FRAME

Contents

S-1. GENERAL

The frame is the structural center of the vehicle, for in addition to carrying the load, it provides and maintains correct relationship between other units to assure their normal functioning.

Of rugged design, the frame is constructed of heavy channel steel side rails and cross-members. Brackets and diagonal braces are used to maintain the proper longitudinal position of the side rails relative to each other, and at the same time provide additional resistance to torsional strains.

Vehicles which may have been in an accident of any nature, which may result in a swayed or sprung frame, should always be carefully checked for proper frame alignment, steering geometry, and axle alignment.

S-2. Checking Frame Alignment

The most efficient and satisfactory method of checking frame alignment is with a frame aligning fixture which is equipped with bending tools for straightening frame parts. In the absence of such a fixture, frame alignment may be determined by using the "X" or diagonal method of checking from given points on each side rail. Fig. 296 illustrates this method of checking the frame.

The most convenient way to make this check, particularly when the body is on the chassis, is by marking on the floor all points from which measurements should be taken.

Select a space on the floor which is comparatively level. If a cement floor is available clean it so that chalk marks will appear underneath the frame to be checked. If a wooden floor, it is advisable to lay a sheet of paper underneath the vehicle and tack in place, dropping a plumb-bob from each point indicated in Fig. 296, marking the floor directly underneath the point. Satisfactory checking depends upon the accuracy of the marks in relation to the frame.

To reach the points shown that have been marked, have vehicle carefully moved away from layout on the floor, and proceed as directed in the following paragraphs:

a. Check frame width at front and rear end, using corresponding marks on the floor. If widths correspond to specifications given on next page, draw center line the full length of the vehicle, half-way between marks indicating front and rear widths. If frame width is not correct and the center line cannot be laid out from checking points at the end of frame it can be drawn through intersections of any two pair of equal diagonals.

b. With the center line properly laid out, measure the distance from it to points opposite over the entire length of chassis. If frame is in proper alignment measurement should not vary.

c. To locate the point at which the frame is sprung, measure the diagonals marked "A-B", "B-C", "C-D". If the diagonals in each pair are within ⅛" (3.175 mm.), that part of the frame included between points of measurements may be considered as satisfactory alignment. These diagonals should also intersect at the center line. If the measurements do not agree within the above limits, it means that correction will have to be made between those points that are not equal.

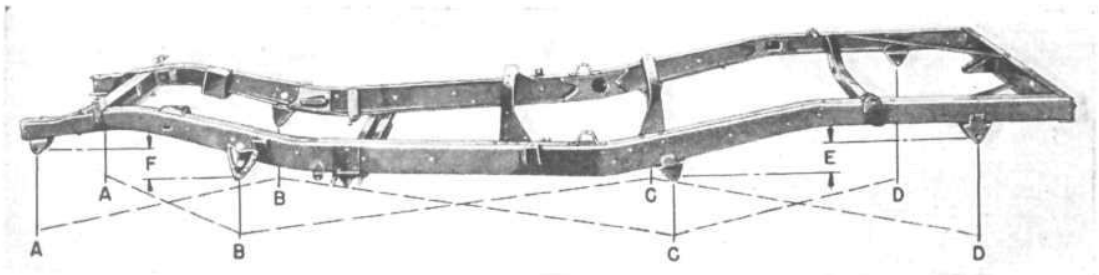

FIG. 296—TYPICAL FRAME SHOWING POINTS FOR MEASURING ALIGNMENT