

FRAME

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R-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. Fig. 329 and 300 illustrate the subject models.

Vehicles which may have been in an accident of

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, 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

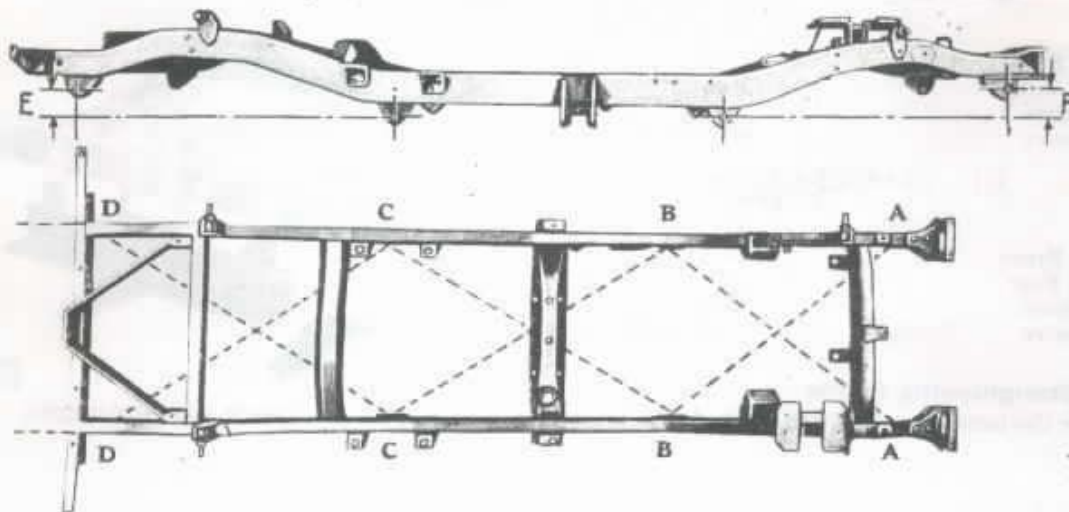


FIG. 329—FRAME ASSEMBLY—MODELS CJ-2A, CJ-3A, DJ-3A, CJ-3B

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.

R-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. Figs. 329 and 330 illustrate 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 corresponding marks on the floor. If widths correspond to specifications given below, 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 $\frac{1}{8}$ " [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.

R-3. Frame Dimensions

Points for measuring frame alignment are shown in Fig. 329 and 331. The correct measurements for each model are given in the table. Point A is at the front of the frame.

A-B and C-D are the distances between spring shackle bolt and spring pivot bolt frame centers measured on a line parallel with the frame centerline. E and F show the shackle bolt centers in relation (above or below) to the pivot bolt centers.

CJ-2A, CJ-3A, DJ-3A, CJ-3B

A-B	44.31"	[112.54 cm.]
C-D	48.48"	[123.14 cm.]
Width Front	29 $\frac{1}{4}$ "	[74.3 cm.]
Width Rear	29 $\frac{1}{4}$ "	[74.3 cm.]
"E" above	3 $\frac{7}{32}$ "	[8.17 cm.]
"F" above	4 $\frac{5}{16}$ "	[10.56 cm.]

CJ-5, CJ-5A, CJ-6, CJ-6A

A-B	47.08"	[119.58 cm.]
C-D	52.37"	[133.02 cm.]
Width Front	29 $\frac{1}{4}$ "	[74.3 cm.]
Width Rear	29 $\frac{1}{4}$ "	[74.3 cm.]
"E" above	3 $\frac{7}{32}$ "	[8.17 cm.]
"F" above	51"	[1.30 cm.]

R-4. Straightening Frame

In case the bending or twisting of the frame is not

excessive, it may be straightened. This should be done cold, as excessive heat applied to the frame will weaken it. For this reason it is recommended that badly damaged frame parts be replaced.

R-5. Front Axle Alignment

After it has been determined that the frame is properly aligned, the front axle alignment with the frame can be checked. The front axle is square with the frame if the distance between the front and rear axle is the same on both sides. The distance from the spring upper bushings to the front axle on both sides should be equal.

R-6. Draw Bar

Fig. 330, shows method of attachment and bracing of the Jeep draw bar. The braces and the reinforcement installed in the frame rear cross-member channel provide even distribution of the stresses when moving a heavy load.

The draw bar plate may be shifted to any one of nine positions for alignment on the draw bar and may be used with the offset up or down to change the height of attachment. Check the attaching bolts periodically to be sure they are tight at all times.



FIG. 330—DRAW BAR MOUNTING

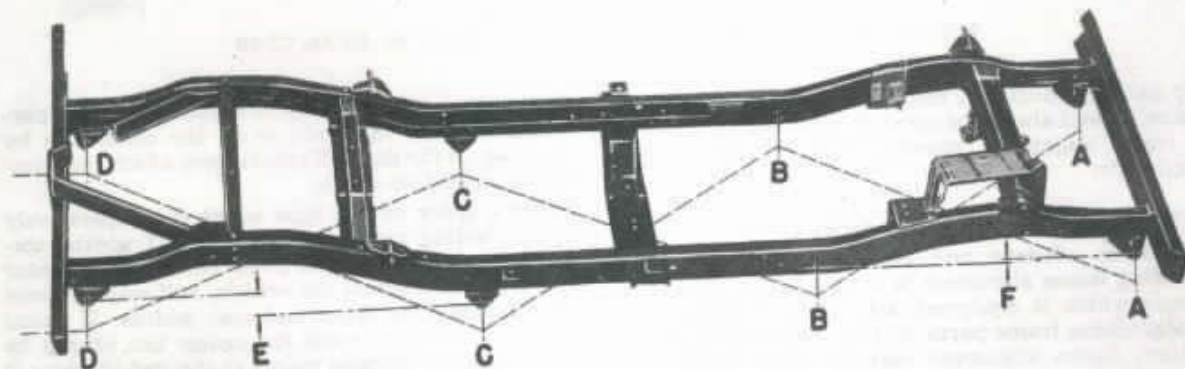


FIG. 331—FRAME ASSEMBLY—MODEL CJ-5, CJ-5A, CJ-6, CJ-6A (MODEL CJ-5 SHOWN)

R-7. FRAME SPECIFICATIONS

Type — All Models		Ladder with Steel Channel Side Members			
Vehicle	Number of Cross Members	Overall Length	Width		Section Modulus
			Front	Rear	
CJ-2A & CJ-3A	4 Intermediate Front Bumper Bar Rear K-member	122 $\frac{31}{32}$ " [311,54 cm.]	29 $\frac{3}{4}$ " [74,3 cm.]	29 $\frac{3}{4}$ " [74,3 cm.]	1.493 in. cu.
CJ-3B		122 $\frac{31}{32}$ " [311,54 cm.]	29 $\frac{3}{4}$ " [74,3 cm.]	29 $\frac{3}{4}$ " [74,3 cm.]	1.493 in. cu.
CJ-5, CJ-5A		128 $\frac{7}{8}$ " [326,23 cm.]	29 $\frac{3}{4}$ " [74,3 cm.]	29 $\frac{3}{4}$ " [74,3 cm.]	1.493 in. cu.
CJ-6, CJ-6A		148 $\frac{7}{8}$ " [377,03 cm.]	29 $\frac{3}{4}$ " [74,3 cm.]	29 $\frac{3}{4}$ " [74,3 cm.]	1.493 in. cu.
DJ-3A	5	122 $\frac{31}{32}$ " [311,54 cm.]	29 $\frac{3}{4}$ " [74,3 cm.]	29 $\frac{3}{4}$ " [74,3 cm.]	1.493 in. cu.