

INSTRUCTIONS

Bottom View FRAME DIMENSION CHARTS

The **DIMENSION CHARTS** are working charts of the automobile chassis as the repairman sees it. We attempt to provide usable dimensions for all sections giving particular attention to critical areas and to those sections most commonly damaged. **Way** charts are the result of actually measuring and averaging any variation of the dimensions of hundreds of assembled automobiles. In addition, those dimensions used by the various manufacturers in construction and inspection are shown whenever we feel they will be of value and when it is possible to check these dimensions on the assembled automobile with available shop equipment.

MEASURING INSTRUCTIONS found under each chart are intended to simplify and eliminate error in establishing the location of exact measuring points on the frame chart. All dimensions are given in inches. Where more than one model or body style of each make is shown on the same chart, dimensions are the same for all except as noted. Most convertibles will be found combined with closed model charts as general dimensions are the same. All measuring instructions referring to length dimensions, read from the front check point to the rear check point.

LENGTHS — WIDTHS — DIAGONALS Most dimension lines indicate that the dimension shown is direct from point to point, such as hole to hole etc. To check, use tape or tram for measuring the direct distance between the indicated points.

A few **LENGTH** dimensions are shown at parallel to frame or body centerline with extension lines connected to the dimension points. Recommended procedure for these is to mark floor from suspended plumb bobs and extend these points so that tape or tram is used at right angle to extensions or parallel to frame or body center line. **FOREIGN CARS** Some import dimensions are shown in millimeters. Follow this formula to translate millimeters to inches.

1 millimeter is equal to .040 inch

EXAMPLE—2040 Millimeters x .040 equals 81.600 inches

REAR FRAME SECTION LENGTH DIMENSIONS It will be necessary on some cars to jack up car allowing rear axle to drop down when making direct point to point length measurements as given on the charts.

TOLERANCES — For practical purposes a $\frac{1}{8}$ inch tolerance ($\frac{1}{8}$ inch plus or minus) is recommended on most dimensions. This may be exceeded in some instances as manufacturing tolerances are more flexible in certain non critical portions of the frame. The $\frac{1}{8}$ inch tolerance is a good guide as the dimensions used on the charts are the average of three or more vehicles at points where any amount of variation is found.

SPECIAL TERMS USED IN MEASURING INSTRUCTIONS

We have attempted to standardize the wording of the measuring instructions, thus avoiding any confusion as the points we are referring to. Listed below are some of the terms used and their definition as applied on the charts.

 Measure from edge of hole, rivet or bolt.

 Measure from center of hole, rivet or bolt.

DATUM LINE — An imaginary line from which dimensions are given in inches to establish the correct height of a given point on the automobile frame or body above this datum line. The datum gauges establish this line and provide a means of measuring any section of the frame being repaired or checked against the correct specifications for that particular automobile. These datum checks may also be made from any level work surface.

A-FRAME BUMPER PLATE — The part which is welded or riveted on the outside face of frame side rail just under the front suspension upper control arm. This A-Frame bumper plate provides a contact surface and in some cases a mounting support for upper and lower control arm rubber bumpers.

REAR SPRING FRONT BOLT — The bolt, pin or stud that goes through the front eye and bushing of the rear spring and secures it to the frame or body.

FRONT SUSPENSION DIMENSION POINTS — For checking front suspension location in relation to frame, all charts show a dimension from a definitely established point at the lower suspension control arm (A-frame), to a given point on the frame proper. Unless the measuring instructions direct otherwise, this measurement is always checked with the vehicle raised enough to have control arms at the bottom of their travel, with upper control arm resting on its stop or bumper.

Ball Joint Points — We use as a dimension point on various cars the ball joint stud. In all cases this dimension is measured from the center of the tip of ball stud that attaches and protrudes through spindle or knuckle support. A few charts will use the ball joint grease fitting or the center of the ball joint body as the dimension point where it is found to be more accessible than stud.

Lower Pivot Pin Or Bushing — On Several charts reference is made to the lower pivot pin or bushing for suspension location checks. In these we are using the rearmost edge of the pin or bushing (disregard grease fitting) that attaches spindle or knuckle support to the lower control arm.

