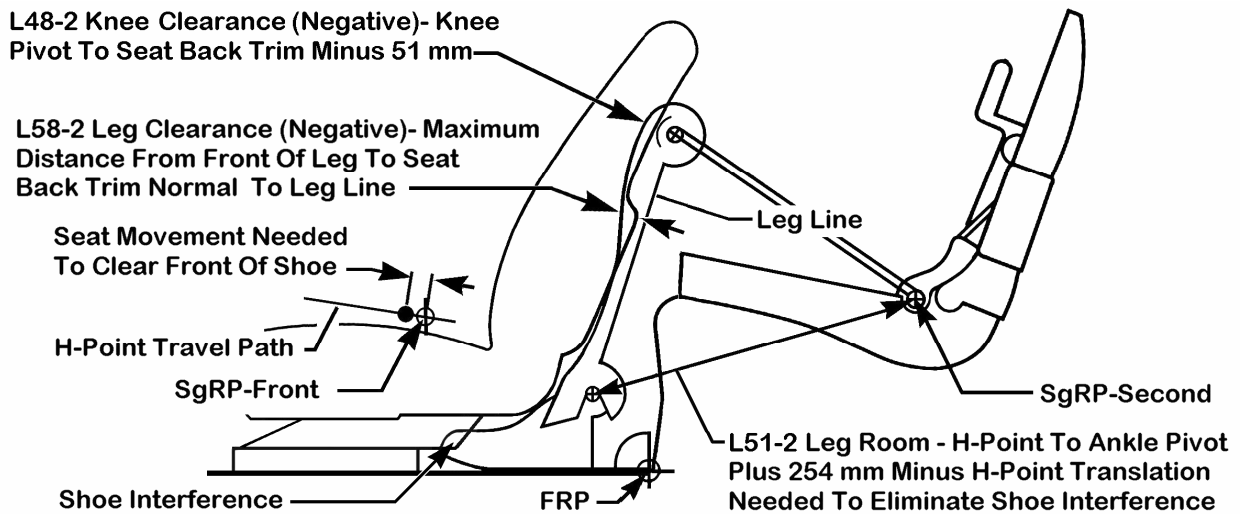


FIGURE 3B—SHOE, KNEE, AND LEG INTERFERENCES

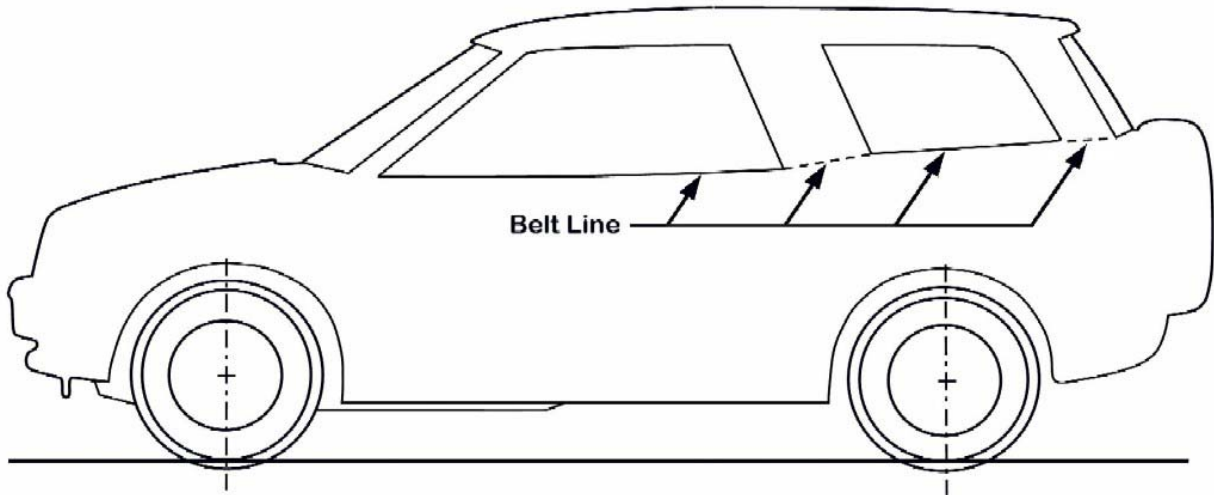


FIGURE 4—BELT LINE

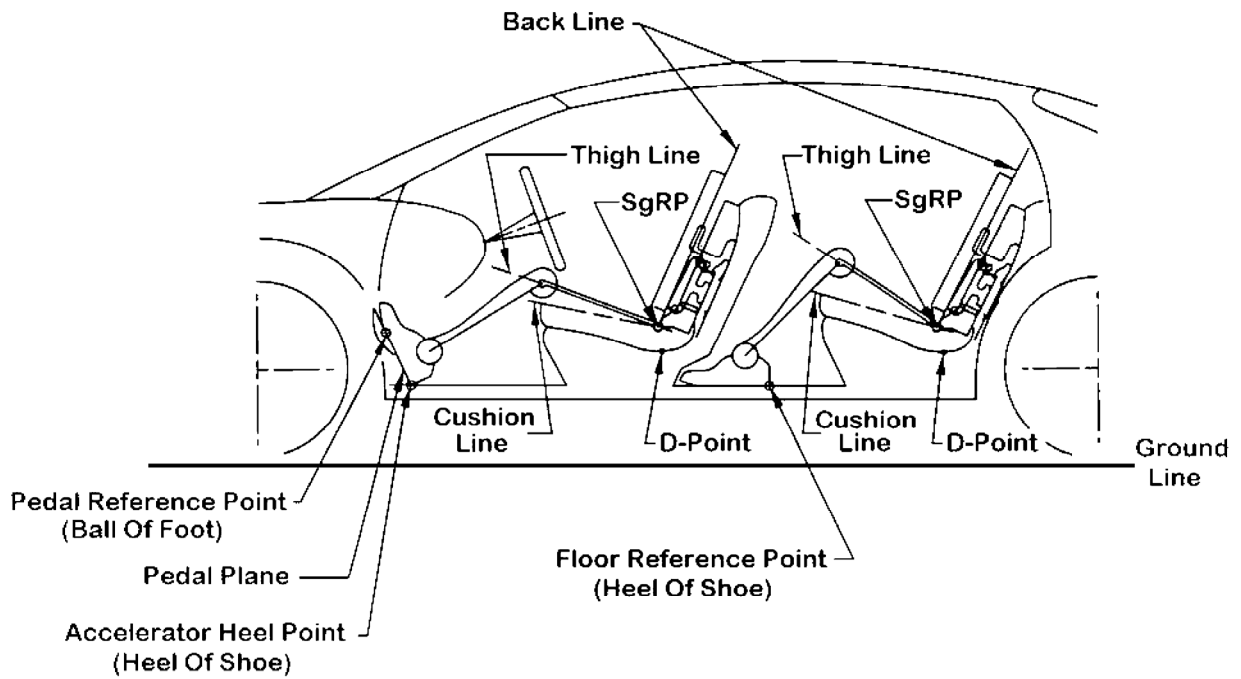


FIGURE 5—H-POINT DEVICE AND REFERENCE POINTS

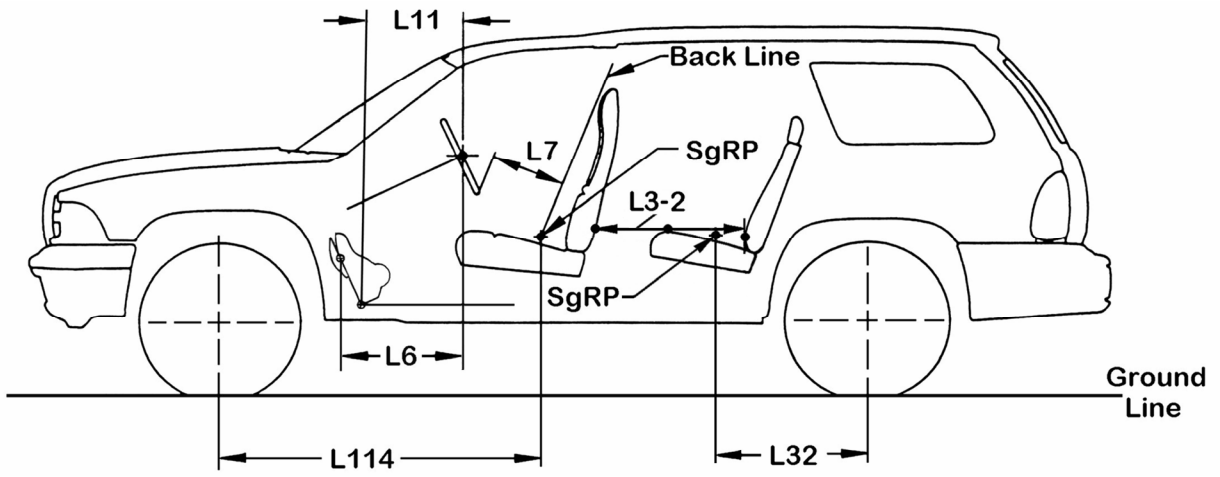


FIGURE 6A—SIDE VIEW

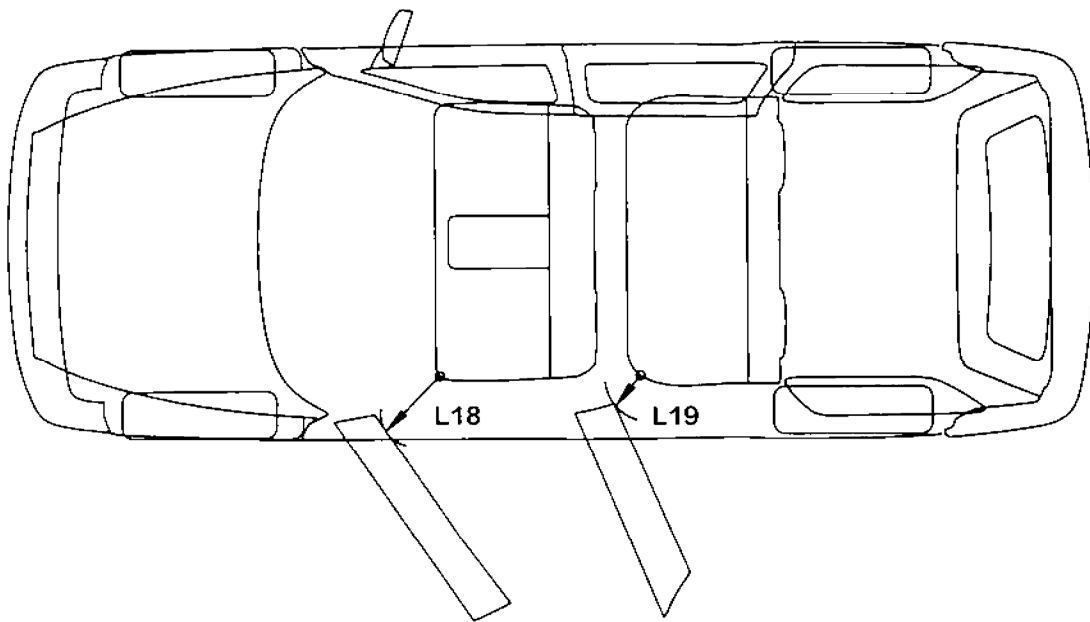


FIGURE 6B—PLAN VIEW

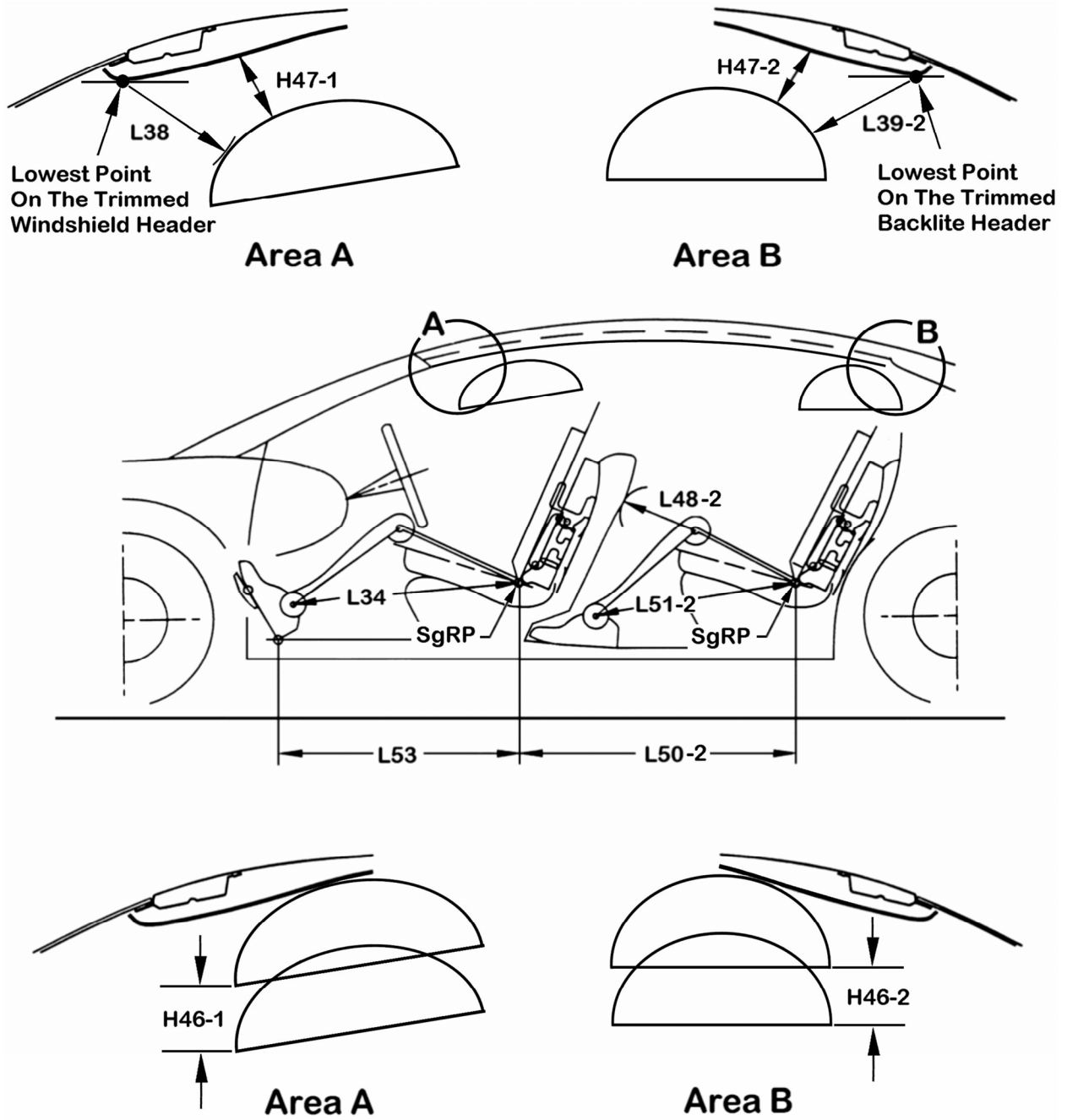


FIGURE 7—SIDE VIEW

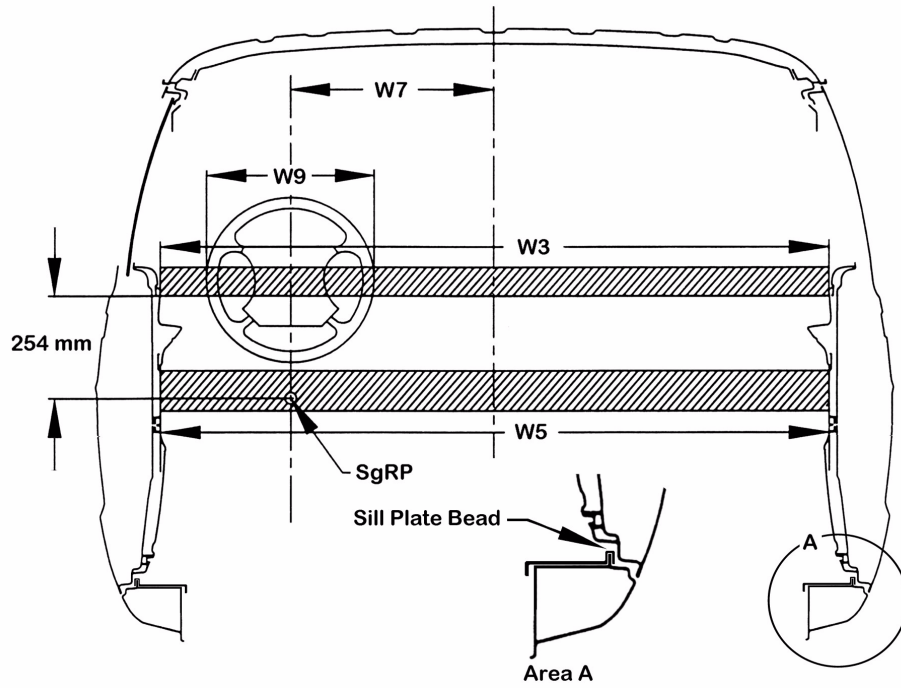


FIGURE 8A—REAR VIEW

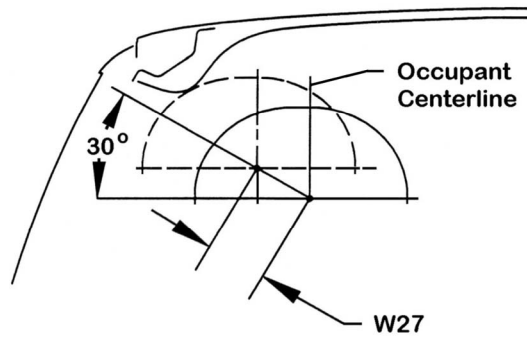


FIGURE 8B—REAR VIEW HEAD CLEARANCE

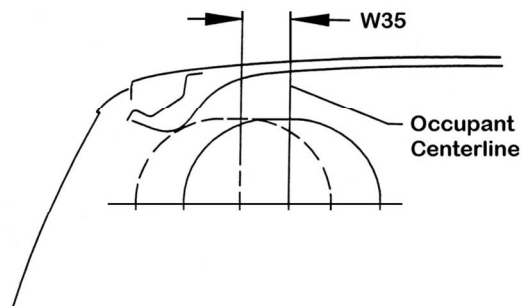


FIGURE 8C—REAR VIEW HEAD CLEARANCE LATERAL

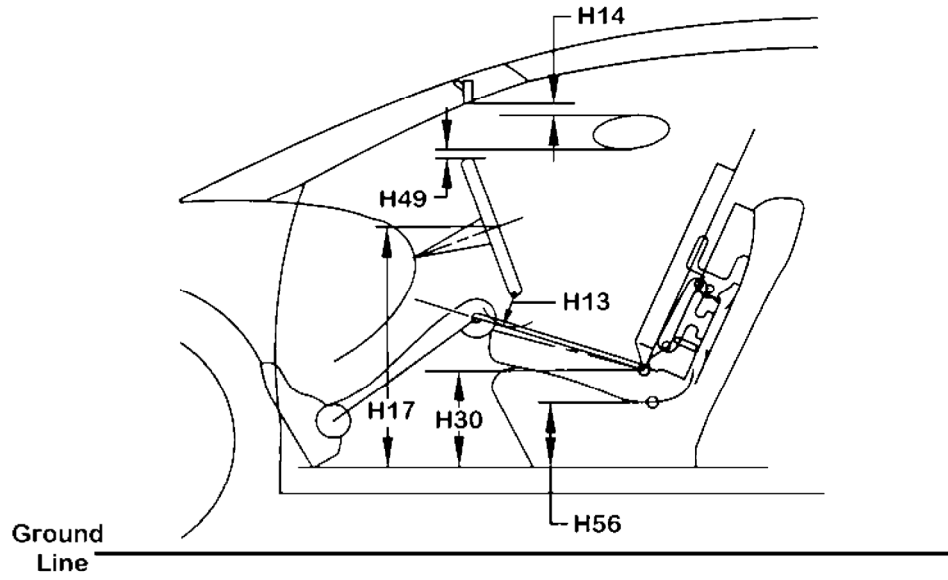


FIGURE 9A—SIDE VIEW

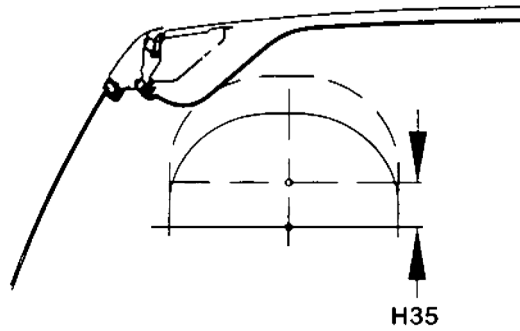


FIGURE 9B—REAR VIEW HEAD CLEARANCE VERTICAL

