SECTION INDEX

Group W: Wheel Alignment

Measuring Vehicle

Measuring Frame

Stationary Measuring Gauge:

Alignment of Wheels

WHEEL ALIGNMENT

General:

The following section gives instructions on aligning front and rear wheels of the vehicle.

A correct alignment of the wheel is, however, not the only factor which is responsible for a perfect road-holding ability of the vehicle. Some practical hints and recommendations are given in the following:

1. All moving parts of the steering and wheel assembly must have the correct amount of play.
2. The suspension system must be in proper condition and correctly adjusted (radius arms).
3. The individual wheels must turn freely. Check for grazing brake linings and so on.
4. The wheels must be properly balanced, the rims should have no unpermissible vertical out-of-true.
5. The tires must be inflated to the specified pressure, their treads should show no uneven amount of wear.
6. Effectiveness of shock absorbers must be perfect.

Basic Information

Camber and Inclination

The camber of the front wheels is determined by the angle of the wheel bearing pivot (stub axle) towards horizontal. The inclination is determined by the angle of the king pin in relation to a level which is parallel and vertical to the longitudinal axis of the vehicle. Camber and inclination ensure that the distance between the point of contact of the tire and the point of intersection of a line projected through the king pin is in a favourable size relative to the road plane. Thus, road shock is lessened and the wheel turns in steering movement with considerably reduced tire friction. The inclination of the king pin contributes to an increased stability of the front wheels by lifting the car somewhat during steering movement. The resistance counteracting this movement forces the wheels back into the straight-ahead position.

Angle α = **Camber angle**

Angle β = **King pin inclination**

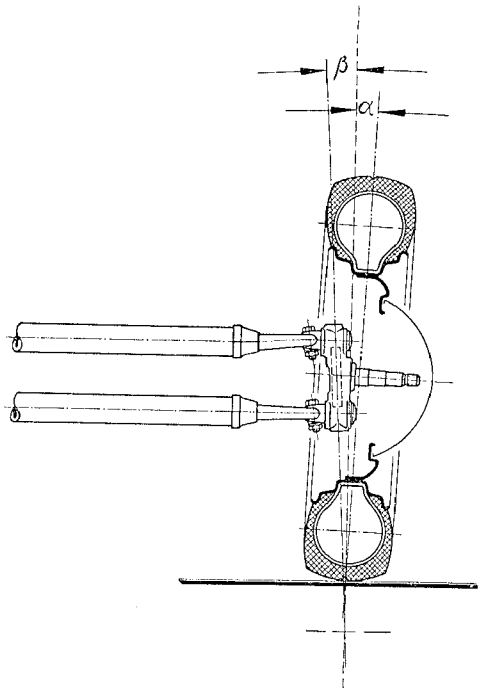

Fig. 1