

GROUP R CHASSIS FRAME

R 1 Measuring frame after an accident

Fig. 1 includes the following jobs: A 1, M 2, L 1, H 1, V 1.

Tools: Test arbour with insert cones, gauge for checking castor angle, gauge for checking king pin inclination and camber.

Fig. 2 To check a frame for correct alignment it must be completely free. As measuring points serve:

1. Steering knuckle king pin bearing
2. Holes in rear cross member for eye bolts of cantilever springs.

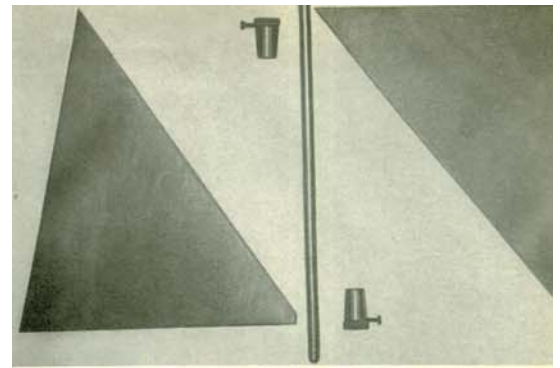
Since nearly all frontal accidents cause the bending of the short tube ends bearing the front suspension assemblies, these must first be checked for correct castor and toe position. This is made with the aid of triangular sheet metal gauges specially developed for this purpose.

To check king pin inclination and camber, jam test arbour with the two cones in the bearing hole for steering knuckle king pin, place the gauge upon the cross tube and approach it to the test arbour until a visual test may be made. To do this make certain that the gauge applies evenly along the tube and remove body damping strips which might hinder this operation.

Fig. 3 In the same manner check the castor angle. For this purpose place the gauge upon the box-section side member behind the cross tube carrying the front suspension and push it ahead until a visual test may be made. The frame tube end for reception of steering knuckle king pin can after light accidents be straightened in cold condition, and in warm condition if the bent is due to a serious accident.

Fig. 4 Furthermore the frame must be checked for distortion that may occur if the blow hit the vehicle on a front corner. For this ascertain the center line of frame by measuring and determine same by a well stretched steel wire. Then perform a diagonal measurement from king pin bearing hole to opposite cantilever spring eye-bolt hole. The two measuring lines must meet each other upon the center line determined by the wire and may differ by a maximum of 3 mm in

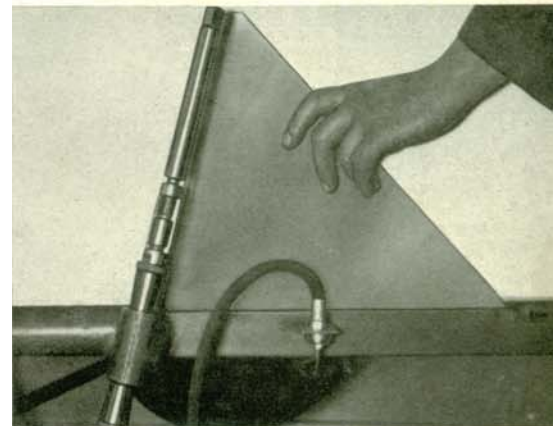
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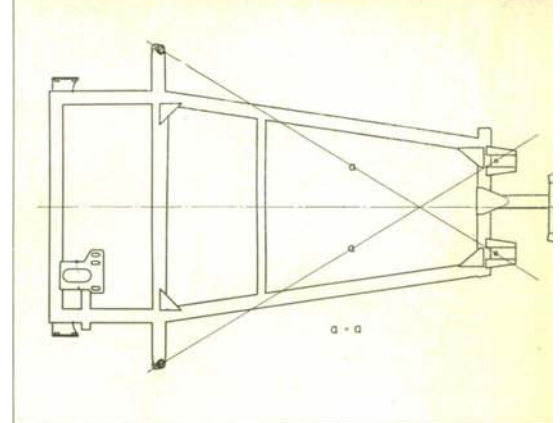
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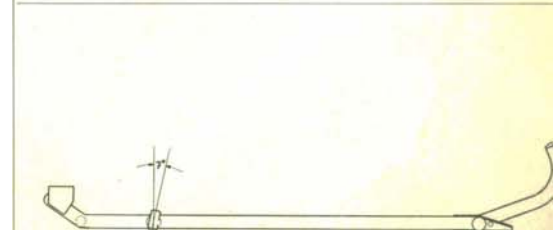
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the length. This diagonal measurement greatly amplifies an eventual distortion, so that it is easily recognized.

Fig. 5. Finally the frame may be checked for distortion by aiming over from the side.

If a frame is badly distorted due to a serious accident and cannot be straightened in cold condition, it should be replaced.