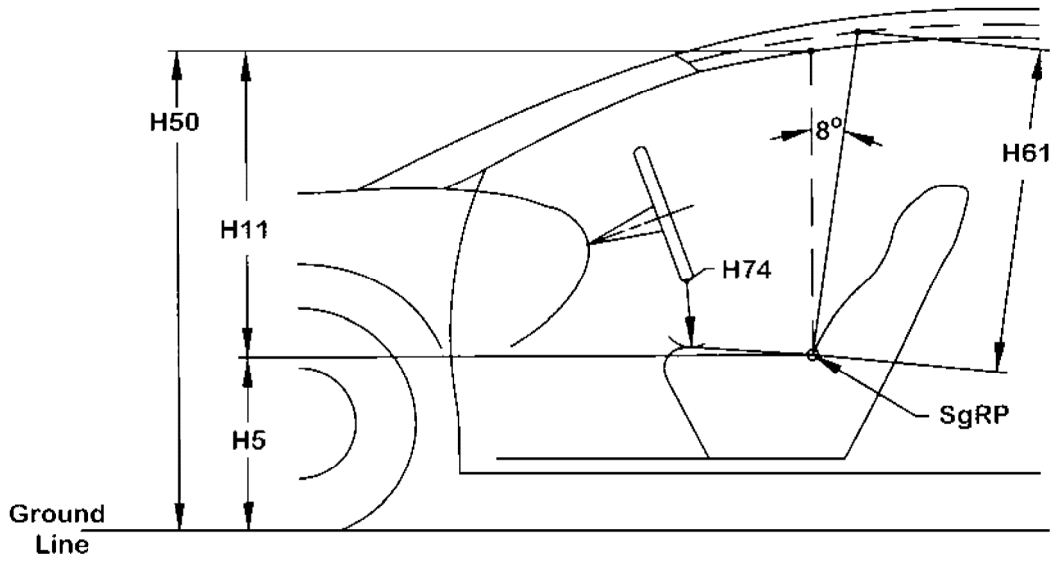


FIGURE 10—SIDE VIEW

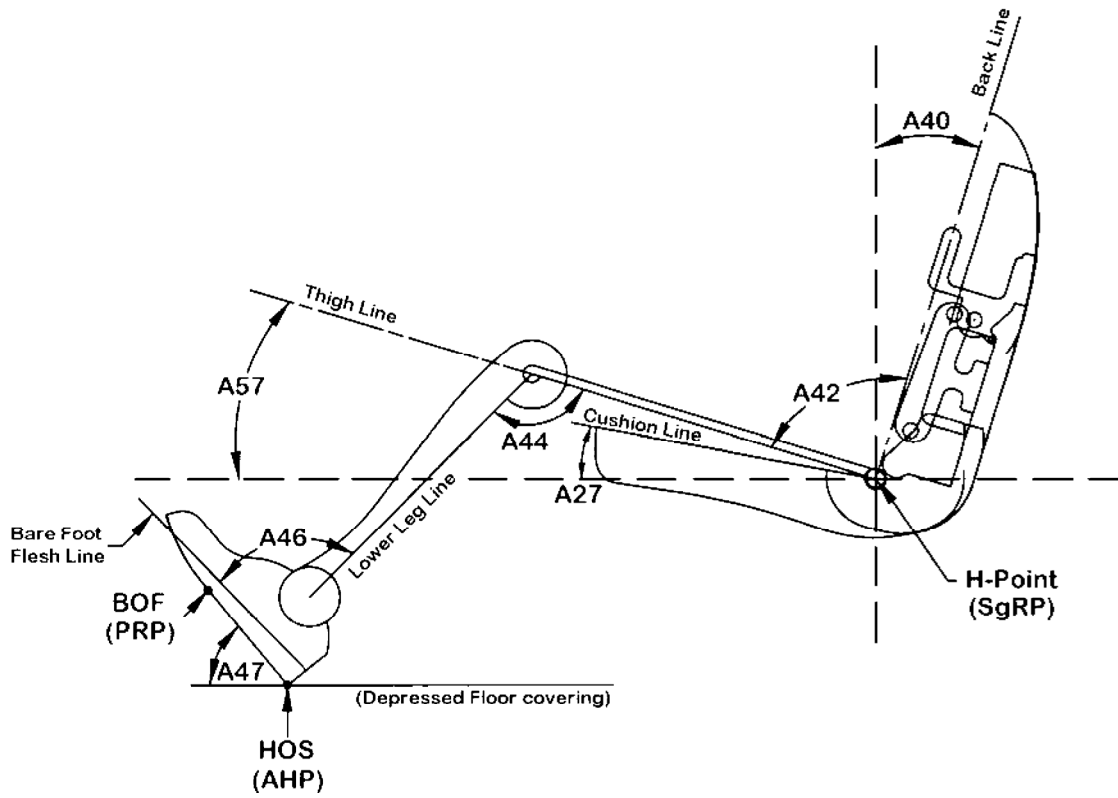


FIGURE 11—SIDE VIEW

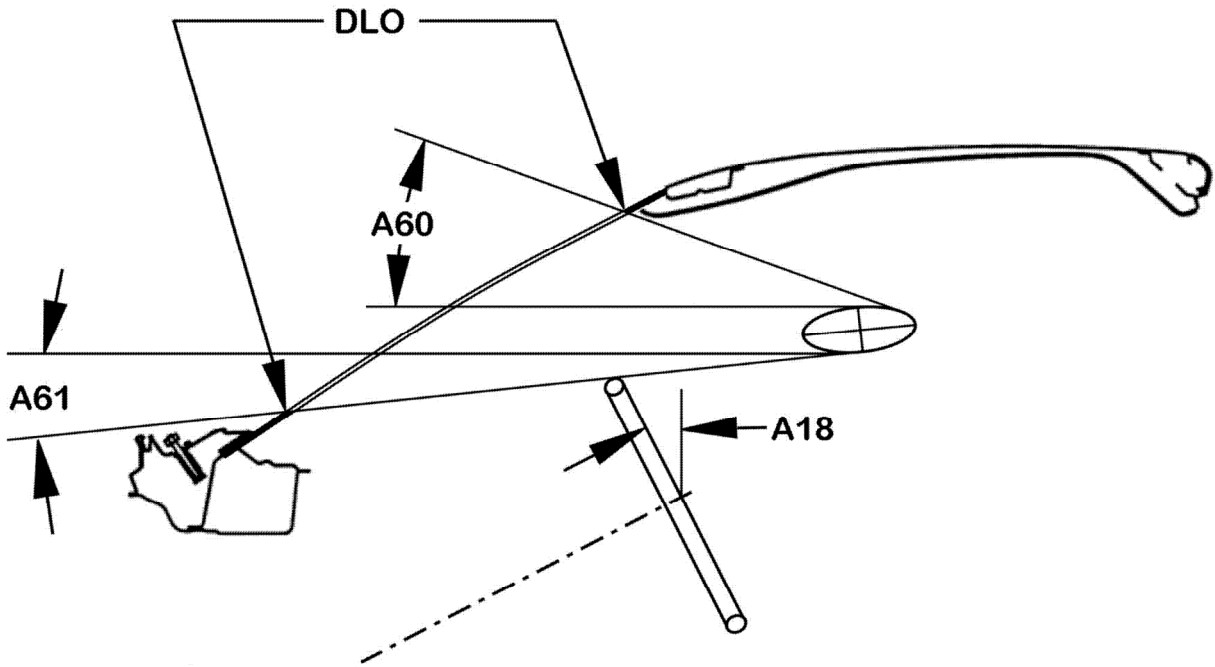


FIGURE 12—STEERING WHEEL AND EYELLIPSE

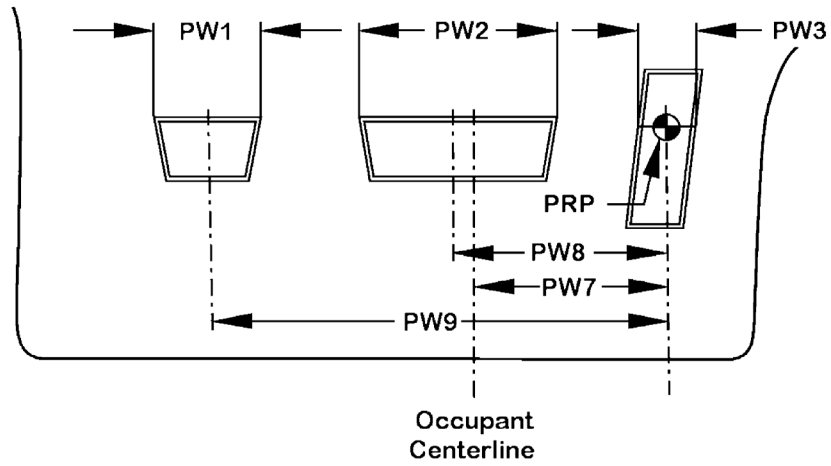


FIGURE 13A—REAR VIEW OF PEDALS

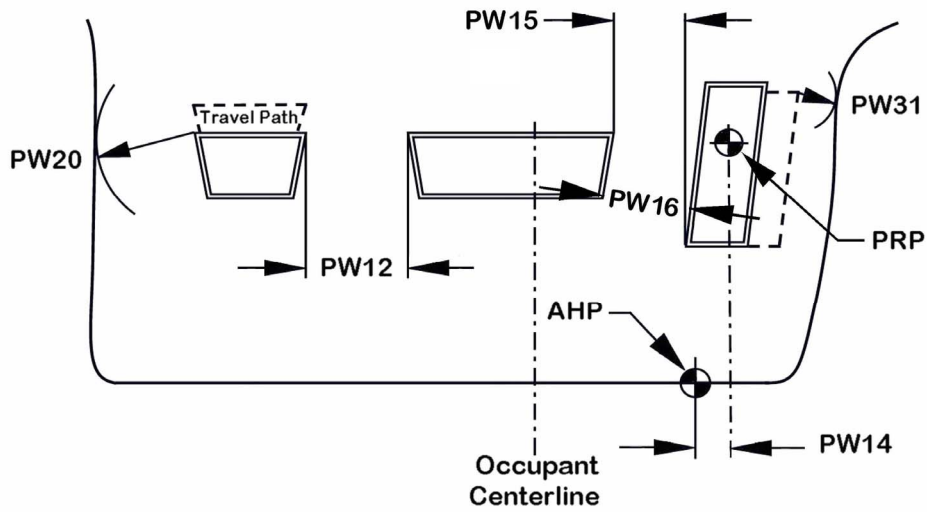


FIGURE 13B—REAR VIEW OF PEDALS

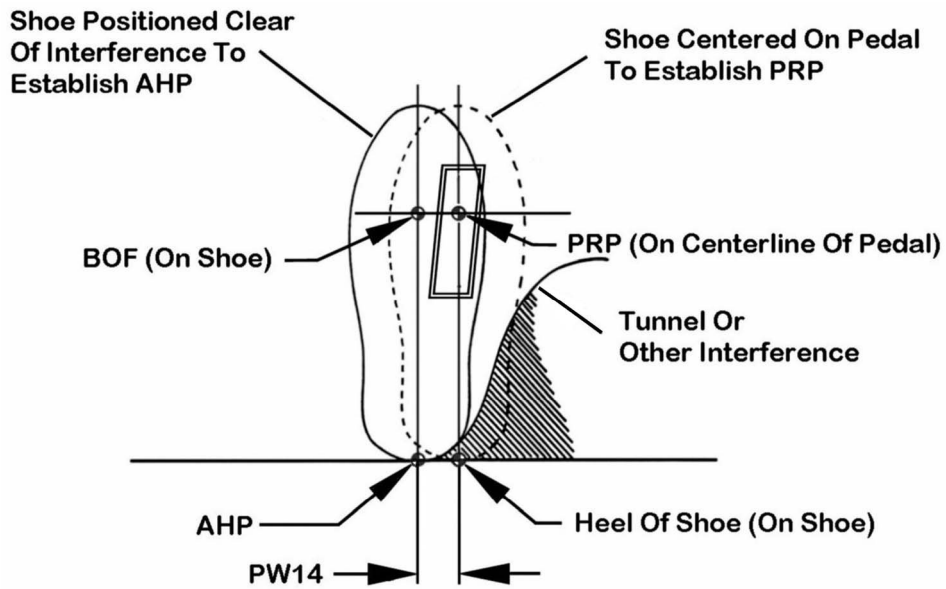


FIGURE 13C—AHP TO PRP LATERAL OFFSET

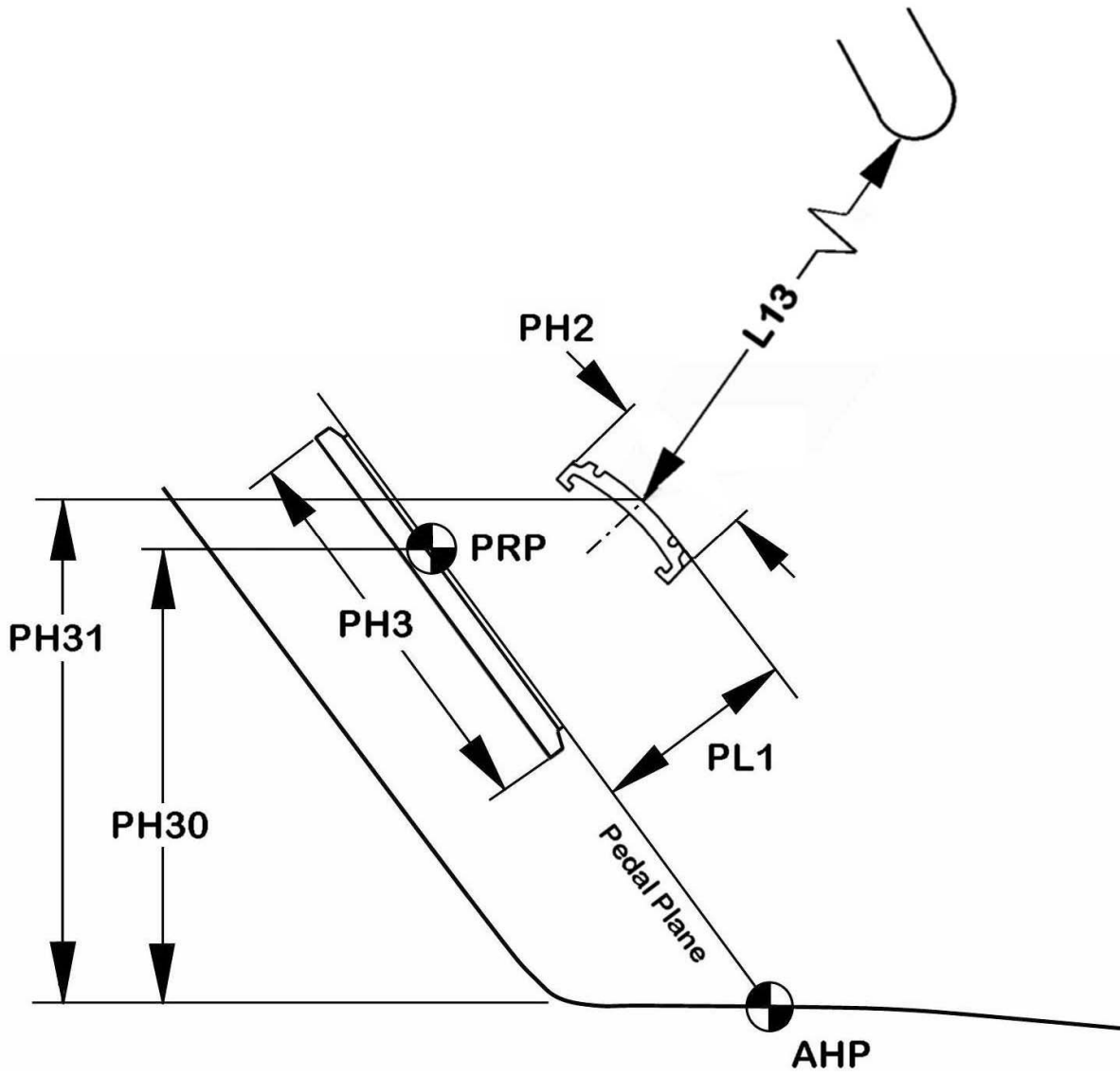


FIGURE 14—SIDE VIEW OF PEDALS

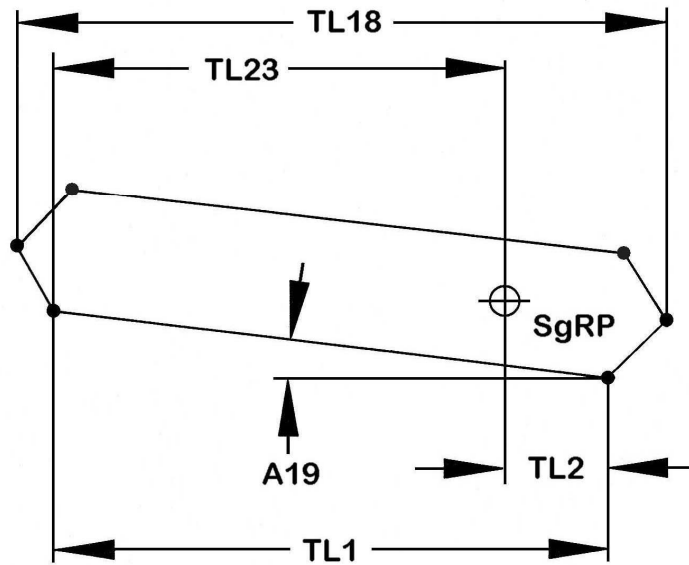


FIGURE 15A—SIDE VIEW OF H-POINT TRAVEL PATH, 4-WAY AND 6-WAY SEAT

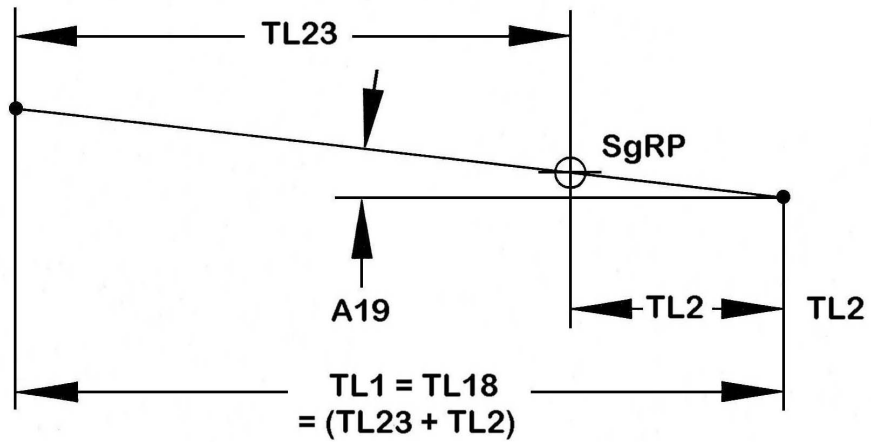


FIGURE 15B—SIDE VIEW OF H-POINT TRAVEL PATH, 2-WAY SEAT

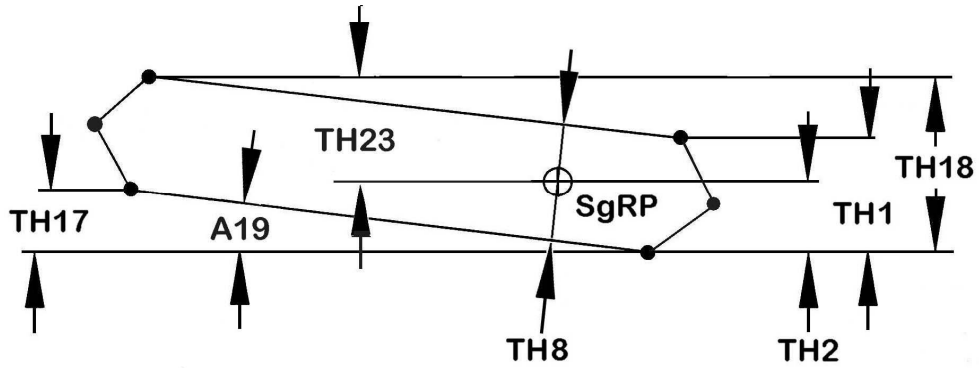


FIGURE 16A—SIDE VIEW OF H-POINT TRAVEL PATH, 4-WAY AND 6-WAY SEAT

