

## Steering - General

Models 220, 219, 220 a, 220 S

Job No.

L 0

The essential difference between the DB Re-Circulating Ball Steering and other types of steering is in a steering nut which is supported on the steering worm by means of two closed ball races. In each ball race there is a definite fixed number of steel balls and this ball-bearing principle gives the steering an unusual ease of movement.

The steering shaft which is held in two bronze bushings is spring-loaded against the ball of the steering nut by means of the ball-cup pressed into the steering arm. Freedom from play is thus obtained throughout the whole of the steering movement.

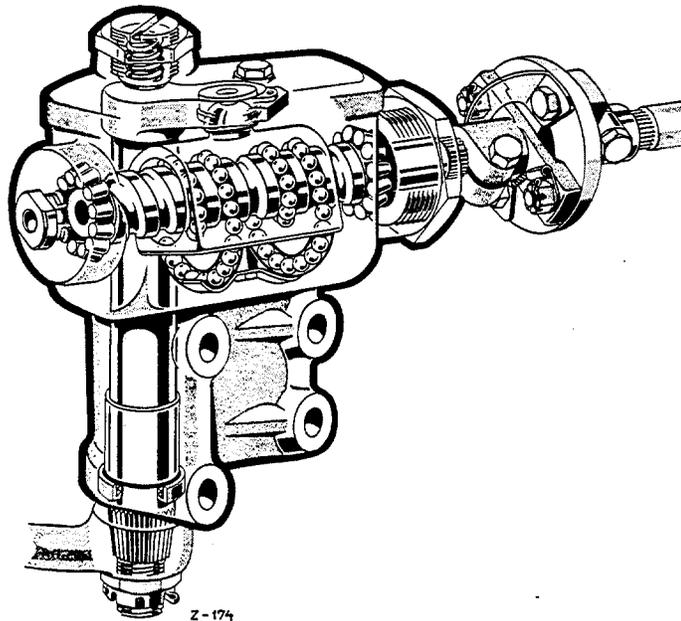


Fig. L 0/1

DB Re-Circulating Ball Steering

The DB Re-Circulating Ball Steering has been improved in the course of time and a few changes in construction have been made. On the various models, steering assemblies with the following differences in construction may be encountered:

### Main Differences between the various Versions of Steering

Model of car	220	220	220a	220a, 219, 220 S
Steering Type Part No.	L1 186 460 12 01	L0 120 460 25 01	L0 120 460 24 01	L0 120 460 31 01
Gearing ratio of steering	1 : 19.5	1 : 19.42	1 : 19.42	1 : 23.4
Movement of steering nut	right	right	left	left
Bearing of steering worm	Angular contact bearing	Taper roller bearing	Taper roller bearing	Taper roller bearing
Diameter of serrations on steering worm	21.5-0.05 mm	19.6-0.05 mm	19.6-0.05 mm	19.6-0.05 mm
Diameter of steering shaft	28.5 mm	30 mm	30 mm	30 mm
Length of steering shaft arm	50 mm	34 mm	34 mm	41 mm
Attitude of steering shaft arm	horizontal	inclined 15° upward	inclined 15° upward	horizontal
Oil capacity	0.4 ltr.	0.3 ltr.	0.3 ltr.	0.3 ltr.
Hypoid Oil SAE 90				

**Caution:** If there is any doubt at all as to the advisability of carrying out a repair to the steering or its component parts, which also include the center tie-rod, steering arm and steering relay arm, the part in Question must always be replaced!

**Spares:** For the repair of DB steering assemblies, the following spares are available:

1. Steering worm assembly with steering nut, steel balls and bearings.
2. Steering shaft with ball-cup pressed into steering shaft arm.
3. Steering housing bushings pressed in.
4. All other parts as individual spares.

In the following instructions for repair of steering assemblies, the differences between the various types of steering have been taken into account in so far as they are of importance for the repair in question.