

G. Measurement with an Optical Axle Gage

Measurements should be made wherever possible with an optical axle gage. We recommend for this purpose the Exacta-Gage manufactured by Müller (Heilbronn). When using this gage, the makers' instructions should be observed. However, the method – which is recommended by several of the firms marketing optical gages – of pressing the front wheels in toward each other at the rear, is not permissible for our cars. The correct method is to measure toe-in with the vehicle loaded and the wheels "rolled", not pressed in. The term "rolled" means that before measurements are taken, the car should be forcibly pushed to and fro and rocked by hand, so that the wheels can settle into a position of minimum stress.

H. Measurements with Mechanical Gages

For smaller workshops we have developed a number of mechanical gages, with which measurements can be made which are in general sufficiently accurate for practical purposes.

As is the case with an optical gage, measurement should be commenced at the rear axle, since all further measurements or adjustments are dependent on both the correct positioning of the rear axle relative to the longitudinal axis of the vehicle and the camber of the rear wheels.

a) Rear Axle Center Position and Axle Positioning Distance

The axle is in **center position** when the connecting pin, which is the fulcrum of the two axle halves, is parallel to the longitudinal axis of the car at a certain distance from it.

Use Master Gage 180 589 08 21 to check the axle for center position. The gage should be placed against the two torque arm mountings on the chassis base assembly (Fig. 40 — 3/21). If the center position is correct, the measuring pointer on the gage points to the center of the hexagon head of the connecting pin for the rear axle suspension (permissible lateral divergence 2 mm).

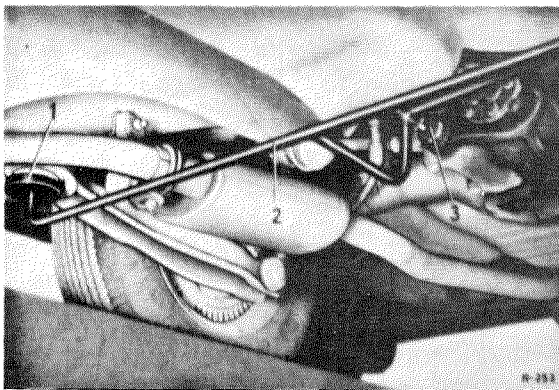


Fig. 40 — 3/21

- 1 Cup on torque arm mounting
- 2 Master Gage 180 589 08 21
- 3 Connecting pin hexagon screw

After checking the rear axle for center position, the axle positioning distance should be checked. The axle positioning distance should be measured with the aid of Master Gage 180 589 08 23. A measurement should be taken from the check bore on the chassis base to the torque arm fixing screw bores in the bearings of the two support tubes at the rear axle (Fig. 40 — 3/22).