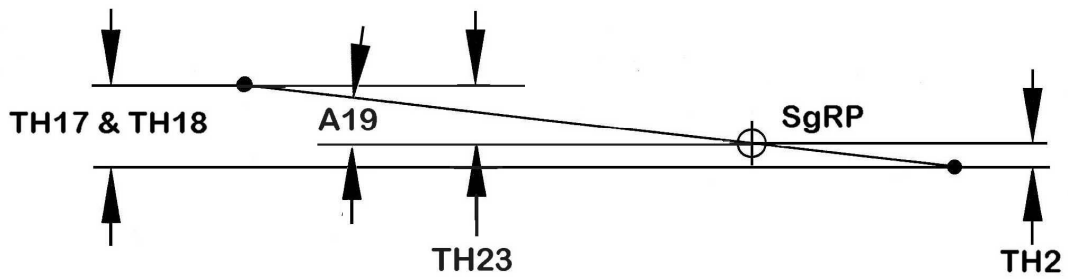


FIGURE 16B—SIDE VIEW OF H-POINT TRAVEL PATH, 2-WAY SEAT

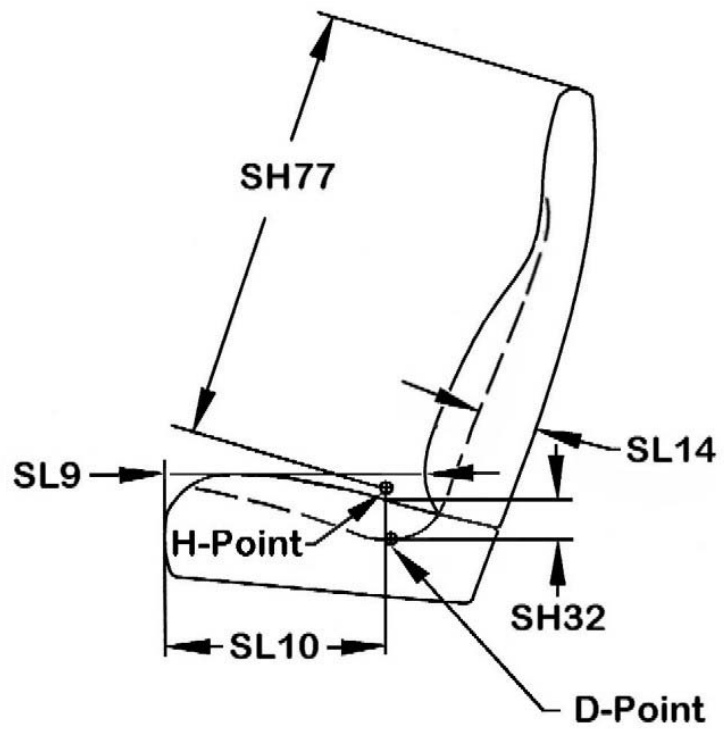


FIGURE 17—SIDE VIEW OF SEAT

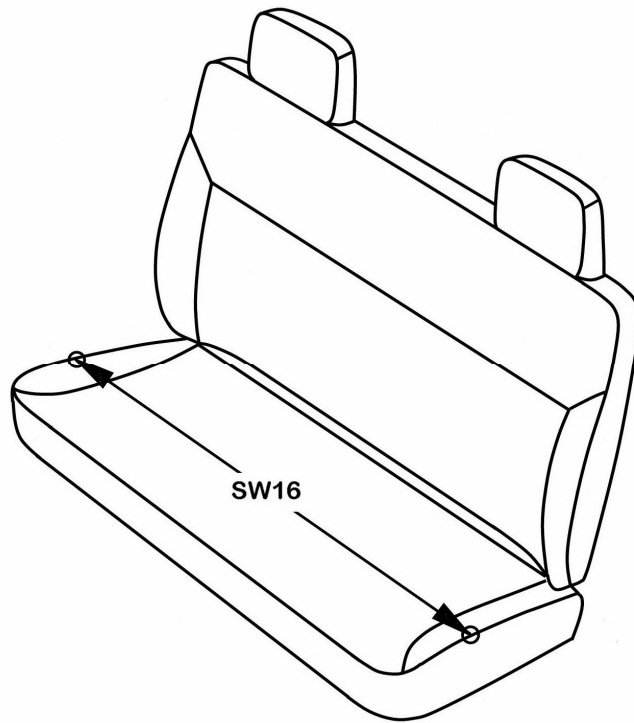


FIGURE 18A—BENCH SEAT WIDTH DIMENSION

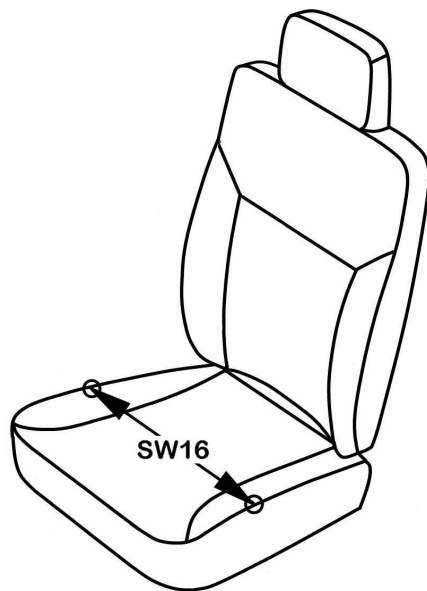


FIGURE 18B—BUCKET SEAT WIDTH DIMENSION

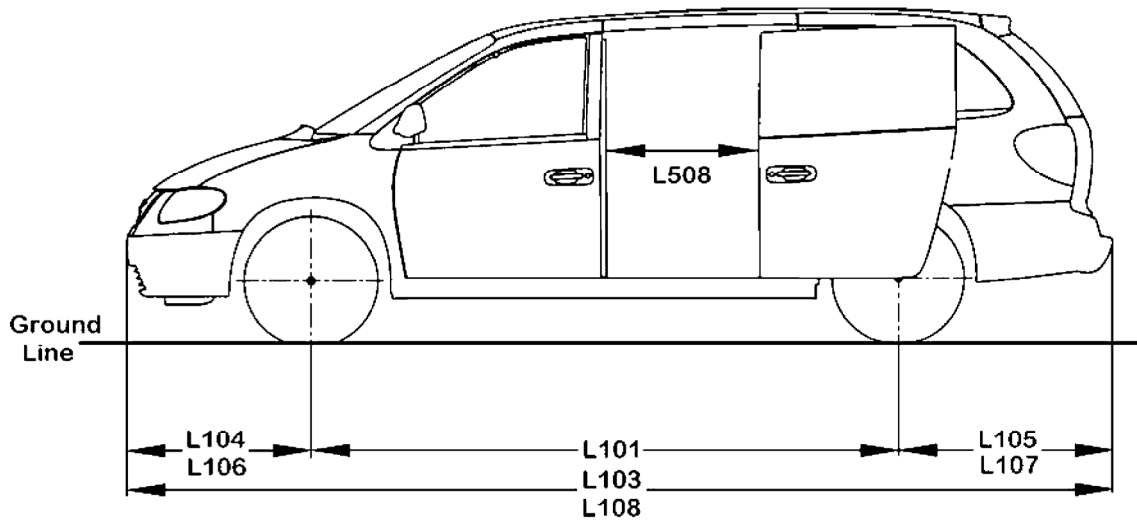


FIGURE 19—SIDE VIEW

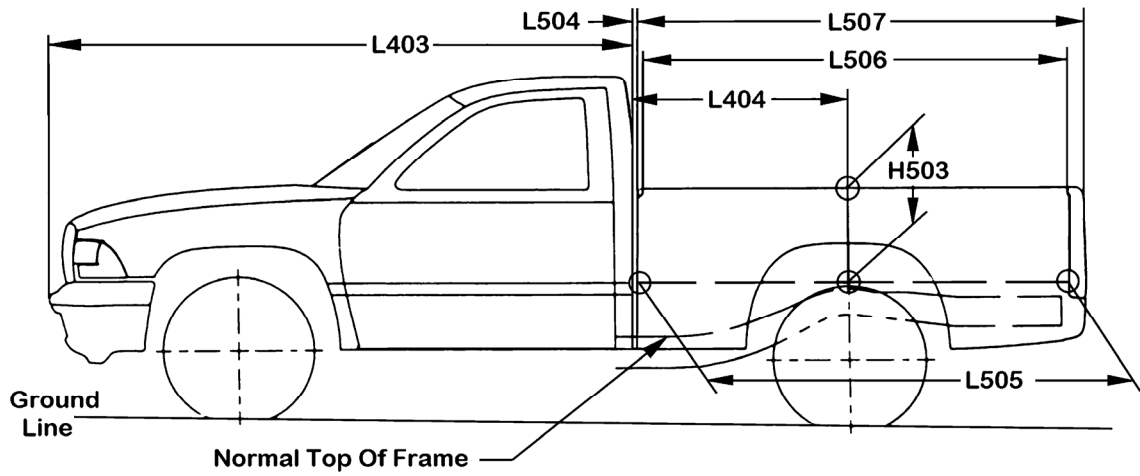


FIGURE 20—SIDE VIEW

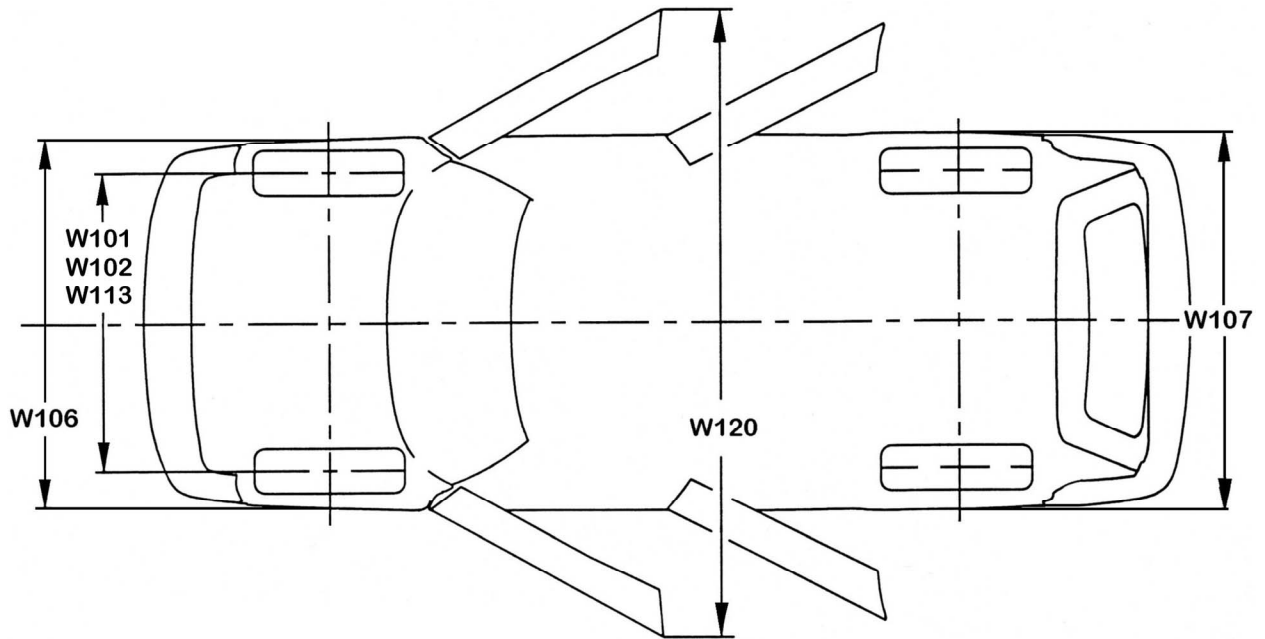


FIGURE 21A—PLAN VIEW OF VEHICLE. SEE FIGURE 21B FOR DETAILS OF W101, W102, AND W113 DIMENSIONS

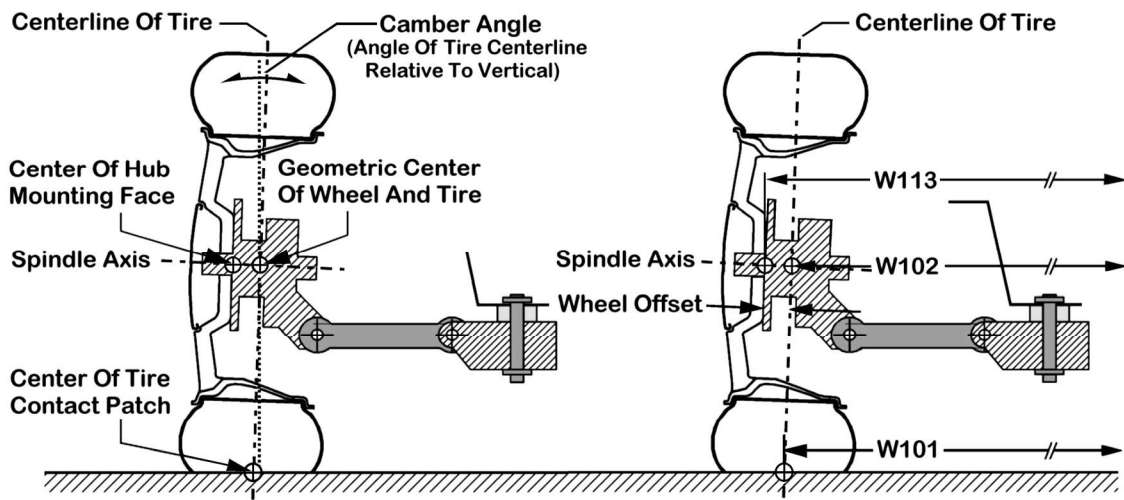


FIGURE 21B—REAR VIEW OF TIRE, WHEEL, AND SUSPENSION SHOWING TREAD WIDTH (W101), TRACK WIDTH (W102), AND AXLE WIDTH AT WHEEL (W113)

