

SECTION 2

FRAME

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GENERAL DESCRIPTION

The Corvette frame consists basically of a front crossmember, full length side rails, "I" beam type "X" member welded inside the frame side rails, braces from "X" member to front of frame side members, reinforced rear shock absorber crossmember, rear

crossmember and various mounting brackets.

The front crossmember is a large semi-tubular unit which is saddle mounted and bolted to the frame side members. The use of bolts in place of rivets facilitates removal from the frame as a unit.

SERVICE OPERATIONS

CHECKING FRAME ALIGNMENT

Vehicles involved in an accident of any nature which might result in a "swayed" or "sprung" frame should always be checked for proper frame alignment in addition to steering geometry and wheel alignment.

CAR PREPARATION

Preparing the car for the frame alignment check involves the following:

1. Place the car on level surface.
2. The weight of the car should be supported at the wheel locations.
3. A visual damage inspection should be made to eliminate needless measuring. Obviously damaged or misaligned areas can often be located by sight.

TRAMMING SEQUENCE

When checking a frame for alignment in case of damage, the first step is horizontal "X" checking with a tram from given points on the frame.

In Figure 1, reference points are indicated "AA", "BB", "CC", "DD", etc., on each side of the frame.

Frame alignment checks on all models should be made with the tram points set at the center of each locating point indicated and the cross bar level to insure accuracy.

When "X" checking any section of the frame, the measurements should agree within $\frac{3}{16}$ ". If they do not, it means that corrections will have to be made.

If a tram gauge is not available, the "plumb bob" method of checking may be used. To assure any degree of accuracy when using this method, the vehicle should be on a level floor.

By using this method, it is only necessary to have a piece of cord attached to an ordinary surveyor's plumb bob. When measuring the distance between two points, the free end of the cord should be placed on the reference point allowing the plumb bob to hang on the floor. A check mark should be made on the floor just under the tip of the plumb bob. This operation should be repeated at all reference points. With these points located on the floor, they may easily be measured with a rule.

The second step is the vertical dimension from the datum line to the points to be trammed. As an example, Figure 1 indicates that the diagonal measurement (calculated on a horizontal plane) between reference points of dimension line "JU" is from the datum line a vertical height difference of 4.76 inches between the forward location (at vertical dimension J) and the rearward location (at vertical dimension U). The vertical pointer used at the forward location should be positioned so as to extend 4.76 inches further from the tram bar than the pointer used at the rearward location. With the proper settings the tram bar will be on a plane parallel to that of the frame. The exception to this would be when one of the reference locations is included in the misaligned area; then the parallel plane between the frame and the tram bar may not prevail. After completion of the repairs, the tram gage should be set at the specified dimension to check the accuracy of the repair operation.

ALIGNMENT REFERENCE POINT DIMENSIONS

Dimensions to holes are measured to dead center of the holes and flush to the adjacent surface metal.

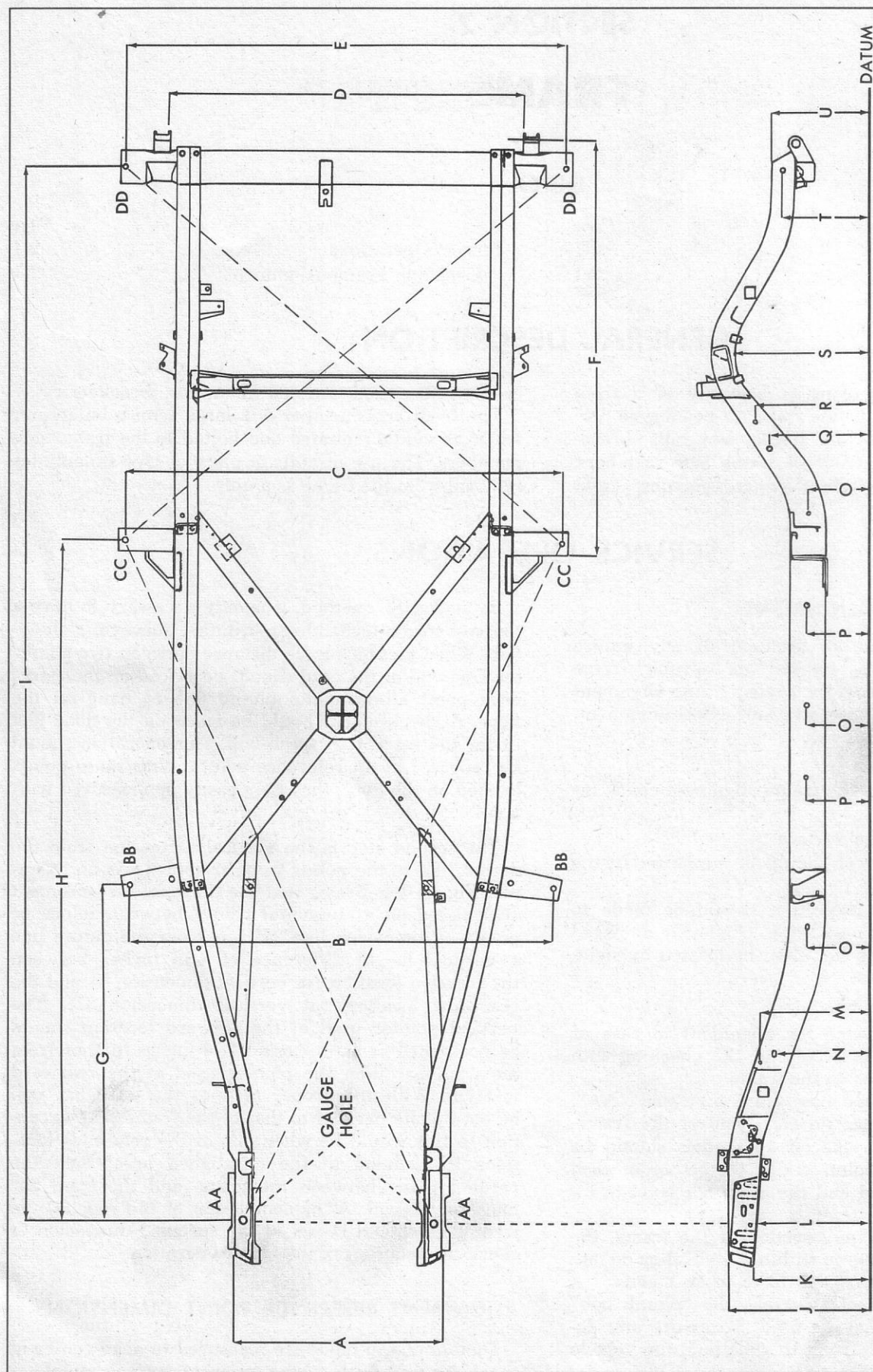


Fig. 1—Frame Dimensions

LETTER	DIMENSION	LETTER	DIMENSION	LETTER	DIMENSION	LETTER	DIMENSION
A	26.28	F	51.62	K	14.26	P	7.88
B	54.00	G	41.57	L	13.83	Q	12.62
C	56.00	H	84.35	M	13.68	R	14.50
D	45.24	I	130.98	N	11.81	S	17.16
E	56.50	J	17.38	O	7.75	T	11.13
						U	12.62