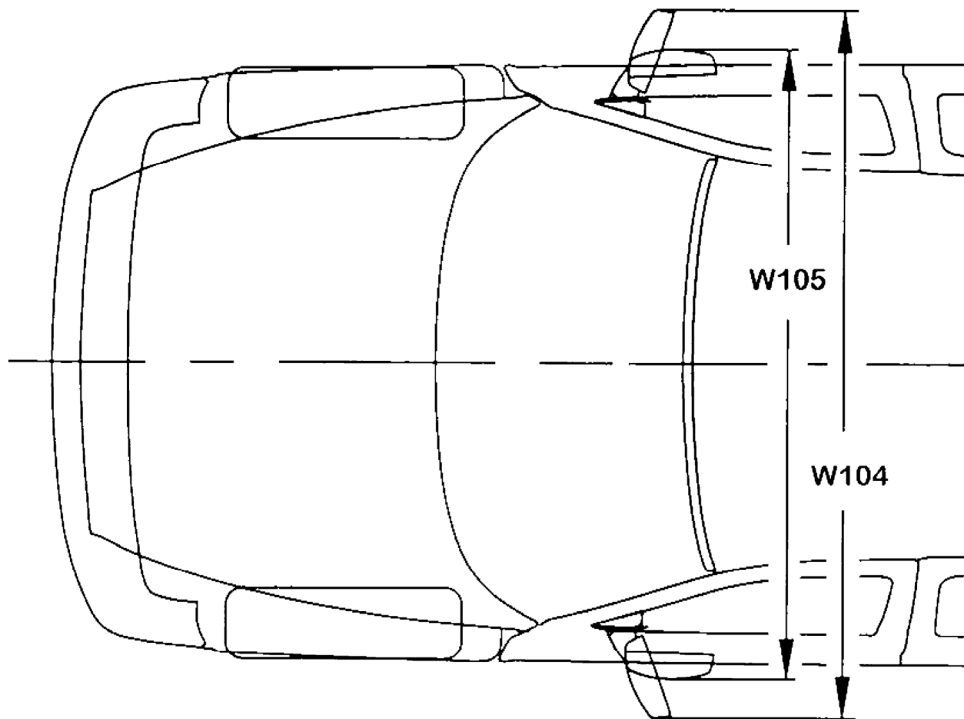


FIGURE 22—PLAN VIEW

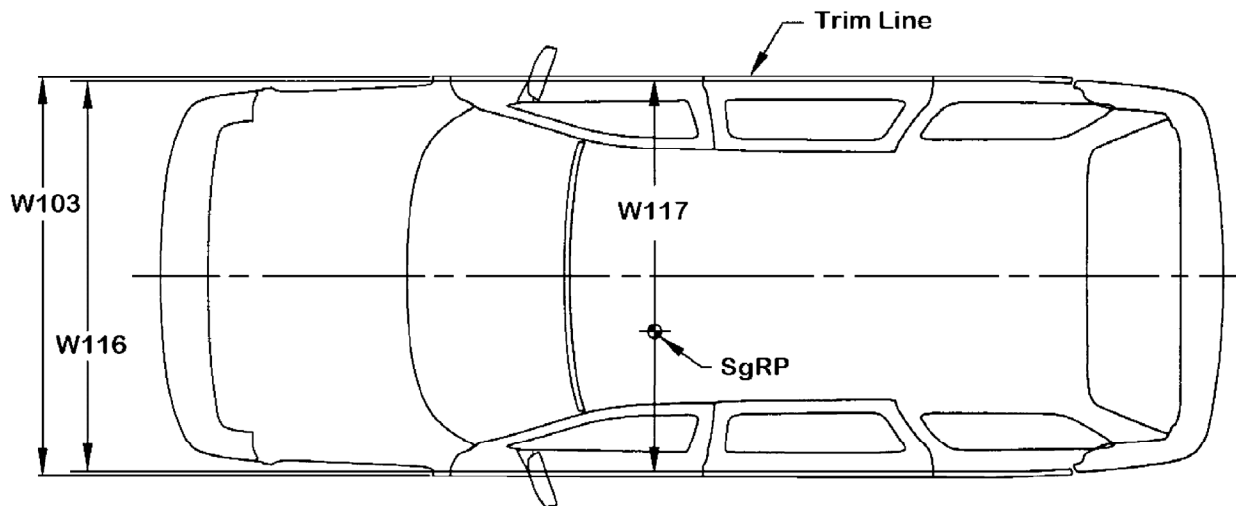


FIGURE 23—PLAN VIEW

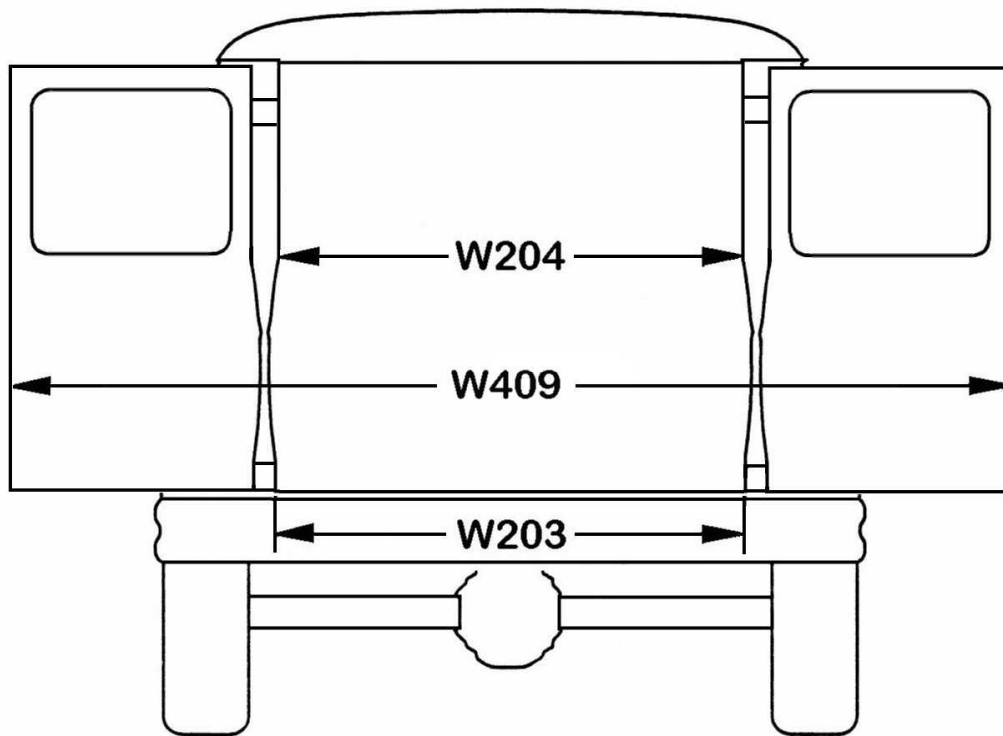


FIGURE 24—REAR VIEW

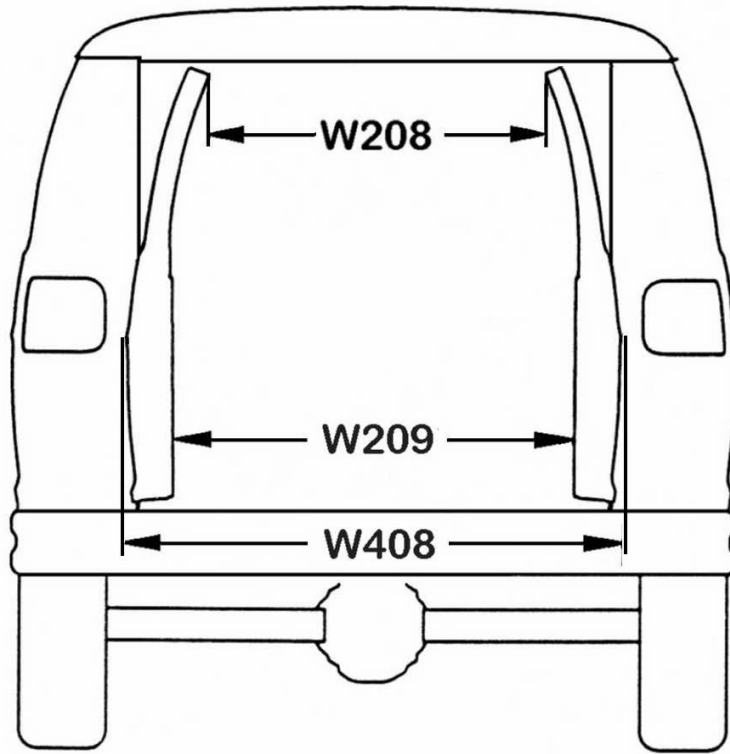


FIGURE 25—REAR VIEW

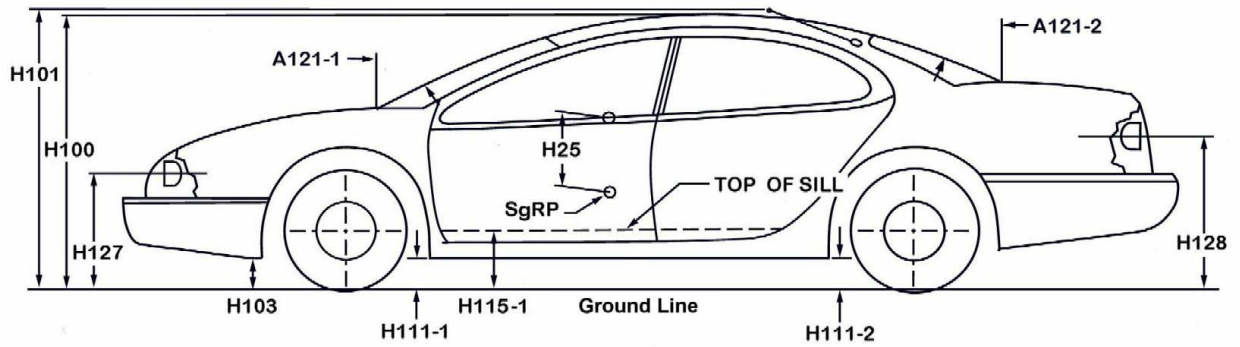


FIGURE 26—SIDE VIEW

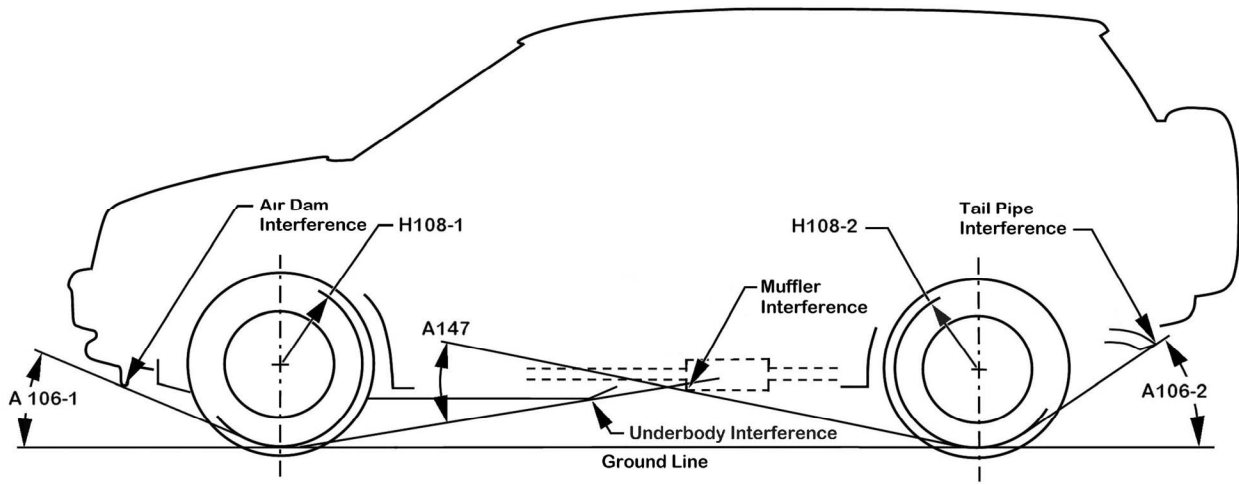


FIGURE 27—SIDE VIEW OF CHASSIS

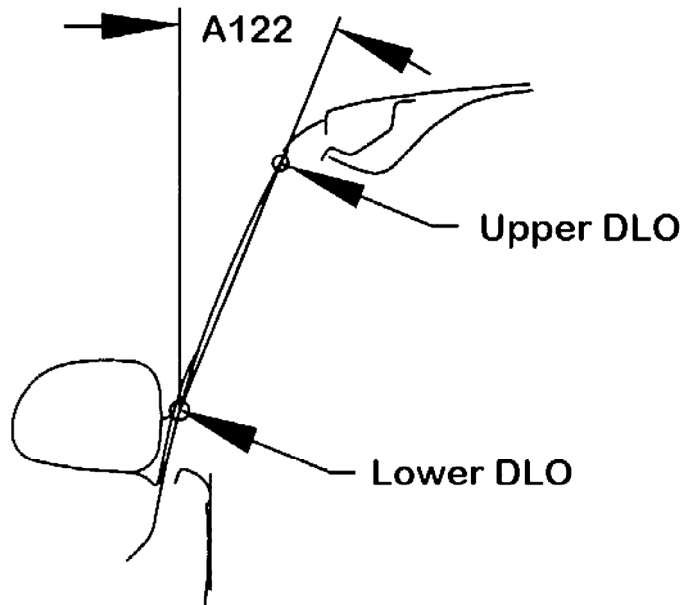


FIGURE 28—REAR VIEW OF SIDE WINDOW SHOWING TUMBLEHOME

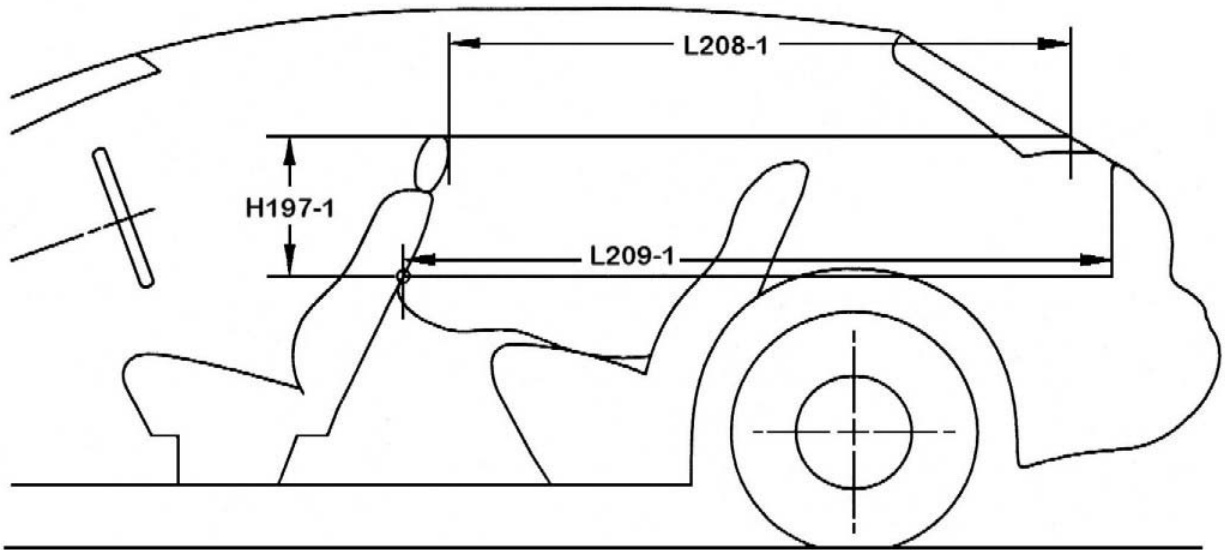


FIGURE 29—SIDE VIEW

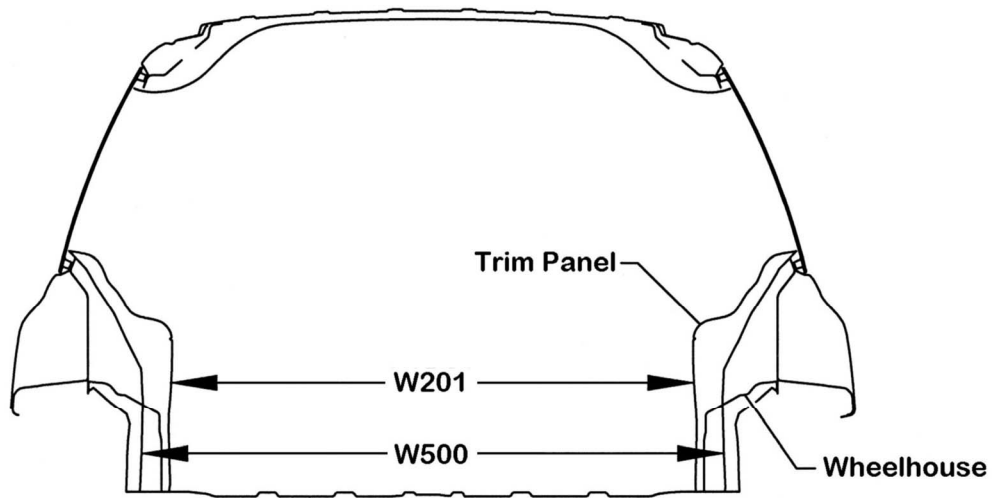


FIGURE 30—REAR VIEW

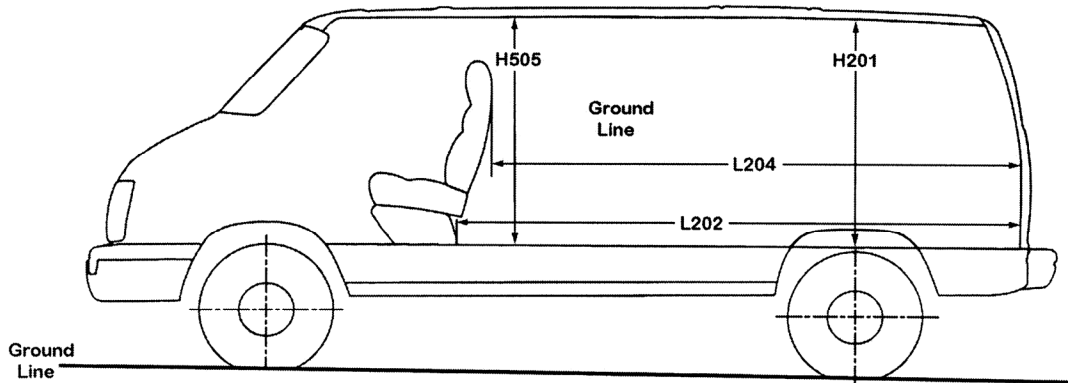


FIGURE 31—SIDE VIEW

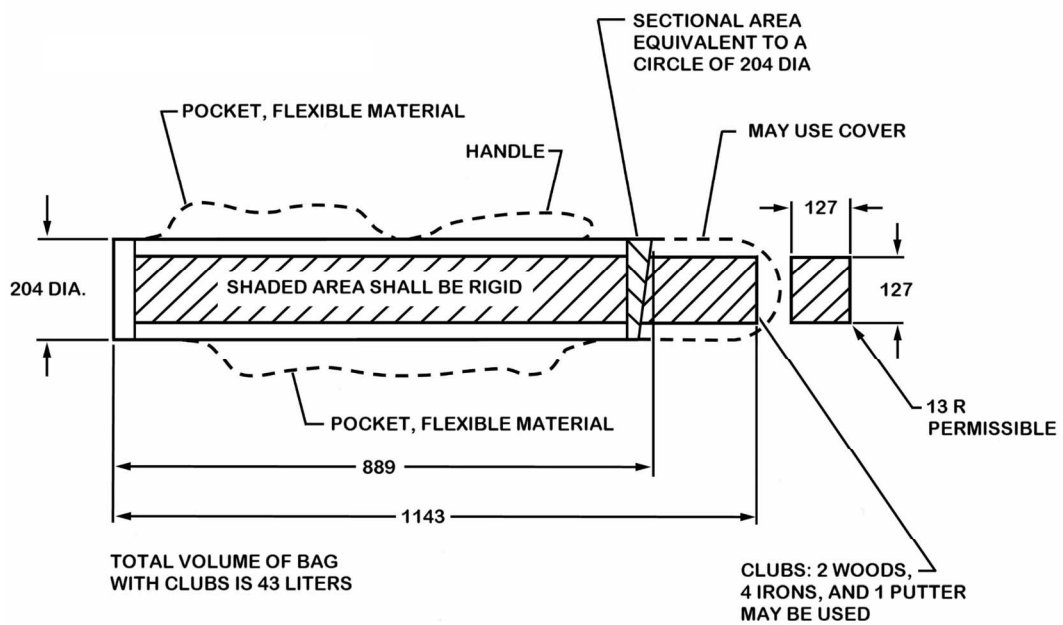


FIGURE 32—GOLF BAG

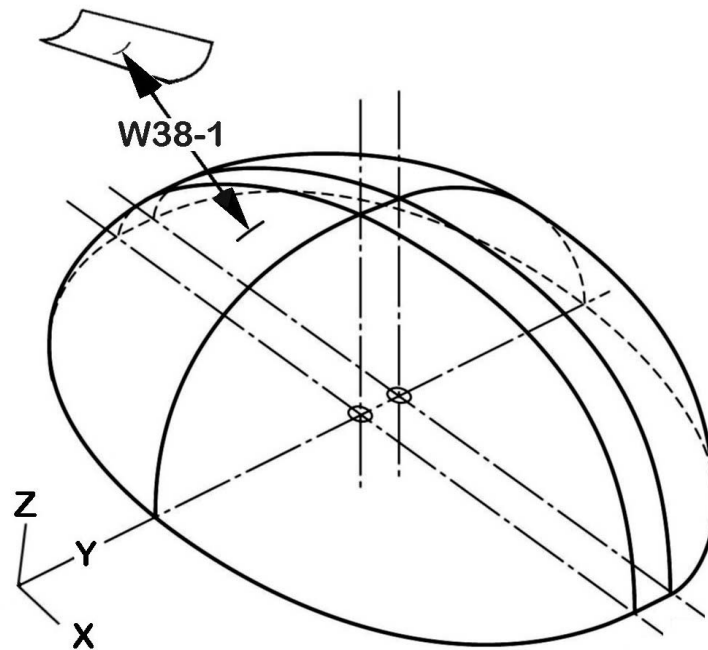


FIGURE 33—MINIMUM HEAD CLEARANCE

13. Notes

13.1 Marginal Indicia

The change bar (I) located in the left margin is for the convenience of the user in locating areas where technical revisions have been made to the previous issue of the report. An (R) symbol to the left of the document title indicates a complete revision of the report.

PREPARED BY THE SAE HUMAN ACCOMMODATIONS AND
DESIGN DEVICES STANDARDS COMMITTEE

SAE J1100 Revised SEP2005

APPENDIX A

TABLE A1—DIMENSION INDEX BY 2005 CODE — LENGTH (L)

2005 Code	Name	2002 Code	1998 Code	Figure	Table
L1	PRP X Coordinate (PRPx)	L1	<i>New</i>	—	10
L3 -2	Minimum Compartment Room - Second	L3 -2	<i>L3</i>	6A	14
L3 -3	Minimum Compartment Room - Third	L3 -3	<i>L92</i>	—	14
L6	Pedal Reference Point to Steering Wheel Center	L6	<i>L6</i>	—	14
L7	Steering Wheel Torso Clearance	L7	<i>L7</i>	6A	14
L8	AHP X Coordinate (AHPx)	L8	<i>New</i>	—	9
L11	Accelerator Heel Point to Steering Wheel Center	L11	<i>L11</i>	6A	14
L13	Brake Pedal Knee Clearance	New	<i>L13</i>	14	14
L18	Entrance Foot Clearance - Front	L18	<i>L18</i>	6B, 8A	14
L19	Entrance Foot Clearance - Second	L19	<i>L19</i>	6B, 8A	14
L22	Steering Wheel to Seat Back	L22	<i>L22</i>	—	14
L30	Front of Dash - X Coordinate	L30	<i>L30</i>	—	12
L31 -1	SgRP X Coordinate - Front	L31 -1	<i>L31</i>	—	8
L31 -2	SgRP X Coordinate - Second	L31 -2	<i>L35</i>	—	8
L31 -3	SgRP X Coordinate - Third	L31 -3	<i>L36</i>	—	8
L32	SgRP - Second to Rear Centerline	L32	<i>L32</i>	6A	14
L33	Maximum Leg Room - Accelerator	L33	<i>L33</i>	—	14
L34	Effective Leg Room - Accelerator	L34	<i>L34</i>	7	14
L38	Head Clearance to Windshield Garnish	L38	<i>L38</i>	7	14
L39 -1	Head Clearance to Backlight Garnish-Driver	New	<i>New</i>	7	14
L39 -2	Head Clearance to Backlight Garnish- Second	L39	<i>L39</i>	7	14
L39 -3	Head Clearance to Backlight Garnish-Third	New	<i>New</i>	7	14
L48 -2	Minimum Knee Clearance - Second	L48 -2	<i>L48</i>	3, 7	14
L48 -3	Minimum Knee Clearance - Third	L48 -3	<i>L87</i>	—	14
L50 -2	SgRP Couple Distance, Front to Second	L50 -1	<i>L50</i>	7	14
L50 -3	SgRP Couple Distance, Second to Third	L50 -2	<i>L85</i>	—	14
L51 -2	Effective Leg Room - Second	L51 -2	<i>L51</i>	3B, 7	14
L51 -3	Effective Leg Room - Third	L51 -3	<i>L86</i>	—	14
L53	SgRP to Heel - Front	L53	<i>L53</i>	7	14
L54	Fiducial Mark No. 1 - X Coordinate	L54	<i>L54</i>	—	7
L55	Fiducial Mark No. 2 - X Coordinate	L55	<i>L55</i>	—	7
L56	Fiducial Mark No. 3 - X Coordinate	L56	<i>L56</i>	—	7
L58 -2	Leg Clearance – Second	New	<i>New</i>	3	14
L58 -3	Leg Clearance – Third	New	<i>New</i>	3	14
L62	Minimum Knee Clearance - Front	L62	<i>L62</i>	—	14
L81 -1	Lumbar Support Prominence - Front	L81 -1	<i>New</i>	—	14
L81 -2	Lumbar Support Prominence - Second	L81 -2	<i>New</i>	—	14
L81 -3	Lumbar Support Prominence - Third	L81 -3	<i>New</i>	—	14
L90	Engine Cover Length	L90	<i>L308</i>	—	14
L98 -2	FRP X Coordinate - Second	L98 -2	<i>New</i>	—	11
L98 -3	FRP X Coordinate - Third	L98 -3	<i>New</i>	—	11
L101	Wheelbase	L101	<i>L101</i>	19	21
L102 -1	Tire Size - Front	L102 -1	<i>New</i>	—	21
L102 -2	Tire Size - Rear	L102 -2	<i>L4</i>	—	21

SAE J1100 Revised SEP2005

TABLE A1—DIMENSION INDEX BY 2005 CODE — LENGTH (L) (CONTINUED)

2005 Code	Name	2002 Code	1998 Code	Figure	Table
L103	Vehicle Length	L103	L103	19	21
L104	Overhang - Front	L104	L104	19	21
L105	Overhang - Rear	L105	L105	19	21
L106	Overhang - Front, RPO	L106	L106	19	21
L107	Overhang - Rear, RPO	L107	L107	19	21
L108	Vehicle Length, RPO	L108	L108	19	21
L114	Front Wheel Centerline to SgRP -Front	L114	L114	6A	21
L125 -1	Cowl Point X Coordinate	L125	L125	—	12
L125 -2	Deck Point X Coordinate	New	New	—	12
L128 -1	Wheel Centerline X Coordinate - Front	L128	L128	—	12
L128 -2	Wheel Centerline X Coordinate - Rear	L127	L127	—	12
L202 -1	Cargo Length at Floor - Behind Front Row	L202 -1	L202	31	25
L202 -2	Cargo Length at Floor - Behind Second Row	L202 -2	L203	—	25
L202 -3	Cargo Length at Floor - Behind Third Row	L202 -3	L509	—	25
L204 -1	Cargo Length at Beltline - Behind Front Row	L204 -1	L204	31	25
L204 -2	Cargo Length at Beltline - Behind Second Row	L204 -2	L205	—	25
L204 -3	Cargo Length at Beltline - Behind Third Row	L204 -3	L510	—	25
L208 -1	Hatchback Cargo Length at Seatback Height – Behind Front Row	L208 -1	L208	29	25
L208 -2	Hatchback Cargo Length at Seatback Height – Behind Second Row	L208 -2	L210	—	25
L209 -1	Hatchback Cargo Length at Floor – Behind Front Row	L209 -1	L209	29	25
L209 -2	Hatchback Cargo Length at Floor – Behind Second Row	L209 -2	L211	—	25
L403	Front Bumper to Back of Cab (BBC)	L403	L403	20	21
L404	Cab to Rear Axle (CA)	L404	L404	20	21
L504	Cab to Pickup Body	L504	L504	20	21
L505	Pickup Body Length at Floor	L505	L505	20	21
L506	Pickup Body Length at Top of Body	L506	L506	20	25
L507	Cargo Body Overall Length	L507	L507	20	21
L508	Minimum Loading Length (Width) of Side Cargo Door	L508	L508	19	21
L512	Cargo Length to Engine Cover	L512	L512	—	21

TABLE A2—DIMENSION INDEX BY 2005 CODE — WIDTH (W)

2005 Code	Name	2002 Code	1998 Code	Figure	Table
W1	PRP Y Coordinate (PRPy)	W1	New	—	10
W3 -1	Shoulder Room (Min. Cross Car Width at Beltline) - Front	W3 -1	W3	8A	15
W3 -2	Shoulder Room (Min. Cross Car Width at Beltline) - Second	W3 -1	W4	—	15
W3 -3	Shoulder Room (Min. Cross Car Width at Beltline) - Third	W3 -3	W85	—	15
W5 -1	Hip Room (Min. Cross Car Width at SgRP Zone) - Front	W5 -1	W5	8A	15
W5 -2	Hip Room (Min. Cross Car Width at SgRP Zone) - Second	W5 -2	W6	—	15
W5 -3	Hip Room (Min. Cross Car Width at SgRP Zone) - Third	W5 -3	W86	—	15
W7	Steering Wheel Center - Y Coordinate	W7	W7	8A	12
W8	AHP Y Coordinate (AHPy)	W8	New	—	9
W9	Steering Wheel Maximum Outside Diameter	W9	W9	8A	15

SAE J1100 Revised SEP2005

TABLE A2—DIMENSION INDEX BY 2005 CODE — WIDTH (W) (CONTINUED)

2005 Code	Name	2002 Code	1998 Code	Figure	Table
W20 -1	SgRP Y Coordinate - Front	W20 -1	W20	—	8
W20 -2	SgRP Y Coordinate - Second	W20 -2	W25	—	8
W20 -3	SgRP Y Coordinate - Third	W20 -3	W26	—	8
W21	Fiducial Mark Number 1 - Y Coordinate	W21	W21	—	7
W22	Fiducial Mark Number 2 - Y Coordinate	W22	W22	—	7
W23	Fiducial Mark Number 3 - Y Coordinate	W23	W23	—	7
W27 -1	Head Clearance Diagonal - Front	W27 -1	W27	8B	15
W27 -2	Head Clearance Diagonal - Second	W27 -2	W33	—	15
W27 -3	Head Clearance Diagonal - Third	W27 -3	W34	—	15
W31 -1	Elbow Room (Cross Car Width at Armrest) - Front	W31 -1	W31	—	15
W31 -2	Elbow Room (Cross Car Width at Armrest) - Second	W31 -2	W32	—	15
W31 -3	Elbow Room (Cross Car Width at Armrest) - Third	W31 -3	W43	—	15
W35 -1	Head Clearance Lateral - Front	W35 -1	W35	8C	15
W35 -2	Head Clearance Lateral - Second	W35 -2	W36	—	15
W35 -3	Head Clearance Lateral - Third	W35 -3	W37	—	15
W38 -1	Head Clearance Minimum - Driver	New	W38	33	15
W38 -2	Head Clearance Minimum - Second	New	W39		
W38 -3	Head Clearance Minimum - Third	New	W40		
W90	Engine Cover Width - Left	W90	W300	—	15
W91	Engine Cover Width - Right	W91	W301	—	15
W98 -2	FRP Y Coordinate - Second	New	New	—	11
W98 -3	FRP Y Coordinate - Third	New	New	—	11
W101 -1	Tread Width - Front Tires	W101 -1	W101	21A, 21B	22
W101 -2	Tread Width - Rear Tires	W101 -2	W102	—	22
W102 -1	Track Width - Front Tires	New	New	21A, 21B	22
W102 -2	Track Width - Rear Tires	New	New	—	22
W103	Vehicle Width, Maximum	W103	W103	23	22
W104	Vehicle Width, Including Mirrors	W104	W410	22	22
W105	Vehicle Width, Mirrors Folded	W105	New	22	22
W106	Fender Width - Front	W106	W106	21A	22
W107	Fender Width - Rear	W107	W107	21A	22
W113 -1	Axle Width at Wheel - Front	New	New	21A, 21B	22
W113 -2	Axle Width at Wheel - Rear	New	New	—	22
W116	Body Width	W116	W116	23	22
W117	Body Width at SgRP - Front	W117	W117	23	22
W120 -1	Vehicle Width, Doors Open - Front	W120 -1	W120	21A	22
W120 -2	Vehicle Width, Doors Open - Second Row	W120 -2	W121	—	22
W201	Cargo Width - Wheelhouse	W201	W201	30	26
W203	Rear Body Opening at Floor	W203	W203	24	22
W204	Rear Body Opening at Belt Line	W204	W204	24	22
W208	Minimum Loading Width of Rear Opening	W208	New	25	22
W209	Maximum Loading Width of Rear Opening	New	New	—	25
W408	Tail Door Width-Hold Open	New	New	—	25
W409	Maximum Width-Tail Doors Unrestrained	W123	W409	24	24
W500	Cargo Width at Floor	W500	W500	30	26

SAE J1100 Revised SEP2005

TABLE A3—DIMENSION INDEX BY 2005 CODE — HEIGHT (H)

2005 Code	Name	2002 Code	1998 Code	Figure	Table
H1	PRP Z Coordinate (PRPz)	H1	<i>New</i>	—	10
H5 -1	SgRP to Ground - Front	H5 -1	<i>H5</i>	10	16
H5 -2	SgRP to Ground - Second	H5 -2	<i>H10</i>	—	16
H5 -3	SgRP to Ground - Third	H5 -3	<i>H85</i>	—	16
H8	AHP Z Coordinate (AHPz)	H8	<i>New</i>	—	9
H11 -1	Entrance Height -Front	H11 -1	<i>H11</i>	10	16
H11 -2	Entrance Height - Second	H11 -2	<i>H12</i>	—	16
H13	Steering Wheel to Thigh Line	H13	<i>H13</i>	9A	16
H14	Eyellipse to Bottom of Inside Rearview Mirror	H14	<i>H14</i>	9A	16
H17	Accelerator Heel Point (AHP) to Steering Wheel Center	H17	<i>H17</i>	9A	16
H25 -1	Belt Height - Front	H25 -1	<i>H25</i>	26	16
H25 -2	Belt Height - Second	H25 -2	<i>New</i>	—	16
H25 -3	Belt Height - Third	H25 -3	<i>New</i>	—	16
H30 -1	Seat Height - Front	H30 -1	<i>H30</i>	9A	16
H30 -2	Seat Height - Second	H30 -2	<i>H31</i>	—	16
H30 -3	Seat Height - Third	H30 -3	<i>H87</i>	—	16
H35 -1	Head Clearance Vertical - Front	H35 -1	<i>H35</i>	9B	16
H35 -2	Head Clearance Vertical - Second	H35 -2	<i>H36</i>	—	16
H35 -3	Head Clearance Vertical - Third	H35 -3	<i>H39</i>	—	16
H46 -1	Head Clearance Vertical2 – Front	H41-1	<i>New</i>	7	16
H46 -2	Head Clearance Vertical2 – Second	H41-2	<i>New</i>	7	16
H46 -3	Head Clearance Vertical2 – Third	H41-3	<i>New</i>	—	16
H47 -1	Minimum SV Head Clearance – Front	<i>New</i>	<i>H41</i>	7	16
H47 -2	Minimum SV Head Clearance – Second	<i>New</i>	<i>H42</i>	7	16
H47 -3	Minimum SV Head Clearance – Third	<i>New</i>	—	—	16
H49	Eyellipse to Top of Steering Wheel	H49	<i>H49</i>	9A	16
H50 -1	Upper -Body Opening to Ground - Front	H50 -1	<i>H50</i>	10	16
H50 -2	Upper -Body Opening to Ground - Second	H50 -2	<i>H51</i>	—	16
H56 -1	D -Point to Floor - Front	H56 -1	<i>H56</i>	9A	16
H56 -2	D -Point to Floor - Second	H56 -2	<i>H57</i>	—	16
H56 -3	D -Point to Floor - Third	H56 -3	<i>H90</i>	—	16
H61 -1	Effective Head Room - Front	H61 -1	<i>H61</i>	10	16
H61 -2	Effective Head Room - Second	H61 -2	<i>H63</i>	—	16
H61 -3	Effective Head Room - Third	H61 -3	<i>H86</i>	—	16
H67 -1	Undepressed Floor Covering Thickness - Front	H67 -1	<i>H67</i>	—	16
H67 -2	Undepressed Floor Covering Thickness - Second	H67 -2	<i>H72</i>	—	16
H67 -3	Undepressed Floor Covering Thickness – Third	Implied	<i>New</i>	—	16
H68 -1	Depressed Floor Covering Thickness - Front	H68 -1	<i>H68</i>	—	16
H68 -2	Depressed Floor Covering Thickness - Second	H68 -2	<i>H73</i>	—	16
H68 -3	Depressed Floor Covering Thickness – Third	Implied	<i>New</i>	—	16
H70 -1	SgRP Z Coordinate - Front	H70 -1	<i>H70</i>	—	8
H70 -2	SgRP Z Coordinate - Second	H70 -2	<i>H71</i>	—	8
H70 -3	SgRP Z Coordinate - Third	H70 -3	<i>H88</i>	—	8
H74	Steering Wheel to Cushion	H74	<i>H74</i>	10	16
H79 -1	SgRP, Side to Center Difference - Front	H79 -1	<i>H79</i>	—	16
H79 -2	SgRP, Side to Center Difference - Second	H79 -2	<i>H80</i>	—	16

SAE J1100 Revised SEP2005

TABLE A3—DIMENSION INDEX BY 2005 CODE — HEIGHT (H) (CONTINUED)

2005 Code	Name	2002 Code	1998 Code	Figure	Table
H81	Fiducial Mark Number 1 - Z Coordinate	H81	H81	—	7
H82	Fiducial Mark Number 2 - Z Coordinate	H82	H82	—	7
H83	Fiducial Mark Number 3 - Z Coordinate	H83	H83	—	7
H98 -2	FRP Z Coordinate - Second	H98 -2	New	—	11
H98 -3	FRP Z Coordinate - Third	H98 -3	New	—	11
H100	Body Height	H100	New	26	23
H101	Vehicle Height, Maximum	H101	H101	26	23
H103 -1	Fascia (Bumper) to Ground - Front	H103 -1	H103	26	23
H103 -2	Fascia (Bumper) to Ground - Rear	H103 -2	H105	—	23
H108 -1	Static Load Radius - Front Tire	H108 -1	H108	27	23
H108 -2	Static Load Radius - Rear Tire	H108 -2	H109	27	23
H111 -1	Rocker Panel Height - Front	H111 -1	H112	26	23
H111 -2	Rocker Panel Height - Rear	H111 -2	H111	26	23
H115 -1	Step Height - Front	H115 -1	H130	26, 8A	23
H115 -2	Step Height - Second	H115 -2	H131	—	23
H127	Headlamp Height	H127	H127	26	23
H128	Taillamp Height	H128	H128	26	23
H132 -1	Bottom of Opened Door to Ground - Front	H132 -1	H132	—	23
H132 -2	Bottom of Opened Door to Ground - Second	H132 -2	H134	—	23
H136 -1	Zero Z Plane to Ground - Front	H136 -1	H136	—	23
H136 -2	Zero Z Plane to Ground - Rear	H136 -2	H137	—	23
H142 -1	Cowl Point Z Coordinate	H114	New	—	12
H142 -2	Deck Point Z Coordinate	H138	New	—	12
H143-1	Cowl Point to Ground	New	H114	2	23
H143-2	Deck Point to Ground	New	H138	2	23
H148 -1	Suspension or Axle to Ground - Front	H148 -1	H148	—	23
H148 -2	Suspension or Axle to Ground - Rear	H148 -2	H153	—	23
H156	Ground Clearance	H156	H156	—	23
H161	Fiducial Mark No. 1 - Z Coordinate to Ground	H161	H161	—	7
H162	Fiducial Mark No. 2 - Z Coordinate to Ground	H162	H162	—	7
H167	Fiducial Mark No. 3 - Z Coordinate to Ground	H167	H167	—	7
H195	Liftover Height	H195	H196	—	23
H197 -1	Seatback Height - Front	H197 -1	H197	29	27
H197 -2	Seatback Height - Second	H197 -2	H198	—	27
H197 -3	Seatback Height - Third	H197 -3	H199	—	27
H201	Cargo Height	H201	H201	31	27
H202	Rear Opening Height	H202	H202	—	23
H250	Tailgate to Ground	H250	H250	—	23
H251	Liftgate to Ground	H251	New	—	23
H252	Cargo Floor Height	H252	H502	—	23
H445 -1	Second Step Height - Front	H445 -1	H445	8A	23
H445 -2	Second Step Height - Second	H445 -2	H446	—	23
H503	Pickup Box Height	H503	H503	20	27
H504	Wheelhouse Height	H504	H504	—	23
H505	Maximum Cargo Height	H505	H505	31	27
H508	Side Cargo Door Opening Height	H508	H508	—	23

SAE J1100 Revised SEP2005

TABLE A4—DIMENSION INDEX BY 2005 CODE — ANGLE (A)

2005 Code	Name	2002 Code	1998 Code	Figure	Table
A18	Steering Wheel Angle	A18	H18	12	17
A19	Seat Track Rise	A19	New	15A, 15B	17
A27 -1	Cushion Angle - Front	A27 -1	L27	11	17
A27 -2	Cushion Angle - Second	A27 -2	New	—	17
A27 -3	Cushion Angle - Third	A27 -3	New	—	17
A40 -1	Back Angle - Front	A40 -1	L40	11	17
A40 -2	Back Angle - Second	A40 -2	L41	—	17
A40 -3	Back Angle - Third	A40 -3	L88	—	17
A42 -1	Hip Angle - Front	A42 -1	L42	11	17
A42 -2	Hip Angle - Second	A42 -2	L43	—	17
A42 -3	Hip Angle - Third	A42 -3	L89	—	17
A44 -1	Knee Angle - Front	A44 -1	L44	11	17
A44 -2	Knee Angle - Second	A44 -2	L45	—	17
A44 -3	Knee Angle - Third	A44 -3	L90	—	17
A46 -1	Ankle Angle - Front	A46 -1	L46	11	17
A46 -2	Ankle Angle - Second	A46 -2	L47	—	17
A46 -3	Ankle Angle - Third	A46 -3	L91	—	17
A47	Pedal Plane Angle	A47	New	11	17
A48 -2	Floor Plane Angle - Second	A48 -2	New	—	17
A48 -3	Floor Plane Angle - Third	A48 -3	New	—	17
A57 -1	Thigh Angle - Front	A57 -1	New	11	17
A57 -2	Thigh Angle - Second	A57 -2	New	—	17
A57 -3	Thigh Angle - Third	A57 -3	New	—	17
A60 -1	Vision Angle to Upper DLO - Windshield	A60 -1	H124	12	17
A60 -2	Vision Angle to Upper DLO - Backlight	A60 -2	New	—	17
A61 -1	Vision Angle to Lower DLO - Windshield	A61 -1	New	12	17
A61 -2	Vision Angle to Lower DLO - Backlight	A61 -2	New	—	17
A106 -1	Angle of Approach	A106 -1	H106	27	24
A106 -2	Angle of Departure	A106 -2	H107	27	24
A121 -1	Window Slope Angle - Windshield	A121 -1	H122	26	24
A121 -2	Window Slope Angle - Backlight	A121 -2	H121	26	24
A122	Tumblehome	A122	W122	28	24
A147	Ramp Breakover Angle	A147	H147	27	24

SAE J1100 Revised SEP2005

TABLE A5—DIMENSION INDEX BY 2005 CODE — CVI AND LUGGAGE CAPACITY (V)

2005 Code	Name	1998/2002 Code	Figure	Table
V1	Luggage Capacity - Passenger Cars	V1	—	30
V2	Station Wagon CVI - Maximum	V2	—	28
V3	Hatchback CVI - Maximum	V3	—	28
V4	Hidden Luggage Capacity - Behind Front Seat	V4	—	30
V5	Open Truck and MPV CVI - Maximum	V5	—	28
V6	Enclosed Truck & MPV CVI - Max Behind Front Seat	V6	—	28
V7	Enclosed Truck & MPV CVI - Max Behind Second Seat	V7	—	28
V9	Enclosed Truck & MPV CVI - Max Behind Third Seat	V9	—	28
V10	Station Wagon CVI - Max Behind Second Seat	V10	—	28
V11	Hatchback CVI - Max Behind Second Seat	V11	—	28

TABLE A6—DIMENSION INDEX BY 2005 CODE — PEDALS (PL, PW, PH)

2005 Code	Name	2002 Code	1998 Code	Figure	Table
PL1	Accelerator to Brake Liftoff (Step Over)	PL1	PL1	14	18
PL2	Brake to Clutch Liftoff	PL2	PL2	—	18
PW1	Clutch Pedal Width	PW1	PW1	13A	18
PW2	Brake Pedal Width	PW2	PW2	13A	18
PW3	Accelerator Pedal Width	PW3	PW3	13A	18
PW7	PRP to Driver Centerline	PW7	New	13A	18
PW8	PRP to Brake Centerline	PW8	New	13A	18
PW9	PRP to Clutch Centerline	PW9	New	13A	18
PW12	Brake to Clutch Lateral Separation	PW12	New	13B	18
PW14	AHP to PRP Lateral Offset	PW14	New	13B, 13C	18
PW15	Accelerator to Brake Lateral Separation	PW11	New	13B	18
PW16	Accelerator to Brake Minimum Separation	New	PW11	13B	18
PW20	Left Foot Space	PW20	PW20	13B	18
PW31	Accelerator Pedal to Right Foot Support Structure	PW31	PW31	13B	18
PH1	Clutch Pedal Pad Size	PH1	PH1	—	18
PH2	Brake Pedal Pad Size	PH2	PH2	14	18
PH3	Accelerator Pedal Size	PH3	PH3	14	18
PH30	PRP to AHP	PH30	PH30	14	18
PH31	Middle of Brake to AHP	PH31	PH31	14	18
PH32	Middle of Clutch to AHP	PH32	PH32	—	18

SAE J1100 Revised SEP2005

TABLE A7—DIMENSION INDEX BY 2005 CODE – H-POINT TRAVEL PATH (TL, TH)

2005 Code	Name	2002 Code	1998 Code	Figure	Table
TL1	H -Point Travel Length	TL1	TL17	15A, 15B	19
TL2	SgRP to Rearmost -Lowest H -Point Length	TL2	TL2	15A, 15B	19
TL18	H -Point Travel, Maximum Length	TL18	New	15A, 15B	19
TL23	Normal Driving and Riding Seat Track (H-point) Travel	TL23	TL23	15A, 15B	19
TH1	H -Point Travel Height (Vertical Adjustment)	TH1	New	16A	19
TH2	SgRP to Rearmost -Lowest H -Point Height	TH2	TH2	16A, 16B	19
TH8	Vertical Design H -Point Adjustment	TH8	TH8	16A	19
TH17	H -Point Travel Rise	TH17	TH17	16A, 16B	19
TH18	H -Point Travel, Maximum Height	TH18	New	16A, 16B	19
TH23	Normal Driving and Riding Seat Track (H-point) Rise	New	TH4	16A, 16B	19

TABLE A8—DIMENSION INDEX BY 2005 CODE – SEAT (SL, SW, SH)

2005 Code	Name	2002 Code	1998 Code	Figure	Table
SL9 -1	Cushion Depth - Front	SL9 -1	L9	17	20
SL9 -2	Cushion Depth - Second	SL9 -2	L16	—	20
SL9 -3	Cushion Depth - Third	SL9 -3	L21	—	20
SL10 -1	Effective Cushion Depth - Front	SL10 -1	L10	17	20
SL10 -2	Effective Cushion Depth - Second	SL10 -2	L12	—	20
SL10 -3	Effective Cushion Depth - Third	SL10 -3	L24	—	20
SL14 -1	Seat Back Thickness - Front	SL14 -1	L14	17	20
SL14 -2	Seat Back Thickness - Second	SL14 -2	L15	—	20
SL14 -3	Seatback Thickness - Third	SL14 -3	L20	—	20
SW16 -1	Cushion Width - Front	SW16 -1	W16	18A, 18B	20
SH32 -1	Cushion Deflection - Front	SH32 -1	H32	17	20
SH32 -2	Cushion Deflection - Second	SH32 -2	H33	—	20
SH32 -3	Cushion Deflection - Third	SH32 -3	H34	—	20
SH77 -1	Seatback Height - Front	SH77 -1	H77	17	20
SH77 -2	Seatback Height - Second	SH77 -2	H78	—	20
SH77 -3	Seatback Height - Third	SH77 -3	H92	—	20

TABLE A9—DIMENSION INDEX BY 2005 CODE – GLASS SURFACE AREA (S)

2005 Code	Name	1998/2002 Code	Figure	Table
S1	Windshield Area	S1	—	31
S2	Side Windows Areas	S2	—	31
S3	Backlight Areas	S3	—	31
S4	Total Areas	S4	—	31

SAE J1100 Revised SEP2005

TABLE A10—DIMENSION INDEX BY 2005 CODE – PASSENGER DISTRIBUTION (PD)

2005 Code	Name	1998/2002 Code	Figure	Table
PD1	Passenger Distribution – Front	<i>PD1</i>	—	—
PD2	Passenger Distribution – Second	<i>PD2</i>	—	—
PD3	Passenger Distribution – Third	<i>PD3</i>	—	—

TABLE A11—DELETED DIMENSIONS – LENGTH (L)

1998 Code	Name
L52	Brake Pedal To Accelerator
L123	Upper Structure Length
L126	Front End Length
L129	Rear End Length
L200	Cargo Length - Open - Front
L201	Cargo Length - Open - Second
L324	SgRP To Windshield Upper DLO
L330	Clutch Pedal To Steering Wheel Clearance
L332	Accelerator Pedal To Steering Wheel Clearance
L350	Sleeper Compartment Length
L408	Front Bumper To Cab - Tilt Cab Servicing Position
L409	Cab Servicing Tilt Angle
L410	Cab Length
L411	Dual Rear Axle Spacing
L421	Max. Dist. From AHP to Intersection of Front and Top Surface of Hood
L511	Front Cargo Surface

TABLE A12—DELETED DIMENSIONS – WIDTH (W)

1998 Code	Name
W30	Steering Wheel To Door Clearance
W41	Side Glass Radius
W205	Rear Opening Width Above Belt
W306	Sleeper Compartment Width

SAE J1100 Revised SEP2005

TABLE A13—DELETED DIMENSIONS – HEIGHT (H)

1998 Code	Name
H6	SgRP-Front To Windshield Lower DLO
H26	Interior Body Height - Front At Zero Y Plane
H27	Interior Body Height - Front At SgRP Y Plane
H28	Interior Body Height - Second At Zero Y Plane
H29	Interior Body Height - Second At SgRP Y Plane
H37	Headlining To Roof Panel - Front
H38	Headlining To Roof Panel - Second
H40	Steering Wheel To Accelerator Heel Point
H53	D-Point - Front To Heel
H54	D-Point - Center Passenger - Front To Tunnel
H55	D-Point - Center Passenger - Second To Tunnel
H60	D-Point To Heel - Second
H62	D-Point To Heel - Third
H64	SgRP-Front To Windshield Upper DLO
H65	D-Point - Front Differential, Side To Center
H66	D-Point - Differential, Side To Center - Second
H69	Exit Height - Second
H75	Effective T-Point Head Room - Front
H76	Effective T-Point Head Room - Second
H84	Headlining To Roof Panel - Third
H89	Effective T-Point Head Room - Third
H94	Steering Wheel To Cushion - Minimum
H102	Front Bumper To Ground
H104	Rear Bumper To Ground
H115	Step Height - Front (Curb Weight)
H116	Step Height - Second (Curb Weight)
H123	Eyellipse To Backlight Upper Opening
H125	Headlamp To Ground
H126	Taillamp To Ground
H129	Windshield Slope - Driver Vision
H133	Bottom Of Door Closed - Front To Ground
H135	Bottom Of Door Closed - Rear To Ground
H139	Bottom Of Door Ajar – Front To Ground
H140	Bottom Of Door Ajar – Rear To Ground
H149	Oil Pan To Ground
H150	Flywheel/Converter Housing And Transmission Assembly to Ground
H151	Frame Structure To Ground
H152	Exhaust System To Ground
H154	Fuel Tank To Ground
H155	Spare Tire Well To Ground
H158	Roof Thickness
H159	Side Glass Height
H160	Body Thickness
H163	Fiducial Mark No. 1 – Z Coordinate To Ground

SAE J1100 Revised SEP2005

TABLE A13—DELETED DIMENSIONS – HEIGHT (H) (CONTINUED)

1998 Code	Name
H164	Fiducial Mark No. 2 – Z Coordinate To Ground
H168	Fiducial Mark No. 3 – Z Coordinate To Ground
H195	Liftover Height — Curb Weight
H311	Engine Cover Height
H326	Seat Cushion Height – Front
H350	Sleeper Compartment Height
H404	Maximum Overall Height - Tilt Cab Servicing
H420	Distance From Accelerator Heel Point To Intersection of Front And Top Surface Of Hood
H430	Body Height
H431	Vehicle Height – Curb Weight
H436	Zero Z Plane To Ground – Front (Curb Weight)
H437	Zero Z Plane To Ground – Rear (Curb Weight)
H501	Cargo Floor Height To Ground (Curb Weight)
H506	Cargo Floor Height
H507	Frame Height

TABLE A14—DELETED DIMENSIONS – ISO VOLUME (V) – SEE ISO 3832

1998 Code	Name
V210	Enclosed Luggage Compartment Volume
V211	Open Luggage Compartment Volume – Behind Second Seat
V212	Open Luggage Compartment Volume – Behind First Seat
V213	Open Luggage Compartment Volume – Behind Third Seat
V214	Largest Luggage Volume

TABLE A15—DELETED DIMENSIONS – PEDAL (P) AND H-POINT TRAVEL (T)

1998 Code	Name
PW4	"Y" Coordinate At Centerline Of Accelerator Pedal Pad
PW10	Right Edge Of Brake Pedal To Centerline Of Driver
PW21	Left Foot Space
PW22	Lateral Space For Accelerator Pedal Operation
PW30	Brake To Clutch Lateral Separation
TH3	SgRP To Foremost-Lowest Design H-Point
TH4	SgRP To Foremost-Highest Design H- Point
TH5	SgRP To Rearmost-Highest Design H- Point
TH6	SgRP To Rearmost Design H- Point
TL3	SgRP To Foremost-Lowest Design H-Point
TL4	SgRP To Foremost-Highest Design H- Point
TL5	SgRP To Rearmost-Highest Design H- Point
TL6	SgRP To Rearmost Design H- Point

SAE J1100 Revised SEP2005

TABLE A16—DIMENSION INDEX BY OLD CODES – LENGTH (L)⁽¹⁾

1998 Code	2002 Code	Name (Current)	2005 Code	Figure	Table
L3	L3 –2	Minimum Compartment Room - Second	L3 –2	6A	14
L4	L102 –2	Tire Size - Rear	L102 –2		21
L6	L6	Pedal Reference Point To Steering Wheel Center	L6		14
L7	L7	Steering Wheel Torso Clearance	L7	6A	14
L9	SL9 –1	Cushion Depth - Front	SL9 –1	17	20
L10	SL10 –1	Effective Cushion Depth - Front	SL10 –1	17	20
L11	L11	Accelerator Heel Point To Steering Wheel Center	L11	6A	14
L12	SL10 –2	Effective Cushion Depth - Second	SL10 –2		20
L13	N/A	Brake Pedal Knee Clearance	L13	14	14
L14	SL14 –1	Seat Back Thickness - Front	SL14 –1	17	20
L15	SL14 –2	Seat Back Thickness - Second	SL14 –2		20
L16	SL9 –2	Cushion Depth - Second	SL9 –2		20
L18	L18	Entrance Foot Clearance - Front	L18	6B, 8A	14
L19	L19	Entrance Foot Clearance - Second	L19	6B, 8A	14
L20	SL14 –3	Seatback Thickness - Third	SL14 –3		20
L21	SL9 –3	Cushion Depth - Third	SL9 –3		20
L22	L22	Steering Wheel To Seat Back	L22		14
L24	SL10 –3	Effective Cushion Depth - Third	SL10 –3		20
L27	A27 –1	Cushion Angle - Front	A27 –1	11	17
L30	L30	Front Of Dash - X Coordinate	L30		12
L31	L31 –1	SgRP X Coordinate - Front	L31 –1		8
L32	L32	SgRP - Second To Rear Centerline	L32	6A	14
L33	L33	Maximum Leg Room - Accelerator	L33		14
L34	L34	Effective Leg Room - Accelerator	L34	7	14
L35	L31 –2	SgRP X Coordinate - Second	L31 –2		8
L36	L31 –3	SgRP X Coordinate - Third	L31 –3		8
L38	L38	Head Clearance To Windshield Garnish	L38	7	14
L39	L39	Head Clearance To Backlight Garnish-Second	L39 -2	7	14
L40	A40 –1	Back Angle - Front	A40 –1	11	17
L41	A40 –2	Back Angle - Second	A40 –2		17
L42	A42 –1	Hip Angle - Front	A42 –1	11	17
L43	A42 –2	Hip Angle - Second	A42 –2		17
L44	A44 –1	Knee Angle - Front	A44 –1	11	17
L45	A44 –2	Knee Angle - Second	A44 –2		17
L46	A46 –1	Ankle Angle - Front	A46 –1	11	17
L47	A46 –2	Ankle Angle - Second	A46 –2		17
L48	L48 –2	Minimum Knee Clearance - Second	L48 –2	3, 7	14
L50	L50 –1	SgRP Couple Distance, Front To Second	L50 –2	7	14
L51	L51 –2	Effective Leg Room - Second	L51 –2	3B, 7	14
L53	L53	SgRP To Heel - Front	L53	7	14
L54	L54	Fiducial Mark No. 1 - X Coordinate	L54		7
L55	L55	Fiducial Mark No. 2 - X Coordinate	L55		7
L56	L56	Fiducial Mark No. 3 - X Coordinate	L56		7
L62	L62	Minimum Knee Clearance - Front	L62		14
L85	L50 –2	SgRP Couple Distance, Second To Third	L50 –3		14

SAE J1100 Revised SEP2005

TABLE A16—DIMENSION INDEX BY OLD CODES – LENGTH (L) (CONTINUED)⁽¹⁾

1998 Code	2002 Code	Name (Current)	2005 Code	Figure	Table
L86	L51 –3	Effective Leg Room - Third	L51 –3		14
L87	L48 –3	Minimum Knee Clearance – Third	L48 –3		14
L88	A40 –3	Back Angle – Third	A40 –3		17
L89	A42 –3	Hip Angle – Third	A42 –3		17
L90	A44 –3	Knee Angle – Third	A44 –3		17
L91	A46 –3	Ankle Angle – Third	A46 –3		17
L92	L3 –3	Minimum Compartment Room - Third	L3 –3		14
L101	L101	Wheelbase	L101	19	21
L103	L103	Vehicle Length	L103	19	21
L104	L104	Overhang - Front	L104	19	21
L105	L105	Overhang - Rear	L105	19	21
L106	L106	Overhang - Front, RPO	L106	19	21
L107	L107	Overhang - Rear, RPO	L107	19	21
L108	L108	Vehicle Length, RPO	L108	19	21
L114	L114	Front Wheel Centerline To SgRP-Front	L114	6A	21
L125	L125	Cowl Point X Coordinate	L125 -1		12
L127	L127	Wheel Centerline X Coordinate -Rear	L128-2		12
L128	L128	Wheel Centerline X Coordinate -Front	L128 -1		12
L202	L202 –1	Cargo Length At Floor – Behind Front Row	L202 –1	31	25
L203	L202 –2	Cargo Length At Floor – Behind Second Row	L202 –2		25
L204	L204 –1	Cargo Length At Beltline – Behind Front Row	L204 –1	31	25
L205	L204 –2	Cargo Length At Beltline – Behind Second Row	L204 –2		25
L208	L208 –1	Hatchback Cargo Length At Seatback Height – Behind Front Row	L208 –1	29	25
L209	L209 –1	Hatchback Cargo Length At Floor – Behind Front Row	L209 –1	29	25
L210	L208 –2	Hatchback Cargo Length At Seatback Height – Behind Second Row	L208 –2		25
L211	L209 –2	Hatchback Cargo Length At Floor – Behind Second Row	L209 –2		25
L308	L90	Engine Cover Length	L90		14
L403	L403	Front Of Bumper To Back Of Cab (BBC)	L403	20	21
L404	L404	Cab To Rear Axle (CA)	L404	20	21
L504	L504	Cab To Pickup Body	L504	20	21
L505	L505	Pickup Body Length At Floor	L505	20	21
L506	L506	Pickup Body Length At Top Of Body	L506	20	25
L507	L507	Cargo Body Overall Length	L507	20	21
L508	L508	Minimum Loading Length (Width) Of Side Cargo Door	L508	19	21
L509	L202 –3	Cargo Length At Floor – Behind Third Row	L202 –3		25
L510	L204 –3	Cargo Length At Beltline – Behind Third Row	L204 –3		25
L512	L512	Cargo Length To Engine Cover	L512		21

1. BOLD font denotes a new alphanumeric code in this revision.

TABLE A17—DIMENSION INDEX BY OLD CODES – WIDTH (W)⁽¹⁾

1998 Code	2002 Code	Name (Current)	2005 Code	Figure	Table
W3	W3 –1	Shoulder Room (Min. Cross Car Width at Beltline) - Front	W3 –1	8A	15
W4	W3 –2	Shoulder Room (Min. Cross Car Width at Beltline) - Second	W3 –2		15
W5	W5 –1	Hip Room (Min. Cross Car Width at SgRP Zone) - Front	W5 –1	8A	15
W6	W5 –2	Hip Room (Min. Cross Car Width at SgRP Zone) - Second	W5 –2		15

SAE J1100 Revised SEP2005

TABLE A17—DIMENSION INDEX BY OLD CODES – WIDTH (W)⁽¹⁾ (CONTINUED)

1998 Code	2002 Code	Name (Current)	2005 Code	Figure	Table
W7	W7	Steering Wheel Center - Y Coordinate	W7	8A	12
W9	W9	Steering Wheel Maximum Outside Diameter	W9	8A	15
W16	SW16 -1	Cushion Width - Front	SW16 -1	18A, 18B	20
W20	W20 -1	SgRP Y Coordinate - Front	W20 -1		8
W21	W21	Fiducial Mark Number 1 - Y Coordinate	W21		7
W22	W22	Fiducial Mark Number 2 - Y Coordinate	W22		7
W23	W23	Fiducial Mark Number 3 - Y Coordinate	W23		7
W25	W20 -2	SgRP Y Coordinate - Second	W20 -2		8
W26	W20 -3	SgRP Y Coordinate - Third	W20 -3		8
W27	W27 -1	Head Clearance Diagonal - Front	W27 -1	8B	15
W31	W31 -1	Elbow Room (Cross Car Width at Armrest) - Front	W31 -1		15
W32	W31 -2	Elbow Room (Cross Car Width at Armrest) - Second	W31 -2		15
W33	W27 -2	Head Clearance Diagonal - Second	W27 -2		15
W34	W27 -3	Head Clearance Diagonal - Third	W27 -3		15
W35	W35 -1	Head Clearance Lateral - Front	W35 -1	8C	15
W36	W35 -2	Head Clearance Lateral - Second	W35 -2		15
W37	W35 -3	Head Clearance Lateral - Third	W35 -3		15
W38	N/A	Head Clearance Minimum – Driver	W38 -1	33	15
W39	N/A	Head Clearance Minimum – Second	W38 -2		
W40	N/A	Head Clearance Minimum – Third	W38 -3		
W43	W31 -3	Elbow Room (Cross Car Width at Armrest) - Third	W31 -3		15
W85	W3 -3	Shoulder Room (Min. Cross Car Width at Beltline) - Third	W3 -3		15
W86	W5 -3	Hip Room (Min. Cross Car Width at SgRP) - Third	W5 -3		15
W101	W101 -1	Tread Width – Front Tires	W101 -1	21A, 21B	22
W102	W101 -2	Tread Width - Rear Tires	W101 -2	—	22
N/A	N/A	Track Width – Front Tires	W102 -1	21A, 21B	22
N/A	N/A	Track Width - Rear Tires	W102 -2	—	22
W103	W103	Vehicle Width, Maximum	W103	23	22
W106	W106	Fender Width - Front	W106	21A	22
W107	W107	Fender Width - Rear	W107	21A	22
N/A	N/A	Axle Width at Wheel - Front	W113 -1	21A, 21B	22
N/A	N/A	Axle Width at Wheel - Rear	W113 -2	—	22
W116	W116	Body Width	W116	23	22
W117	W117	Body Width At SgRP - Front	W117	23	22
W120	W120 -1	Vehicle Width, Doors Open - Front	W120 -1	21A	22
W121	W120 -2	Vehicle Width, Doors Open - Second Row	W120 -2	—	22
W122	A122	Tumblehome	A122	28	24
W201	W201	Cargo Width - Wheelhouse	W201	30	26
W203	W203	Rear Body Opening At Floor	W203	24	22
W204	W204	Rear Body Opening At Belt Line	W204	24	22
W300	W90	Engine Cover Width - Left	W90		15
W301	W91	Engine Cover Width - Right	W91		15
W409	W123	Maximum Width-Tail Doors Unrestrained	W409	25	8.1
W410	W104	Vehicle Width, Including Mirrors	W104	22	22
W500	W500	Cargo Width At Floor	W500	30	22

1. BOLD font denotes a new alphanumeric code in this revision.

SAE J1100 Revised SEP2005

TABLE A18—DIMENSION INDEX BY OLD CODES – HEIGHT (H)⁽¹⁾

1998 Code	2002 Code	Name (Current)	2005 Code	Figure	Table
H5	H5 -1	SgRP To Ground - Front	H5 -1	10	16
H10	H5 -2	SgRP To Ground - Second	H5 -2		16
H11	H11 -1	Entrance Height -Front	H11 -1	10	16
H12	H11 -2	Entrance Height - Second	H11 -2		16
H13	H13	Steering Wheel To Thigh Line	H13	9A	16
H14	H14	Eyellipse To Bottom Of Inside Rearview Mirror	H14	9A	16
H17	H17	Accelerator Heel Point (AHP) To Steering Wheel Center	H17	9A	16
H18	A18	Steering Wheel Angle	A18	12	17
H25	H25 -1	Belt Height - Front	H25 -1	26	16
H30	H30 -1	Seat Height - Front	H30 -1	9A	16
H31	H30 -2	Seat Height - Second	H30 -2		16
H32	SH32 -1	Cushion Deflection - Front	SH32 -1	17	20
H33	SH32 -2	Cushion Deflection - Second	SH32 -2		20
H34	SH32 -3	Cushion Deflection - Third	SH32 -3		20
H35	H35 -1	Head Clearance Vertical - Front	H35 -1	9B	16
H36	H35 -2	Head Clearance Vertical - Second	H35 -2		16
H39	H35 -3	Head Clearance Vertical - Third	H35 -3		16
N/A	H41 -1	Head Clearance Vertical2 – Front	H46-1	7	16
N/A	H41 -2	Head Clearance Vertical2 – Second	H46-2		16
N/A	H41 -3	Head Clearance Vertical2 – Third	H46-3		16
H41	N/A	Minimum SV Head Clearance – Front	H47-1	7	16
H42	N/A	Minimum SV Head Clearance – Second	H47-2		16
N/A	N/A	Minimum SV Head Clearance – Third	H47-3		16
H49	H49	Eyellipse To Top Of Steering Wheel	H49	9A	16
H50	H50 -1	Upper-Body Opening To Ground - Front	H50 -1	10	16
H51	H50 -2	Upper-Body Opening To Ground - Second	H50 -2		16
H56	H56 -1	D-Point To Floor - Front	H56 -1	9A	16
H57	H56 -2	D-Point To Floor - Second	H56 -2		16
H61	H61 -1	Effective Head Room - Front	H61 -1	10	16
H63	H61 -2	Effective Head Room - Second	H61 -2		16
H67	H67 -1	Undepressed Floor Covering Thickness - Front	H67 -1		16
H68	H68 -1	Depressed Floor Covering Thickness - Front	H68 -1		16
H70	H70 -1	SgRP Z Coordinate - Front	H70 -1		8
H71	H70 -2	SgRP Z Coordinate - Second	H70 -2		8
H72	H67 -2	Undepressed Floor Covering Thickness - Second	H67 -2		16
H73	H68 -2	Depressed Floor Covering Thickness - Second	H68 -2		16
H74	H74	Steering Wheel To Cushion	H74	10	16
H77	SH77 -1	Seatback Height - Front	SH77 -1	17	20
H78	SH77 -2	Seatback Height - Second	SH77 -2		20
H79	H79 -1	SgRP, Side To Center Difference - Front	H79 -1		16
H80	H79 -2	SgRP, Side To Center Difference - Second	H79 -2		16
H81	H81	Fiducial Mark Number 1 - Z Coordinate	H81		7
H82	H82	Fiducial Mark Number 2 - Z Coordinate	H82		7
H83	H83	Fiducial Mark Number 3 - Z Coordinate	H83		7

SAE J1100 Revised SEP2005

TABLE A18—DIMENSION INDEX BY OLD CODES – HEIGHT (H) (CONTINUED)⁽¹⁾

1998 Code	2002 Code	Name (Current)	2005 Code	Figure	Table
H85	H5 -3	SgRP To Ground - Third	H5 -3		16
H86	H61 -3	Effective Head Room - Third	H61 -3		16
H87	H30 -3	Seat Height - Third	H30 -3		16
H88	H70 -3	SgRP Z Coordinate - Third	H70 -3		8
H90	H56 -3	D-Point To Floor - Third	H56 -3		16
H92	SH77 -3	Seatback Height - Third	SH77 -3		20
H101	H101	Vehicle Height, Maximum	H101	26	23
H103	H103 -1	Fascia (Bumper) To Ground - Front	H103 -1	26	23
H105	H103 -2	Fascia (Bumper) To Ground - Rear	H103 -2		23
H106	A106 -1	Angle Of Approach	A106 -1	27	24
H107	A106 -2	Angle Of Departure	A106 -2	27	24
H108	H108 -1	Static Load Radius - Front Tire	H108 -1	27	23
H109	H108 -2	Static Load Radius - Rear Tire	H108 -2	27	23
H111	H111 -2	Rocker Panel Height - Rear	H111 -2	26	23
H112	H111 -1	Rocker Panel Height - Front	H111 -1	26	23
N/A	H114	Cowl Point Z Coordinate	H142 -1		12
H114	N/A	Cowl Point to Ground	H143 -1	2	23
H121	A121 -2	Window Slope Angle - Backlight	A121 -2	26	24
H122	A121 -1	Window Slope Angle - Windshield	A121 -1	26	24
H124	A60 -1	Vision Angle To Upper DLO - Windshield	A60 -1	12	17
H127	H127	Headlamp Height	H127	26	23
H128	H128	Taillamp Height	H128	26	23
H130	H115 -1	Step Height - Front	H115 -1	26, 8A	23
H131	H115 -2	Step Height - Second	H115 -2		23
H132	H132 -1	Bottom Of Opened Door to Ground - Front	H132 -1		23
H134	H132 -2	Bottom Of Opened Door to Ground - Second	H132 -2		23
H136	H136 -1	Zero Z Plane To Ground - Front	H136 -1		23
H137	H136 -2	Zero Z Plane To Ground - Rear	H136 -2		23
N/A	H138	Deck Point Z Coordinate	H142 -2		12
H138	N/A	Deck Point To Ground	H143 -2	2	23
H147	A147	Ramp Breakover Angle	A147	27	24
H148	H148 -1	Suspension Or Axle to Ground - Front	H148 -1		23
H153	H148 -2	Suspension Or Axle to Ground - Rear	H148 -2		23
H156	H156	Ground Clearance	H156		23
H161	H161	Fiducial Mark No. 1 - Z Coordinate to Ground	H161		7
H162	H162	Fiducial Mark No. 2 - Z Coordinate to Ground	H162		7
H167	H167	Fiducial Mark No. 3 - Z Coordinate to Ground	H167		7
H196	H195	Liftover Height	H195		23
H197	H197 -1	Seatback Height - Front	H197 -1	29	27
H198	H197 -2	Seatback Height - Second	H197 -2		27
H199	H197 -3	Seatback Height - Third	H197 -3		27
H201	H201	Cargo Height	H201	31	27
H202	H202	Rear Opening Height	H202		23
H250	H250	Tailgate to Ground	H250		23

SAE J1100 Revised SEP2005

TABLE A18—DIMENSION INDEX BY OLD CODES – HEIGHT (H) (CONTINUED)⁽¹⁾

1998 Code	2002 Code	Name (Current)	2005 Code	Figure	Table
H445	H445 -1	Second Step Height - Front	H445 -1	8A	23
H446	H445 -2	Second Step Height - Second	H445 -2		23
H502	H252	Cargo Floor Height	H252		23
H503	H503	Pickup Box Height	H503	20	27
H504	H504	Wheelhouse Height	H504		23
H505	H505	Maximum Cargo Height	H505	31	27
H508	H508	Side Cargo Door Opening Height	H508		23

1. BOLD font denotes a new alphanumeric code in this revision.

**TABLE A19—DIMENSION INDEX BY OLD CODES – VOLUME (V), PEDALS (P),
H-POINT TRAVEL PATH (T), AND GLASS SURFACE AREA (S)⁽¹⁾**

1998 Code	2002 Code	Name (Current)	2005 Code	Figure	Section
V1	V1	Luggage Capacity - Passenger Cars	V1		30
V2	V2	Station Wagon CVI - Maximum	V2		28
V3	V3	Hatchback CVI - Maximum	V3		28
V4	V4	Hidden Luggage Capacity - Behind Front Seat	V4		30
V5	V5	Open Truck And MPV CVI - Maximum	V5		28
V6	V6	Enclosed Truck & MPV CVI - Max Behind Front Seat	V6		28
V7	V7	Enclosed Truck & MPV CVI - Max Behind Second Seat	V7		28
V9	V9	Enclosed Truck & MPV CVI - Max Behind Third Seat	V9		28
V10	V10	Station Wagon CVI – Max Behind Second Seat	V10		28
V11	V11	Hatchback CVI - Max Behind Second Seat	V11		28
PD1	PD1	Passenger Distribution – Front	PD1		13
PD2	PD1	Passenger Distribution – Second	PD2		13
PD3	PD1	Passenger Distribution – Third	PD3		13
PL1	PL1	Accelerator To Brake Liftoff (Step Over)	PL1	14	18
PL2	PL2	Brake To Clutch Liftoff	PL2	–	18
PW1	PW1	Clutch Pedal Width	PW1	13A	18
PW2	PW2	Brake Pedal Width	PW2	13A	18
PW3	PW3	Accelerator Pedal Width	PW3	13A	18
N/A	PW11	Accelerator To Brake Lateral Separation	PW15	13B	18
PW11	N/A	Accelerator To Brake Minimum Separation	PW16	13B	18
PW20	PW20	Left Foot Space	PW20	13B	18
PW31	PW31	Accelerator Pedal To Right Foot Support Structure	PW31	13B	18
PH1	PH1	Clutch Pedal Pad Size	PH1	–	18
PH2	PH2	Brake Pedal Pad Size	PH2	14	18
PH3	PH3	Accelerator Pedal Size	PH3	14	18
PH30	PH30	PRP To AHP	PH30	14	18
PH31	PH31	Middle Of Brake To AHP	PH31	14	18
PH32	PH32	Middle Of Clutch To AHP	PH32	–	18
TH2	TH2	SgRP To Rearmost-Lowest H-Point Height	TH2	16A, 16B	19
TH4	N/A	Normal Driving And Riding Seat Track (H-point) Rise	TH23	16A, 16B	19

SAE J1100 Revised SEP2005

**TABLE A19—DIMENSION INDEX BY OLD CODES – VOLUME (V), PEDALS (P),
H-POINT TRAVEL PATH (T), AND GLASS SURFACE AREA (S) (CONTINUED)⁽¹⁾**

1998 Code	2002 Code	Name (Current)	2005 Code	Figure	Section
TH8	TH8	Vertical Design H-Point Adjustment	TH8	16A	19
TL2	TL2	SgRP To Rearmost-Lowest H-Point Length	TL2	15A, 15B	19
TH17	TH17	H-Point Travel Rise	TH17	16A, 16B	19
TL23	TL23	Normal Driving And Riding Seat Track (H-point) Travel	TL23	15A, 15B	19
S1	S1	Windshield Area	S1		31
S2	S2	Side Windows Areas	S2		31
S3	S3	Backlight Areas	S3		31
S4	S4	Total Areas	S4		31

1. BOLD font denotes a new alphanumeric code in this revision.